Inequality and Life Fulfilment

A social, cultural and spatial exploration of the Greater Gaborone Region

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Dedication: to Vanessa, my world.

Figure 1. One Man, One Beast Initiative. Source: Author

Acknowledgements

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Thank you to my friends and family who have had to listen to me talking about this project endlessly over the past year. A double thank you for not discouraging me from taking on a thesis in a city, country and continent that I had never been to and previously knew no one from.

Finally and most importantly, thank you to my wife Vanessa. Absolutely none of this would have been possible without you.

Motivation

I have always been interested in Sub-Saharan Africa as a region in the world. It is currently experiencing the fastest rate of urbanization in the world, and has a very complex history. The geopolitical, social and demographic situation makes it the region with the most potential to experience major change in the coming decades (in my opinion), so I was very interested in carrying out this graduation project somewhere in the area. What struck me about Botswana is the fact that its economy is very well developed compared to the rest of the region and the country has already become highly urbanized. As such, it seems like the perfect case study to see what trends may affect the rest of the region.

As my work on the project has progressed, the uniqueness of the local dynamics are becoming increasingly clear. While this may mean that the lessons learned through this project are less directly applicable elsewhere than what I had first hoped for, these unique local challenges provide a great opportunity for a different approach to understanding an urban region. As an aspiring urbanist and planner, I want to know how cities can promote human well-being and foster good lives for all. Gaborone has a very high diversity of urban, rural and village environments with overlapping administrative and governance complexities. This makes it the perfect place to explore how these factors affect their residents, and therefore what can be done to ensure that the environment is enabling people to live good and dignified lives.

Introduction

Abstract

The story of modern Botswana is that of dualities. At the time of independence in 1966, it was the second poorest country in the world in terms of GDP. Since then, it has seen explosive economic growth and accompanying improvements in human development. It is now ranks third in sub-saharan Africa in both GDP per capita and HDI. This impressive record, however, does not tell the full story. Botswana is the 10th most economically unequal country in the world and is ranked 132nd out of 137 surveyed countries in the World Happiness Report.

This project seeks to explore the relationships between the urban system, inequality and life fulfilment by analyzing the spatial and societal systems active both in the present day and in the traditional/pre-colonial era. An anthropological and philosophical lens is used throughout the analysis in order to distill the value systems that have underpinned life in these different historical eras. These value systems, in turn, reveal the perspective through which people have been experiencing their environments, which helps to explain why this concept of life fulfilment inequality is present here. There is a clear disconnect between the cultural and historical makeup of society in Botswana and the modern systems, spaces and institutions which govern everyday life.

Thirteen principles for a new urban system are then proposed, which when taken together, attempt to define a system which prioritizes economic/socio-spatial equity and the maximization of life fulfilment. Design demonstrations are created to imagine how these principles could be translated into space.

Context

Figure 2. Location Map.
Source: Author, from
(Andreas 06, 2018)

Botswana is located in central-southern Africa. It borders Namibia, Zambia, Zimbabwe and South Africa. It has a land area of 581.730 sq.km and a population of 2.346.179 in 2022.

It has a hot, semi-arid climate, with a wide variety of geographic features. The Okavango Delta in the North-West is formed from the runoff of rainwater from the highlands of Angola and has a very high biodiversity. The Kalahari desert in the south west is a semi-arid sandy savanna that does support some plant and wildlife through seasonal rains. The Makgadikgadi Pans are large salt flats formed from the drying of ancient lakes.

These geographic and climactic features create significantly different environmental conditions across the country, pushing the majority of the population to the south-east.

Gaborone is the capital city of Botswana, located in the south-east, directly adjacent to the border with South Africa. The population of the city proper is 246.325, with the overall region having a population of approximately 430.000.

To the south of the city centre is the Gaborone Dam, which secures the water supply for the city, managing the flow of Ngotwane River. There are a number of large hills and nature reserves to the south and west of the city as well, including the Kgami Hill and Mokolodi Nature Reserve.

There are many small to medium sized villages surrounding the main city centre, including Gabane, Oodi, Modipane and Kopong. The Greater Gaborone region (including the above mentioned villages) is comprised of four different administrative districts.

Figure 4. Map of Gaborone. Source: Author, from (GADM, 2022), (Jarvis et al., 2008), (ESRI et al., 2023)

Figure 3. Map of Botswana. Source: Author, from (GADM, 2022), (Jarvis et al., 2008), (ESRI et al., 2023)
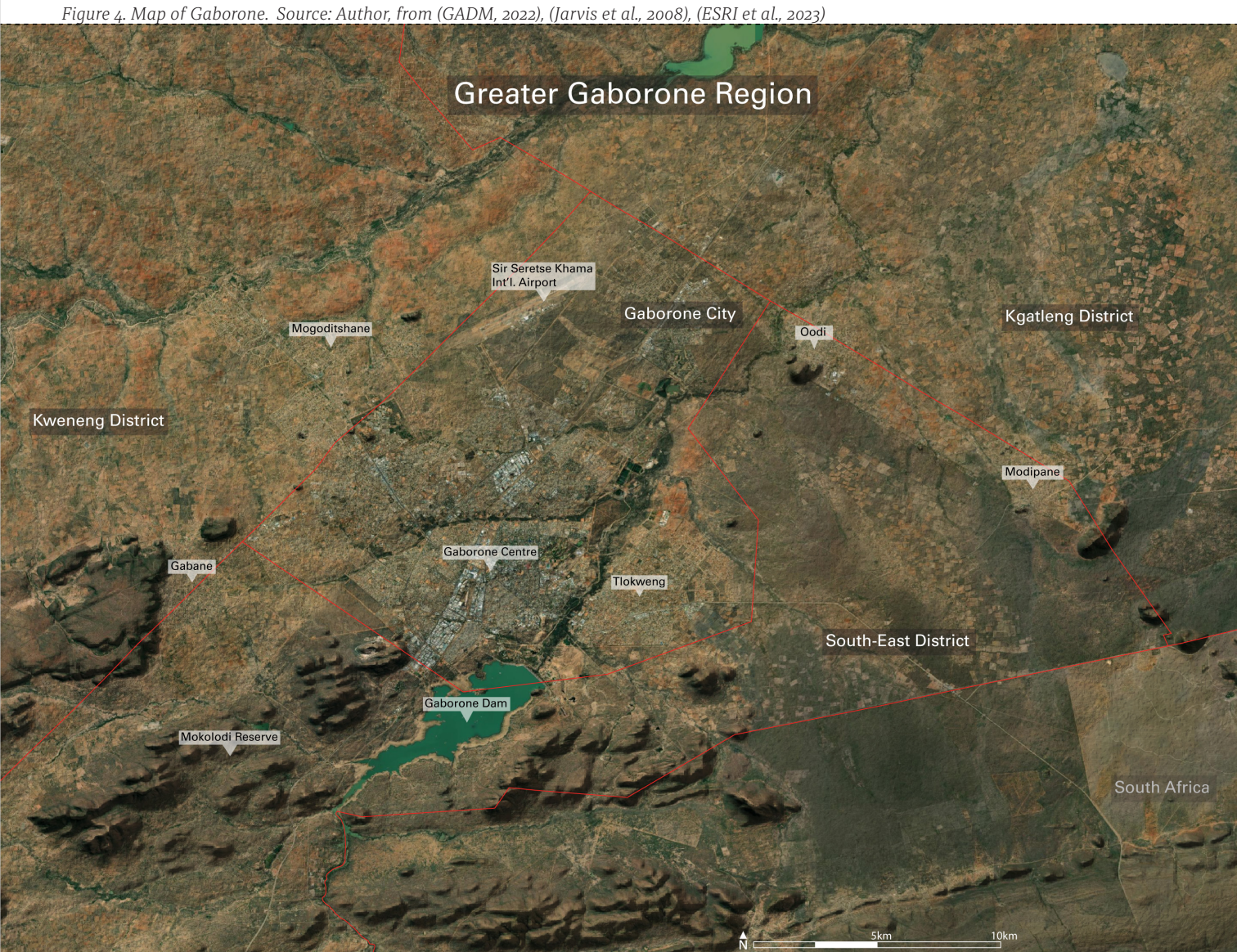
Historical Timeline

Figure 6. OkavangoDelta. Source: (Uys, 2018)

Some evidence points to the Okavango Delta area as the origin of modern humans [1]

~200.000 BCE
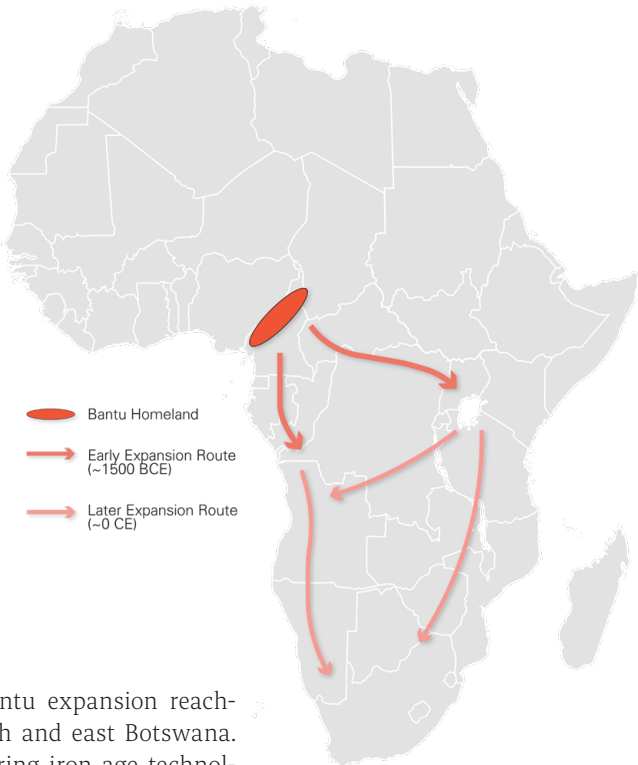
The Bantu expansion reaches north and east Botswana. They bring iron age technology and formalized farming practices with them. [2], [3]

100 - 400 CE

Figure 8. Bantu Expansion. Source: Author, (Schlebusch, 2019)

Figure 10. Tswana Warrior. Source: (Hammond-Tooke, 1993)

A period of conflict among the dominant chiefdoms in north and east Botswana, as well as the Transvaal region, emerges. The foundation for Tswana domination of the region is laid. [4]

1200 - 1700 CE
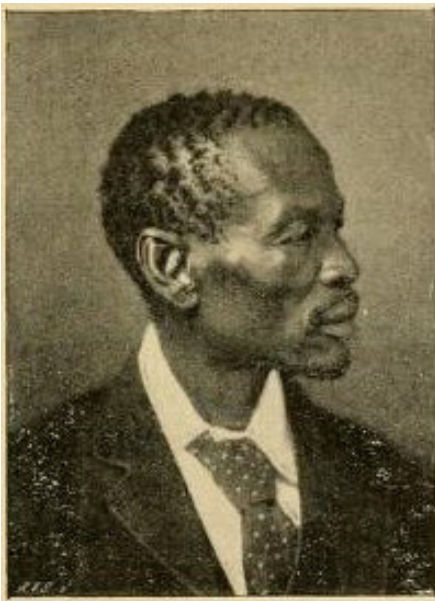
Figure 12. Kgosi Khama III. Source: (Bernard, 1896)

After ongoing wars with different groups from the Zimbabwe and Mozambique regions, the Tswana states are reconstituted and begin to trade with the Cape and Boer colonies. Sechele and Khama III ascend to become two of the most powerful Tswana diKgosi (chiefs). The influence of Europeans in the area grew immensely through conflict and occupation, but also through trade and religion. [2]

1870 CE

~17.000 BCE

Evidence points to Khoisan people living in the Tsodilo Hills near the Okavango in hunter gatherer communities until approximately 1650 CE. [2]

Figure 7. Tsodilo Hills Paintings. Source: (Gray, n.d.)

1095 CE

Cattle herding societies emerge across different parts of the country. Namely; Toutswemogala Hill chiefdoms in the east and Moritsane Hill chiefdoms in the south. [2]

Figure 9. Cattle Herding. Source: (Cattle Grazing at Dusk, 2020)

1770 CE

Kwena and Hurutshe (Tswana groups) peoples had established chiefdoms at strategic locations around modern-day Kanye, Molepolole and Shoshong. Their influence spread as far as Lake Ngami in the north and the Kalahari Desert in the west. [2]

[1] (Woodward, 2019)

[2] (Parsons, 1999)

[3] (Schlebusch, 2019)

[4] (History of Botswana, 2023)

Figure 11. Estimated Tswana influence circa 1770CE. Source: Author, (Haack & Stieler, 1925)

Figure 14. The Three Dikgosi. Source: (The Three Dikgosi, 2018)

DiKgosi (chiefs) Khama, Sebele and Bathoen travelled to Great Britain to protest the potential transfer of the Bechuanaland protectorate to the control of Cecil Rhodes and the British South Africa Country. This effort was partially successful: Bechuanaland remained a protectorate administered by Britain, but they had to concede rights for the construction of a railroad connecting Rhodesia to South Africa. [2], [5]

1895 CE

Figure 16. Bechuanaland Independence Conference. Source: (Brand Botswana, 2019)

The republic of Botswana was granted independence, with Seretse Khama leading as the first president through the ruling Botswana Democratic Party. Gaborone was chosen as the capital city. [4]

1966 CE
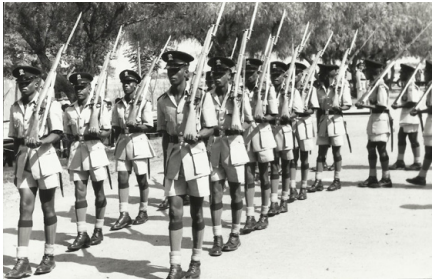
Figure 18. Early Botswana Defence Force Source: (Botswana Defence Force, 2020)

Botswana joins the "Front Line States" which are concerned with ensuring majority rule in Zimbabwe, South Africa and Namibia. The Botswana Defence Force is established and the country begins to play increasing role in geopolitics. [2]

1974 CE

Figure 20. HIV Infections and AIDS Deaths in Botswana. Source: Author, (AIDSinfo, 2022)

While the country has experienced steady economic growth and development since independence, the HIV/AIDS epidemic has severely affected the country. Average life expentancy dropped from 65 in the late 1980s to 35 in 2006. Major efforts and investment has gone towards treatment and prevention.[7].

2006 CE

1885 CE

The established trade network between the British and the Tswana chiefdoms leads to the establishment of the protectorate of Bechuanaland as the scramble to colonize Africa accelerates. [2]

Figure 13. Colonial Map of Southern Africa. Source: (Stanford, 1904)

1950 CE

Seretse Khama was exiled from Bechuanaland for 6 years as retaliation for marrying a white British woman while studying law in London. The exile was administered by the British government to appease South African leadership. Momentum for Botswanan independence began to grow. [2]

Figure 15. Seretse Khama and his wife Ruth. Source: (Donnelly, 2016)

1967 CE

Diamonds are discovered in Orapa, leading to rapid economic growth powered by the industry. [6]

Figure 17. Modern view of a Diamond mine in Orapa. Source: (Google, 2023)

1980 CE

Seretse Khama dies while serving as president. A peaceful transition of power occurs, with former vice president Quett Masire taking power. All presidential successions have occurred in peaceful manners. [2]

Figure 19. Quett Masire in 1984. Source: (Clawson, 1984)

[5] (Parsons, 1998)

[6] (Nocera, 2008)

[7] (Kallings, 2008)

Current Situation

The name Botswana is derived from the majority ethnic group of the country: Tswana. The Tswana people account for 79% of the population of the country and Setswana is the most commonly spoken language. Tswana heritage and custom forms the dominant cultural underpinning of Batswana society, with pointed effort being taken by the central government from the time of independence to promote Tswana culture as the culture of the country (Bruno Martorano et al., 2021). The demographic dominance of ethnic Tswana in the country is felt especially acutely in the east and south of the country, where virtually all settlements have their heritage tied to Tswana history. This is also where the majority of the population is today.

Traditional Tswana society was organized small to medium sized villages that were administered by a hereditary chief (Kgosi). Society was communal in nature, with systems in place for labour sharing among neighbours, acceptance of foreigners and integration practices, and deep family roots (Tswana | South African History Online, n.d.). The spatial organization of villages was also based on the social hierarchy, with the kgosi at the centre, their immediate family in the adjacent homes, and the relationships of residents to the kgosi and their family becoming more distant the further from the centre the house was (Morobolo et al., 2018).

While the kgosi was in charge of the village, democracy was also an important part of the social and communal Tswana culture. The Tswana democratic forum was (and still is) called the kgotla. Community meetings, debate and decision making take place in dikgotla (pluralized word for kgotla), which were traditionally located at the centre of villages. A larger public space, called the patelo, would generally surround the kgotla, providing further space for communal gatherings in the village.

The primary activity of the Tswana people prior to colonization was the pasturing of cattle (Bolt & Hillbom, 2016). The climate of the region was not very hospitable for major agricultural production, although the cultivation of crops such as sorghum were (and still are) important sources of nutrition, along with cattle products. The importance of cattle for economic and cultural reasons persists today, many urban dwellers or otherwise non-full time farmers continue

Figure 21. Kgotla and Patlelo. Source: Author, (Google Maps, n.d.-b)

Built Up Area Over Time
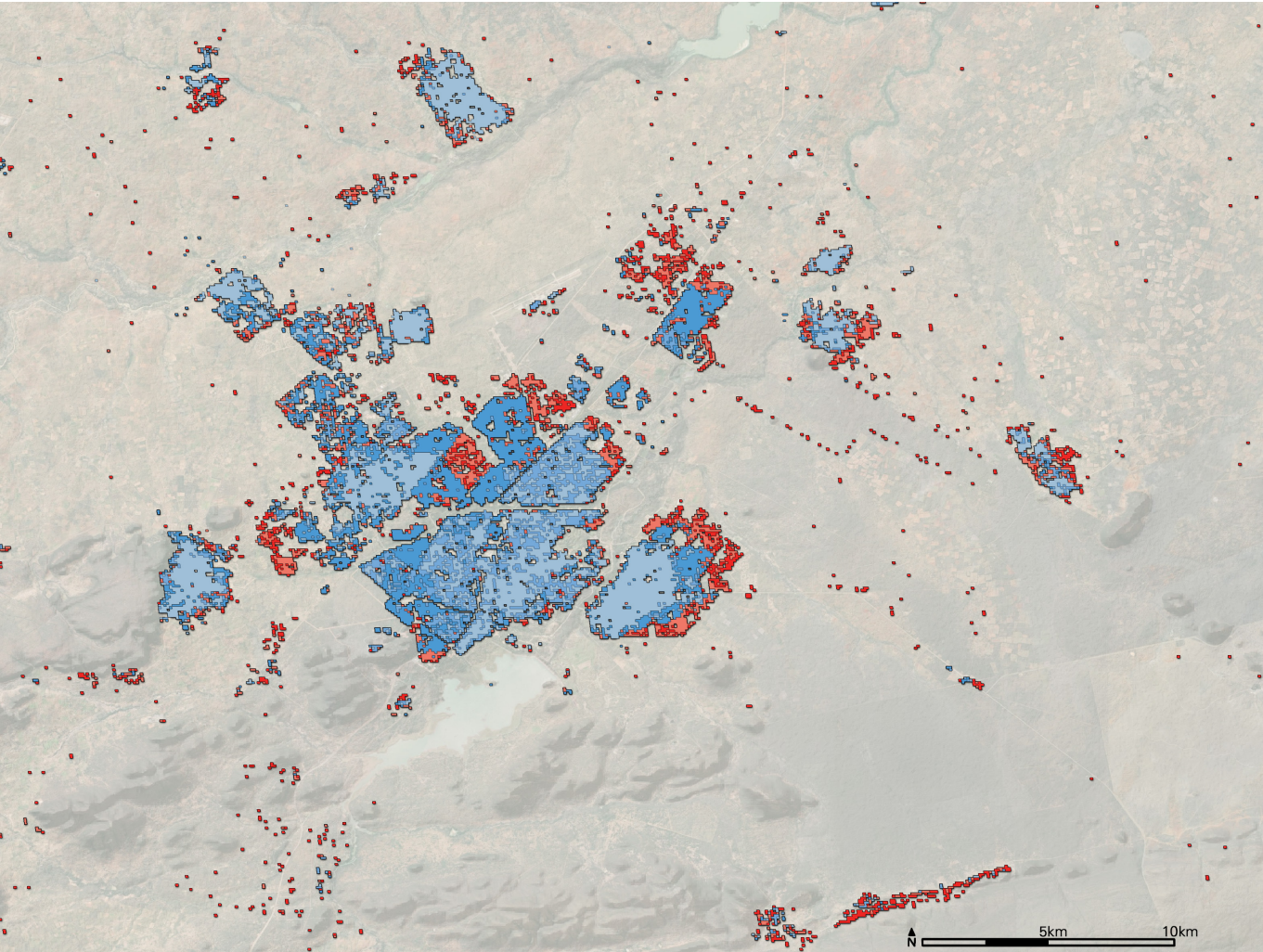
Figure 22. Expansion Pattern of Gaborone, 1980-2020. Source: Author, from (Pesaresi et al., 2022)

Legend

▨	1980
▨	1990
▨	2000
▨	2010
▨	2020

to own cattle, and see it as a source of pride and cultural heritage (Goodhead et al., 2021).

At the time of independence in 1966, the primary industry in Botswana was cattle herding. In fact, virtually all economic activity in the country was related to cattle, which left Botswana as the second poorest country in the world (Acemoglu & Robinson, 2013). However, the discovery of diamonds in the late 1960s, coupled with a stable political situation, have created perfect conditions for an economic boom. In fact, it has been one of the fastest growing economies globally since 1970, and today has the highest GDP per capita in sub-saharan Africa and now ranks 108th in the world (Botswana - the World Factbook, n.d.). This strong economic performance has been accompanied by a strong performance on the Human Development Index. Botswana ranked 117th in the world in 2021 in terms of HDI, which placed it ninth within all of Africa and third in the sub-saharan region (Conceição, 2022). Considering the amount of abject poverty in the country at the time of independence, this is a remarkable level of both economic and human development.

The diamond industry continues to contribute significantly to the economic output of the country. It accounts for approximately 25% of the GDP, and 85% of export earnings. The central government has been trying to diversify the economy, with tourism enjoying increasing importance, but progress on this matter is slow. There are other grave concerns from an economic perspective: the unemployment rate is currently 25% and incomes are deeply unequal. Nationally, there is a Gini coefficient of 0.533, which ranks as the ninth most unequal country in the world (tenth including Hong Kong) (Botswana - the World Factbook, n.d.). In fact, there is

Figure 23. Gaborone in 1963. Source: (Wareus, 2012)

The development plan and associated legislation that was installed during independence are direct descendants of the British planning system. An attempt was made to integrate the British system with the traditional system through three separate land tenure systems (see analysis section for further information), being State, Tribal and Freehold. Cities are generally administered as state lands, whereas rural areas and villages are generally administered as tribal lands. This system creates different bureaucratic challenges within the different jurisdictions, with accompanying costs and complexities (Kampamba et al., 2018).

Land development in cities is highly technocratic in nature, with significant regulatory oversight making the development process complex (Kent & Ikgopoleng, 2011). In taking its queues from British modernism, formalized development today is carried out in a highly modernist style. This modernist style is reminiscent of development patterns found across the globe and does not necessarily reflect historical or cultural practices. Coupled with this,

technocratic and expensive land development in cities has had knock-on effects on surrounding villages. Many residents cannot afford to buy homes, or otherwise develop their own land through this state land system. What has happened, then, is the establishment of squatter/informal settlements either in cities, or more commonly in tribally administered lands (Shabane et al., 2011) (Mosha et al., 2022). In fact, most of the population growth in the Greater Gaborone region in the past 15 years has taken place in the surrounding villages, rather than in the city proper.

This development pattern creates further challenges for residents who are migrating to the area. Rural villages have weaker access to services than Gaborone proper, and homes within them are less likely to have direct access to water and sanitation (Toteng, 2009). Migration to the region is occurring, likely due to the economic strength of the city amongst other reasons, yet the land administration and development system is excluding people from just development (Molebatsi & Kalabamu, 2017).

a long history of inequality in Botswana. There was significant income inequality amongst residents during the colonial era as the country became integrated into the global economy. Disparities in ownership rates of cattle immediately translated into income inequality as cattle products began to be exported for sale (Bolt & Hillbom, 2016). This has created an entrenchment of generational inequality that clearly persists in society today.

Gaborone was established as the administrative capital of the country only shortly before independence. Modern day Gaborone was established as a small fort in 1890 to accompany the rail line being built to Rhodesia. The village of Tlokweng directly adjacent to Gaborone already existed as a traditional settlement at that time. When the independence of Botswana was becoming inevitable, the decision was made to move the capital from Mafikeng (in South Africa) to Gaborone (Kent & Ikgopoleng, 2011).

The rapid establishment of the city was accompanied by a development plan that anticipated a modest population growth to 20.000 residents. However, by the year 1981, the population had already reached 60.000 (Kalabamu, 2004).

Today, the population of 430.000 in the Greater Gaborone region represents approximately 18% of the total population of the country. This importance in population concentration is accompanied by a matching economic importance. Gaborone proper (not including the surrounding region) accounts for 16% of all employed people in the country, and has an unemployment rate that is half of the national average at 12,4% (United Nations Economic Commission for Africa et al., 2018). The strength of Gaborone is not distributed evenly amongst the region. Unemployment in the surrounding three districts hovers around 18% (Statistics Botswana, 2018).

Land Tenureship

Legend

Tribal Lands

State Lands

Freehold Lands

Figure 24. Land Tenureship Map. Source: Author, from (Kalabamu, 2004), (Kalabamu & Lyamua, 2021)

Problem Field - Inequality

Reduced Inequalities is goal #10 of the United Nations Development Programme: "Inequality threatens long-term social and economic development, harms poverty reduction and destroys people's sense of fulfillment and self-worth. This, in turn, can breed crime, disease and environmental degradation." (United Nations Development Programme, 2022). Inequality is a global issue. While the dynamics of inequality differs from place to place, people across the world have their lives negatively affected by it on a daily basis.

Inequality in Botswana is rooted in its time as a British colony. The colonization process is responsible for the transition of the economy of Botswana from agrarian/pastoral to what was considered 'modern'. Economic modernization meant that ownership of the means of production became the key to wealth. At the time, economic production in the country was centered around cattle. Cattle and its associated products were the main commodity traded in Bechuanaland (coloni-al Botswana), so those who owned large herds and had access to pastures began to form the upper class (Bolt & Hillbom, 2016). Over time, the make-up of inequality has shifted. Through the mid to late 20th century diamonds became the primary industry in Botswana. The economic transition has continued to the present day, where the tertiary (service) sector now accounts for the largest share of economic activity nationwide.

The face of inequality has also changed. The modernization and diversification of the economy have meant that there are more factors than ever before that contribute to inequality. The six (6) primary factors are: Educational Attainment, Land Ownership and Value, Availability of Opportunities, Access to Opportunities, Economic Complexity, and Prejudice (Bruno Martorano et al., 2021). While the six factors are split out individually, each factor is directly interconnected and they all influence each other.
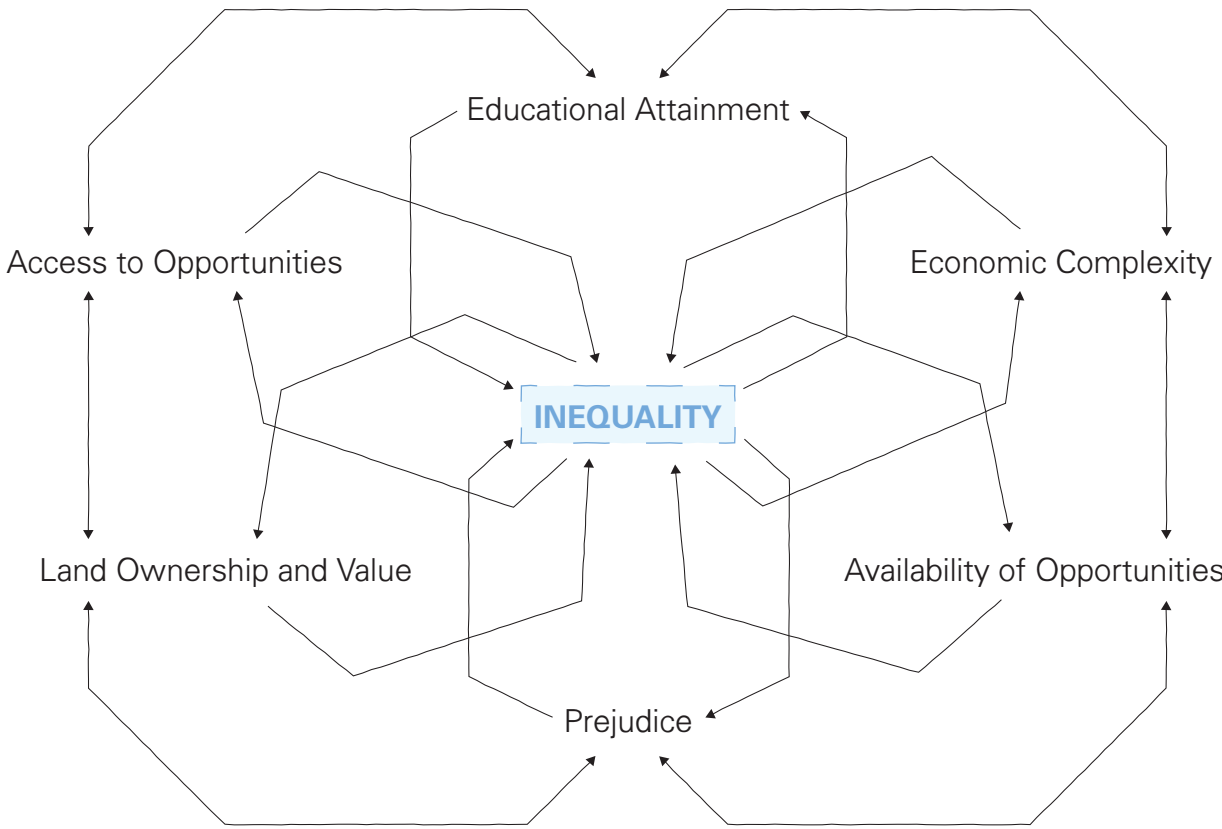
Figure 25. Problem Field - Inequality Source: Author.
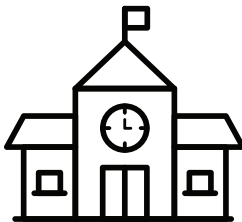
Educational Attainment

The attainment of tertiary education is the largest measured contributor to household consumption inequality. There are relatively few people in the country that have completed tertiary education, so those who are able to complete this course of education are in very high demand in the labour market. As such, university graduates earn significantly more than those with less education. This phenomenon creates a generational positive feedback loop, where the children of highly educated individuals are granted far greater access to education than the children of lesser-educated individuals, enabling an easier path to further educational achievement and ultimately the perpetuation of the achievement gap.

This effect is exacerbated still when considering geographic factors. Urban dwellers are roughly five (5) times more likely to have earned a university degree than rural dwellers. One of the main reasons for this is the fact that the higher education institutions of Botswana are primarily located in major cities. It is often prohibitively expensive for rural families to send their children to university in a distant city. Contrarily, wealthier families tend to cluster in the major cities, making it even easier for their children to attend university. As the economy of Botswana continues to develop, the attainment of university education will become ever more important and therefore will continue to contribute further to widening inequality.

Availability of Opportunities

The current composition of the economy creates major disparities in the availability of opportunities for individual economic advancement. In 2020 the unemployment rate in Botswana was 21% (World Bank, 2022), meaning that there are very few employment opportunities available. A lack of diversification in the economy has led to a situation where the demand for labour is limited to a select few industries. People without the training necessary to work in those industries have a very limited set of prospects for employment.

The education system is also not well equipped to respond to the needs of a modern economy. Skills that are prioritized in education do not cater to the advancement of a diversified economy. Much of the training only teaches skills that are relevant to a narrow set of highly desirable government jobs. Students do not get well prepared well for other possibilities. Botswana is also a very low-cost capital (money) environment, which when coupled with a workforce that lacks diversified skillsets, discourages the private sector from investing in human capital (Leigh et al., 2012). These factors come together to form an economy that has significant structural unemployment, with limited opportunities for people to improve their economic situation.

Access to Opportunities

The opportunities for economic advancement that do exist are not spread evenly across the country. Most non-agricultural employment is clustered either in the primary cities or at large mines. This creates a disparity across the country, where the location that a person is born in significantly affects their ability to seek out employment opportunities. This issue is exacerbated by the fact that the country is large geographically, with a relatively small population. It can be prohibitively expensive to move to a large city, especially if the would-be migrant wants to keep in frequent contact with their original home.

Even when people can move to large urban areas, access to employment and other opportunities is not simple. Gaborone, for example, is the largest city in the country with the greatest number of economic opportunities. However, it is a sprawling city with relatively low density neighbourhoods and villages tessellating out from the city centre, yet it does not have a formal public transit system. Movement across the urban area is dominated by private motor vehicles, so people who do not have the means to purchase a vehicle can have a very difficult time traveling to employment opportunities.

Land Ownership and Value

The concept of land ownership is somewhat complicated in Botswana. There are three types of land tenure (Freehold, State and Tribal. See page 40) and "owning" land within each tenure type has a different meaning. In a broad sense, however, land ownership is common across the income spectrum. That being said, the dynamics of land tenureship means that the holders of freehold and state lands are able to use their lands as assets to build wealth, whereas tribal lands generally cannot be. People who have the means to acquire state or freehold lands can use those means to efficiently build wealth in a manner that is not available to people who must rely on the traditional land allocation system. Furthermore, freehold and state lands are generally the most desirable lands in the country, as all of the major cities are managed as state lands, and some of the most productive agricultural land is freehold.

While tribal lands account for 71% of the geography of the country, most are of low monetary value for individuals. Tribal lands are communally held, with individuals being granted temporary (for a guaranteed period of between 50 and 99 years) use of plots based on an allocation system. To be allocated a piece of tribal land, would-be residents must register on a waitlist that is managed jointly by the central government and local land boards (Kampamba et al., 2018). While the system does theoretically guarantee land to all citizens of Botswana, the individuals in some cases have been on the waitlist for 20 years without having land allocated to them (Nlebgwa, 2020). The dynamics of land allocation and vast geography of the country create a situation with an extreme inequality of land values; there is a Gini coefficient of 0.75 of land value across the country.
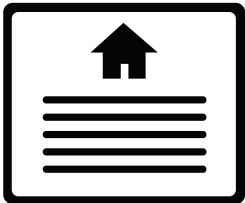
Economic Complexity

Globally, the economy is becoming more complex. Ever greater specialization is driving economic growth across all sectors. Botswana is currently in the transition to a "modern" economy driven by the tertiary sector. To enable a successful transition, an increasingly diversified, yet specialized, workforce will be necessary. The completion of tertiary education is becoming more important than ever before to secure

employment across the country.

By placing such importance on the completion of tertiary education, the achievement gap between people who have the means to attend university and those who do not will only continue to widen. The desire of the central government to follow the global trend of economic development and specialization will continue to entrench inequality if no systemic changes are made.
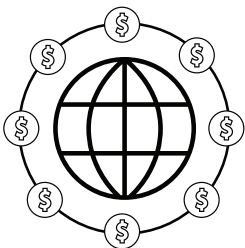
Prejudice

Generally speaking, Botswana has been successful in navigating the post-colonial agglomeration of different ethnic/cultural/tribal populations together peacefully. There has been little ethnic violence in the country, with the government taking active steps across history to promote unity. This unity, however, was based on the promotion of Tswana culture and language as the dominant national culture, coupled with the minimization of the importance of other ethnic identities.

Presently, there are clear inequal-

ities that can be traced along ethnic, gender, and migratory lines. Disparities in wealth, employment, educational attainment, etc. are apparent when comparing populations based on their native languages. Having either Setswana or English as a first language is highly beneficial for virtually all measures of achievement. Botswana is also a patriarchal society. On average, women earn only 68% of what men earn and are much less likely to be able to progress into positions of power in the workforce (Bruno Martorano et al., 2021).

Problem Field - Fulfilment

The world happiness report is a widely published, widely debated document. The establishment of a common global definition of happiness is likely not possible due to cultural differences. That being said, the results of the report are not irrelevant - they must simply be interpreted with the knowledge that they are not perfect. Botswana ranked 132nd out of 137 countries surveyed in the 2023 version of the report (Helliwell et al., 2023). This overall score is derived through polling data which asks people to evaluate their satisfaction with their lives using Cantril's ladder as a guide for evaluation and scoring. The country ranked especially poorly in the categories of generosity and healthy life expectancy.

An Afrobarometer report (Logan et al., 2020) indicates that only 5% of Batswana think that most people can trusted. A separate Afrobarometer report (Star Awards LTD, 2021) indicates that 57% of Batswana think that the country is heading in the wrong direction. When considering the results of these reports with statistics that have

been explored earlier, such as the Gini coefficient of 0.533 or unemployment at 21%, it is clear that there are outstanding social issues. It is difficult to live a fulfilling life when employment is out of reach. Happiness comes from a feeling of satisfaction with one's life, which clearly is difficult to achieve in the current situation in the country.

National statistics are important for background information, but a topic such as life fulfilment is inherently personal. As such, the research methodology for understanding this problem field was focused on conducting interviews, completing observational field work and popular media review to understand these issues from first hand perspectives. The interview and field work process are described throughout the report, but the 6 problem categories identified are as follows: disconnect between lifestyle and culture, expectations of life trajectory, departure from identity, cycle of hardship, unravelling of community and lack of choices.
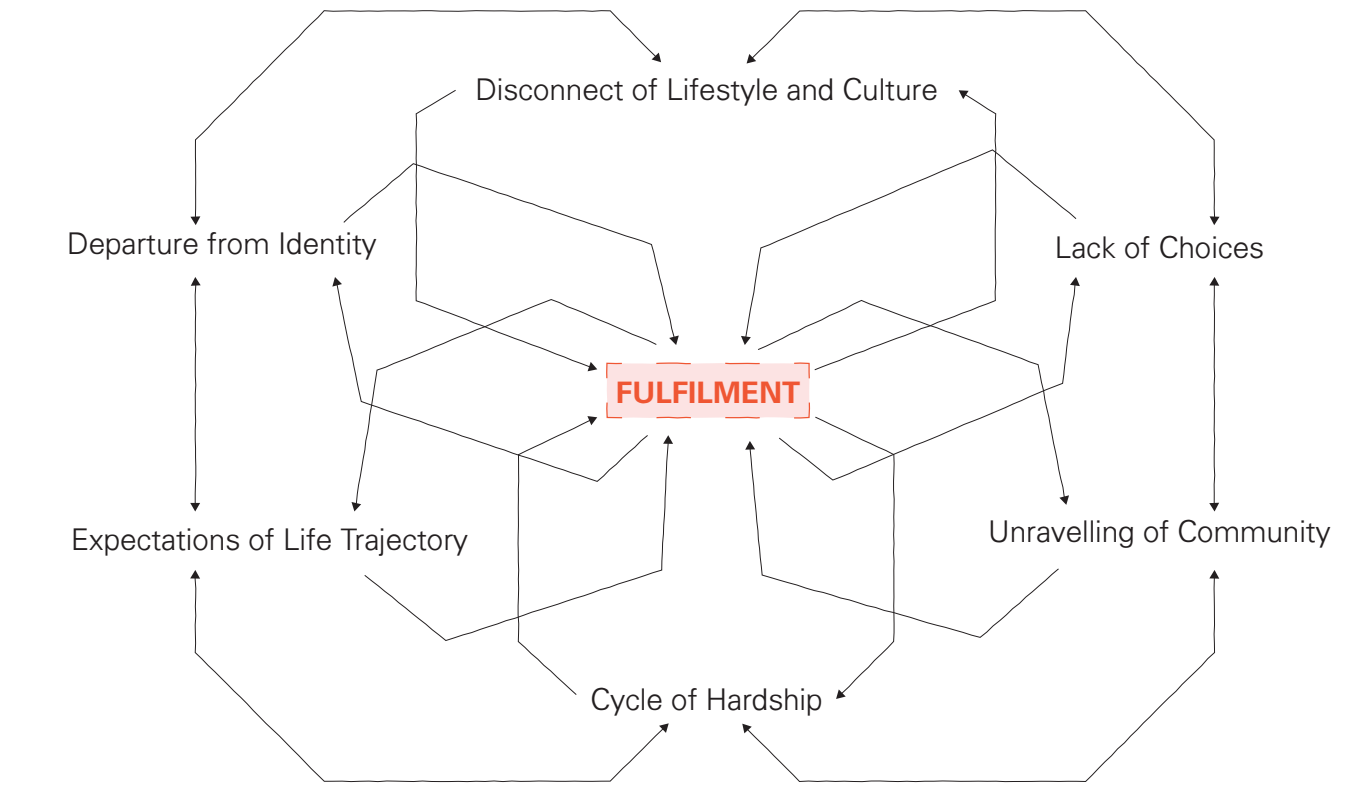
Figure 26. Problem Field - Fulfilment Source: Author.

Disconnect between Lifestyle and Culture

The colonial era of the country posed a very rapid and comprehensive change in the way that people lived their lives. In only two generations, society shifted from being agrarian in nature, with people living in different kingdoms based around major villages, to living in a single industrialized society united into one country and political system. This new society was based on individualism and modernism, which were/are vastly different from the collectivist nature of the traditional societies. The spatial design of villages was also directly tied to cultural practices, with spaces such as the kgotla, patlelo and lolwapa being present in virtually villages, facilitating important societal and cultural functions.

Integration and participation in your community was a critically important aspect of traditional society. Community gatherings occurred very regularly. A strong sense of belonging and social trust was forged amongst village dwellers as a result of this societal organization. Most of this socio-spatial arrangement has either eroded or been entirely removed from modern society. Spatial design prioritizes efficiency above all else. Society is turning heavily towards an individualistic order as Botswana integrates further into the capitalist global order. These societal shifts have created a situation where traditions and cultural practices are not accommodated in the ways they used to be and so peoples' sense of identity and belonging is eroding as a result.

Expectations of Life Trajectory

The pressure to join the capitalist global order and seek economic growth has led to a situation where societal incentive structures are increasingly pushing people to all follow the same path of life. If that path of life is not followed, one will feel like a failure. This is the typical capitalist path of life, where to "live the correct way" one must go to university, move to a big city, get a high paying job, bu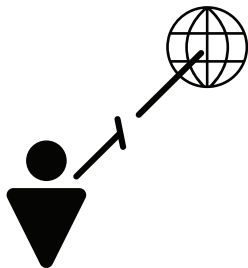y a large house, then eventually retire financially rich. Whether or not this lifestyle would actually suit an individual's needs, wants and desires is seen as irrelevant - regardless of who you are,

this is the correct way for life to be led.

By creating pressure to lead life in this specific way, especially one that does not align with traditional or cultural practices, people feel as though this is what they have to do and that the previous way of living was somehow wrong. If they do not manage to succeed in achieving the modernist lifestyle, a greater sense of unhappiness and unfulfilment emerges as it is seen as the inability to properly achieve what you are supposed to achieve in the modern world.
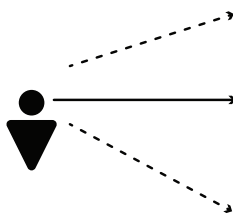
Departure from Identity

A very common life story amongst Batswana is to have been born in a small village or rural area, then move to a large city in search of work and a better life. However, the emotional ties to homes villages are very strong, with many people forging their sense of identity and belonging through their home village. It is also very common to aspire to move back to the home village upon retirement, and otherwise to return to the home village for national holidays or other important gatherings.

By having to follow the "correct path of life," people have to leave a significant part of themselves and their identity behind. A true sense of home is never forged in the city because of this strong attachment to the home village. This is exacerbated by the modernist development patterns seen in most of Gaborone and other large cities across the country. This feeling of disconnect is pervasive throughout the majority of people's lives and contributes negatively to feelings of happiness and fulfilment.
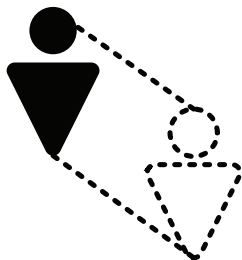
Cycle of Hardship

While Botswana is relatively economically affluent, especially compared with its peers in sub-saharan Africa, poverty is still a reality that many people face. The impacts of poverty are felt especially strongly in rural and remote areas, where there are very few resources available to assist in improving their material situation, and few opportunities to advance their economic position. This lack of opportunity then leads to the formation of a vicious cycle of hardship.

People believe that their situation cannot be improved and so turn to substances such as alcohol to cope with the psychological distress that is created by their situation. This substance abuse, in turn, makes it ever the more difficult to improve their own situations. A lack of economic development and connectivity with the rest of the region and country makes it incredibly difficult for rural and remote dwellers to live good and dignified lives, and as such entrenches the cycle of hardship.
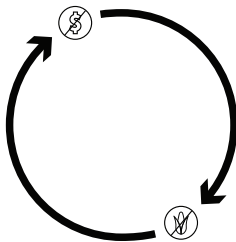
Unravelling of Community

The various societal pressures outlined above all contribute to a general unravelling of community. Traditional Tswana society was heavily rooted in community, where the advancement of the well-being of the community and promotion of social harmony were seen as the most important goals of life. As such, much of daily life revolved around the advancement of the community as a whole and the forging and bolstering of social ties. One's own humanity was rooted in one's position within the community, rather than their achievements as an individual.

Modern society is virtually the opposite of this. Individualism is being advanced as the dominant philosophical underpinning of society, and spatial designs entrench this. Neighbourhoods no longer foster community development, but rather are intended to maximize efficiency and economic value. It is now much more difficult to create strong community bonds as a result. The social vitality of neighbourhoods has been compromised and so the joy and fulfilment that was derived from community and social connections has been significantly harmed.
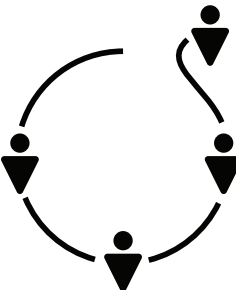
Lack of choices

Coupled with the relatively narrow definition of the "correct path of life," structural and political realities in the country create a situation where there is very little choice available for how one's life can be led. For example, the land allocation process does not allow people to actually choose where their plot will be. Instead, plots are allocated to people at the discretion of the land boards, and people have to accept the location they are offered whether that is their preferred location or not. Likewise, virtually all development across the country

follows a single development control code which is rooted in modernist style urban planning.

Regularized street grids and restricted land uses are enforced even in rural settlements, forcing an urban way of life into these locations whether or not it is conducive to the lifestyle that existed there previously. By removing the choices that people believe they should have regarding how their lives should be led and what environments are available to them, a sense of dissatisfaction with life becomes greater and greater.
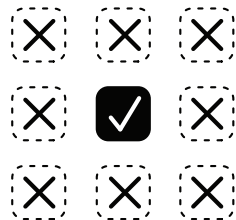
Project Definition

Figure 27. Gaborone looking East from City Centre. Source: Author.

Problem Statement

Botswana is an economic success story within Sub-Saharan Africa. At the time of its independence from British colonial rule in 1966, it was the second poorest country in the world. However, a combination of good governance, fortunate natural resource discoveries and careful fiscal management have led the country's ascent to mid-income, with an accompanied ascent in Human Development Index; it is now ranked at 117th in the world, with an HDI of 0.693. This ranking may yet be modest on a global scale, but it does place Botswana as the third most developed country in the region.

Unfortunately, this miraculous economic growth has not been distributed equally; Botswana today is the ninth most unequal country in the world. There are many contributing factors, with significant spatial consequences that both result from, and contribute to, inequality. Coupled with this, there is a general sense that the country is headed in the wrong direction. International measurements of happiness may be flawed, but Botswana's poor performance on them cannot be ignored. Systemic forces are impacting lives and livelihoods and the impacts of these forces are visible at the urban scale.

The Greater Gaborone region is a prime example of the spatial realities existing within this unequal paradigm. The city centre boasts modern, orderly development geared towards attracting global attention. This style of development, and the societal forces that are causing it, is leading to a growing discontent among Batswana. Unhappiness and lack of life fulfilment is common today as many residents are stuck in a system and environment that often does not suit them.

Meanwhile rural areas and traditional style villages seem to provide environments that help people to feel both happy and connected to their identity and culture. There is a clear attachment to these places even though they offer little in terms of urban amenities. This disconnect between economic forces, government programs and individual desires leads to a systemic entrenchment of 'winners' and 'losers' - people who are able to exploit this system can prosper greatly, but those cannot suffer.

A new design of the urban system that both addresses the challenges that the urban region is facing and that combats systemic inequalities while maximizing life fulfilment is needed to ensure an equitable and prosperous future in Gaborone and all of Botswana.

Research Aim

The primary research aim is the creation of a new spatial development paradigm that reduces the inequality of life fulfilment in the Greater Gaborone region. Implicit in this aim is the need for an understanding of how spatial development can maximize life fulfilment. Life fulfilment is a multi-faceted topic, with contributing factors that will span the human experience. Important within this research aim will be the creation of a foundation for how life fulfilment can be conceptualized and what the underlying philosophical principles that guide a shared understanding of a 'good life' are.

To complement this understanding of life fulfilment, a thorough description of the existing elements of inequality is necessary. This description will reveal what the systemic issues that underprivileged populations are currently facing are, where the privileged populations get their privilege from, and therefore what societal challenges are of critical importance to mitigate. The use of the capabilities approach will integrate the individual's perspective to ensure that the learning of broad trends does not preclude a personalized understanding of spatial challenges.

Finally, a method for translating these findings into an urban development paradigm will follow.

Research Question

How can urban design and planning be leveraged as tools to create a new spatial development paradigm that reduces life fulfilment inequality in the Gaborone region?

Research Sub-Questions

1. What is life fulfilment inequality and what are the social impacts of this phenomenon in the Greater Gaborone region?

2. Why has the urban form taken its current shape and how is it contributing to life fulfilment inequality?

3. What are the principles that could form a new urban system which reduces life fulfilment inequality in the Greater Gaborone region?

4. How can design interventions be used to operationalize the principles for a new urban system and improve communities across the urban region?

Methodological Framework

Gaborone

Local Analysis
- Built Form
- Land Governance
- Historical Overview
- Urban System
- Site Visit and Observations

Problem Field - Inequality
- Educational Attainment
- Land Ownership and Value
- Access to Opportunities
- Availability of Opportunities
- Economic Complexity
- Prejudice

Problem Field - Fulfilment
- Disconnect of Lifestyle and Culture
- Lack of Choices
- Unravelling of Community
- Cycle of Hardship
- Expectations of Life Trajectory
- Departure from Identity

Problem Statement

Inequality is creating a perpetuating system of winners and losers and happiness and fulfilment is being sacrificed.

A new design of the urban system is needed to create an equitable future.

Research Question

How can a new urban paradigm be created to reduce life fulfilment inequality in the Gaborone Region?

Theoretical Framework
- Economic
- Socio-Spatial
- Capabilities Approach
- Happiness and Satisfaction

Sub Research Question 1

What is fulfilment inequality and what are its social impacts?

Sub Research Question 2

Why has the urban form taken its shape and how is it contributing to fulfilment inequality?

Sub Research Question 3

What are the principles for a new urban system which reduces fulfilment inequality?

Sub Research Question 4

How can design be used to operationalize the new urban system principles?

Methods

Literature Review	Literature Review	Case Study Review	Literature Review
Societal Analysis	Research by Design	Research by Design	Case Study Review
Key Informants	Key Informants	Spatial Analysis	Key Informants
Site Visit	Spatial Analysis	Key Informants	Site Visit
Media Review	Site Visit	Site Visit	Spatial Analysis

Outcome 1

Principles for a New Urban System

Outcome 2

Design Demonstrations

Conclusion

Recommendations and Next Steps

Figure 28. Methodological Framework. Source: Author.

Explanation of Methodologies

The methodological approach for this project begins with the gaining of an understanding of the place. Being the capital city of Botswana, Gaborone faces unique challenges which must be investigated. Through this investigation, a number of themes emerged that appeared consistently across different sources and that transected scales. The distillation of these themes is how the problem fields are developed. Six problems are identified in each problem field which all revolve around the unifying concept of life fulfilment inequality. With the local analysis started and problem field completed, a problem statement can be created which encapsulates what challenges this project will aim to mitigate.

The exploratory nature of the beginning stages of this project occurred for a number of reasons, but primarily because I had only a limited knowledge of the place to begin with. I had preconceived notions of some issues that could be occurring, but I wanted to ensure that the process of carrying out this thesis project would respond to real and important issues that the city region is facing.

Armed with a better understanding of the place and a problem statement, the next step was the development of a research question.

The research question was written in an intentionally broad manner, so as to allow for a flexibility of approach in the development of sub-questions, and ultimately the answering of the questions and eventual production of recommendations. Important in the development of the sub-questions was the establishment of the theoretical framework.

Four separate components for the theoretical framework were created to assist in breaking down the research question into more easily managed components, and to provide a lens with which to answer the question. Concepts as broad as life fulfilment and inequality will mean different things to different people, and as such a defined understanding within this project is necessary.

The four sub-research questions provide a view into how the main research question will be answered. As outlined in the theoretical framework, of highest priority across the research questions is gaining an understanding of how the local residents see their place in the urban environment, and if they feel that it is enabling them to live their own definition of a good life.

Methods for the answering of the sub-research questions will be applied as follows:

Sub-Research Question 1

- <u>Literature Review</u>- review academic and civil society sources to understand empirical evidence.
- <u>Societal Analysis</u>- record the manifestations of the issue and outline the scale of the problem.
- <u>Key Informants</u>- engage with local experts to discuss less well documented issues.
- <u>Site Visit</u>- discuss with residents how life fulfilment is conceived.
- <u>Media Review</u>- analyze local media discourse to reveal the major topics affecting the national psyche.

Sub-Research Question 2

- <u>Literature Review</u>- complete overview of the issue and how it has come to be here.
- <u>Case Study Review</u>- analyze specific examples for people and in policy to understand how space affects fulfilment.
- <u>Key Informants</u>- engage with local experts to understand the most important categories of issue.
- <u>Site Visit</u>- observe, and speak to local residents, about their personal views on the identified issues.
- <u>Spatial Analysis</u>- document spatial conditions across different typologies to understand how space is affecting fulfilment.

Sub-Research Question 3

- <u>Literature Review</u>- review other similar cases in comparable contexts which can inform the creation of new principles.
- <u>Research by Design</u>- propose different options then analyze potential success and failure points.
- <u>Key Informants</u>- dialogue with local experts to understand their opinions on potenial priorities
- <u>Spatial Analysis</u>- document spatial constraints and opportunities to ensure principles are grounded in the real-world situation.
- <u>Site Visit</u>- inquire with locals as to their greatest priorities in the urban system.

Sub-Research Question 4

- <u>Case Study Review</u>- compare similar cases to inventory best practices.
- <u>Research by Design</u>- ideate and test design intervention scenarios to explore possibilities and predict their impacts.
- <u>Spatial Analysis</u>- analyze how different spatial constraints can affect the implementation of design interventions.
- <u>Key Informants</u>- discuss proposals with local experts to gauge viability
- <u>Site Visit</u>- observe daily practices to understand how space is used and how that can inform urban design possibilities.

Theoretical Framework

For cities to truly be successful, they must be created in ways that enable their residents to live the lives that they want to lead. The goal of using this theoretical underpinning is to find a method for understanding space that puts the wants and needs of people at the centre.

The central principle, therefore, is life fulfilment inequality, or inequality of life fulfilment. Life fulfilment inequality is made from the combination of four sep-arate core theories: economic inequality, socio-spatial inequality, the capabilities approach, and happiness and satisfaction.

The combination of these four separate theories aims to create a holistic under-standing of the expectations that people have for their own lives and whether the environment that they are living in is en-abling them to meet or exceed those ex-pectations.
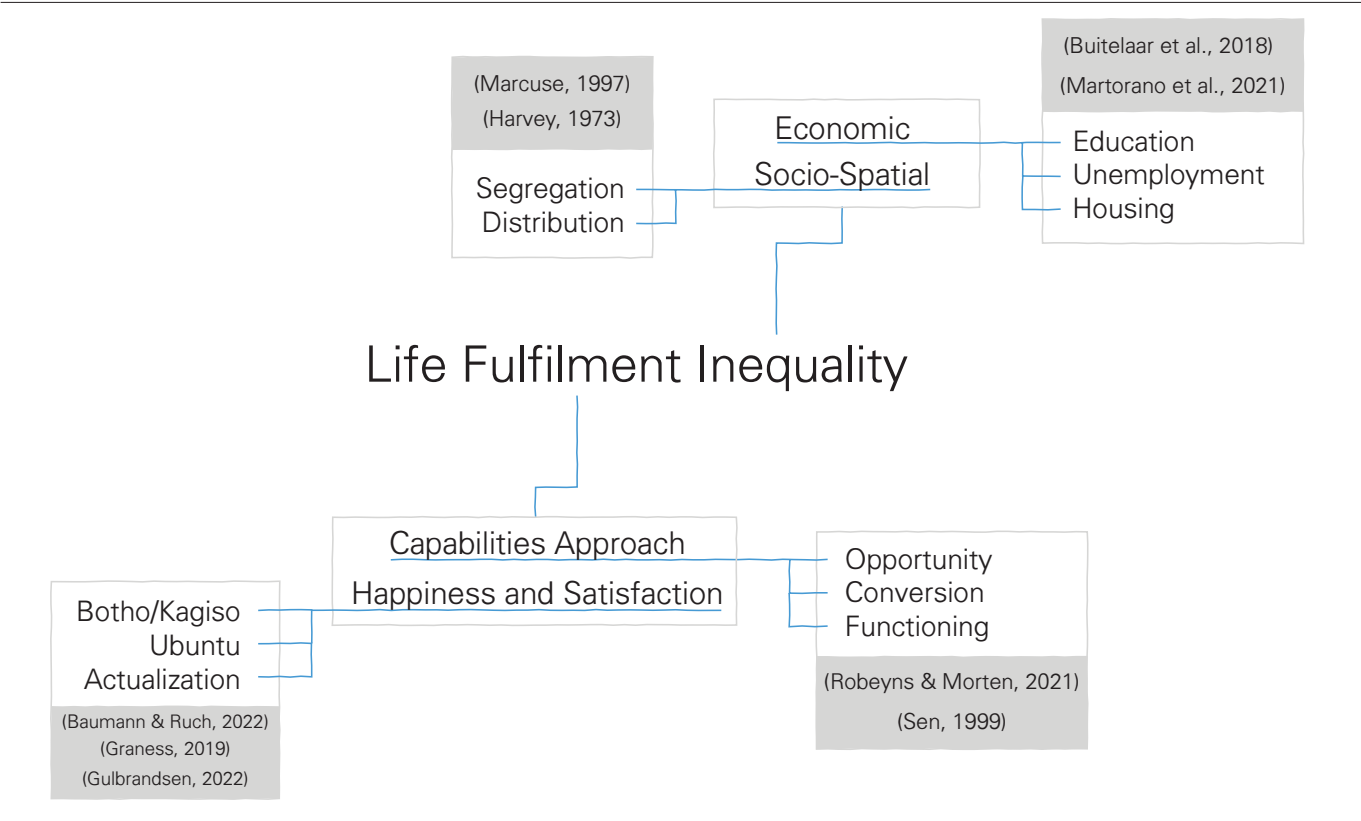

Figure 29. Theoretical Framework. Source: Author.

Economic Inequality

Economic inequality is a measure of the degree of difference in economic situation among the haves and the have nots across economic categories, most commonly measured through income and wealth. The impacts that economic inequality have on people is a hotly debated topic. Studies of different geographies, scales, and populations tend to come to different conclusions about the same questions (Buitelaar et al., 2018). In the Botswana context, there have been a number of studies pertaining to the causes of economic inequality (as discussed in the problem field), however there is a

dearth of studies investigating the impacts that economic inequality has on the Batswana. That being said, the impacts of economic inequality on economic opportunities and mobility, health outcomes and happiness form the basis of this portion of the theoretical framework.

The link between economic inequality and opportunities and mobility is perhaps the strongest of the above mentioned concepts. Brunori et al. (2013) compare multiple metrics to understand economic opportunities and mobility as they relate to inequality from a wide variety of countries. They find significant evidence

that economic inequality does negatively impact both availability of opportunities and economic mobility. All other factors being equal, the child of a low-income family in a highly unequal country will have a much harder time climbing the economic ladder than if they were in a more equal country.

Corack (2013) expands on this notion by showing that not only is intergenerational economic mobility and the availability of economic opportunities worse in more unequal countries, but the elasticity of income class in the top and bottom 10% is much more pronounced. The children of parents in either the top or bottom 10% of the income ladder are far more likely to remain within those brackets in unequal countries than in equal countries.

Health

There is a long history of debate regarding the *causal* impacts of inequality on health outcomes. Trying to create a direct link from inequality to health has proven difficult to separate from both absolute poverty rates and cultural factors. Even seminal works on the topic, such as *The Spirit Level* (Wilkinson & Pickett, 2011), which ostensibly proves that economic inequality does causally worsen health outcomes for both the rich and the poor, have been criticized for using methods that simplify the issue to the point of drawing incorrect conclusions from the data (Buitelaar et al., 2018). Indirect links between health outcomes and inequality, however, seem to have more concrete understandings.

Drabo (2011) outlines that increasing income inequality leads to increasing degrees of environmental degradation, especially through air pollution. This environmental degradation then leads to worsening health outcomes for the population, and therefore through indirect means it can be empirically shown that greater inequality leads to worse health outcomes. Boyce (1994) makes a similar argument from a more theoretical perspective. One of his core arguments is that greater economic inequality leads to a higher degree of political power for the wealthy, who can therefore influence policy making to a greater degree. The wealthy are more likely to benefit from

projects that exploit the natural environment for their own gain considering that they tend to own means and resources, so their power wielding will therefore lead to a higher degree of environmental degradation.

Happiness

The relationship between economic inequality and happiness is the most complex of the three concepts discussed here. The reason for this appears to be due to cultural and societal factors of countries and groups that influence how individuals perceive inequality and its consequences. For example, a study from the United States spanning from 1972 to 2008 shows convincing evidence that overall happiness of the populace was greater in years with reduced inequality (Oishi et al., 2011). They showed that this increase in happiness was mostly explained by the perception of both trust and fairness. It should be noted that, as discussed in the problem field, trust of strangers in Botswana is extremely low.

A study across 119 countries by Berg and Veenhoven (2010) found that, in aggregate, there was no significant correlation between the overall level of income inequality and happiness, and the small impact that can be observed was, in fact, positive (meaning that more inequality leads to more happiness). That being said, there are regional differences for this effect - there was a negative relationship between income inequality and happiness in Western Europe, but a positive one in Eastern Europe (Africa was neutral). A number of explanations for this phenomenon are proposed, including the possibility that income inequality can foster higher levels of activity in people, that inequality could lead to more 'subgroups' of the population (communities) forming and therefore creating a sense of belonging for people, or that the possibility of becoming rich provides a sense of purpose and meaning to the poor.

These explanations may or may not be relevant in the context of Botswana; the country has an extremely high level of unemployment and inequality, meaning at least the explanation of higher activity levels is not relevant.

There are innumerable factors which

contribute to economic inequality that are highly context specific (Neckerman & Torche, 2007). Local social and political realities heavily contribute to how economic inequality manifests among the general population. Matters such as economic composition of a country can impact inequality just as much as, for example, economic redistribution through government programs (Bowles, 2012). As such, a holistic understanding of economic and government activity in the local context is necessary to diagnose the causes and composition of inequality, as well as the impact that inequality has on peoples' happiness, health and social mobility.

The specific factors that are contributing to inequality in Botswana are covered in the problem field and should be used together with this theoretical underpinning to assess how inequality is affecting people across the country.

Socio-Spatial Inequality

The concept of what a city is and what it should achieve is an inherently personal interpretation. A person who leans neo-liberal in political ideology may consider cities to be engines of economic development, whereas a person who leans socialist may consider cities to be engines of human development. I take the view that, while ultimately cities can and should act as engines for both types of development, human development and spatial justice should be the primary goal.

Spatial Justice

At its core, spatial justice pertains to the fair distribution of the burdens and benefits of urban development (Rocco, 2014). The more fairly distributed the burdens and benefits are, the more just the city is. In an unjust city, unequal access to social services, employment opportunities, infrastructure, etc. are provided. Wealthy urban dwellers will be advantaged in the spatial arrangement of the city. This level of advantage in the spatial arrangement contributes to the entrenchment of inequality in a society. For example, the children of families who live in neighbourhoods that have more and convenient access to employment are much more likely to ascend the economic ladder than children in neighbourhoods without close proximity to employment (Chetty & Hendren, 2018).

Harvey (1973) considered these concepts of spatial justice (named territorial distributive justice in his book) as be-

ing understood through the analysis of needs, contribution to common good and merit. Importantly, this clarifies that distributive justice cannot be achieved simply through the equal distribution of public goods in a geographic sense. Rather, a careful assessment of an urban system must be carried out to understand what a just distribution actually is.

The needs analysis starts with an understanding of what the basic needs of a city are. Harvey (1973) considers nine categories: food, housing, medical care, education, social and environment service, consumer goods, recreational opportunities, neighbourhood amenities and transport facilities. Then, the just distribution of those needs should be considered through the analysis of demand across geographies, both real and potential.

Contribution to common good is the next layer for considering spatial distributions and arrangement. This layer is primarily concerned with how one geography affects the other in its use of resources. Both positive (Ex: specialization of expertise, transport efficiency) and negative (Ex: pollution, traffic congestion) externalities (Thisse & Fujita, 1996) can arise through spatial distributions of goods, so the maximization of the common good should be prioritized in decision making.

Merit is the aspect of distributive justice that controls for the difficulty that is presented by the environment that a com-

munity is in. If a neighbourhood faces environmental conditions that make existence in that location more challenging, then it merits a greater share of resource allocation to compensate for that challenge. An important caveat to this is choice: if a community is freely choosing to live in an environment that is challenging and not otherwise contributing to the common good, then they do not necessarily have an outsized merit for greater investment.

Enclave, Citadel and Ghetto

Marcuse (1997) provides another important theoretical buttress for socio-spatial justice through his conversation regarding the enclave, citadel and ghetto. His paper highlights the complex nature of social segregation in the city, the three concepts can all be considered as their own typologies of segregation, but with vastly different characteristics and outcomes. The citadel is a high-income, high-status neighbourhood that is characterized by having restricted accessibility and plentiful resources for the high-status residents to take advantage of. The enclave is a neighbourhood that has a significant concentration of people with similar cultures, ethnicities, etc. that are freely choosing to live there. Enclave neighbourhoods tend to provide a sense of familiarity for minority individuals and can provide network effect benefits for them. They can also be targets of discrimination from the wider population and create social disharmony on a regional scale.

The ghetto is somewhat redefined by Marcuse (1997), where he considers the name "outcast ghetto" as the more appropriate term for modern cities. Traditional ghettos were classified as having their residents being forced (by law or otherwise) to live within them and their rights were not equal to those living outside the ghetto. Ghettos were *de jure* subjugations of visible populations. Outcast ghettos, by contrast, exist as *de facto* subjugations. Residents have the same rights as non-residents, and they are not forced in a legal sense to live there, but they are being outcast from other geographies and societal functions as a result of the dominance of other groups. Residents in outcast ghettos tend to have limited ability to participate in the formal economy and face "invisible" barriers to social and economic mobility.

An important conclusion from Marcuse (1997) is that social segregation is not a simple concept and is not inherently "bad." In the case of enclaves, minority populations may freely choose to locate into these segregated neighbourhoods to enjoy a sense of familiarity. However, residents of an outcast ghetto will be inherently disadvantaged by living in that neighbourhood and therefore are experiencing the negative effects of segregation. When considering this concept alongside distributive justice, a multi-faceted theoretical understanding of socio-spatial inequality emerges. The physical, human, administrative and systemic nature of neighbourhoods all contribute, independently and dependently, to the composition of a neighbourhood. Socio-spatial inequality should be understood through this multi-variate perspective.

The Capabilities Approach

The capabilities approach is an approach to understanding human well-being originally developed by economist Amartya Sen (1999), with significant contributions to the theory being later provided by Martha Nussbaum (2011). The underlying principle of this approach is that well-being should be understood as "...doings and beings that people can achieve if they so choose." (Robeyns & Morten, 2021). A doing should be understood as one's ability to do *something* that they value (Ex: woodworking, playing table tennis, bread baking, etc.). A being should be understood as ones' ability achieve a desired *state* of being (Ex: gainfully employed, part of a community, well nourished, etc.). Essentially, are people able to meet their personal definition of a good and dignified life if they want to. There are three core components of this approach that are necessary to understand how well-being is achieved: opportunities, conversion and functionings.

conversion of an opportunity into reality.

Mostly importantly in the capabilities approach is the understanding of well-being through both capabilities and functionings (Fleurbaey, 2002). An individual may have a capability to achieve a certain functioning, but may choose not to on their own accord. For example, someone may have the capability to have a high paying job in a respected field, but for personal reasons choose to be unemployed. A well-being approach that focuses solely on functionings, especially neo-liberal functionings, would see this as a lack of well-being for that individual considering they are unemployed. On the other hand, a well-being approach that only focuses on capabilities would see this situation as well-being certainly being achieved, since the individual has the capability to have a high paying job, but would omit the nuance of why they do not want that job. The individual's not taking of the job could be for positive or negative rea-

Opportunity ⟶ Conversion ⟶ Functioning
(Doing and Being)

Capability
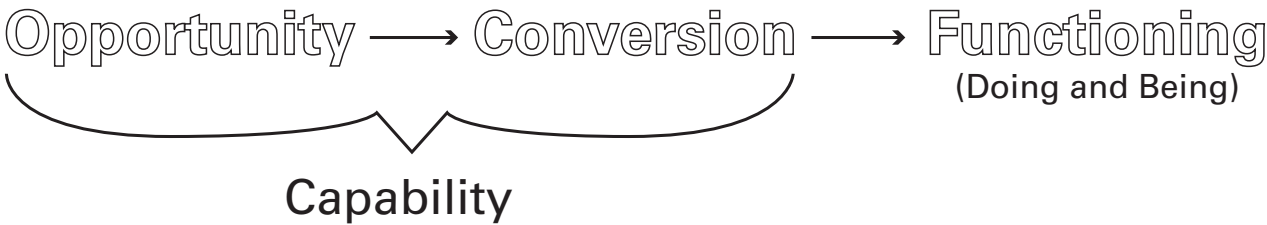
Within the context of this theory, an opportunity is a doing or being that is made possible by either personal, environmental or societal factors. This could be the opportunity for something basic like voting or personal nourishment, but could also be something that an individual desires, such as participation in a specific social group. Conversion is the set of personal, environmental or societal factors that assist or inhibit an individual's ability to utilize their opportunities. An example of a conversion factor is a bike lane - a person may have the opportunity for bicycle transportation as they both own, and can ride, a bike, but if there is no bike lane on their street they may not feel comfortable riding the bike, and therefore cannot convert their opportunity (bicycle) into a functioning (transportation). A functioning is the state of achievement of a doing or being. In other words, a functioning is the successful

sons, so a holistic understanding is only possible through the analysis of both the capabilities, functionings, and their reasons.

This holistic understanding of well-being from an individual perspective translates well to urbanism, especially when considering cities as engines for human development (Frediani, 2021). The adaptable nature of the framework means that local context and cultural expectations fit well into a larger model of well-being. Rather than assessing a place within an abstract framework of ideals that may or may not be relevant there, the capabilities approach enables local considerations of what it means to lead a good life to be the core of the assessment of well-being for that place. Once a definition of locally appropriate well-being is established, it also offers a clear path for analysis of the urban hindrances to well-being through a view to both opportunities and conver-

sion factors.

An example of a capabilities analysis of an urban project comes from the Nova Primavera housing estate which was redeveloped through the Ribeira Azul programme funded by the World Bank and run by the Cities Alliance (Frediani, 2021). The original project was intended as a slum upgrading program, where a squatter settlement that was located in an environmentally sensitive floodplain was to be razed, and the families who lived there relocated to a formal housing estate nearby. The original project was not completed with a capabilities approach in mind, but rather as a traditional slum upgrading program. Officials from the World Bank hail the project as a success, with new housing, infrastructure and social programs being installed and living conditions being greatly improved for residents. While some aspects of the project do seem to have been successful in hindsight, namely improved environmental quality and social programs designed for skills training, a major component of the project, housing, was less successful.

> "Despite these benefits, many residents had substantial complaints about the new houses, particularly about the size, quality of materials used, deficiencies in the hydraulic system and sanitation, and lack of privacy. With regard to size, various commented that they had more living space previously (which may have been linked to perception) and that the houses made it difficult to accommodate families. [...] The negative perceptions around the housing are somewhat per-

plexing given that the size is relatively standard compared to average middle-class housing in Brazil, and certainly no smaller than the size of the palafitas. The basic construction is by far more secure than the palafitas and the benefits of running water, sanitation, and security seem as though they would be perceived positively." (Baker, 2006)

The project as carried out did not make enough effort to understand the housing needs, expectations and desires for housing of the residents. The desired functionings and capabilities of residents were misdiagnosed through the program, leading to a "perplexing" dislike for the newly provided living accommodations. Frediani (2007) explored this project in depth, then applied a capabilities approach to understanding the expectations of housing from former residents who had been relocated through the formal program. Indeed, his analysis of the program revealed that the primary housing aspirations of residents, including individualization and possibility of expansion, social networking, healthy environment, participation in decision making and affordable living costs were either minimally or not all all accommodated in the formal program. As a result, there was a general dissatisfaction among residents. The World Bank may consider the project to have been a success, but the residents do not (Frediani, 2021).

The capabilities approach is a powerful method for understanding the needs and expectations of people and can be used effectively to understand how an urban environment should be shaped to ensure the well-being of residents.

Happiness and Satisfaction

Building upon the socio-spatial inequality section, for a city to act as an engine of human development, we must understand how human development should be conceptualized. The capabilities approach provides a framework with which to understand the practical elements of the physical environment that contribute to one's ability to lead a fulfilling life. Happiness and satisfaction of the self, then, act as the underlying principles to understand how one sees their place in the world and therefore what an ideal world could be.

The ingredients that lead to happiness and fulfilment are inherently personal. Individuals will have different sets of needs, wants and desires that contribute to their ability to find fulfilment in their lives. That being said, examining the philosophical underpinnings of societal organizations provides a baseline for understanding the forces that influence how these concepts are conceived by individuals.

This project will explore Ubuntu/Botho/Kagiso philosophy, both for their historical and cultural relevance in Botswana, but also as underpinnings for a new way forward.

Ubuntu

Ubuntu is a Bantu philosophy with historical ties to much of Sub-Saharan Africa. Botho, in a basic sense, is the Tswana translation of Ubuntu. However, Botho as understood in a traditional sense is somewhat different, and as will be explained, also involves the concept of Kagiso to form this philosophical outlook.

Ubuntu is generally seen as a philosophy that explores the nature of humanity. The most commonly shared foundational phrase of Ubuntu philosophy is the Zulu-Xhosa phrase "umuntu ngumuntu ngabantu," which translates to mean "A human being is a human being through other people." (Ogude, 2019). This is also commonly expressed as the phrase "I am because you are." What this means is that our humanity only comes from its expression through other people. Our community is our humanity, so without community we cannot be human. This is the same for our sense of self - the self exists only within a network of others. One's ability to reach a state of self-actualization can only be achieved through their place within a community (Metz, 2014).

Botho and Kagiso

Botho and Kagiso were very important underpinnings of traditional Tswana societies (Gulbrandsen, 1993), (Gulbrandsen, 2007), (Gulbrandsen, 2022). Botho was understood both as an overarching societal philosophy, and as an individual person's character. A Botho-based society means that an individual in that society could only exist through their relationships with other people. To be a person with a strong Botho means that person has a strong character and contributes to the greater good of the society. It was seen as imperative for young people to develop their sense of Botho in order to become a respectable person in society.

Coupled with Botho is Kagiso. Kagiso translates directly to mean social harmony. A community that has a greater level of social harmony is one that has an elevated Kagiso. It was the responsibility of all Tswana people to care for and advance the Kagiso of their community. Kagiso was undermined through the introduction of social tension, conflict amongst neighbours, etc. It was believed that a greater level of Kagiso would please the ancestors of the community, lead to better rains, healthier cattle, etc. This concept is explored more through the traditional societal analysis on page 64.

Botho and Kagiso came together to form the basis for societal arrangements and individual's interactions within them. To be a person of Botho meant that you were constantly striving to improve the community. Since the ultimate form of improvement of community was the advancement of Kagiso, the primary method for fulfilling one's purpose in society and therefore developing their Botho was to advance Kagiso to the best of one's abilities.

This societal underpinning rooted in the advancement of social harmony has been reduced in importance in the country since the colonial era. Participation in the global order has further turned societal order from Botho to Capitalism. Education systems, land rights, economic systems, etc. in Botswana resemble those of Britain and most other post-colonial nations in the world. As a result, foundational elements of society and the generally understood definition of the good life has shifted towards the philosophies associated with capitalism. The desire to accumulate material wealth and advance one's career is ever present in society.

As is described in further detail throughout this report, the shift to a capitalistic philosophy has both eroded many of the traditions and cultural practices that were observed in the pre-colonial era and has contributed to significant unhappiness in the country.

A return to the Kagiso/Botho philosophy as the dominant underpinning of society, then, can act as a way forward for proposing a new urban system that prioritizes happiness and life fulfilment. The development of Kagiso, rather than accumulation of material wealth, creates an entirely different value system to guide the priorities of urban and regional development. An urban system that is oriented towards Kagiso/Botho will, first and foremost, facilitate the development of community and bonding amongst neighbours, whereas a capitalist urban system prioritizes economic efficiency most of all.

The historical and cultural relevance of this philosophy in Botswana, coupled with its being rooted in community and togetherness, makes the reimagining of an urban system that is based on Kagiso/Botho principles a new way forward for the promotion of happiness and life fulfilment.

Fulfilled Life

Baumann & Ruch (2022) have developed a "fulfilled life scale," which attempts to measure peoples' perception of their own life fulfilment. There are six components of life that are used for this measurement: self, life, impact, sense of wholeness, sense of fit and sense of value. A fulfilled life exists within our perception of our inner selves, our outer selves and our contributions to community.

This scale provides an important buttress both to the Botho philosophy and to the capabilities approach, by adding another layer that seeks to understand the framing elements of this concept of happiness and life fulfilment.

All of these elements combine together to form the theoretical basis for how life fulfilment should be understood, and how its advancement will be considered at a societal scale.

Conceptual Framework

The conceptual framework outlines the system for understanding both the current situation and for conceiving of a desirable way forward. In the current situation (outlined in gray), the realities of the urban system, the primary factors of inequality and [non]-fulfilment lead to a society that is defined by its winners and losers. People who can take advantage of these systems reap significant financial and social benefits. People who are either unable to take advantage of the systems, or are excluded from them, have both social and financial challenges. This systemic design creates a feedback loop. Because the advantaged can exploit resources in the system so effectively, they are able to perpetuate their advantages both individually and generationally. The disadvantaged have no footing within the system to begin with, so are unable to climb the social and financial ladder and cannot easily provide upward mobility for their children.

The concept for the project comes from the systems and theories that are listed outside of the current situation being implemented in different manners to create a system of equity. To mitigate inequality, self actualization within the Kagiso/Botho framework will act as the underpinning theories. This theoretical underpinning allows a context for understanding equity and therefore guides the direction to work towards. Using localized knowledge and the New Urban Agenda as systems for mitigating inequality helps to frame the possible methods for this mitigation. By comparing local understandings of the drivers of inequality with a global standard for the urban needs of the future, a sustainable and effective strategy can be created and implemented.

On the side of the urban system, the capabilities approach and spatial justice act as the theoretical underpinning for intervention. By combining these theories together, a joint understanding for a new urban system can be created that incorporates both a personal view of what the city should be and a societal view. Infrastructure and self-help development as systems of implementation provide flexibility for possible intervention frameworks while also acknowledging the realities of the current urban situation. It will only be through collaboration and the empowerment of residents that a new urban paradigm can truly be implemented. The methods used to achieve this paradigm must be respectful of local culture and practices while also being action oriented and effective.
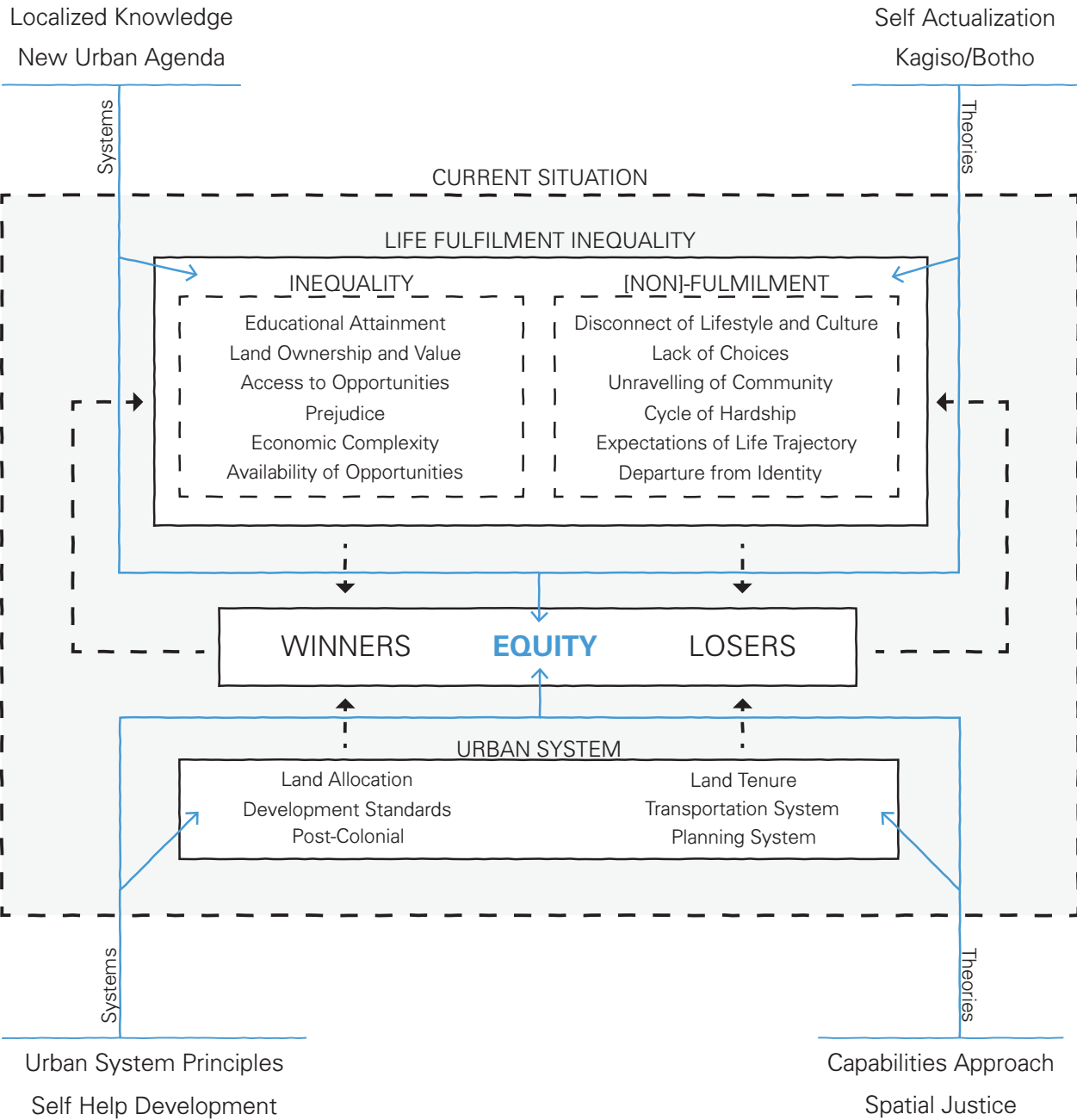
Figure 30. Conceptual Framework. Source: Author.
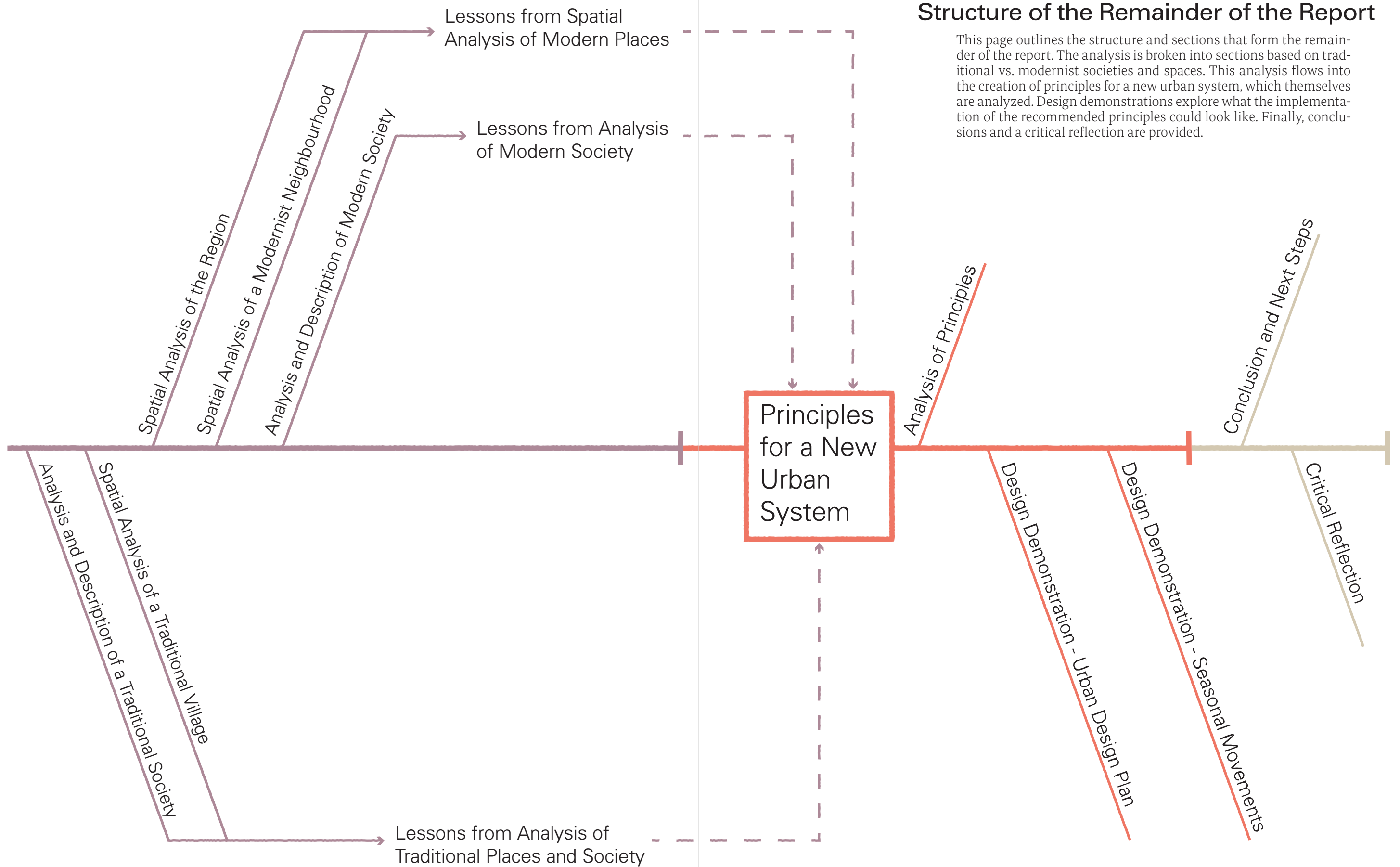
This page outlines the structure and sections that form the remainder of the report. The analysis is broken into sections based on traditional vs. modernist societies and spaces. This analysis flows into the creation of principles for a new urban system, which themselves are analyzed. Design demonstrations explore what the implementation of the recommended principles could look like. Finally, conclusions and a critical reflection are provided.

Lessons from Spatial Analysis of Modern Places

Lessons from Analysis of Modern Society

Spatial Analysis of the Region

Spatial Analysis of a Modernist Neighbourhood

Analysis and Description of Modern Society

Analysis of Principles

Conclusion and Next Steps

Principles for a New Urban System

Analysis and Description of a Traditional Society

Spatial Analysis of a Traditional Village

Lessons from Analysis of Traditional Places and Society

Design Demonstration - Urban Design Plan

Design Demonstration - Seasonal Movements

Critical Reflection

Figure 31. Structure of Remainder of the Report. Source: Author.

Analysis

Figure 32. Gaborone looking North from City Centre. Source: Author.

Explanation of Analysis

The diagram on the previous page describes the structure of the analysis, and remainder of the report. As shown, the analysis begins by looking at both the spatial and societal elements found in traditional Tswana societies. Next, analysis of modern spaces is completed across scales, with a look into modern societal realities closing out the section.

As informed by the research questions and methodology, the goal of the analysis is to gain an understanding of what in the urban system is causing life fulfilment inequality. To do this, a holistic approach that analyzes both the spatial realities of the urban environment and how it is exactly that people experience and perceive these spatial realities, is necessary.

In order to understand how people are experiencing current spatial realities, past and current cultural practices and value systems are examined. This is because culture, religion and value systems shape the way that people understand and interact with the world and therefore how they experience it (Johnson et al., 2011). Furthermore, one's definition of a fulfilling life is inherently rooted in their cultural understanding. To evaluate life fulfilment inequality, it must first be understood where life fulfilment comes from.

In comparing traditional and modern societies, we can understand both what the historical underpinnings of Botswanan society are, and what the machinations of the current systems are. This way, an evaluation can be made of how aligned the current system is with people's expectations and therefore where it may be failing.

Comparing spatial paradigms of the traditional and current systems further details how the urban system itself has both responded to, and shaped, societal organization. This, in turn, explains the degree to which changes in spatial paradigms have affected both inequality and life fulfilment.

Finally, this knowledge can be integrated together to inform what should be done to alter the urban system to that it prioritizes the advancement of life fulfilment equity.

Layout of a Traditional Village
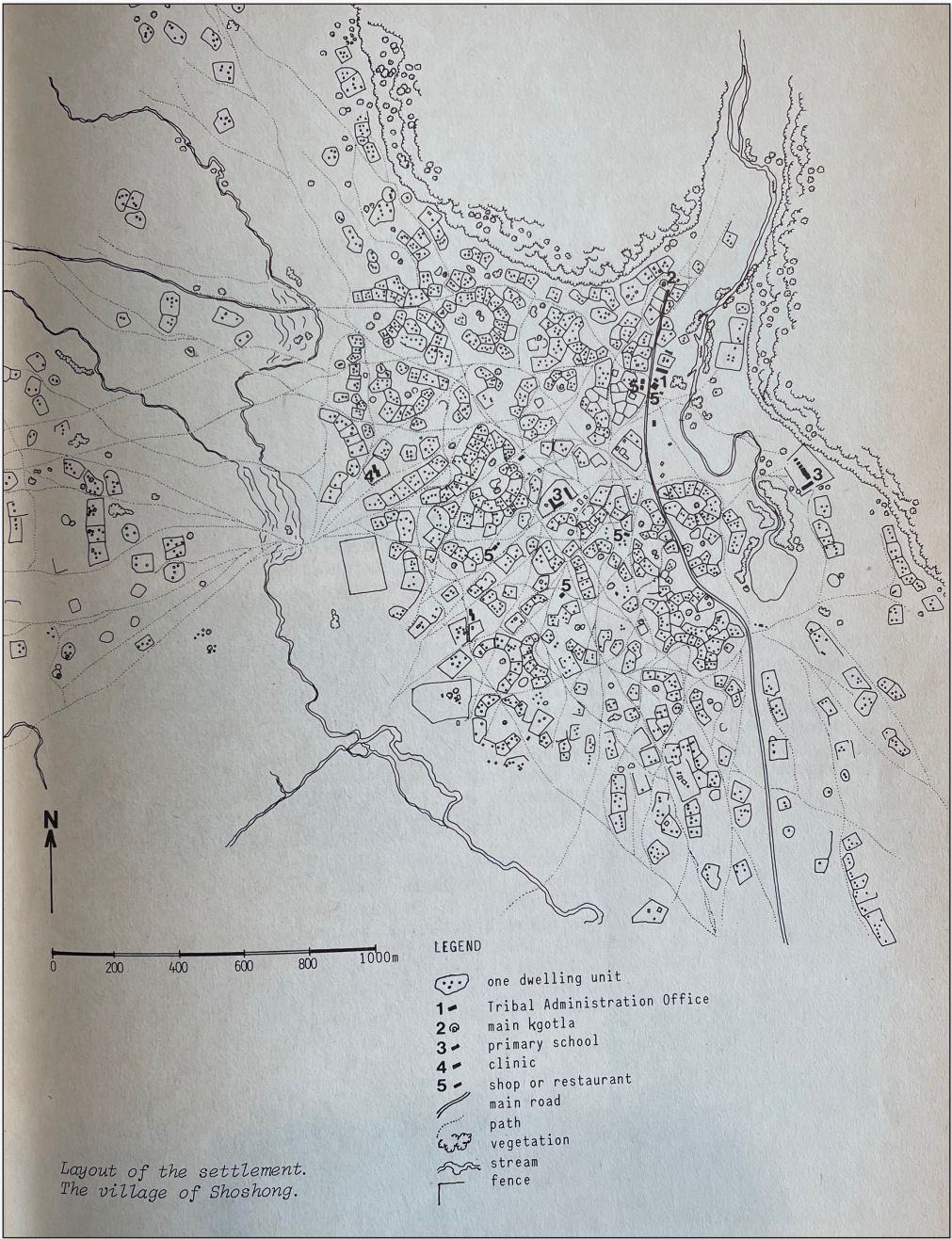
Figure 33. Traditional Village Layout. Source: (Larsson, 1984)

The traditional village layout design is derived as the physical manifestation of the network of relationships in the village. The hereditary chief (kgosi) is located at the centre of the village, usually facing onto the main Kgotla. The close family and immediate advisors to the kgosi have their homes in the surround neighbourhood, then as you draw further away from the centre the relationships to the kgosi become weaker. This layout was able to support relatively high populations, perhaps in the low thousands (Larsson, 1984). Once a village grew too large for a single administration, a new village would be established, with residents then splitting between the old and new village.

Figure 34. Traditional Village Gallery 1. Source: Author

Layout of a Traditional Homestead
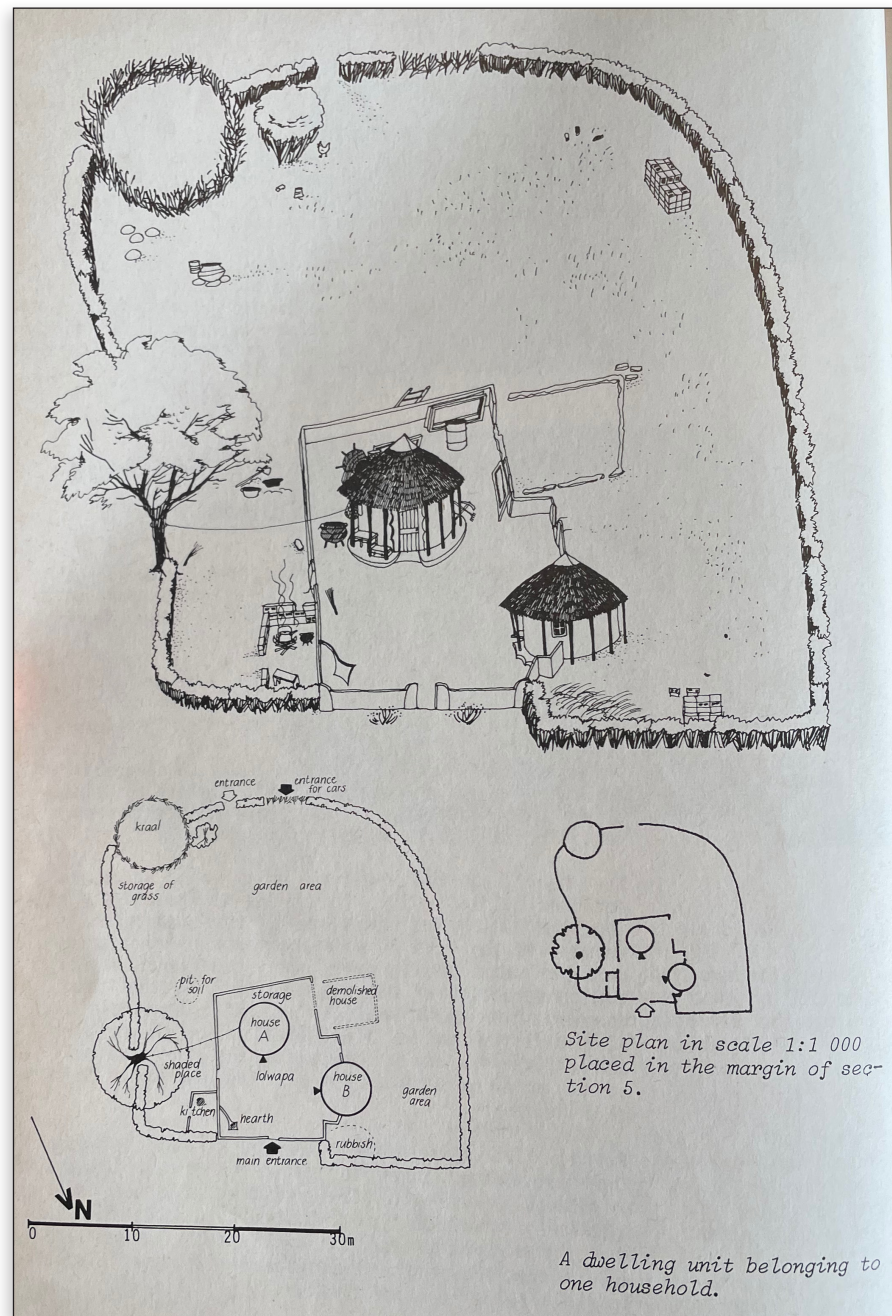
Figure 35. Traditional Housing Layout. Source: (Larsson, 1984)

The traditional housing layout was, in fact, a housing compound. Multiple different buildings would be established within a larger lot, each serving a different purpose. One may have been used for sleeping, one for washing, one for beer brewing, etc. There was also often a kraal, for the purpose of keeping animals. The buildings would interface with the lolwapa, which was an enclosed semi-public space located within the plot. Most domestic activities took place outside in the lolwapa, rather than in the buildings. Passers-by could see their neighbours carrying out their daily activities within the lolwapa, fostering strong social connections simply through proximity.

Figure 36. Traditional Village Gallery 2. Source: Author

Spatial Analysis of a Traditional Village

Analysis Location

Gabane

Kgatleng District

Kweneng District

Modipane

Gaborone Centre

Tlokweng

South-East District

Gaborone Dam

Mokolodi Reserve

South Africa

Greater Gaborone

Figure 37. Traditional Society Spatial Analysis Location. Source: Author, (Google Maps, n.d.-d)

Location Diagram

Figure 38. Gabane Village Layout.
Source: Author, (OpenStreetMap Contributors, 2022)

N   250m

The Gabane village centre was chosen as the site to analyze as a traditional village layout. This is a typical layout seen repeated across villages that have maintained their layouts from the pre-colonial era until now (as seen in the documentation from page 42). At a glance, the development pattern seems somewhat random, with meandering streets and buildings spread around unevenly. As will be described below, there is a strong logic underpinning this layout which has dictated the village development pattern across many different Tswana villages.

Legend
- Building
- Tarred Road
- Dirt Road
- Hillside
- Public Space (Patlelo)

Land Use
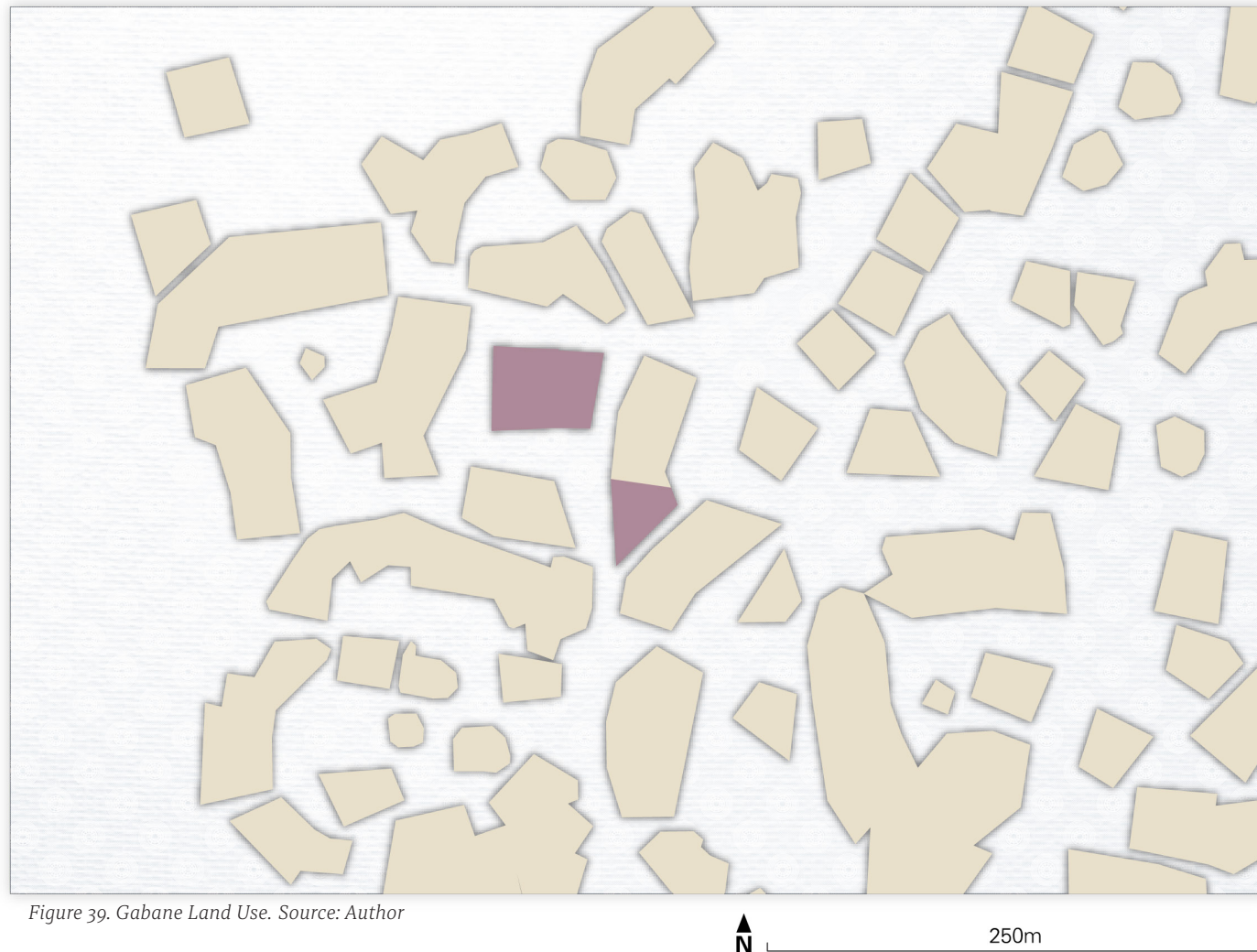
Figure 39. Gabane Land Use. Source: Author

N | 250m

Legend
- Village Residential
- Community

The land use of this area seems relatively simple, with only two distinct land use categories being visible: village residential and community. However, a further look into the actual functioning of those land uses shows a rich variety in the conceptions of land in traditional villages. Homesteads were used for much more than just living, as is shown on page 44. Agriculture, horticulture, food processing, goods trading and semi-public social spaces were all present within the homestead - a practice that continues today in some village areas (Molebatsi, 2021). This mixed-use nature of residential land use in the traditional villages creates a sense of vibrancy, where different activities are taking place around the neighbourhood constantly.

Road Network

Figure 40. Gabane Road Layout.
Source: Author, (OpenStreetMap Contributors, 2022)

N | 250m

Legend
- Tertiary Road
- Tarred Road
- Dirt Road

The road network shows a meandering set of mostly dirt roads that are oriented around the public spaces (*dipatlelo* and *dikgotla*). There is a high level of redundancy, with many different roads being available as alternate routes to the same place. A road network laid out in this manner encourages a high level of interaction between neighbours by directing them through and past different parts of the neighbourhood that would not be considered as destinations in their own rights. The paths of travel created in this system may not be as efficient as possible in terms of travel distance and time spent travelling, but they do encourage interactions between neighbours and therefore help to foster a sense of community.

Village Settlement Development Pattern

Figure 41. Village Settlement Development Pattern.   Source: Author
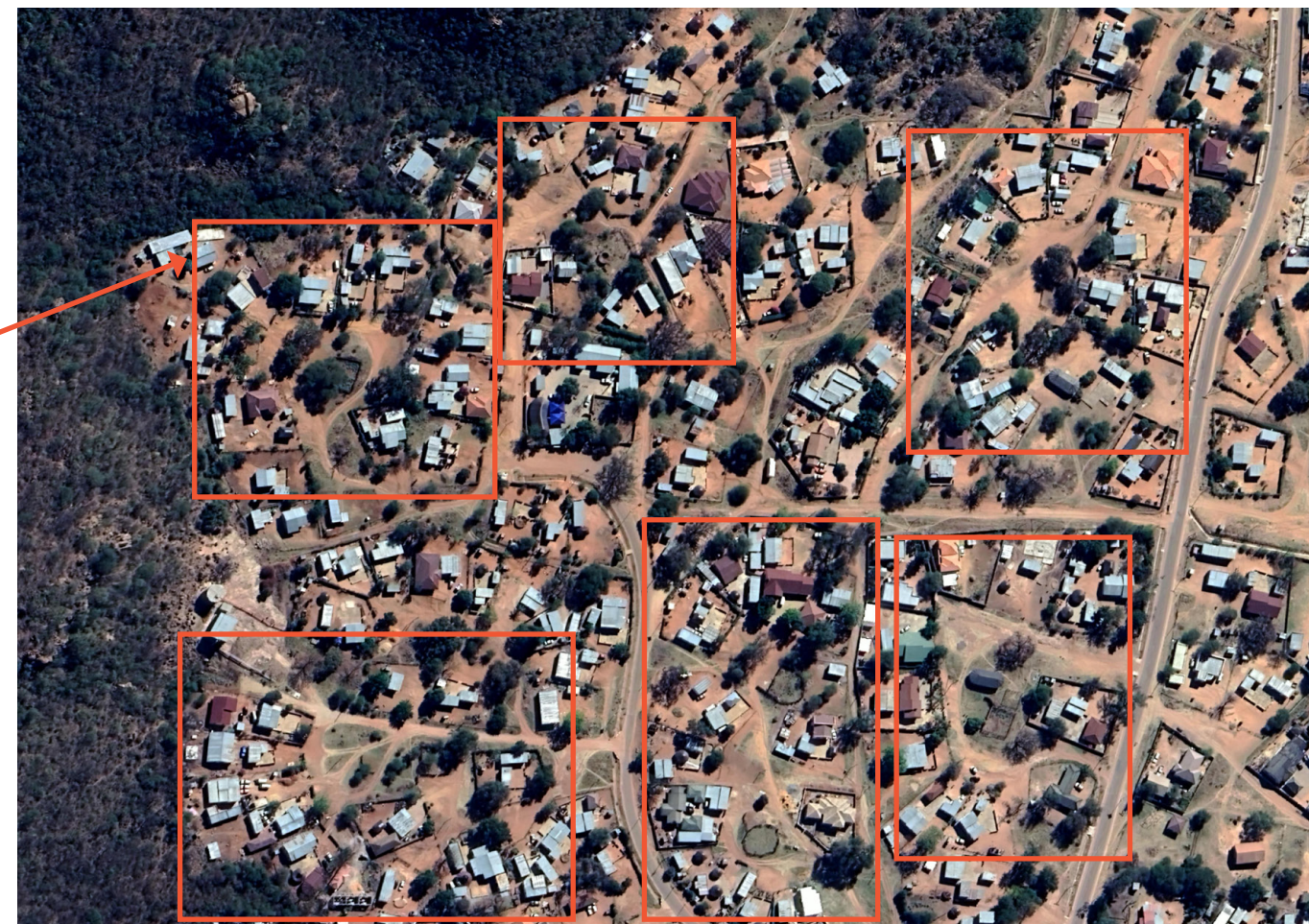
Figure 42. Gabane with Standard Development Pattern. Source: (Google Maps, n.d.-d)

Traditional villages had a relatively regularized development pattern. They were comprised of a series of wards that were each designed as shown in Figure 41. A public space (patlelo) was at the centre of the ward, with a ring of homesteads surrounding the patlelo. Roads ran in and out of these horseshoe patterned wards, connecting them together. In the patlelo itself was the kgotla, which will be explained further on the next page. Almost all homesteads had a lolwapa at the front of the lot, fronting them onto the patlelo area. The patlelo areas were typically between 2000-2500 sq.m., with 16-20 homesteads surrounding them in most cases.

As shown in the aerial image of Gabane, not every ward took the exact same shape or size. Variation in the layouts occurred for many different reasons, but the standard elements as shown here were virtually omnipresent in village design.

Kgotla, Patlelo and Lolwapa

The kgotla, patlelo and lolwapa are the three most important spatial elements that are found in traditional villages. These spaces acted as drivers of the development of Kagiso/Botho and were central in the observation of cultural practices.

The kgotla was the most important structure in the public life of the Tswana. This was the central meeting place where citizens, ward heads and dikgosi would come together to discuss important matters. Kgotla meetings occurred very regularly and were seen as one of the primary venues to prove one's value to the community and to ascend the social hierarchy. One's ability to speak clearly, their knowledge of Tswana custom and law and quality of contributions at kgotla meetings were very important. The better someone was at contributing to these meetings, the more able they were to climb the social hierarchy (Gulbrandsen, 2007).

All sorts of topics would have been discussed here - from matters related to the functioning of the village to domestic issues and everything in between. This was also the place where dowry negotiations for weddings, co-ordination for funerals and other similar activities would have taken place.

Kgotla

Figure 43. Highlighted Image of Kgotla. Source: Author

Kgotla in Use

Figure 44. Kgotla in Use. Source: (Sunday Standard Reporter, 2023)

Kgotla Locations
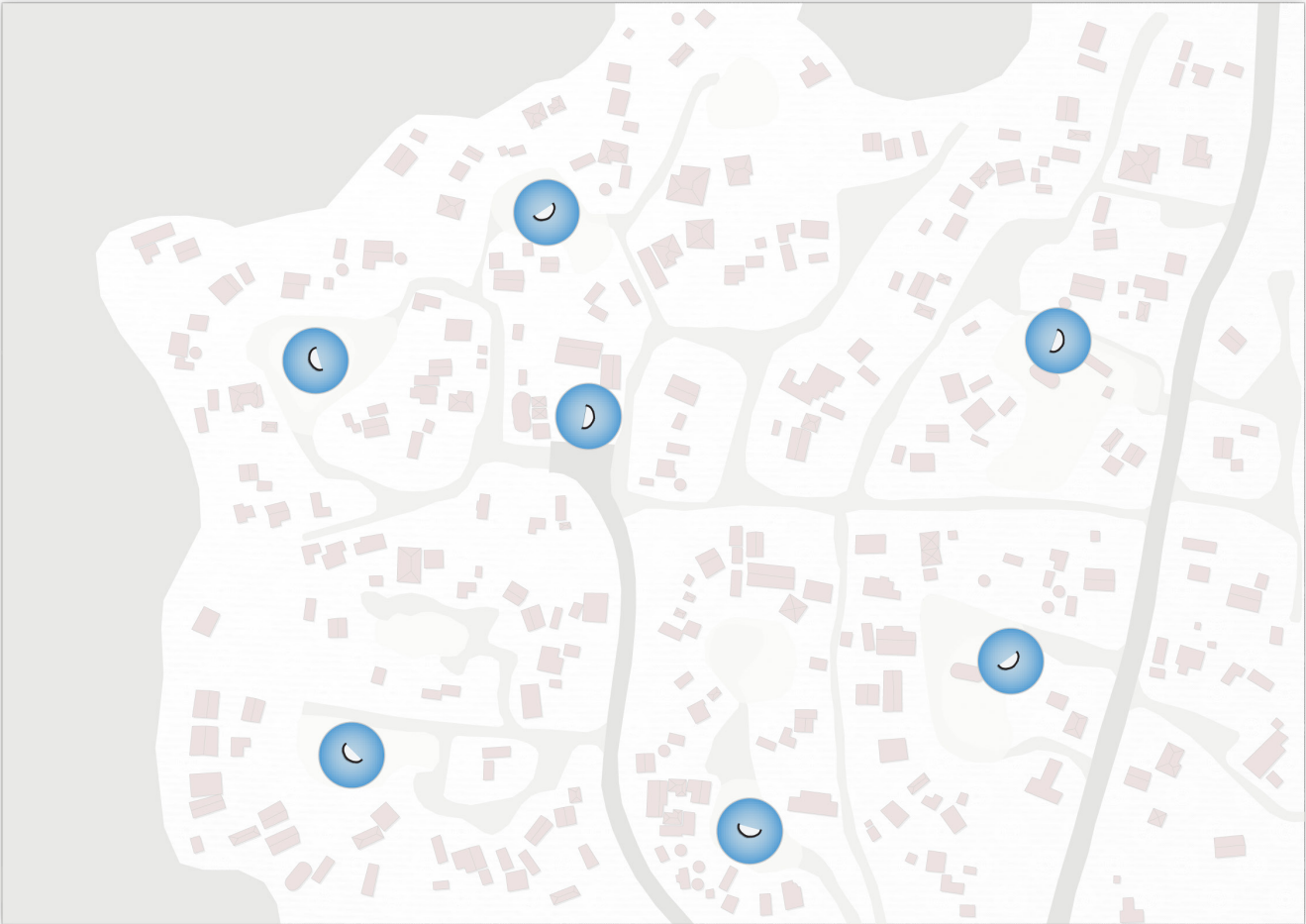
Figure 45. Gabane Kgotla Locations.
Source: Author, (OpenStreetMap Contributors, 2022)

N   250m

Every ward in a village would have had a kgotla, again showing the importance of this structure to the way that life was led. Its central location in the wards and overall village signifies the importance of both the structure and the institution of the kgotla: any issues that could affect the social harmony of the village would have had to be brought to the kgotla to discuss and solve (Gulbrandsen, 2007), (Gulbrandsen, 2012), (Gulbrandsen, 2022).

Another important aspect of the kgotla is its physical design. A rough semi-circle was constructed out of tree branches to create the kgotla and it was often erected under a shade tree. There were no physical barriers to this structure as a signifier of the open nature of the institution of the kgotla. That being said, this was a male only space - kgotla meetings were only attended by the men of the village and women were essentially not permitted to be within the kgotla area.

Legend
🌙 Kgotla

Patlelo

Figure 46. Highlighted Image of Patlelo. Source: Author

Figure 47. Highlighted Patlelo Point of View. Source: Author

Patlelos and Public Space Density
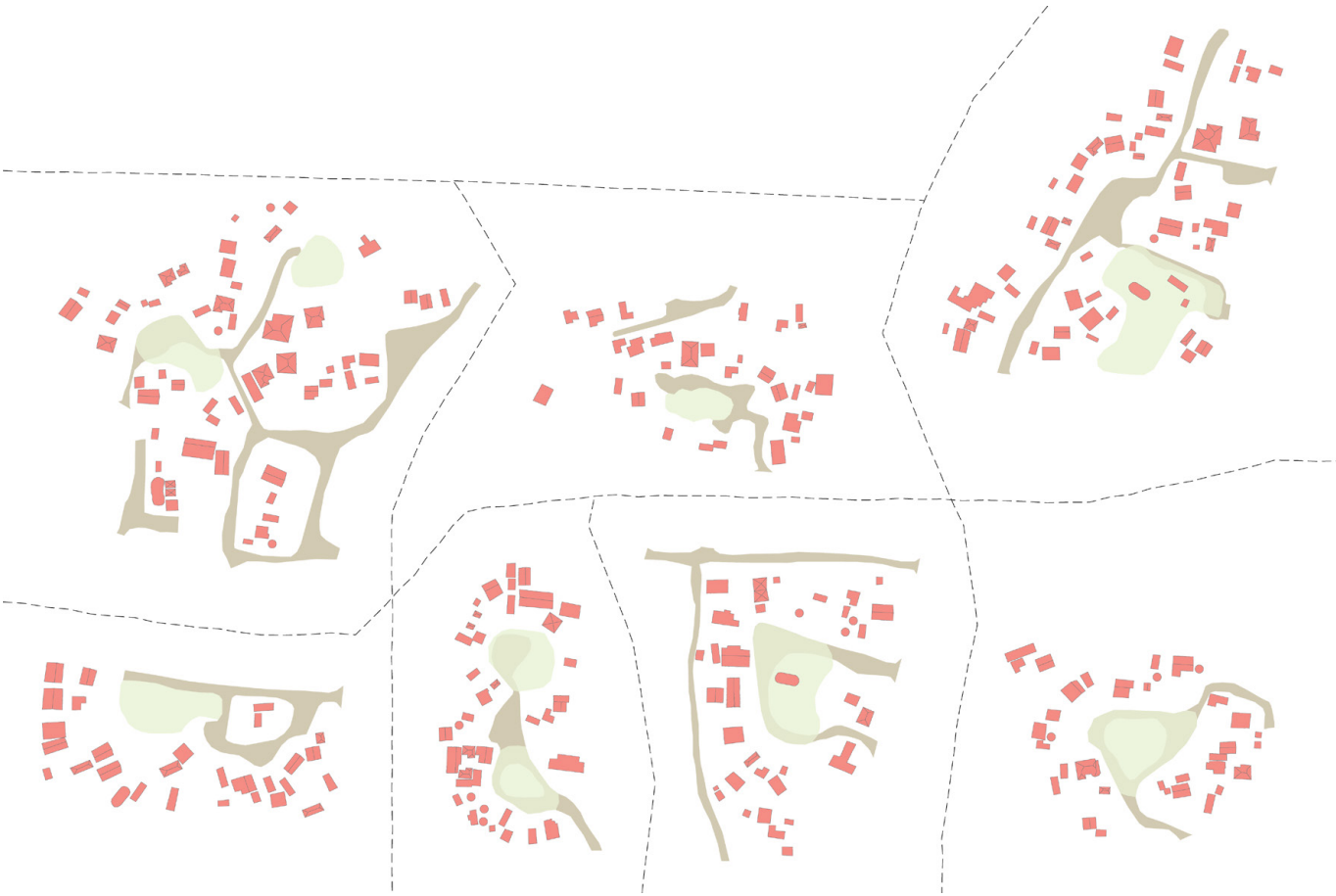
Figure 48. Gabane Public Space Density.
Source: Author, (OpenStreetMap Contributors, 2022)

The patlelo was the public space at the heart of each ward. The kgotla would have been placed within the patlelo and most of the homesteads in the ward would be fronting onto this space. This was a multi-functional public space that was used for virtually all gatherings and important cultural practices. Weddings, funerals and any other gatherings that were being arranged by a village member would occur in this space - these types of events would generally not occur within a family's private homestead. As a result, all gatherings were essentially viewed as being public, with no need for invitations to be arranged. Rather, it was expected that all ward members and most village members would come and attend the event without needing to be asked (Morobolo et al., 2018).

There was a high density of public space in Tswana villages as a result of the proliferation of dipatlelo in villages and wards. As stated above, a typical patlelo ranges between 1500 - 2500 sq.m. and is usually surrounded by 10 - 20 homesteads (Mosha, 2020). This meant that there was plenty of public space for people to use and enjoy together, which again helped to improve the sense of community in villages and wards.

Lolwapa

Figure 49. Highlighted Image of Lolwapa. Source: Author

The lolwapa was essentially a courtyard that connected the different outbuildings on residential homestead plots. Much of private life was led in the lolwapa - much of the cooking, cleaning and other domestic activities would occur here (Morobolo et al., 2018). Since the lolwapa was located at the front of the lot, this meant that people would often be visible to passers-by as they were going about their daily activities. This arrangement created the possibility for many serendipitous encounters between people, again helping to forge social ties.

The lolwapa was a space associated with women. Most of the domestic chores associated with running a homestead were considered to be women's work. This was also a place where women and girls would congregate while the men were attending kgotla meetings or discussing wedding proceedings (Larsson, 1984). It was seen as an important place for the social bonds between women to be formed and for advice to be passed down from the older to the younger generations.
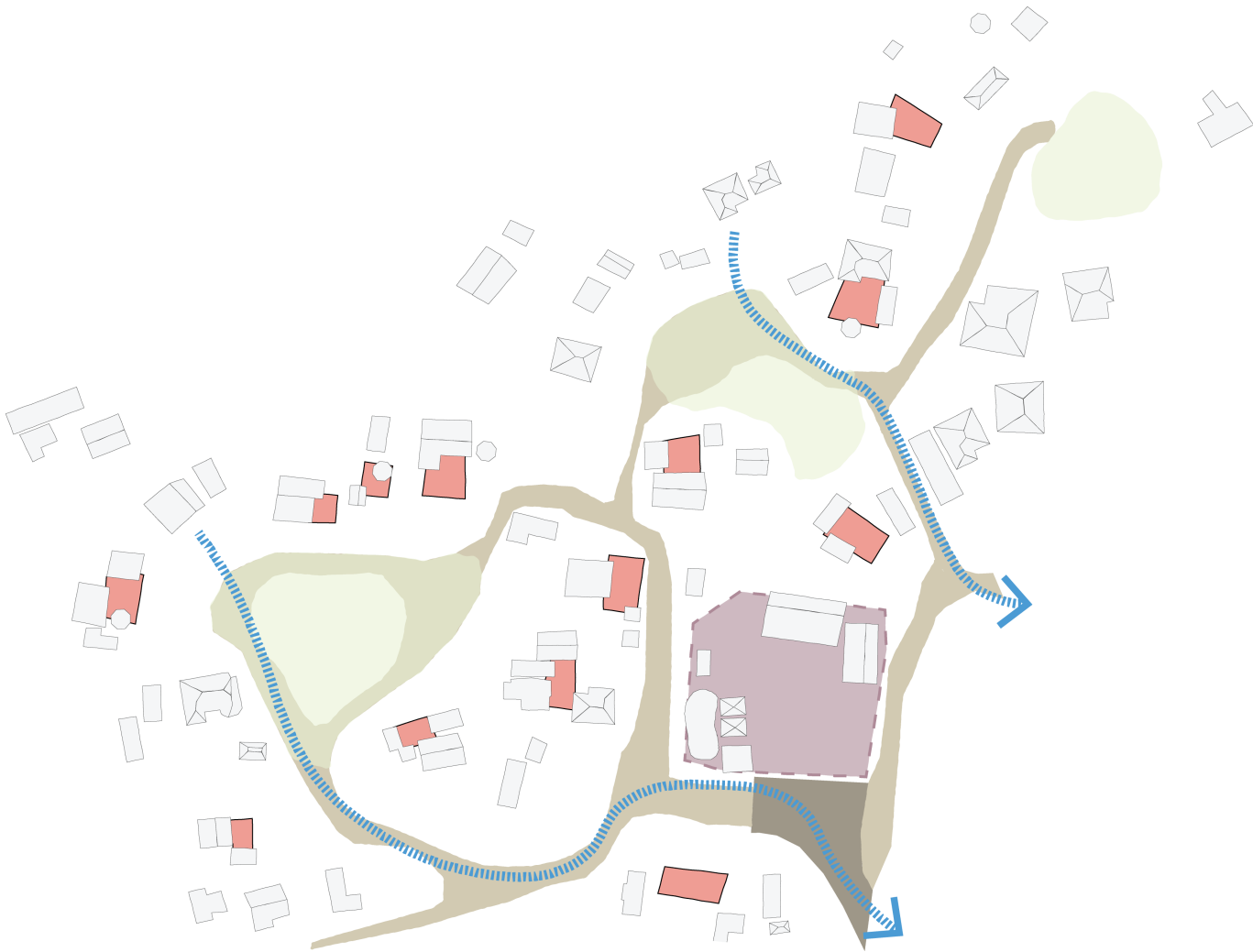
Figure 50. Gabane Interaction Patterns.
Source: Author, (OpenStreetMap Contributors, 2022)

Legend

- Patlelo
- Courtyard (Lolwapa)
- Major Kgotla
- Road
- Path of Travel

Analysis and Description of Traditional Society

An analysis and description of traditional Tswana society will now be carried out for two reasons. Firstly, the spatial design of traditional villages was directly tied to societal order and cultural practices. As such, it is important to understand how society operated and what value systems were in place that informed spatial design decision making. Secondly, since this project is exploring the concepts of happiness and fulfilment, it is important to understand the cultural context that existed here in the pre-colonial era, as that context is what forms the basis of the culture and outlook of Batswana today. Suggestions on possible ways forward would be baseless if the cultural context is not well understood.

Traditional Tswana society was inherently hierarchical. In fact, while the Tswana societies are now called chiefdoms, the pre-colonial meaning of the word kgosi was actually king, not chief, and therefore these were kingdoms (Gulbrandsen, 2012). As the king, the kgosi occupied the top spot in the social hierarchy. Next, there would be the heads of each village ward, usually relatives of the kgosi, that would form the rest of the upper echelon of the power system. Next were the male heads of households, the rest of their family, immigrants, then indentured servers who acted as general labourers. This hierarchy was well established and visible to all. For example, the place where you sat and order you spoke in at kgotla meetings was directly related to your position in the social hierarchy (Gulbrandsen, 2022), (Schapera, 1994).

One's position in the social hierarchy also directly impacted the set of responsibilities that they were expected to carry out within society, with the most important of all being the maintenance and advancement of Kagiso (see page 64). The kogsi was seen as having the highest responsibility for the advancement of the tribe and village and was constantly held to account for his performance. He would also have the final say (literally and figuratively) in decision making at the kgotla meetings after having heard the input of any member of the village who chose to speak.

Societal Hierarchies
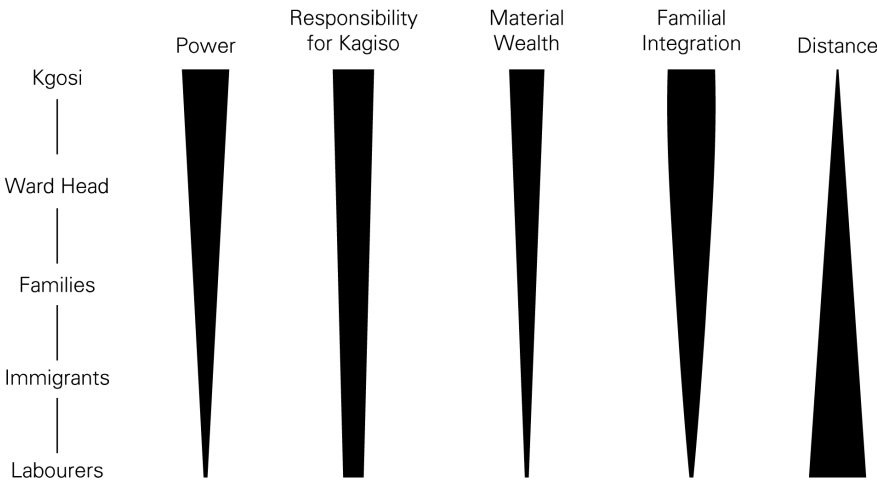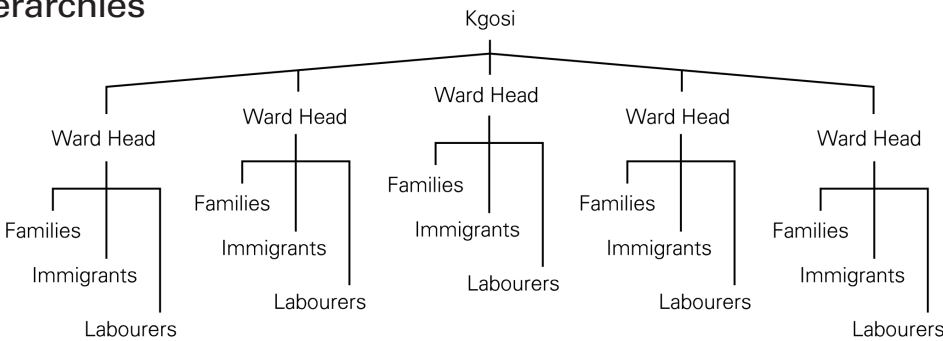
Figure 51. Traditional Societal Responsibilities. Source: Author

Social Hierarchies in Space
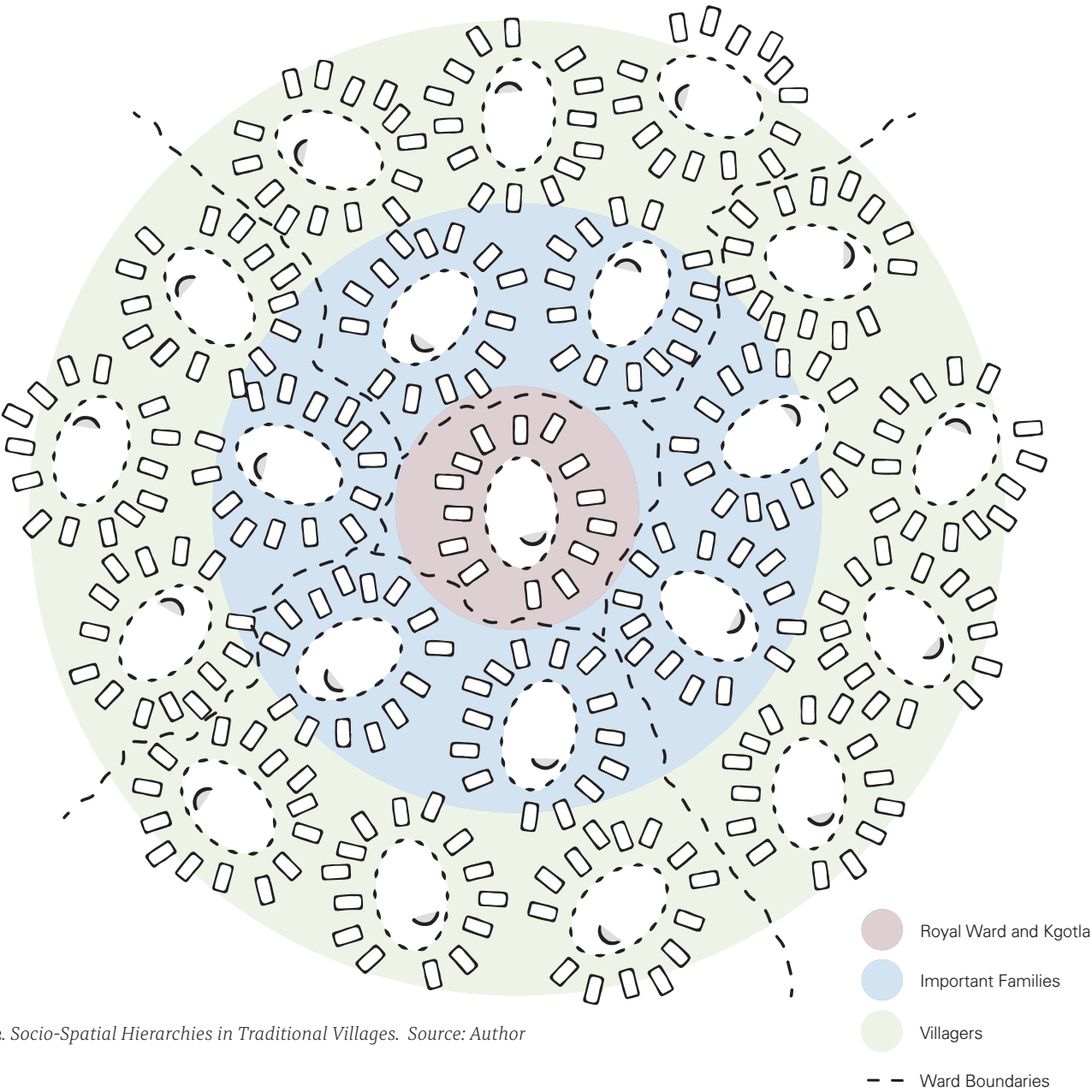
Figure 52. Socio-Spatial Hierarchies in Traditional Villages. Source: Author

- ● Royal Ward and Kgotla
- ● Important Families
- ● Villagers
- – – Ward Boundaries

Another of the clear spatial illustrations of the social hierarchy was the placement of wards and locations of families within villages. Village layouts were created according to the social structures amongst village dwellers (Morobolo et al., 2018), (Gulbrandsen, 2022). The kgosi of the village would be located at the very centre and would preside over the royal kgotla adjacent to his homestead. The ward units with the most important families would then be placed next to the royal ward in a concentric circle pattern spreading out from the centre. The status of the families and ward units then scaled with the distance from the royal ward.

It is important to note that the social hierarchy and layout of villages was not static. One's position in the hierarchy could change based on merit, relationships, etc. As populations grew, hierarchies changed and power dynamics ebbed, wards and groups would be moved at the discretion of the kgosi (Gulbrandsen, 1993). Whole new villages would be erected if the population had grown too large, or if the kgosi feared that his power was being contested by other village members.
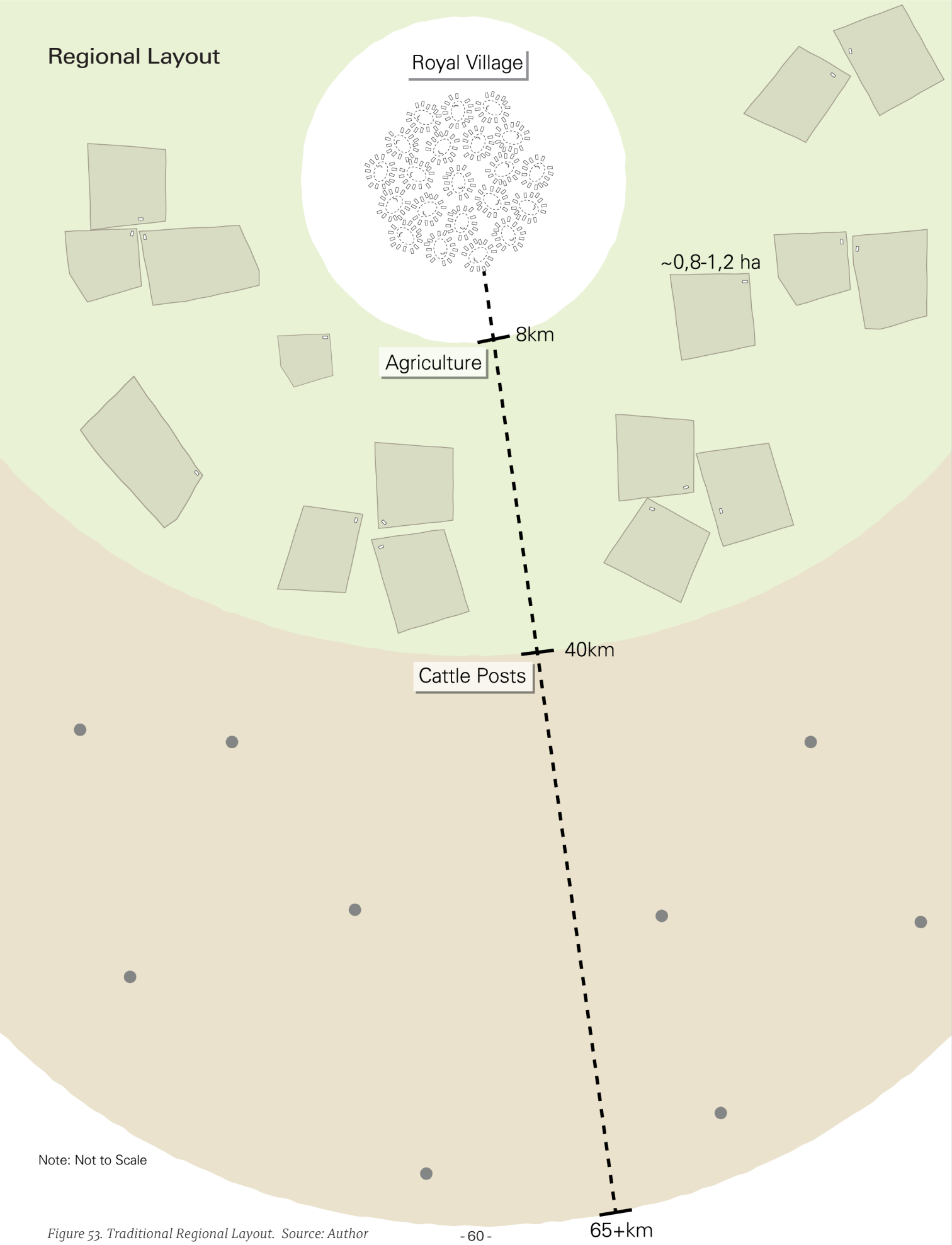
Figure 53. Traditional Regional Layout. Source: Author

Movement Patterns and Responsibilities
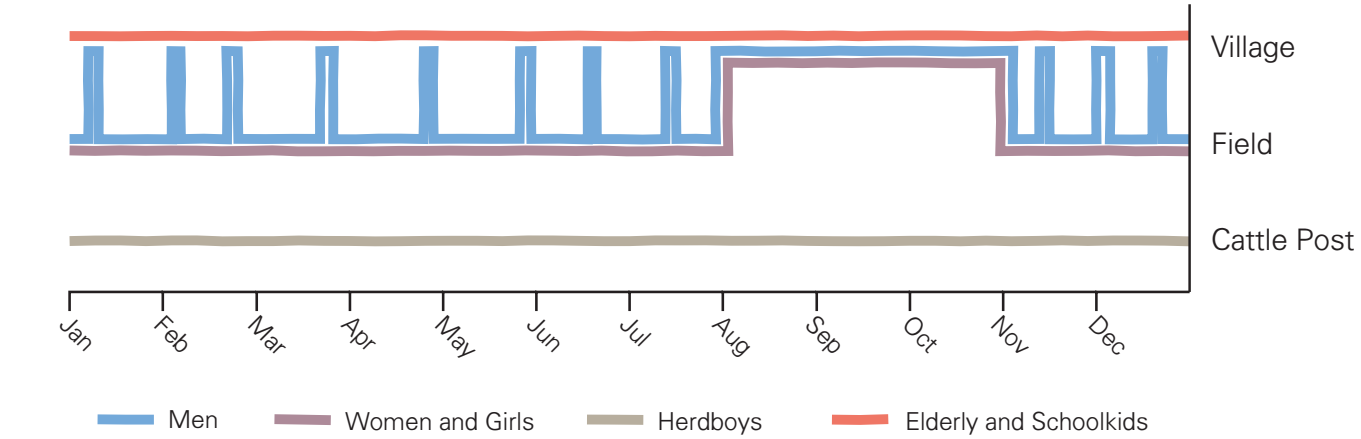
Figure 54. Traditional Yearly Movement Patterns. Source: Author

Larger regions were well integrated into Tswana villages. The village itself would usually be located at the centre of a region, with fields being located from 8 to 40 kilometres from the village, then cattle posts further afield. Most families would own a homestead in the village and a field in the agricultural area, with the more affluent families owning cattle posts.

The general rhythm of life involved movements to and from the agricultural areas based on growing seasons. From roughly November to July people would live at small homesteads in the fields, working them until harvest. From August to October, once the harvest had been completed, they would move back to their homesteads in the village. The gender roles within families added another layer of complexity to this pattern. Working the fields was primarily seen as women's work, and as such they would stay in the fields for most if not all of the growing season. Attending kgotla meeting and advancing the social status of the family was seen as the man's work, and as such the male head of the household would move back and forth between the fields and the village to

attend to these social duties in the growing season. The eldest son of a family would live at the cattle post year-round, attending to the family herd. This herd of cattle was seen as the primary form of material wealth in Tswana society and as such was very important. The elderly and school aged children would stay in the village year-round (Hillbom & Bolt, 2018), (Ndobochani, 2020).

What is clear from this pattern is that both the field and the village were very important to people, for different reasons. The field was essentially the location of economic production. Without working the field, there would not be enough food to eat, so working the fields was necessary. It is then noteworthy that families would return back to the villages every year for ostensibly social and cultural reasons. There was little economic benefit for people to not stay in the fields all year round. It was for lifestyle reasons that this movement pattern existed. The desire to be amongst one's peers in the village was strong enough to have people travel these long distances regularly.

Married Men	Married Women	Boys	Girls
◦ Attend and contribute to Kgotla meetings ◦ Advance social standing of the family ◦ Promote kagiso of the tribe ◦ Learn Tswana laws and customs ◦ Advise to-be-married boys ◦ Weigh in on societal issues ◦ Negotiate dowry payments	◦ Manage the Lolwapa ◦ Manage agricultural needs of the family ◦ Promote kagiso of the tribe ◦ Advise to-be-married girls ◦ Household chores and family caretaking	◦ Manage the cattle post ◦ Assist the mother with agriculture and other household chores ◦ Promote kagiso of the tribe ◦ Find appropriate suitor for marriage ◦ Learn and apply the principles of Botho	◦ Assist the mother with agriculture and other household chores ◦ Promote kagiso of the tribe ◦ Find appropriate suitor for marriage ◦ Learn and apply the principles of Botho

Mafisa System

The mafisa system was another important aspect of Tswana society. In essence, it was a system whereby either the kgosi or other materially wealthy families would loan cattle to families who were materially less wealthy. The less wealthy person could then use the cattle for their personal needs, including plowing and milk production. They were expected to properly care for the cattle and ensure their good health. The kgosi or wealthy family would benefit as their cattle would be managed for them and they would form a strong relationship with the family they loaned the cattle to. This relationship building was also predicated on the fact that the cattle owner could request the return of their cattle at any time, so it was critical for the less wealthy person to maintain a good relationship with the cattle owner (Gulbrandsen, 1993), (Schapera, 1994).

It was expected that if the cattle were well taken care of that eventually the cattle owner would reward the less wealthy family with a heifer, which could then form the basis of the establishment of their own herd. This system not only acted as a way to forge strong relationships within the community, but also acted as important method of wealth transfer.
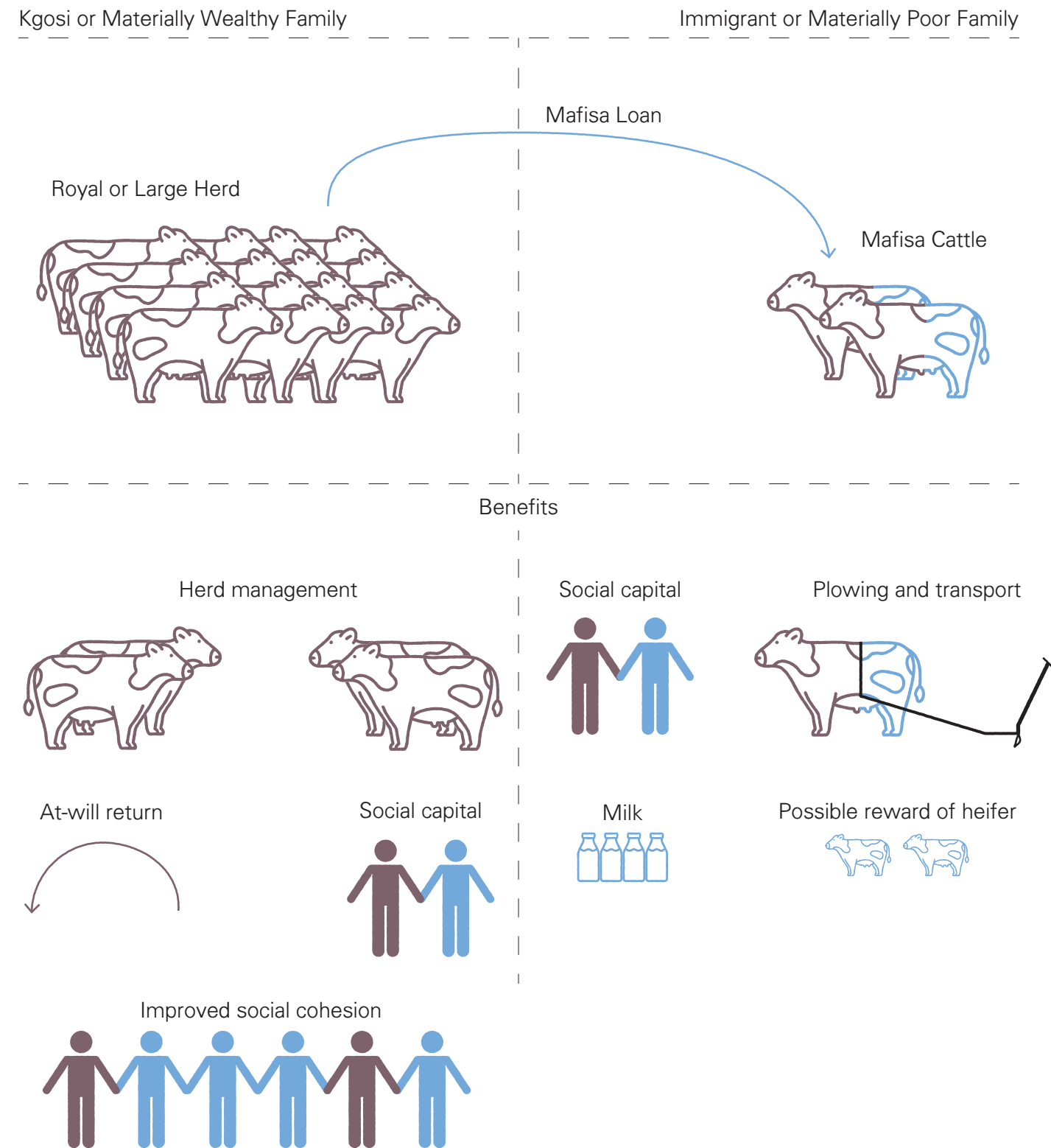

Figure 55. Mafisa System. Source: Author

Kagiso

What
· Social Harmony
· The Common Good
· Rules and practices outlined in Tswana law and custom
· Fear/aversion to social tension
· Need for reconciliation between conflicting parties
· Willingness to live with dissenting opinions

Why
· The advancement of kagiso promotes good health, good crops, plentiful rains, etc.
· The creation of social tension of social tension creates a heat (mogote) in the atmosphere, which causes bad health, droughts, poor crop yields, etc.
· The destruction of kagiso can sadden or harm the ancestors of the tribe. This sadness will be returned to living residents through some type of negative consequence

Where
· The Tswana Merafe
· In all villages, fields and cattle posts
· At Kgotla meetings

When
· All the time

Who
· Kgosi is the most important steward of kagiso
· All members of the tribe must actively promote development and advancement

How
· Consultation and consensus forming in decision making through kgotla meetings
· Constant holding to account from one to another
· Promotion of internal Botho from a very young age

Kagiso ke go bona mabele - Peace gives plenty of corn

Figure 56. What is Kagiso? Source: Author

Kagiso translates to mean "social harmony" and it was seen as the most important underpinning of society. The main purpose of society was the advancement and development of kagiso. The defining elements of this concept are defined above - but it is important to highlight again that kagiso was an ever present concept that affected virtually all decision making within a Tswana society (Gulbrandsen, 1993), (Gulbrandsen, 2007), (Gulbrandsen, 2012), (Gulbrandsen, 2022), (Schoen, 2021). This conception went all the way to the top of society, where the kgosi was considered as the primary steward of kagiso for the community. It was his responsibility to ensure that kagiso was being developed properly. If he was not carrying out this responsibility

appropriately, action could and would be taken to rectify the situation.

It was the strong belief of Tswana societies that kagiso was directly related to other markers of health, good fortune and prosperity. If there was a strong kagiso, the rains would be favourable, cattle would be in good health and disease would not spread. If kagiso was weak, the ancestors would be disrupted and bad fortune would follow on earth. This is yet another instance of the importance of the kgotla and kgotla meetings. They were seen as an important venue in ensuring the kagiso of the village. Any and all issues could cause the reduction of kagiso and therefore it was expected that they would be discussed and resolved at kgotla meetings.

All of these societal concepts come together to form the overall description of the setup of Tswana society in the pre-colonial era: The king is the king by the grace of the people (Gulbrandsen, 2022). This phrase is meant to indicate that society is seen as a collective and that it only work if everyone is working together. No one, not even the king, is absolved of his role and responsibility for the advancement of the community. If he is not doing his job appropriately, he will be removed and replaced with a more competent leader.

Kgosi ke kgosi ka morafe - The king is the king by the grace of the people

Kagiso

Centrality

Redistribution

Social Mobility

Kgosi
Ward Head
Families
Immigrants
Labourers
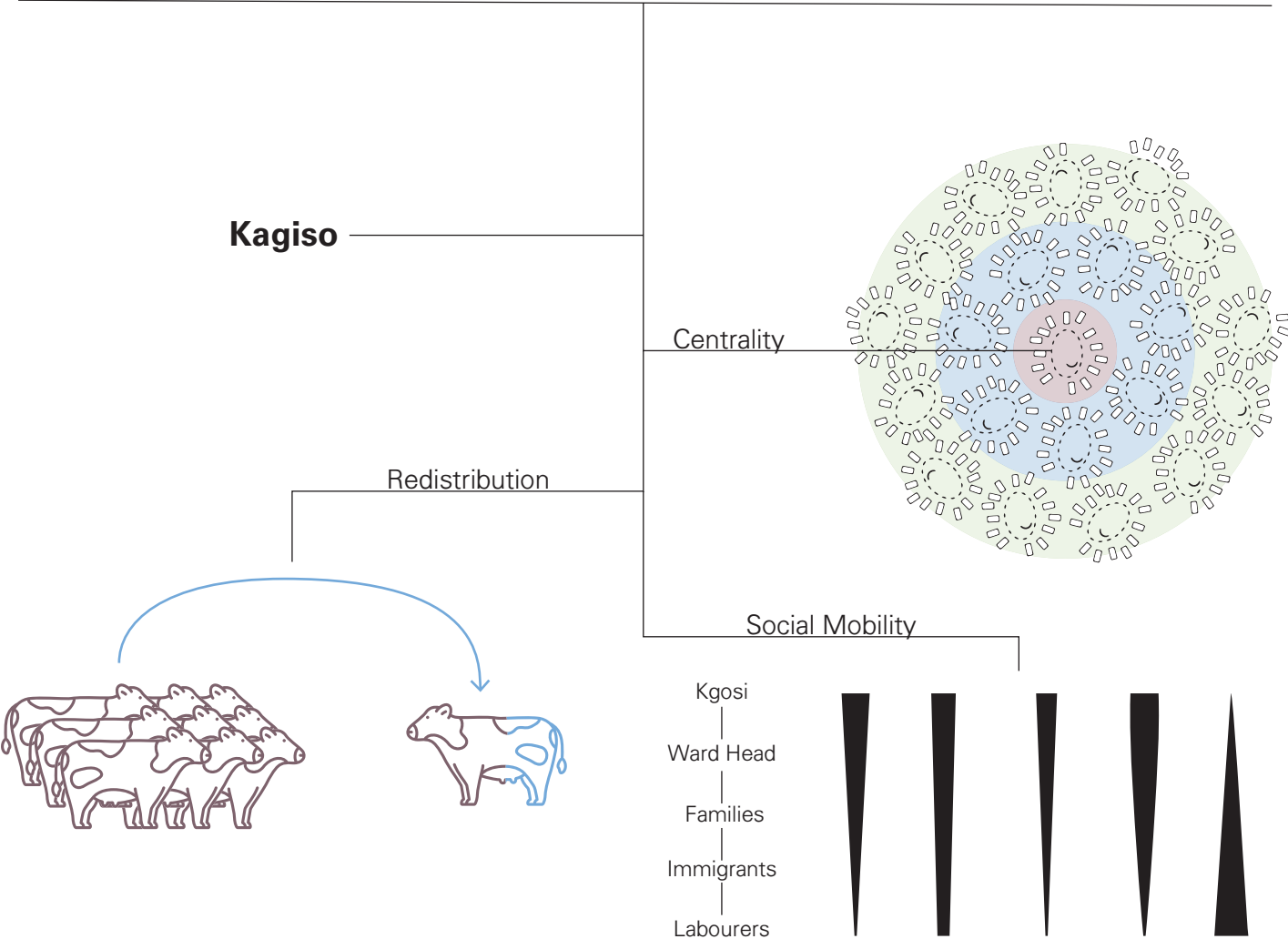
Figure 57. Traditional Societal Philosophy.   Source: Author

Lessons from Traditional Places and Societies

The following are the most important lessons that can be taken from the above analysis regarding both spatial design and the societal organization of traditional villages in the region.

Community building principles are integrated into spatial design philosophy
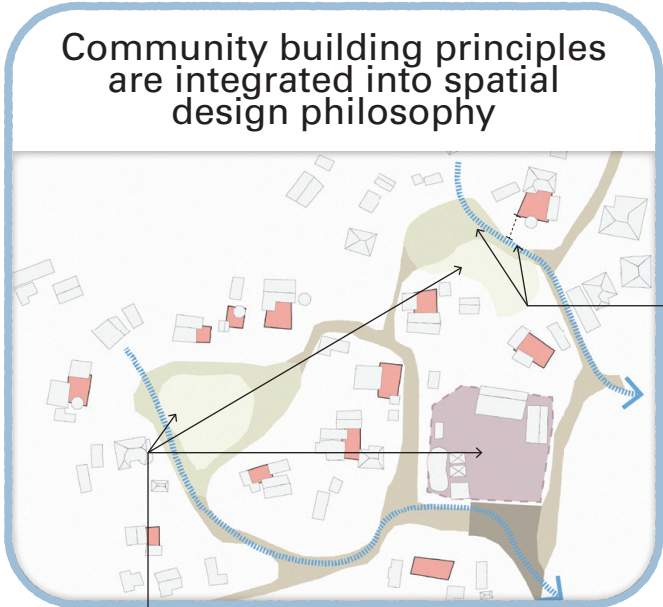
Movement through the neighbourhood promotes interactions at many public and semi-public spaces

High density of public space provides ample opportunity for public gatherings

From: 'Gabane Interaction Patterns.' on page 57

Movements between village and production environments occur on yearly timescales
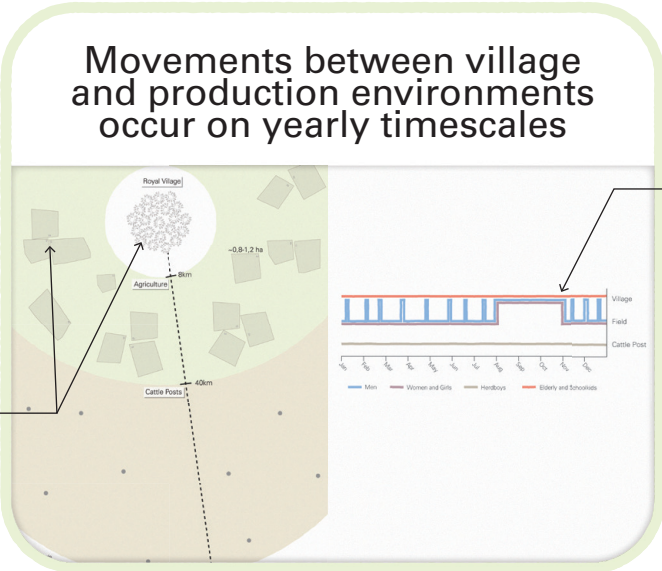
Movement between the fields and village occurred in a seasonal pattern

People kept homes both in the villages and in the fields

From: 'Traditional Regional Layout.' on page 60 and 'Traditional Yearly Movement Patterns.' on page 61

Neighbourhood maintenance and improvement occurs through communal action
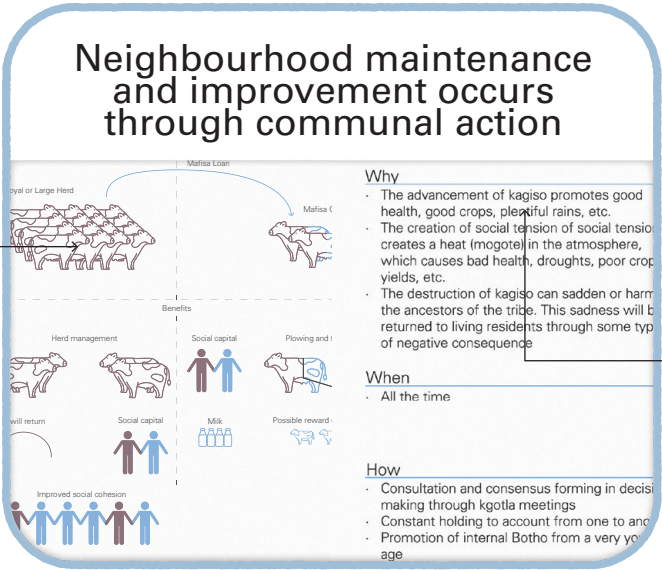
Use of the mafisa system encourages collaboration and sense of shared ownership

Promotion of Kagiso as a social philosophy leads to a culture of working together for the greater good

From: 'Mafisa System.' on page 63 and 'What is Kagiso?' on page 64

Significant freedom of land use and building and development rules
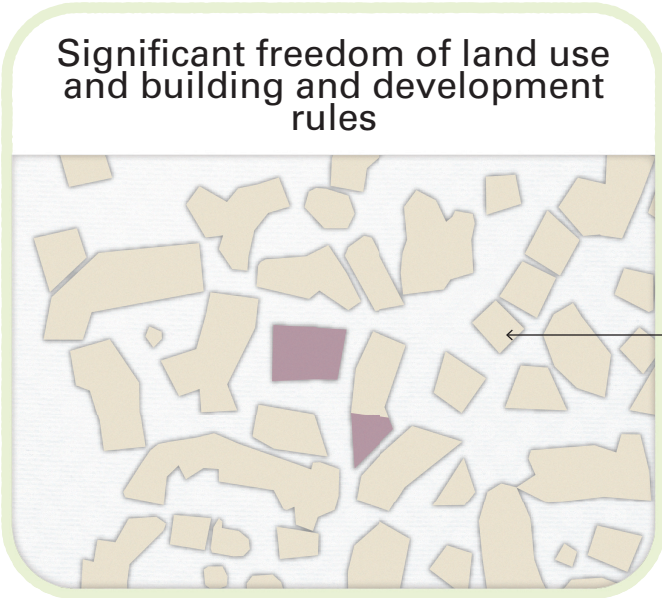
Village residential land use allowed for significant flexibility for number of buildings on-site, erection of tuck shops, etc.

From: 'Gabane Land Use.' on page 48

Neighbourhood design incorporates culturally important spaces, such as the patlelo, lolwapa and kgotla

All neighbourhoods in villages incorporated these design features
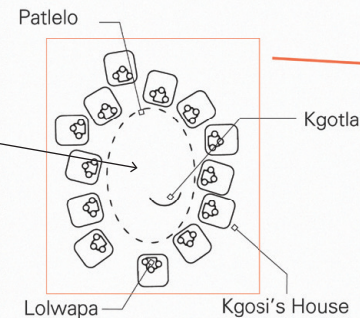
From: 'Village Settlement Development Pattern.' on page 50

Most homesteads did their own farming and animal husbandry

People owned homes both in the fields and in the village, growing crops to feed themselves and their dependents
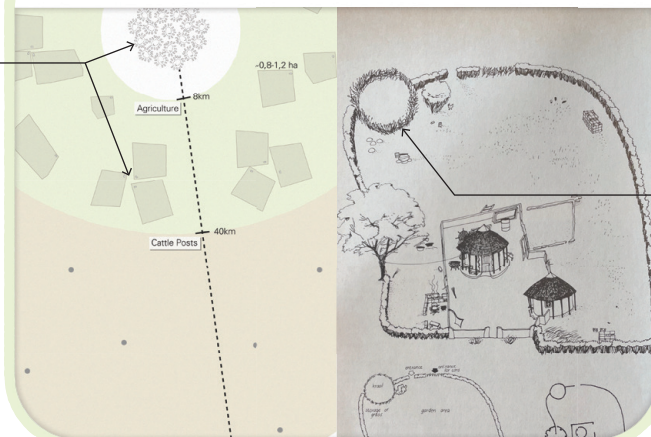
Kraals were found in most village homesteads for small livestock to be kept year-round

From: 'Traditional Regional Layout.' on page 60 and 'Traditional Housing Layout.' on page 44

Promotion of Kagiso/Botho was at the heart of societal functioning

Kagiso

What
- Social Harmony
- The Common Good
- Rules and practices outlined in Tswana law and custom
- Fear/aversion to social tension
- Need for reconciliation between conflicting parties
- Willingness to live with dissenting opinions

Where
- The Tswana Merafe
- In all villages, fields and cattle posts
- At Kgotla meetings

Who
- Kgosi is the most important steward of kagiso
- All members of the tribe must actively promote development and advancement

Kagiso ke go bona mabele -

Kagiso was seen as the path to properity
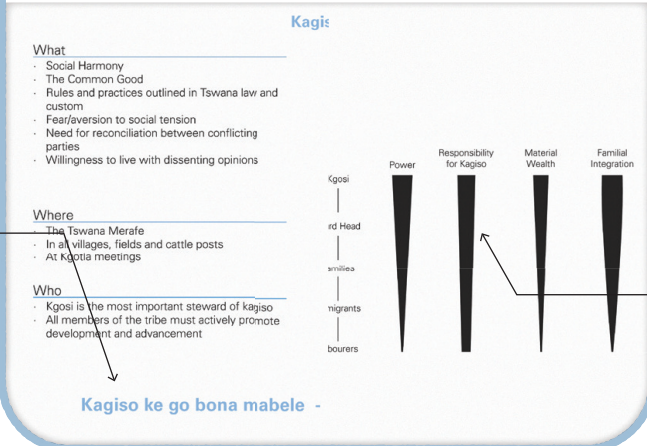
All people, no matter their place in the societal hierarchy, were responsible for advancing Kagiso

From: 'What is Kagiso?' on page 64 and 'Traditional Societal Responsibilities.' on page 58

Spatial Analysis of the Region

With the analysis of traditional places and society completed, analysis of modern places will begin, followed by the analysis of modern society on page 100.

Road Network
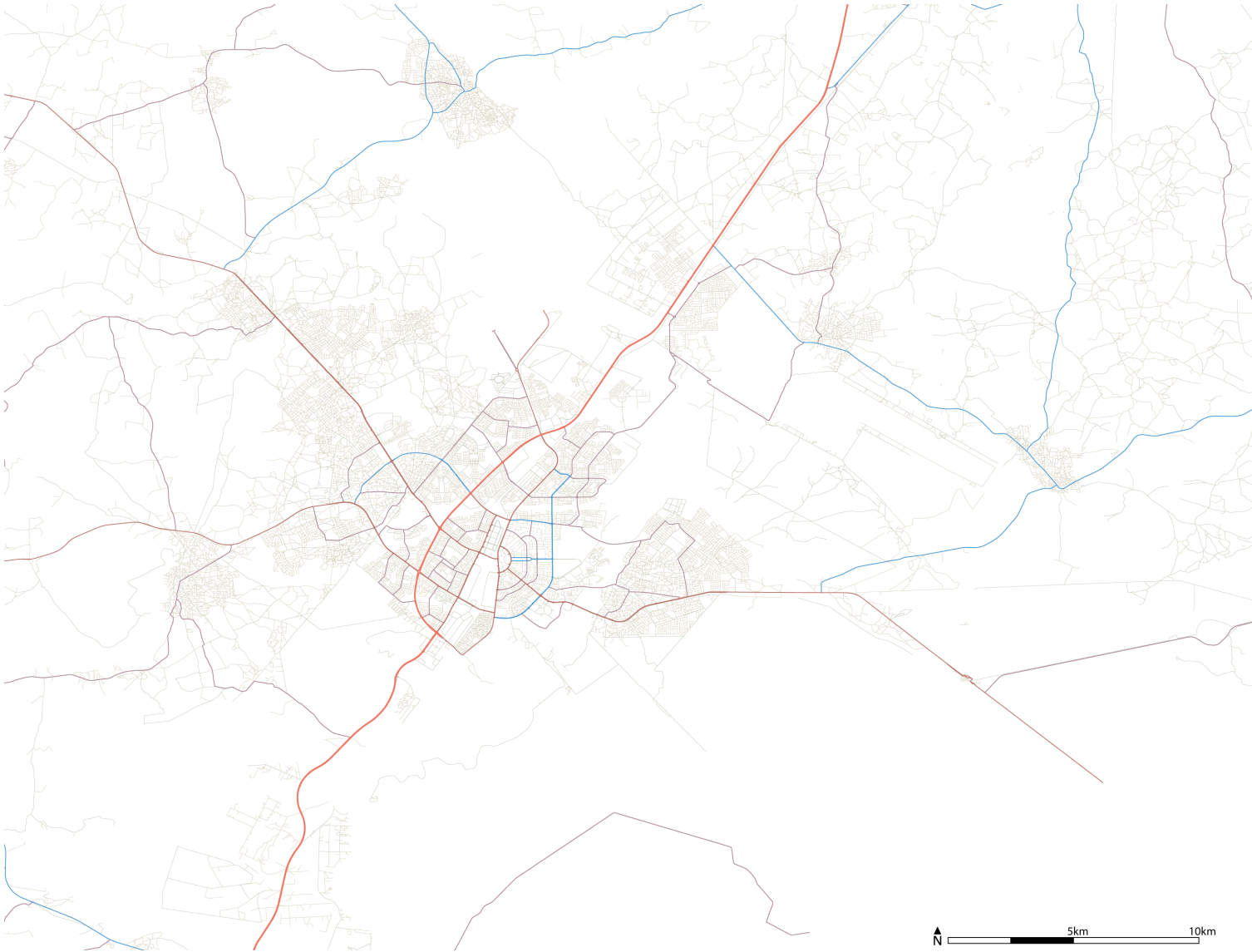
Figure 58. Road Network Map. Source: Author, from (OpenStreetMap Contributors, 2022)

The transportation network is primarily oriented towards the central business district. Trunk and primary roads are designed in a hub and spoke layout. Secondary and tertiary roads provide some connectivity to the surrounding villages. Most major roads are paved with asphalt, although minor roads in villages and rural areas are generally dirt. There is no formal public transportation system in Gaborone, although there are private minibus operators that provide some transportation options that don't require the use of private vehicles.

Legend

- Trunk
- Primary
- Secondary
- Tertiary
- Unknown
- Residential

Natural Features
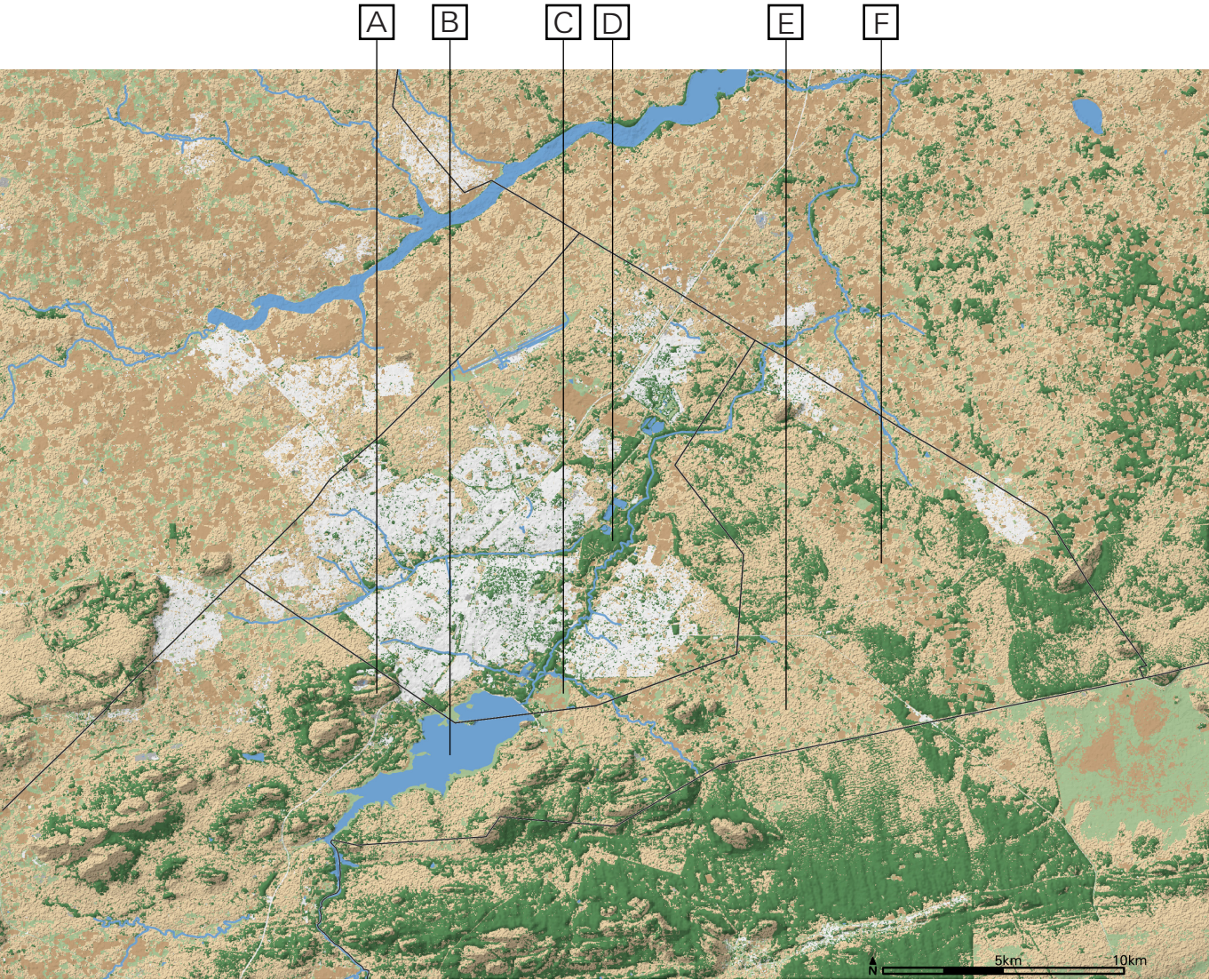
Figure 59. Natural Features Map. Source: Author, from (ESA, 2021), (OpenStreetMap Contributors, 2022), (Jarvis et al., 2008)

Legend

- Forest
- Shrubland
- Grassland
- Agriculture
- Water

The two most important natural features within this landscape are the network of hills in the south west, including Kgale hill, and the lake formed by Gaborone dam. The forested areas generally follow where there are sources of water accumulation, with the rest of the landscape being primarily composed of shrubland, and pastures. Water flow in the rivers is generally seasonal, with rainy summers replenishing water levels. Other than the complex of hills, the landscape is generally flat, enabling easy pasturing of animals, and facilitating the sprawling of the different urban areas.

Figure 60. Kgale Hill. Source: (Lao, 2011)

Figure 61. Gaborone Dam Reservoir.   Source: (CNJerem, 2020)

Figure 62. Grassland.
Source: (Google, 2012a)

Figure 63. Forest.
Source: (Melzy444, 2022)

Figure 64. Shrubland.
Source: (Google, 2012b)

Figure 65. Agriculture.
Source: (Google, 2012c)

Regional Land Use
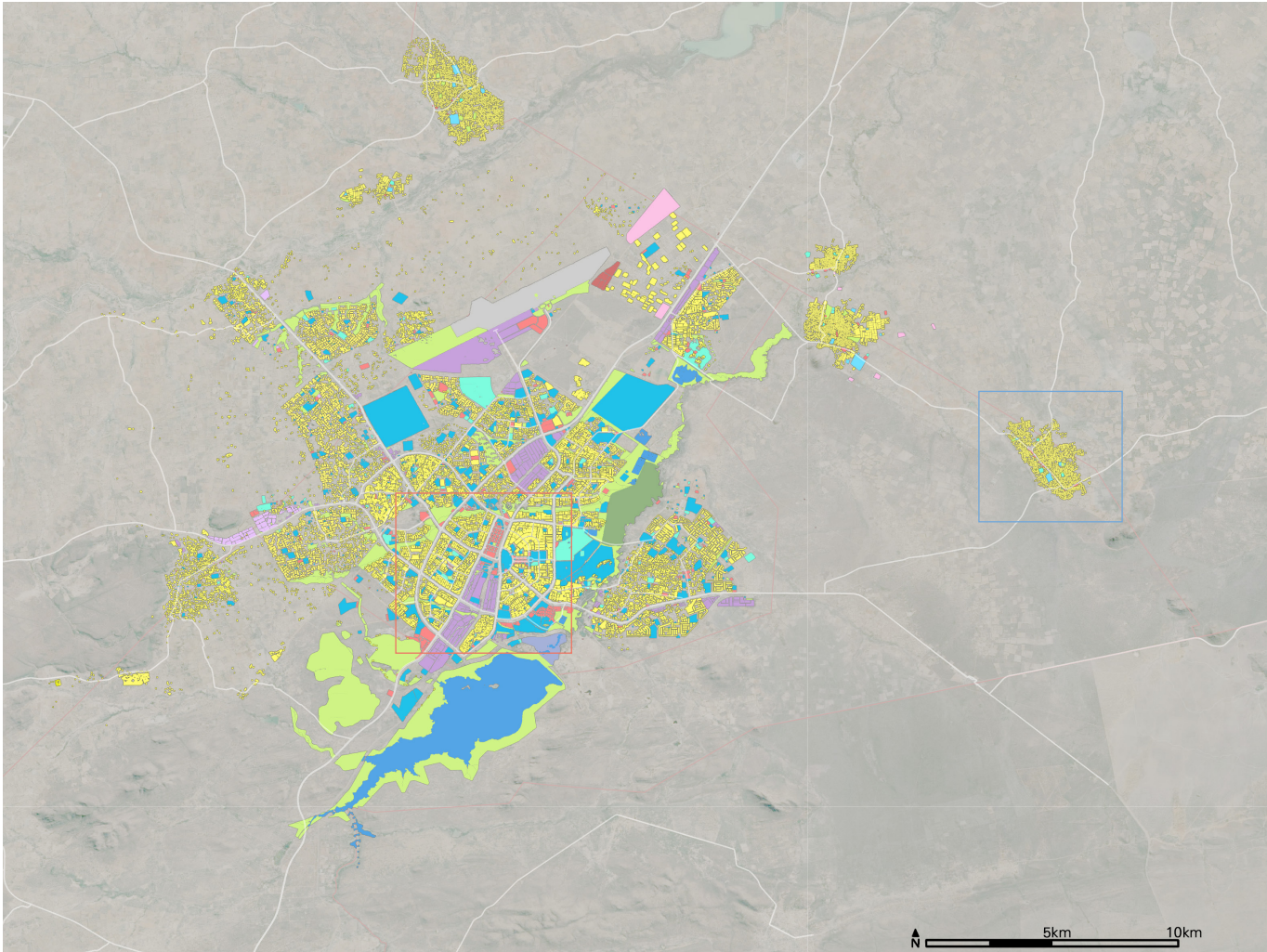
Figure 66. Land Use Map. Source: Author, from (Mosienyane and Partners International & Plantec Africa, 2009), Author's interpretation

Legend

🟨	Residential
🟥	Commercial
🟦	Civic and Community
🟪	Industry
🟥	Warehouses
🟪	Service Industry
🟪	Agricultural Industry
⬜	Airport
🟩	Open Space
🟩	Game Park
🟦	Water
🟪	Tourism
▬	Major Roads

Land use patterns vary significantly across different geographies in the region. Gaborone proper is almost entirely comprised of modernist layout neighbourhoods, with discrete land uses and grid-like road networks. There is minimal space between plots. Villages are less ordered in nature, with a more natural development pattern occur-ring. While the predominant land use is residential, homes are generally used for multiple purposes, including small scale commercial activities. The land use pattern in villages encourages the taking of the most direct route to any different destination across the village, rather than necessarily emphasizing a specific core.

Modipane Village
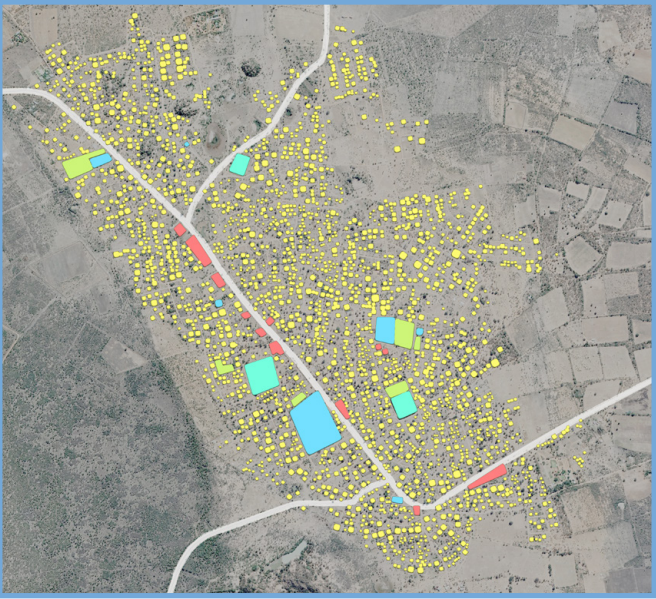
Figure 67. Modipane Village Land Use.

1km

Gaborone City Centre
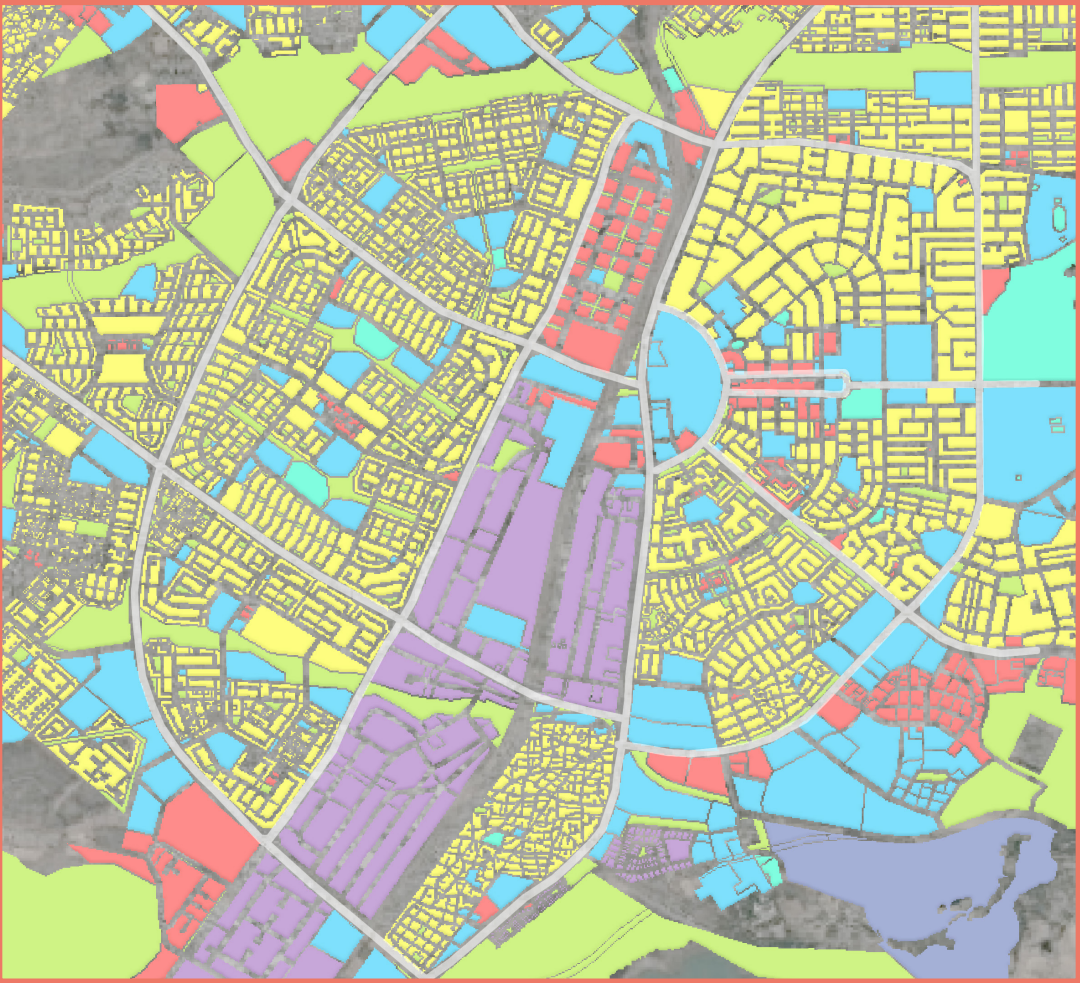
Figure 68. Gaborone City Centre Land Use.

Land Tenureship
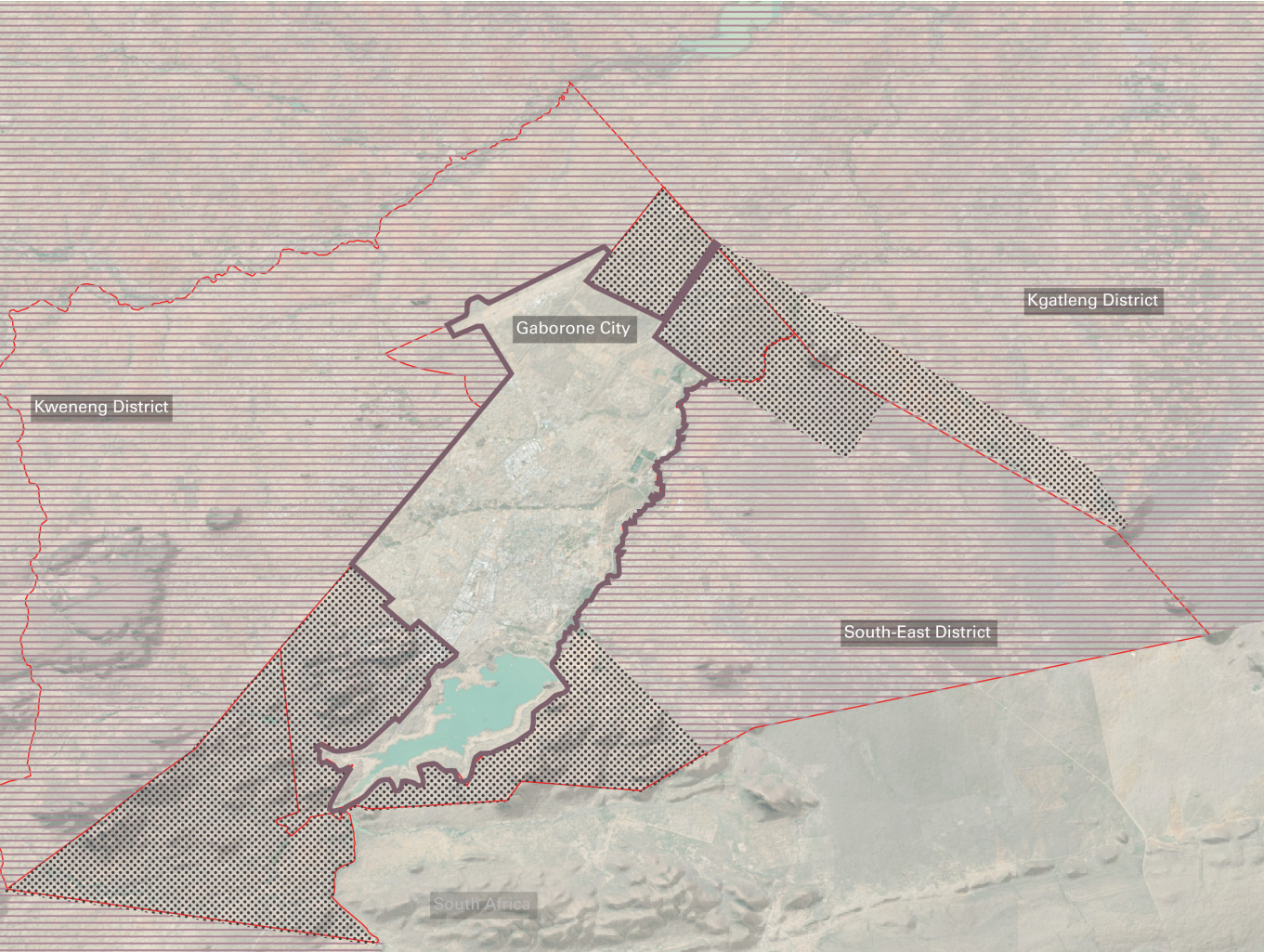
Figure 69. Land Tenureship Map. Source: Author, from (Kalabamu, 2004), (Kalabamu & Lyamua, 2021)

The city proper of Gaborone is entirely governed as state lands. Most of the rural areas are tribal lands, with freehold holdings being located both to the north and the south of the city.

Legend

≡	Tribal Lands
☐	State Lands
⦂⦂	Freehold Lands

Tenureship and Land Use Comparison
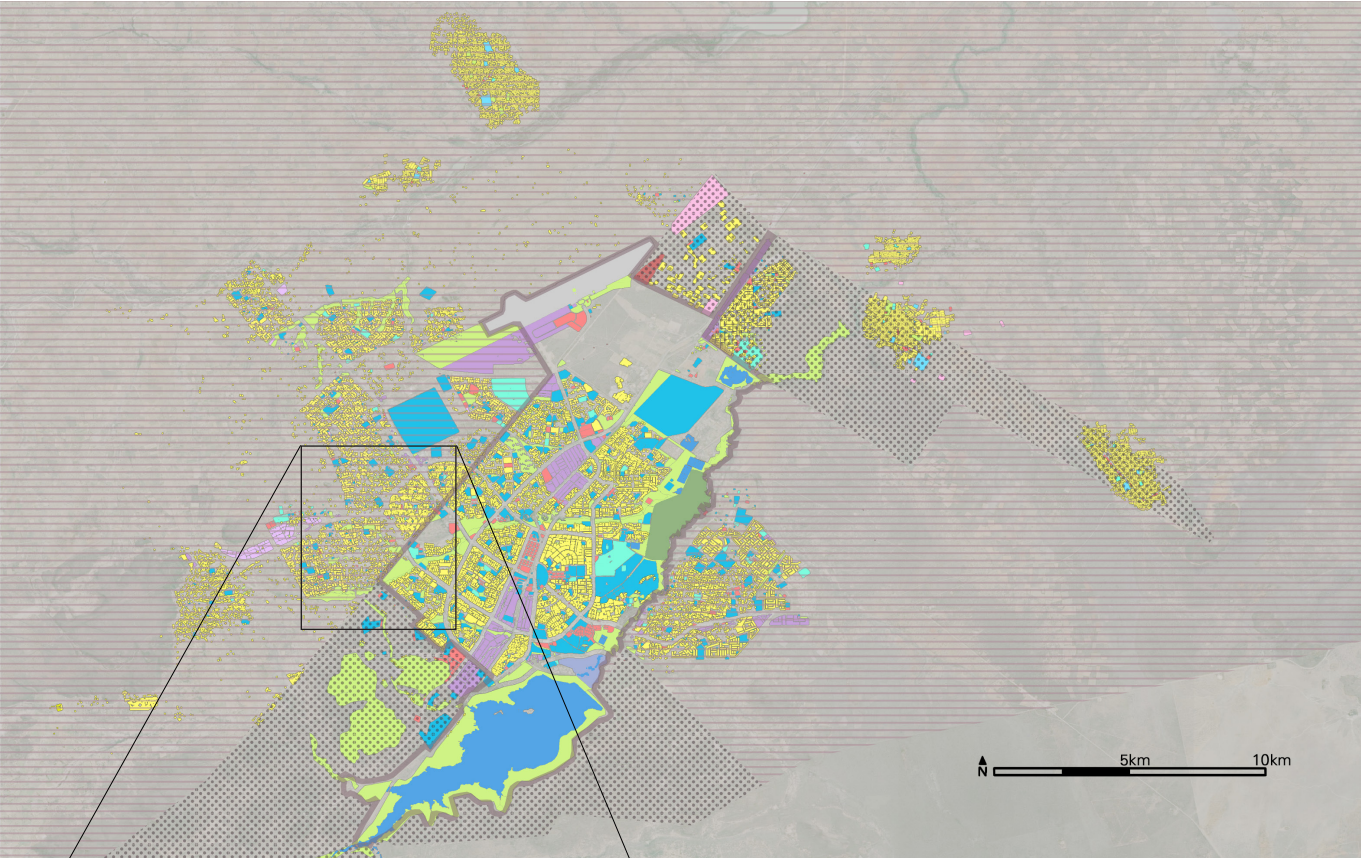
Figure 70. Land Tenureship and Land Use overlay map.

Source: Author, from (Kalabamu, 2004), (Kalabamu & Lyamua, 2021), (Mosienyane and Partners International & Plantec Africa, 2009), Author's interpretation

Border Condition

The differences in land use patterns become even more apparent when compared with the map of land tenureship. The governance and administration of lands clearly influences how development has proceeded historically. Tribal lands have natural development patterns that are catered towards the neighbourhood scale and walking as the primary method of transportation. This trend is now shifting somewhat as more development has occurred in villages over the past ten years, and increasingly rigid planning doctrines have been applied.

3% — Freehold Lands

71% — Tribal Lands

26% — State Lands

Tenureship Dynamics

The three different types of land tenureships have vastly different legal and administrative frameworks. These administrative frameworks therefore affect how people can use the lands. For example, since tribal lands are communally held, a resident never fully owns their allocation of land. They also cannot (under most circumstances) use the land as collateral for financial purposes, whereas holders of state or freehold lands can. This creates significant disparities in what it means to own land from one place to the next.
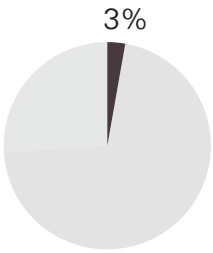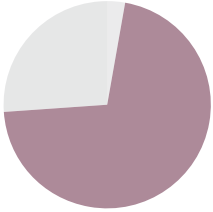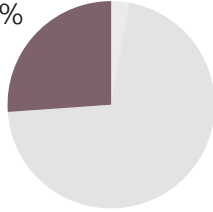
	Freehold Lands	Tribal Lands	State Lands
Administration	Land Owners	Ministry of Land Management, Water and Sanitation Services ↓ Tribal Land Boards	Ministry of Land Management, Water and Sanitation Services ↓ Department of Lands
Allocation	Colonial Decree	Application by citizen to Land Board ↓ Land Board issues customary grant permitting occupation free of charge ↓ Ownership of land remains with the Land Board	Application by citizen to Department of Lands ↓ Department of Lands issues Deed of Fixed Period State Grant for price of (usually) servicing the lands ↓ Lease of 99 years is owned by the citizen
Transfers	Free market	Any transfer of lands is administered through the Land Board at their sole discretion	Transfers/Sales of leases permitted if development covenant of title has been fulfilled
Planning	Mostly outside of planning controls, however some freehold lands are located in planning areas.	Generally, only the tribal lands that are in the peri-urban areas of major cities have planning controls	All state lands are regulated through the planning system, have development plans, permitting, etc.
Location	Generally large agricultural plots in the East of the country	All non-urban areas	Major urban centres

Figure Ground Diagrams

Oodi Village

Figure 71. Oodi Village Figure Ground Diagram.   Source: Author, from (OpenStreetMap Contributors, 2022)
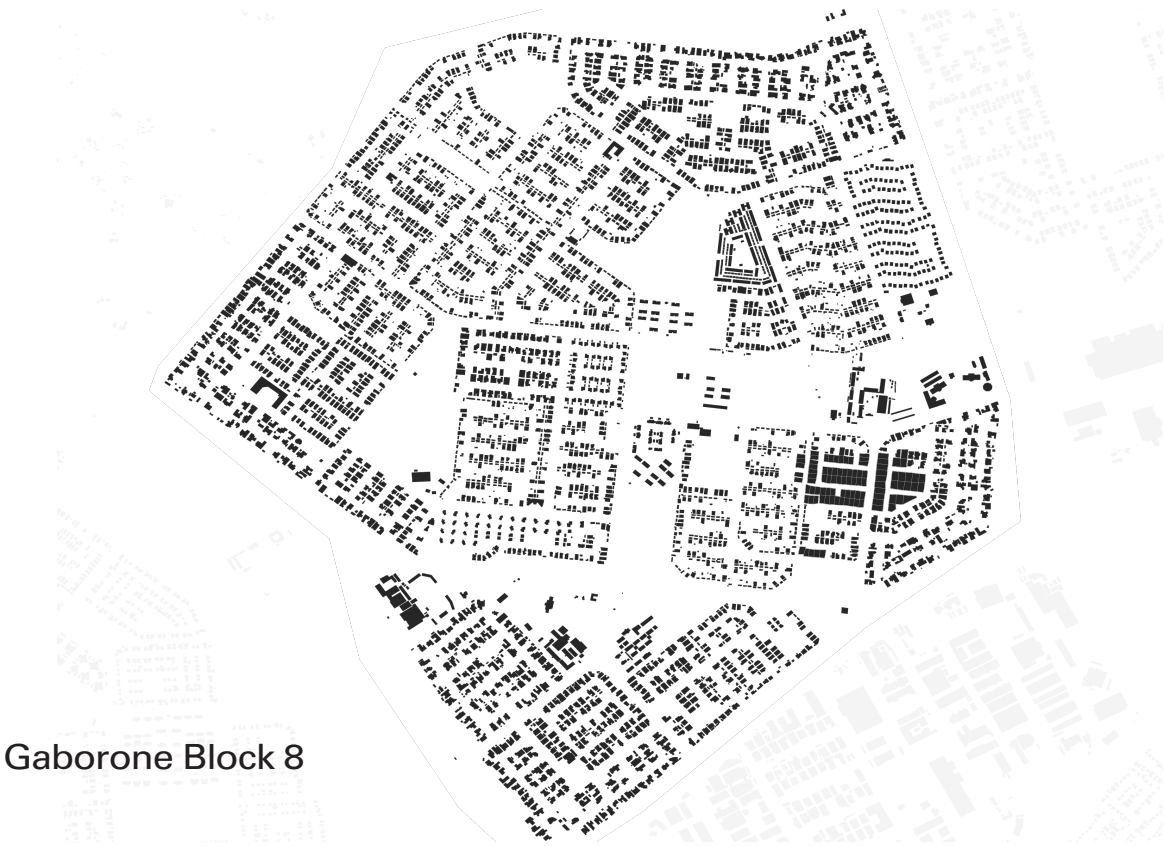
Gaborone Block 8

Figure 72. Gaborone Block 8 Figure Ground Diagram. Source: Author, from (OpenStreetMap Contributors, 2022)

Oodi Village

Figure 73. Oodi Village Network and Built Form.
Source: Author, from (OpenStreetMap Contributors, 2022)

The comparison of figure ground and street network diagrams further emphasizes the difference in terms of layout, density and usage of city neighbourhoods and villages. Residential neighbourhoods in the Gaborone block are self contained units with minimal cut-through traffic and therefore reduced movement options. Hierarchies of road network directs traffic away from neighbourhoods to the city centre. There is also a much higher land cover of buildings, where the modernist layout promotes dwellings occupying most of the available space on private property.

The village layout has plenty of redundancy in the road network, allowing for many cut-through options through neighbourhoods, promoting community interaction. Building coverage is also much lower, where a more traditional housing compound layout is present. Population density in the urban block is much higher, with a population of 16.859 vs 10.257 in Oodi Village.

Gaborone Block 8

Figure 74. Gaborone Block 8 Network and Built Form.
Source: Author, from (OpenStreetMap Contributors, 2022)

Population Growth Patterns

Growth rates in the region have are spread unevenly. The numbers in the figure below stem from the 2022 census, and show that the growth rate in the villages and peri-urban area are significantly higher than those in the city proper. There are a number of reasons that this may be the case, although it is difficult to pin down the exact reasons.

What is likely the largest factor is cost. Gaborone is a very desirable city to live in - it has the highest share of jobs in the country and has been the engine for economic growth in the country for many decades (United Nations Economic Commission for Africa et al., 2018). This desirability creates strong competition for land within the city and urban region, driving up prices. This strong demand is coupled with a strict land development system. Standards for building within the city are very high, which means that construction costs follow suit. People with little economic means are therefore priced out of the market, and turn to areas that are administrated through the tribal lands system where development is more cost effective.

The desirability of the village environments themselves may also be a factor driving this growth pattern. The villages have relatively more space available for development than the city centre and have much more relaxed regulations. There is a greater freedom with regards to land use and development standards, making it more cost effective to establish a homestead there. Furthermore, being in a tribal land area means that land is free, providing it has been allocated by a land board.

The result of this is very significant development pressure in the rural and village areas. Tribal land boards struggle to keep up with this level of demand as bureaucratic processes are set up to handle such a volume of development.

Net-migration numbers bolster the arguments presented above somewhat. When looking at the flows of people within the region, there is a net out-migration from Gaborone city proper into the adjacent areas. People who had previously established residency in Gaborone are choosing to move into the village and rural areas rather than stay in the city. While the economic vitality of Gaborone is clearly a strong pull factor, there are issues within the city that are causing people to either leave the city completely, or move further afield and then commute into the city.

Gaborone: -12.210
Kweneng East: 10.534
South East: 3.301
Kgatleng: 1.480

Modipane
7.942
9,0%

Oodi
10.258
5,7%

Mmopane
25.355
4,8%

Tlokweng
55.517
4,1%

Mogoditshane
88.098
4,0%

Kopong
13.820
3,8%

Gabane
Pop.: 20.016
Rate: 2,6%

Metsimotlhabe
11.597
2,5%

Gaborone
289.703
0,5%

Figure 75. Regional Population Growth Rates. Source: Author, (Mguni, 2022)

3466
3104
1015
Kgatleng
Kweneng East
Gaborone
South East
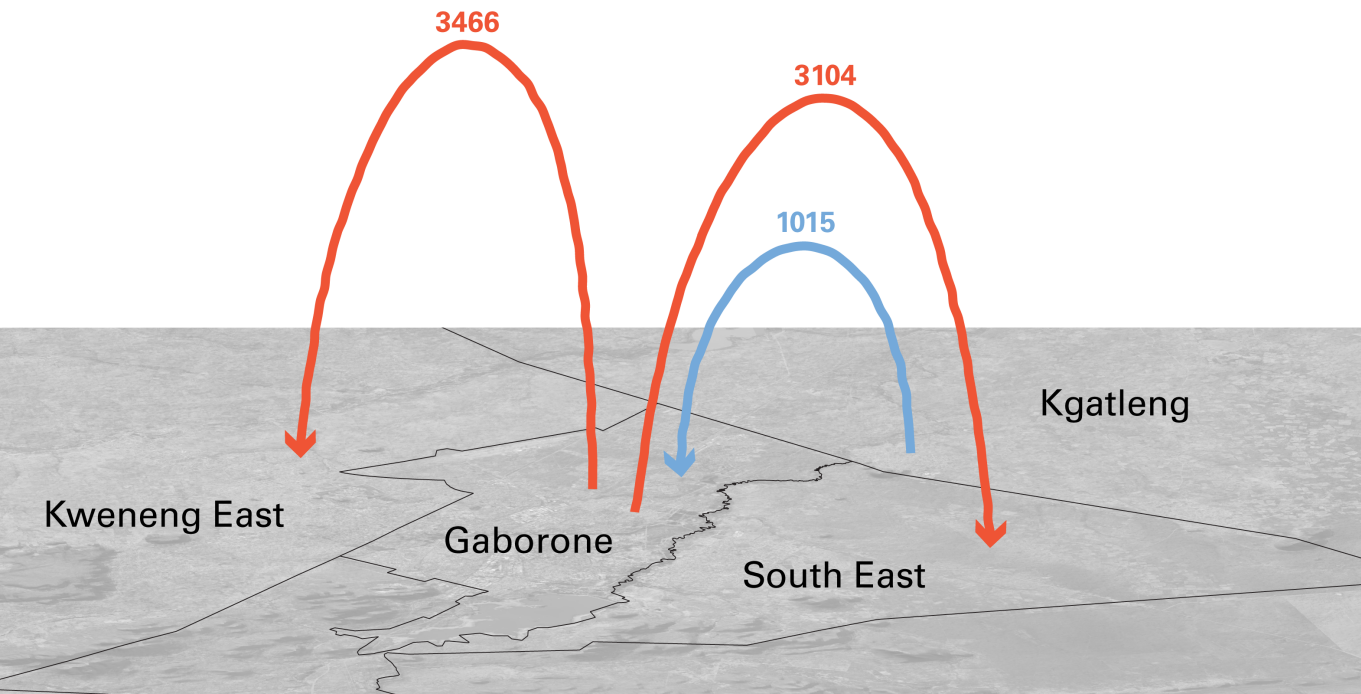
Figure 76. Regional Migration Patterns. Source: Author, (Mguni, 2018)

Modernism in the villages

Figure 77. Modernist Growth in Modipane. Source: (Google Maps, n.d.-g)

Modipane Village

Figure 78. Modernist Growth in Tlokweng. Source: (Google Maps, n.d.-h)

Tlokweng Urban Village

As a result of these growth pressures, and a desire from government agencies to modernize urban planning across the country, development in the village areas is no longer happening in the traditional pattern. In fact, development is happening in essentially a modernist grid pattern. With the bureaucratization of the land allocation process, new plots are being created in a grid pattern. So, even though development regulations are more relaxed than they are in the central city area, the development pattern remains similar.

This is a specific directive from the central government. Figure 79 below is an excerpt from the National Spatial Plan,

which is showing the benefits of introducing a modernist style development framework into a village environment to make more efficient use of resources. What happens, then, is an erosion of the culture and practices that were being observed in the village environments prior to the pressures of urban development spilling into the villages. As modernist style developments overtake the traditional developments in terms of population, area, etc. they start to dictate how village environments operate. Fewer and fewer locales in the region can operate in more traditional styles as a result, pushing the region ever closer to being an entirely "modern" place.
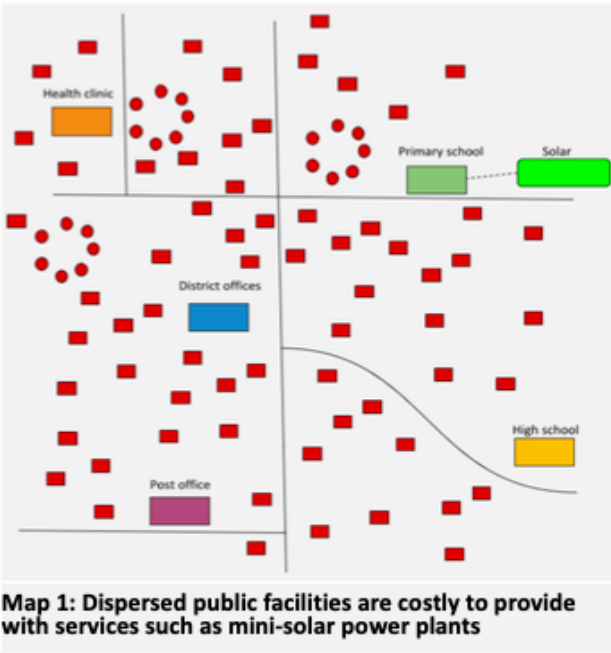
Map 1: Dispersed public facilities are costly to provide with services such as mini-solar power plants
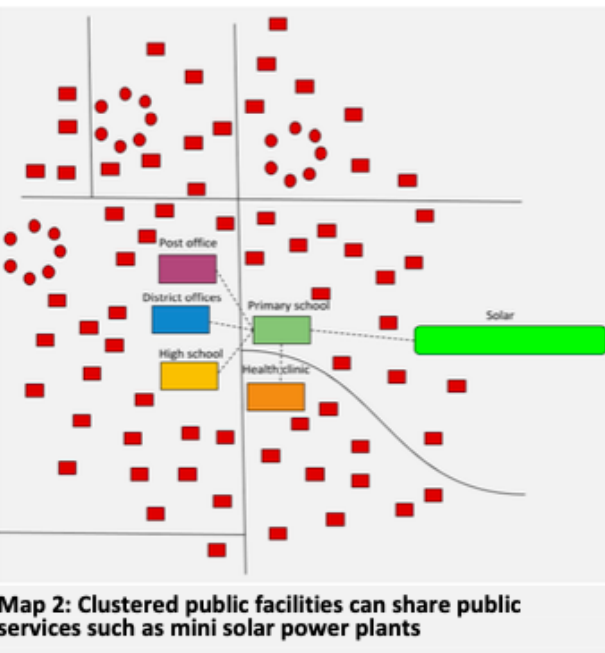
Map 2: Clustered public facilities can share public services such as mini solar power plants

Figure 79. National Spatial Plan Endorsement of Modernism. Source: (Ministry of Land Management, Water and Sanitation Services, 2018)

Spatial Analysis of a Modernist Neighbourhood

Figure 80. Modern Society Spatial Analysis Location.Source: Author, (Google Maps, n.d.-f)

Location Diagram

Figure 81. Gaborone Block 8 Layout.
Source: Author, (OpenStreetMap Contributors, 2022)

N   250m

The Block 8 neighbourhood of Gaborone was chosen as the site to analyze a modernist neighbourhood layout. This is a typical neighbourhood layout that can be seen across the urban region. The development pattern is highly ordered, with streets arranged in quasi-grid layouts, and little to no space being unaccounted for in some way. This development approach is reminiscent of the modernist style that can be found across the globe, and is based on the British planning tradition that was passed down to Botswana in the colonial era.

Legend

- Building
- Tarred Road
- Dirt Road
- Hillside
- Open Space

Land Use

Figure 82. Block 8 Land Use. Source: Author

N   250m

Land use follows in a manner that, again, is very similar to other modernist type developments found in cities around the world. Four land use categories can be seen in the chosen site, and their names basically describe what is possible there. Residential areas should be used for residential purposes only. In this particular location it is low-density residential development that takes the form of single family homes.

The other land use categories follow similar conceptualizations, where the land use category accounts only for that exact land use at relatively low densities. This creates a land use pattern that is highly ordered, but that lacks much sense of vibrancy, stemming from the fact that there is little overlap of uses or activities and no intrigue that may foster curiosity.

Legend
- Residential
- Community
- Open Space
- Commercial

Road Network

Figure 83. Block 8 Road Layout.
Source: Author, (OpenStreetMap Contributors, 2022)

N   250m

The road network shows an ordered grid of roads that form a decentralized network. Rather than having single centres of gravity, a network mesh is created which encourages an even spread of activity across the network. An organized hierarchy of road typologies complements this network mesh to ensure the highest traffic flow per pula (Botswanan currency) spent. This form ensures an efficient and organized traffic pattern and simple routing to get from point A to point B. However, this search for efficiency eliminates most serendipitous encounters between neighbours as there is a lack of non-deliberate movement and therefore lower chances of running into one-another.

Legend
- Tarred Road
- Dirt Road

Modernist Development Pattern
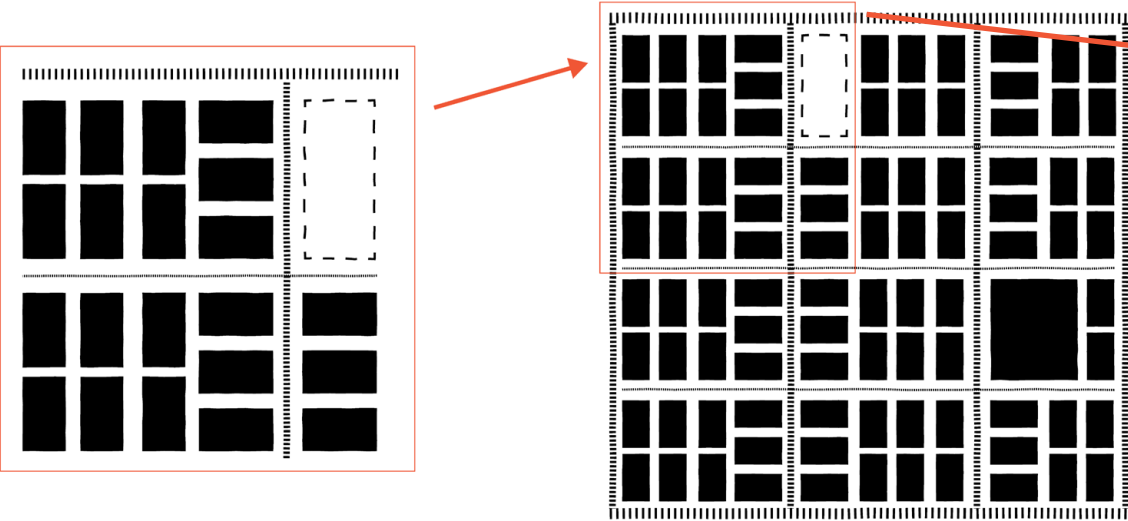
Figure 84. Modernist Development Pattern. Source: Author

Figure 85. Block 8 with Standard Development Pattern. Source: (Google Maps, n.d.-f)

The modernist development pattern is highly regularized, with calculated lot, block and road patterns created to maximize the efficiency of the use of land. Specific ratios of land use (ex. X ha of open space per Y residential plots) are enforced to ensure 'optimal' distribution of land uses and resources. According to the Development Control Code, the R-2 Single Family Residential Zone is intended to have a residential density of 15 dwelling units per hectare and 35% of the land area being designated for non-residential uses needed for roads, parks, etc. (Department of Town and Regional Planning, 2013).

Modernist Kgotla

Figure 86. Institutionalized Kgotla. Source: Author

Public Space

Figure 87. Modernist Public Plaza. Source: Author

Open Spaces

Figure 88. Block 8 Open Spaces.
Source: Author, (OpenStreetMap Contributors, 2022)

N   250m

<u>Legend</u>
■ Open Space

Public spaces are provided according to the development control code and fit appropriately into the lot and block pattern. The goal of the code is to provide enough public space so as to allow residents to fulfil their recreational needs while not providing too much so as to be inefficient. The orientation of public space is meant for it to be considered as its own separate and distinct place, rather than being built into the rest of the neighbourhood system. By integrating the block of public space into the lot and block pattern, it blends in with the rest of the land use. While it certainly would be visible to passers-by, it does not act as a centrality in a neighbourhood.

The same can be said of dikgotla in modernist neighbourhoods. The kgotla is explained in more detail on page 52, but essentially in the pre-colonial era the kgotla was seen as a central forum for public life and democracy. Public meetings would happen very regularly, and its placement within villages made it a central feature. A modern kgotla is a much more formalized institution, with a closer resemblance to a court building than to an open forum and it is no longer at the centre of a locality (Morobolo et al., 2018). What was once an institution that was critical to the social and cultural processes has been sanitized through the modernist planning regime that has been in place since the colonial era in the country.

The modernist built form, and its implementation in Botswana leads to a very closed off neighbourhood with very little interactions amongst neighbours if they are not sought out intentionally. The nature of an optimized transportation network creates movement patterns with little interactions. Roads are laid out to get people in and out of the neighbourhood as quickly as possible, usually not passing any congregation places.

Coupled with this is housing design that favours a private life. Most housing plots have large fences erected around them, limiting visibility and interactivity between the public and private realm. Houses are also built in the international style in a way that maximizes their size on the lots. As a result, people who are at home spend most of their time indoors. With such clear public and private space distinctions and transportation systems prioritizing quick escapes from the neighbourhood, community formation is minimal. There tends to be a lack of attachment to neighbourhoods that are designed in this manner as people do not form bonds within them. This creates a vicious cycle, where the lack of existing community makes it more challenging to get anything started. When neighbours do not know each, they may be more suspicious of other and therefore be less inclined to engage in community building activities.

Modernist Neighbourhood

Figure 89. Fenced off Modernist Homes. Source: Author

Public and Private Space Interactions

Legend

- Open Space
- Tarred Road
- Dirt Road
- Path of Travel

Figure 90. Block 8 Interaction Patterns.
Source: Author, (OpenStreetMap Contributors, 2022)

The architecture, building materials and construction methods being employed have evolved significantly from the pre-colonial era of Botswana. In the past, homes were built with a combination of mud/cow dung walls and thatched roofs (Larsson, 1984). There would be multiple buildings on a homestead arranged around a central courtyard (see page 56) and other activities such as animal husbandry or small scale crop growing occurring. Much of private life was lived outdoors as a result of this building style, with very little indoor space being built.

After contact with European traders and missionaries, building practices started to shift as new materials were introduced to the region and different building techniques were shared. The desire to use modern technologies coupled with the perception of higher quality led to the widespread adoption of these new materials and techniques. The primary advantage of the new building styles was/is durability: the traditional mud huts required constant maintenance, whereas concrete walls and metals roofs could last many years without incurring much damage.

Around the end of the colonial era saw the introduction of both the transition and modernist style of architecture, depending on one's geography and wealth. Building codes from Europe were implemented, which necessitated the wood-frame construction style that is commonly found today. This creates a situation where the materials and techniques necessary to comply with building codes are prohibitively expensive for many Batswana (Mosha et al., 2022).

Architectural Trends
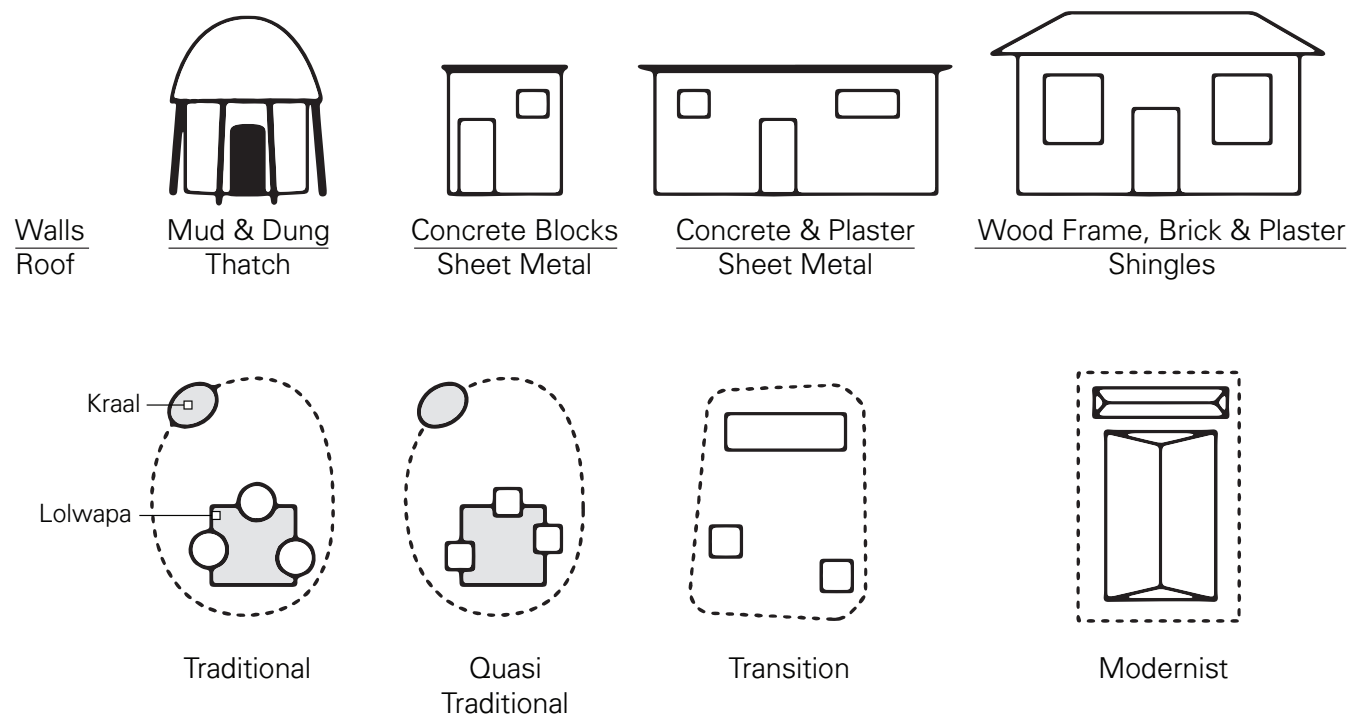
Figure 91. Plot and Architecture Evolution. Source: Author

Figure 92. New Development. Source: Author

Figure 93. Traditional Mud Hut. Source: Author

Lessons from Spatial Analysis of Modern Places

The following are the most important lessons and what works well in modernist neighbourhoods and in regional design that can be taken from the above analysis.

Efficient and cost effective provision of infrastructure is prioritized

Standardized development plans create economic efficiencies through economies of scale

Land usage is maximized, with little vacant space allowed for in development plans

From: 'Modernist Development Pattern.' on page 90

Educational and employment facilities are provided in an ordered and logical manner

Schools are located throughout the city to serve the needs of the population

Employment clusters are created to maximize efficiency

From: 'Gaborone City Centre Land Use.' on page 75

Transportation systems are organized for fast and efficient movement patterns

Hierarchies in road design are used to ensure effectiveness is maximized

Road layouts enable efficient travel paths

From: 'Block 8 Interaction Patterns.' on page 95 and 'Block 8 Road Layout.' on page 89

Analysis and Description of Modern Society

To analyze modern society in Botswana as it relates to life fulfilment inequality, a big to small approach will be taken. The larger picture (as described below) will be examined in order to understand the framework that society is operating within. This framework helps to form the basis for describing what forces are affecting peoples' lives and therefore the boundaries that individual decisions are made within. Next, field work was completed, which consisted of interviewing subject matter experts, and completing first hand observations to explore how individual people are experiencing their environments and how lives are being led.

Information from these interviews, observations and broader societal analysis informs the creation of 7 personas. Capabilities Approach Analyses are then completed to understand the needs, wants and desires of each persona and what factors are both promoting and interfering with their ability to achieve them. These analyses come together with the modernist spatial analysis to form a comprehensive description of what is and is not enabling people to lead happy and fulfilling lives in the Greater Gaborone Region today.

Government

Botswana has a functional, multi-party, democratic government. While the same party has been ruling since independence in 1966, free and open elections have occurred every 5 years with little issue or civil unrest. Elected officials govern through a parliamentary system, with an elected president as the head of state. There is also a House of Chiefs (Ntlo ya Dikgosi), which acts as an advisory board to parliament and the president. The Ntlo ya Dikgosi is comprised of both citizens and various dikgosi (chiefs) from across the country. Members of the Ntlo ya Dikgosi are either appointed or gain their positions through indirect elections (Parsons, 2023).

Local representation and governance comes in the form of local councils, which preside over both rural and urban areas. The powers of local governments are relatively limited, with most governmental power being consolidated with the central government.

Government functioning is perceived relatively well in the country. Botswana is ranked as tied for 35th globally in terms of perception of corruption (Transparency International, 2023). This places Botswana as the second-least corrupt country in the region (behind Seychelles). 35th also places Botswana amongst countries such as Spain (tied for 35th), South Korea (31st) and Italy (41st).

Rights and Freedoms

The country performs relatively well with regards to rights and freedoms. It is ranked 61st globally in the Human Freedom Index (Vasquez et al., 2023), which places it in the company of countries such as Greece (57th) and Hungary (67th). Internal surveying also shows a similar perception of generalized freedom, with 60% of respondents to the 2019 Afrobarometer Country Report believing they are "Completely Free" to "Say what you think" (Star Awards LTD, 2021) and 21% believing they are "Somewhat Free." Institutions and legal frameworks are strong enough, with corruption being low enough, to allow people to live relatively free lives, where fear of unwarranted persecution is minimal.

Figure 94. Modern Gaborone Gallery 1. Source: Author

Hierarchies and Gender Norms

Botswana remains a relatively hierarchical and patriarchal society (Gulbrandsen, 2012), (Dube, 2019), (OHCHR, n.d.). Traditional gender roles are still factors that affect peoples' interactions in society and their expectations of life. Societal hierarchies stemming from dikgosi and their relations are also present, especially in village environments. Deference to elders and power distance also tends to be relatively high.

That being said, significant progress has been made in the promotion of women's rights in the country. The UNDP ranks Botswana 117th globally on the Gender Inequality Index, with a score of 0,468/1 which places it almost exactly at the world average of 0,465/1 (lower score means more equality) (United Nations, n.d.). The World Economic Forum ranks Botswana 66th in the 2022 Global Gender Gap report (Pal et al., 2022). These reports show that Botswana is not a perfect place with regards to female empowerment and that a noticeable gender gap does exist. However, progress is clearly being made in closing the gender gap and overcoming the downsides of the patriarchal nature of societal organization.

Philosophical Underpinnings

As stated earlier and throughout this report, traditional Tswana society was based on the notion of Kagiso/Botho and acted as a collectivist-type society. Many of the cultural norms from the past could now be classified as socialist, for example the Mafisa system. The collectivist nature of society also manifested through the decision making and power structures as exemplified by kgotla meetings and their repercussions.

The colonial era brought forth the introduction of capitalism to the country (Parsons, 2023). As free market reforms were introduced to the economy and western education systems were installed, the underlying philosophies of society started to shift. Individualistic tendencies have been increasing and most societal structures are organized in capitalistic manners. However, the collectivist nature of traditional societies has not departed entirely, but rather there seems to be an attempt to combine both capitalist and socialist philosophies when designing regulations. For example, the land tenure system guarantees free plot allocation to all Batswana in tribal lands (socialist), but infrastructure hookups to plots must be entirely funded by the users (capitalist).

This dual system has created a situation where many people feel caught between two different approaches to life. On one hand, with capitalism forming the basis of the economic system, there are strong forces pushing people into the capitalist lifestyle. On the other hand, traditions and culture have not been forgotten.

Conclusions

In many ways, the broad descriptions of Botswana are very similar to other post-colonial countries in the region. Legal frameworks and economic systems are based on capitalistic ideas, pushing society to operate in ways conducive to the advancement of capitalism. Opposing these forces are people themselves, where in many cases there is a recognition of the disconnect between culture, identity and traditions that they observe and the capitalistic framework they are living within.

What sets Botswana apart has been the level of progress made. It ranks very highly in the region in based on all the above noted metrics. While room for improvement certainly remains, Batswana today are able to live free lives without significant fear of oppression.

Figure 95. Modern Gaborone Gallery 2. Source: Author

Interviews

Twelve people were formally interviewed during the research phase. Interviews were conducted in semi-structured manners, with topics ranging from issues in the urban system to happiness and conceptions of the 'good life.' Interviewees were sought out both through outreach over the internet in advance of arrival on-site, and through a snowball methodology once the interviews had began.

All participants were fully informed as to the nature of the research and gave appropriate consents to have their names published and answers used to inform this research project. See Appendix 2 for the consent forms that were used in this process.

An effort was made to understand issues across a broad spectrum of lifestyles and geographies in order to understand as many

walks of life as possible. In considering the chosen interviewees are subject matter experts and community representatives, the responses that they gave are reliable. That being said, a broad population, statistically significant survey was not possible within the scope of this project. As such, it is possible that biases have been introduced that may not necessarily reflect the opinions of the population at large. Every effort was made to mitigate this risk and the wider societal research was conducted to ensure that wider perspectives would inform the research process.

Below is the list of interviewees, their positions in the community and the dates that the interviews were conducted. The next page indicates where the interviews were conducted.

1	Otto Mokalake	Local Guide	February 11, 2023
2	Dr. Aloysius Mosha	Academic Planner	February 13, 2023
3	Dr. Nomazile Chicho	Academic Planner	February 13, 2023
4	Dr. Chadzimula Molebatsi	Academic Planner	February 13, 2023
5	Kesego Kgarathi	Local Government Planner	February 14, 2023
6	Losika Matsake	Local Government Planner	February 14, 2023
7	Moroba Ntheetsang	Community Activist	February 15, 2023
8	Grace Gaolaolwe	Academic Planner/Activist	February 15, 2023
9	Oduetse Montsho	Upper Government Planner	February 16, 2023
10	Kagiso Tshukudu	Private Practicing Planner	February 16, 2023
11	Tshepo Sitale	Private Practicing Planner	February 17, 2023
12	Andy Mokalake	Local Guide	February 17, 2023

Figure 96. Interview Location Map.
Source: Author, (Google Maps, n.d.-e)
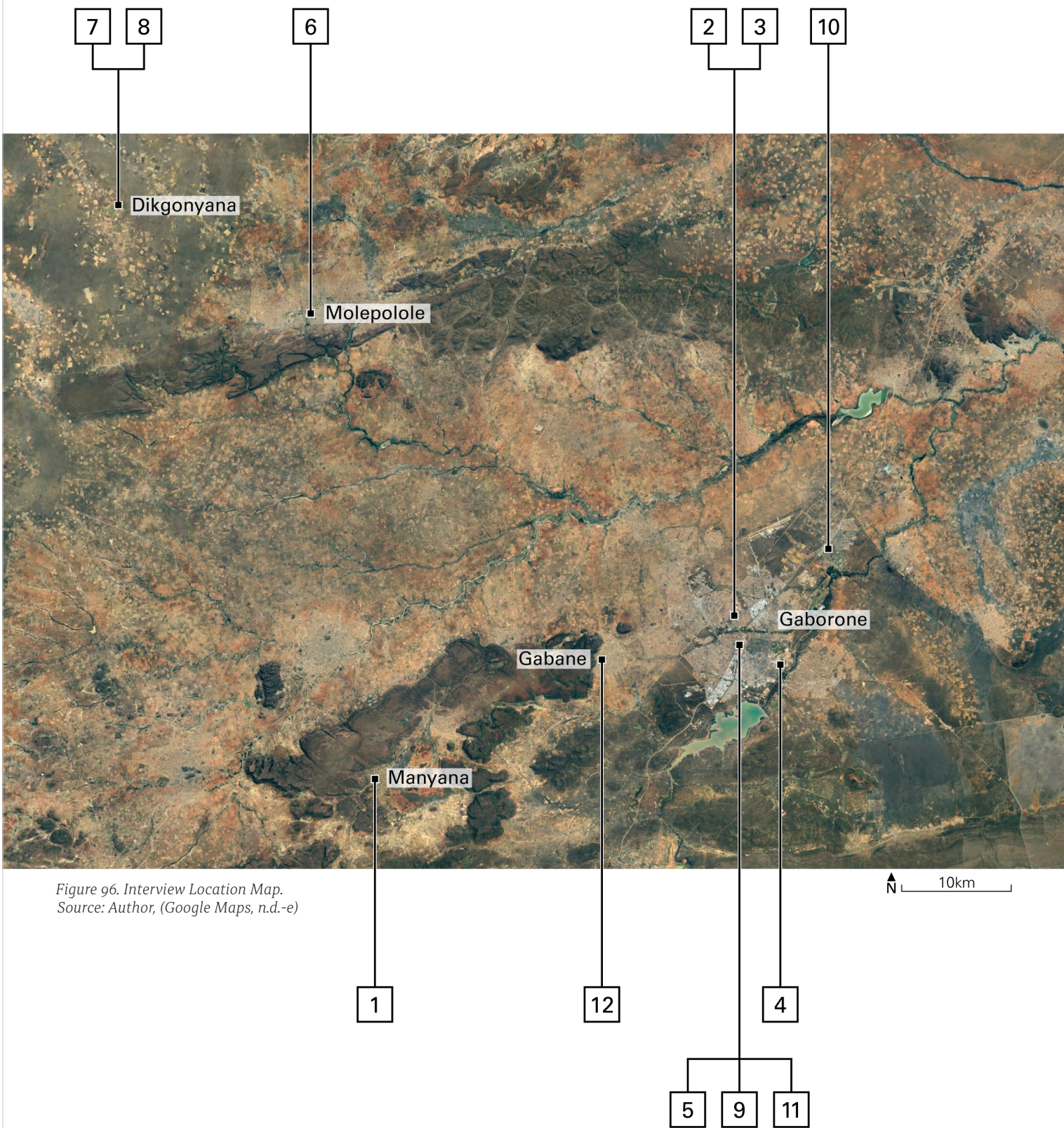
Overview of Personas

Personas are being used as another method for understanding the issues that are facing the Greater Gaborone region. The primary goal of using this analysis technique is to understand urban issues from a humanistic and eye-level view, while also revealing new sets of issues that can only present themselves when examining the wants, needs and desires of individuals. The process entails the creation of imaginary personas that represent a cross section of the real population. Life trajectories are developed for each persona in order to simulate the life of an actual human being and to provide a basis for examining the complexities of their daily lives. Finally, the present and future desires of each persona are developed based on their life trajectories. A combination of the life trajectory of the persona with their desires provides a strong basis to understand the issues that people are facing in their daily lives through capabilities approach analyses. This method will be expanded upon below.

Another reason for the use of personas for this particular project is the lack of scope for statistically significant sampling. Scientific sampling methods would likely provide more accurate pictures of the trajectories, wants, needs and desires of the population, but due to the constraints of this project, that technique was not possible. That being said, a thorough methodology for the development of the personas, their life trajectories and desires was used to ensure the robustness of this technique.

Firstly, a literature review was completed to understand the techniques that have been used to complete similar studies (Siddall et al., 2011), (Vallet et al., 2020). Demographic analysis (See Appendix 1) was then completed to understand the characteristics of the current population with regards to age, sex, location of residence and educational attainment. These inputs formed the framework for the seven (7) personas. Next, a series of interviews with local community leaders and subject matter experts was completed, along with observations of daily practices by the researcher. The interviews were not conducted with the express intent of developing the personas, but rather to discuss wide ranging topics and issues from small to large and personal to societal scales. Insights from the interviews and observations were then used to form the details of the life trajectories and desires of the personas.

The below pages outline the information pertaining to the personas. Further below is the capabilities approach analysis, which uses the insights gained through the development of the personas to identify the environmental and societal factors that are both promoting and interfering with the realization of the persona's desires.

Goitse

6	Female	Urban Village	Primary

Life Trajectory:
- Lives with her parents and three other siblings
- Both parents work in the city, with the mother working part time to manage childcare
- Currently attending primary school
- Gets to spend time with her grandparents out in the village from time to time, loves the animals they have

Desires:
- A pet goat of her very own
- Invite her school friends over to play more often
- More independence

Figure 97. Persona: Goitse. Source: Author, (BCFC, 2020)

Thabo

12	Male	Urban Village	Primary

Life Trajectory:
- Lives with his parents and two other siblings
- Nearing the end of primary school
- Lots of friends at school and in the neighbourhood
- Helps his parents to manage some chickens and goats in the homestead, as well as running their roadside tuck shop

Desires:
- A bike to ride around the neighbourhood with his friends
- Join the school's soccer team
- Dreams of growing up to become an architect
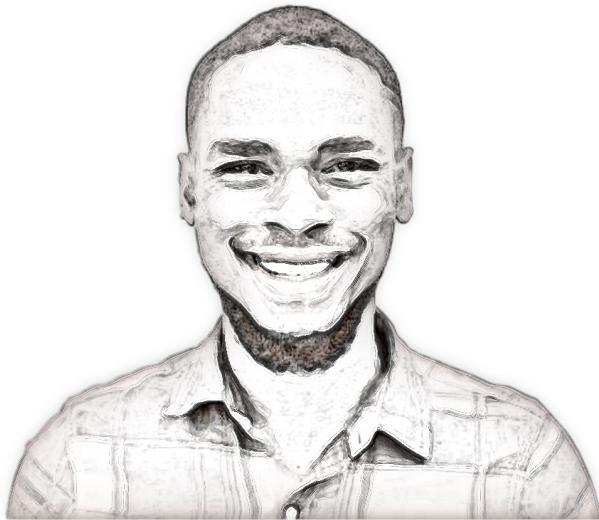
Figure 98. Persona: Thabo. Source: Author, (kali9, 2016)

Kabelo

20	Male	Village	Secondary

Life Trajectory:
- Born and raised in the village, 15km from the nearest large village
- Economically poor
- No access to a private car
- Taking care of aging parents
- Works small scale agricultural plot that the family owns, which provides enough economic activity to subsist
- Feels connected to his village with family and friends there, but dreams of going to university

Desires:
- Attend university and climb the economic ladder
- Improve the material situation for himself and his parents
- Move to the city and start a family there

Figure 99. Persona: Kabelo. Source: Author, (m-imagephotography, 2016)

Lorato

26	Female	Urban	Secondary

Life Trajectory:
- Originally from a nearby urban village
- Studying social sciences at university
- Enjoying the newfound freedom associated with the urban lifestyle
- Making good social connections through university
- Also appreciates and feels connected to the lifestyle from her home village
- Feels a sense of nostalgia for the remote village her parents grew up in due to their stories

Desires:
- Graduate from university and get a stable job in the government
- Continue to live a fun life with her friends
- Eventually move out to a smaller village and enjoy a more peaceful lifestyle outside of work

Figure 100. Persona: Lorato. Source: Author, (fizkes, 2022)

Masego

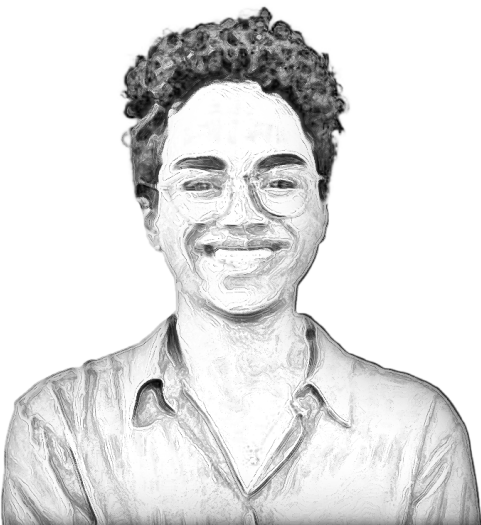| 34	Female	Urban Village	Vocational

Life Trajectory:
- Originally from a small village
- Married, with three children aged 7, 5 and 2
- Attended vocational school to work in hospitality
- Currently employed at a hotel in the city centre
- Has a large house in a newer section of the urban village
- Owns a homestead in her home village

Desires:
- Advance her career to save enough money to put her children through university
- Have her children get the best schooling possible
- Have her children grow up with exposure to her home village lifestyle and make them feel part of the community
- Feel a sense of community in the neighbourhood
- Keep small livestock at the home (goats and chickens)

Figure 101. Persona: Masego. Source: Author, (jubaphoto, 2022)

Kabo

48	Male	Urban	Tertiary

Life Trajectory:
- Originally from a small village in the North
- Has a wife and two children, both children are in secondary school
- Attended university for mechanical engineering
- Lives in one of the rich neighbourhoods of the city
- Works as an executive at a diamond company
- Owns two cows in his home village which he checks in on periodically

Desires:
- Upon retirement, move back to his home village
- Advance as far as possible in his career
- Send both children to university
- Improve the situation in his home village upon returning there

Figure 102. Persona: Kabo. Source: Author, (stocknroll, 2014)

Malebogo

- -

| 67 | Female | Remote | Non-formal |

Life Trajectory:
- Has lived in the remote village her entire life
- Works menial day-labour in agriculture on a non regular basis
- Has struggled with alcohol abuse issues for a long time
- Has family in the area and wants what's best for them but doesn't know how to support them
- Remembers the times of more traditional living fondly

Desires:
- Live comfortably for the rest of her life with consistent and secure access to food and water
- Her children and grandchildren to have a better life
- Continuation of the Tswana culture she grew up with

Figure 103. Persona:Malebogo. Source: Author, (FatCamera, 2021)

Capabilities Approach Analysis

The capabilities approach is explained in detail in the theoretical framework on page 32. It is being used in this section of the report in an attempt to understand the issues that are present in modern society in a personal way. By analyzing the environmental and societal factors that are both promoting and interfering with people's ability to achieve their desires, we can understand how people are experiencing the urban environment. This informs what changes should be made in the urban system to respond to what people actually want. When combined with the broader societal and spatial analyses that are being completed, a fulsome set of understandings emerge to properly inform what a new urban system to reduce life fulfilment inequality could be.

To do this capabilities approach analysis, desires for each persona were created, based on information from the expert interviews, field work, observations and broader societal analysis and research. The reasons for these desires are then stated, illuminating where the desires are coming from - be it internal desires, wanting to fit in with societal expectations, etc. Next, the forces that are both promoting and interfering with the realization of the desires are analyzed and stated. With this information, a series of lessons can be extracted from the capabilities approach analysis, which fits in with the lessons learned from the other analysis techniques.
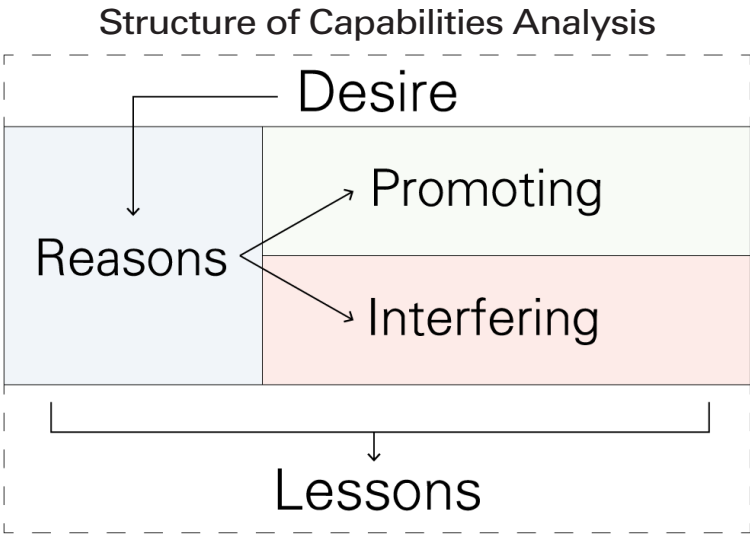
Structure of Capabilities Analysis

Goitse

6   Female   Urban Village   Primary

Life Trajectory:
- Lives with her parents and three other siblings
- Both parents work in the city, with the mother working part time to manage childcare
- Currently attending primary school
- Gets to spend time with her grandparents out in the village from time to time, loves the animals they have

A pet goat of her very own

◦ Her grandparents keep goats for animal husbandry purposes, but she has taken to liking them very much	◦ Her parents also also interested in keeping some animals for their own agricultural purposes
	◦ The home she lives in does not have much available yard space to keep animals in ◦ Neighbours may get upset if livestock is brought into the neighbourhood ◦ If they do acquire a goat, her parents would not want it to be considered as a pet

◦ There is still a desire for people to keep small livestock even within villages and by people with jobs

Invite her school friends over to play more often

◦ Thinks it's fun to play with her friends and wants to play more often	◦ Many of her friends live in the neighbourhood so it is generally convenient to organize themselves with parental help
	◦ The children all met at school, with their parents not knowing each other very well. A lack of social trust between the parents strains the ability to make plans for the children ◦ Homework takes up her time and she has to complete it all before being allowed to play with friends

◦ Social connections amongst parents directly affects the ability for children to socialize together

◦ Proximity of families in the neighbourhood makes socializing easier for children

More independence

◦ She believes that she is old enough for her parents to let her play without supervision more often, especially with her siblings	◦ She has shown to be responsible for her age and her parents do trust her ◦ Her parents think of how they grew up, very often roaming around with their friends with very little direct supervision
	◦ Her parents also realize that, while it didn't feel like they were being supervised when they were kids, in fact there was constant attention being paid by adults around them in the village ◦ Parents are nervous about the child's safety in the neighbourhood as they do not know all of their neighbours well ◦ Parents wonder if providing too much independence now will affect her ability to focus and succeed at school

◦ Parenting styles have adapted based on new village and family dynamics and as schooling practices have changed

◦ Feeling of safety and familiarity with neighbours impacts parents willingness to allow their children to be more independent

Thabo

| 12 | Male | Urban Village | Primary |

Life Trajectory:
- Lives with his parents and two other siblings
- Nearing the end of primary school
- Lots of friends at school and in the neighbourhood
- Helps his parents to manage some chickens and goats in the homestead, as well as running their roadside tuck shop

A bike to ride around the neighbourhood with his friends

◦ Thinks it will be more fun to go to new places rather than playing in the same homes/fields ◦ Can get to his friends' houses faster ◦ Thinks bikes are cool	• Parents think that it would be good to have a bit more independence • Some of his friends already have bikes
	• Parents are worried about the safety of biking on the road, especially further away from home • Large roads in the urban village are very dangerous and made off limits by his parents, limiting the possible range of cycling around • Difficult for his parents to be able to afford a bike for him with their current income level

- ◦ Some of the roads in the urban villages are high speed and dangerous for children to be playing near
- ◦ Road layouts cutoff safe slow travel from some neighbourhoods to others

Join the school's soccer team

◦ Loves playing soccer with his friends and thinks it will be even more fun to get to play on the school's team ◦ Thinks it will impress his friends and family that he can make it onto the team	◦ Gets to play soccer on the field in his neighbourhood quite frequently during his free time ◦ His parents would support him joining the school team
	◦ Parents support of joining the school team is conditional on him still being able to help with the tuck shop and other household duties ◦ Competition for spots on the team is very strong ◦ Costs associated with playing in an organized league will place some additional financial stress on the family

- ◦ Neighbourhood fields act as a stepping stone to joining more organized/formalized sports
- ◦ The financial situation of families can affect children's ability to participate in sports, even if costs are low, due to labour contributions that children are expected to make to help support the family

Dreams of growing up to become an architect

◦ Helping his parents to build their tuck shop at a young age piqued his interest in buildings and their design ◦ Parents always encouraging him to study hard enough to go to university	◦ Has always been good at math and geometry in school
	◦ Will need a scholarship to be able to afford to attend university and therefore must do well in school ◦ Has a competing desire to be a professional soccer player

- ◦ Financial realities can affect children's potential futures even from a young age
- ◦ Activities taken by children to help the family and community from a young age can shape the future goals and desires of children
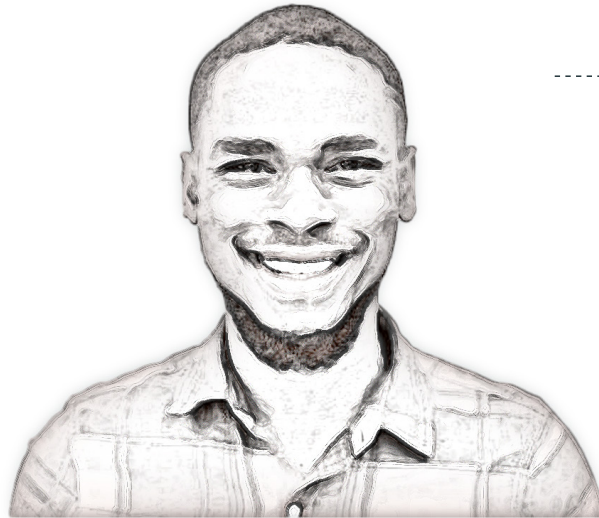
Kabelo

| 20 | Male | Village | Secondary |

Life Trajectory:
- Born and raised in the village, 15km from the nearest large village
- Economically poor
- No access to a private car
- Taking care of aging parents
- Works small scale agricultural plot that the family owns, which provides enough economic activity to subsist
- Feels connected to his village with family and friends there, but dreams of going to university

## Attend university and climb the economic ladder

◦ Sees this as the path to greater prosperity ◦ Peers he grew up with are doing this ◦ Feels that this is the correct path for himself in life	◦ Secondary School graduate ◦ Has a supportive community around him who encourage him to try
	◦ Needs to care for and help his ageing parents ◦ Lives a far distance from the university campus ◦ Poor access to internet in the village ◦ No access to a private car ◦ Public transport options expensive and slow due to routing

- ◦ Limited social services in the villages affects both young and old alike
- ◦ Poor transportation options to the countryside limit opportunities for the achievement of desires
- ◦ Villages and countryside not seen as a place for growth/advancement
- ◦ Education and capitalistic advancement seen as the correct path forward in life
- ◦ Major tradeoffs between personal and family/community development are necessary for people living in remote villages

Improve the material situation for himself and his parents

◦ The homestead that they live in is comfortable but lacks many conveniences, such as directly piped running water and reliable internet access ◦ Believes that an improved situation will assist with his parents health issues ◦ Believes that his material situation is a reflection on his value as a person	◦ He is a very industrious and ambitious person that is striving for better everyday ◦ The community in the village is robust, with neighbours helping each other regularly when needed
	◦ There are few economic opportunities available in the village presently ◦ His free time to explore new possibilities is very limited between the competing priorities of working the family field, caring for his parents, and attending to other social responsibilities in the village ◦ Being a long distance from the city without access to a private car makes it difficult to seek out new opportunities that may be available there due to few and slow public transport options, especially when coupled with other responsibilities in the village

- ◦ Geography significantly affects one's ability to change their material situation, which is exacerbated by poor public transportation options.
- ◦ Community spirit and people-helping-people does not always provide enough support to satisfy people's desires for better material situations

Move to the city and start a family there

◦ Family oriented person and wants to start a family while still young ◦ Believes that living in the city will provide the best life for his future children, as well as better opportunities for himself ◦ Feels that accomplishing this will constitute his fulfilment of the correct steps of life	◦ A strong desire to accomplish his goals
	◦ Lack of financial security to move to the city without a job already arranged ◦ Need to care for parents would mean frequent trips back to the village and therefore costs associated with transportation ◦ Lack of university education limits employment options and earning potential ◦ Not currently in a relationship

- ◦ Systemic and societal forces shape peoples' perceptions of the correct steps of life, but also affect their ability to follow those steps
- ◦ Low income people living in village and rural environments have significant barriers on the personal economic development path
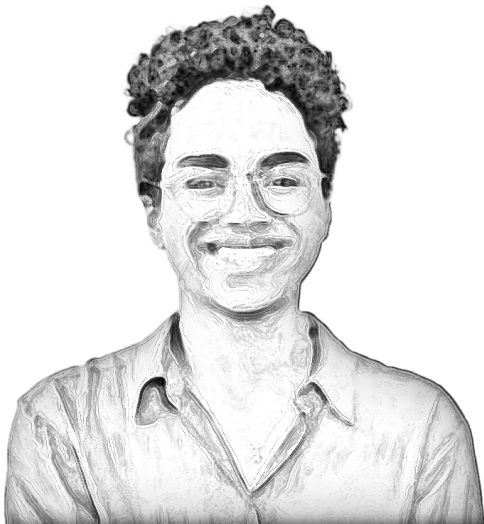
Lorato

| 26 | Female | Urban | Secondary |

Life Trajectory:
- Originally from a nearby urban village
- Studying social sciences at university
- Enjoying the newfound freedom associated with the urban lifestyle
- Making good social connections through university
- Also appreciates and feels connected to the lifestyle from her home village
- Feels a sense of nostalgia for the remote village her parents grew up in due to their stories

Continue to live a fun life with her friends

◦ Attending, and living near, the university has provided a great environment to have fun with friends and lead an enjoyable lifestyle	◦ Many of her friends are at the same stage in life and have a similar mindset
◦ Continuing this lifestyle post-university will make for a happy and enjoyable transition to the next phase of life	◦ Once her cohort of peers graduates university, it will be difficult to stay geographically close together due to each individual's competing goals and aspirations
	◦ The competitive job market for graduates in her field will make it even more difficult to stay geographically close together to her friends as they search for good jobs
	◦ Expensive housing in the city (state lands) makes it financially challenging to find a convenient and comfortable place to live at an affordable price in the city
	◦ Long waitlists and lack of locational choice through the land allocation system creates significant uncertainty in securing housing in tribal lands

- ◦ There are many societal forces acting as roadblocks in continuing the fun lifestyle associated with university
- ◦ A competitive and stringent job market creates conditions where one must sacrifice many other aspects of their life to achieve their career aspirations
- ◦ The combination of expensive and uncertain housing situations between the state and tribal lands leads to great difficulty in finding housing in a location and at a price that is suitable for young people

Graduate university and get a stable job in the government

◦ Sees government job as very desirable, with stable pay, good benefits and a good pension	◦ Doing well in university and on track to graduate in the coming year
◦ Hopes to live a comfortable life in a good middle class neighbourhood	◦ There are very limited jobs available in the government due to their desirability and plethora of qualified candidates
	◦ Housing prices are rising in the neighbourhoods that are most aligned with her desires, meaning she will have to move further from the city centre to live upon graduation

- ◦ Government jobs are very difficult to get due to their desirability, leading to university graduates having difficult times finding employment in fields they want to be in
- ◦ Housing issues add further complication to the job search

Eventually move out to a smaller village and enjoy a more peaceful lifestyle outside of work

◦ Despite the desire for a fun and lively lifestyle in the present, she believes that the village lifestyle will bring her a greater sense of peace and happiness than living in the city	◦ Has an uncle who lives in a nearby village who could help with her integration into that social environment
	◦ The lower cost associated with living in villages makes it more financially manageable than staying in the city
◦ Feels a sense of nostalgia for the village lifestyle based on the stories from her parents' youth	◦ The village her uncle lives in is relatively far from the city and so would have a long commute to the city centre if that is where she does find work upon graduation
◦ Believes this will also lead to the best outcomes for her social life and feelings of community	◦ Not many traditional style homesteads become available for transfer or purchase, which is the style of home she is hoping to live in

- ◦ Even some young people who did not grow up in a village environment see villages as desirable places to live
- ◦ Distance between most villages and larger cities can make the balancing of career and life challenging for current and would-be village dwellers
- ◦ Lack of any development recently in the traditional style recently makes traditional homesteads more scarce as related to the overall housing supply

Masego

| 34 | Female | Urban Village | Vocational |

Life Trajectory:
- Originally from a small village
- Married, with three children aged 7, 5 and 2
- Attended vocational school to work in hospitality
- Currently employed at a hotel in the city centre
- Has a large house in a newer section of the urban village
- Owns a homestead in her home village

Advance her career to save enough money to put her children through university

◦ The current household income is not high enough to be able to afford to pay for all of their children to go to university without significant government aid ◦ Believes that university is the key to a better life for her children	◦ Currently doing very well in her job
	◦ Difficult to spend any more time working due to her commute and need to care for children ◦ The high price of university means that she will need to be promoted multiple times to earn enough money

- ◦ There is a strong belief that going to university to get a good job is what's best for people
- ◦ The price of university makes it non-accessible for lower income people
- ◦ Commute time impacts the ability to earn more money

Have her children get the best schooling possible

◦ Believes this will be the best way to provide a good future for her children	◦ The urban village that they live in has a robust public school system, especially compared to her home village ◦ There is a very low personal cost associated with attending public school
	◦ Private school would provide a superior education, however that is too expensive for the family's current income level

- ◦ The desire to provide a good education for children affects the decisions on where to live
- ◦ A good public school system provides good education for less financially rich families, but private education does still give advantage to more financially rich families

Feel a sense of community in the neighbourhood

◦ Growing up in the village environment instilled a strong appreciation for community ◦ Thinks it will make for a more fun and happy environment for the neighbourhood ◦ Thinks it will help the development of her children to have a strong sense of community in the place that they are growing up in	◦ Some of her neighbours are also interested in improving the community feeling ◦ There is a park close by that the neighbours see each other at from time to time
	◦ Neighbours only seem to see each other when they plan a gathering, rarely run into each other on the street ◦ Busy lives makes it difficult to organize events where all can gather and spend time together on a regular basis ◦ Many members of the neighbourhood are not very interested in participating in community building

- ◦ There is a desire to form strong community bonds in newer urban village areas, but this sentiment is not shared by all residents
- ◦ Urban design elements are hindering the natural development of community ties
- ◦ Competing time priorities from school, work, etc. make community formation challenging

Masego (cont'd)

34   Female   Urban Village   Vocational
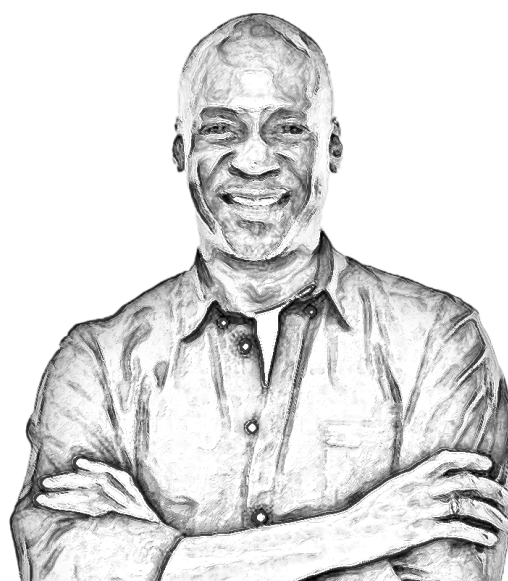
Life Trajectory:
- Originally from a small village
- Married, with three children aged 7, 5 and 2
- Attended vocational school to work in hospitality
- Currently employed at a hotel in the city centre
- Has a large house in a newer section of the urban village
- Owns a homestead in her home village

Keep small livestock at the home (goats and chickens)

◦ Grew up with livestock around, feels like the right way to live ◦ Provides an additional source of food	◦ Her and her husband both have the knowledge on how to take care of animals ◦ They think it would be good for their children to learn how to live with and care for animals
	◦ There is very little space in their homestead available for the keeping of any livestock ◦ No other people on the street keep livestock at their homes, meaning some friction could be created amongst neighbours if they do acquire goats or chickens

- ◦ Even working professionals are interested in keeping some livestock for personal use
- ◦ Many neighbourhoods are not conducive to the keeping of livestock both due to the design of housing and possible conflicts between neighbours

Have children grow up with exposure to home village lifestyle

◦ Feels that lifestyle teaches many of the important life lessons that led her to be the person she is today ◦ Feels that lifestyle shows what the right values to hold are as a person in society	◦ Owns a homestead in the home village that is capable of some agriculture ◦ Owns a car
	◦ Has a good job in the city ◦ Few employment opportunities in the village ◦ Better schools for her children are located in the urban village where they live ◦ High fuel cost to make frequent trips to the village ◦ Difficult to make time to make the long trip out to the village ◦ Competing priorities for what to do with limited free time for the family

- ◦ Strong desire to maintain at least some of the lifestyle and traditions from the village way of life
- ◦ Strong economic pull of the city remains a large incentive to stay in the area
- ◦ Lack of other reasons to go to the village makes it difficult to prioritize going there to visit
- ◦ Lack of amenities in the village make it very difficult to consider moving back to the village

Kabo

| 48 | Male | Urban | Tertiary |

Life Trajectory:
- Originally from a small village in the North
- Has a wife and two children, both children are in secondary school
- Attended university for mechanical engineering
- Lives in one of the rich neighbourhoods of the city
- Works as an executive at a diamond company
- Owns two cows in his home village which he checks in on periodically

Improve the situation in his home village upon returning there

◦ Wants to have a comfortable place to live once he has retired ◦ Wants to share the wealth that he has earned in his career with his home village community ◦ Believes this will help to improve his position in the social hierarchy in the village	◦ Has enough money to be able to make significant contributions to the village ◦ Has a strong social network there that can help to put the money into action
	◦ Unsure how to spend the money to best improve the village ◦ Many economic issues in the village create competing priorities that could cause social tension between those who benefit and those who don't ◦ Difficult to gain government support to create new programs in rural areas ◦ Lack of diversified knowledge amongst village residents means some expertise is lacking for how improvements can be made

- Economic advancements made by urban dwellers can bring more economic wealth back to rural and village environments
- The strong identity and connection to the home village creates a desire to improve the environment there
- Disparate and unique challenges in villages creates difficulty in knowing how best to improve the situation
- Lack of support for self-help development of villages hinders progress that could be made by village dwellers who have the means to improve the material situation

Advance as far as possible in his career

◦ Believes that his career position is a reflection on his value as a person and therefore wants to climb as high as possible ◦ Wants to earn as much money as possible to live a more comfortable life and to leave a significant amount for his children	◦ Progress on his career has been steady so far and appears that it will continue that way ◦ Can spend significant amounts of time working as his family life is organized to enable his career-oriented nature
	◦ Competitiveness in the workplace means the standard of work has to be very high to get promoted above other colleagues

- Career advancement is seen as highly desirable but also highly competitive
- To advance in a career, it is important to have a home and family life that enables career orientation

Upon retirement, move back to his home village

◦ Feels the most at home in the village ◦ Has always wanted to move back ever since he left ◦ Still maintains many family and friend connections in the village ◦ Keeps some cattle there which he wants to continue to take care of	◦ Owns a homestead in the village ◦ Has the means to live off of savings during retirement in the village
	◦ The passage of time

- There is a strong connection to the home village and a sense of identity associated with it
- Once money and employment are no longer a problem, the village lifestyle is seen as very desirable to pursue

Send both children to university

◦ Believes this will provide the best path for a good life for his children ◦ Wants them to carry on the family tradition of high educational and career attainment	◦ In a high paying career that makes it relatively easy to save enough money ◦ Both children are doing well in their private school education ◦ There are many universities within close proximity to their home
	◦ The passage of time

- Education and career attainment are seen as very desirable

Malebogo

67   Female   Remote   Non-formal

Life Trajectory:
- Has lived in the remote village her entire life
- Works menial day-labour in agriculture on a non regular basis
- Has struggled with alcohol abuse issues for a long time
- Has family in the area and wants what's best for them but doesn't know how to support them
- Remembers the times of more traditional living fondly

Live comfortably for the rest of her life with consistent and secure access to food and water

◦ She has had some periods of her life without enough food to eat	◦ Food supply in the village is relatively secure
	◦ A good quality standpipe is located only a few hundred metres away
◦ With limited time left in her life, comfort and security are now the most important life qualities that she is looking for	◦ Lack of financial wealth means that she still relies on crop growing for part of her food needs, which are subject to bad rains and yield issues
	◦ Alcohol dependency creates competition for the already limited amount of money available for food
	◦ Lack of infrastructure and development in the area provides little opportunity for material amelioration in a timely manner

- ◦ Reliable access to food and water is still a pressing concern for lower income people, especially in rural areas
- ◦ Lack of infrastructure and remoteness of place influence food security

Her children and grandchildren to have a better life

◦ Loves her family and wants them to be happy and content	◦ Many of her family members have relocated to places with better economic opportunities available
	◦ The public school system is significantly improved from the time of her childhood
◦ While she generally feels happy, knows that she has not lived the best life that she could have if her circumstances would have been different	◦ Other family members are still living in the area and are struggling with similar issues as her
	◦ The family members who have sought better career opportunities are very dedicated to their work, to the detriment of their social and family lives

- ◦ Circumstances significantly affect possibilities and outcomes of people's life trajectories
- ◦ Finding balance between career and family/social life is very challenging, especially for families coming from remote areas of the country

Continuation of the Tswana culture she grew up with

◦ Strongly identifies with Tswana culture and believes it instills the correct values for people to live by	◦ Many Batswana agree with this mindset and are working to preserve and advance their traditional beliefs
	◦ There is a growing counter-culture to the modernist and international order which is encouraging people to look at different ways of living and being
◦ Is worried about the erosion of Tswana culture through changes to the country that she has seen over the course of her lifetime	◦ Strong societal forces resulting from the global order push forward modernism and capitalism as the default social order
	◦ Government structures further reinforce this modernist system
	◦ Standardization of building codes, development codes, etc. force a departure from traditional living arrangements in favour of the international style
	◦ Many Batswana are in favour of the progression to the modernist order and support the changes that have been instituted in this direction

- ◦ The current societal march towards modernity is not universally supported or opposed, creating a contestation of ideas regarding the future of the country and society
- ◦ There are strong forces advancing modernist ideas

Lessons from Analysis of Modern Society

The following are the most important lessons stemming from the description of modern society and capabilities approach analysis.

Public spaces should be accessible, open and facilitate community development
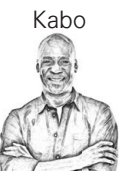
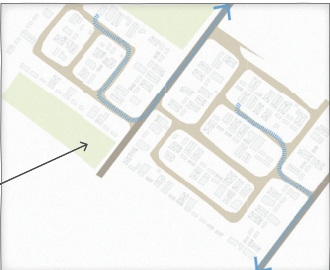**Related Personas**

Goitse Thabo

Masego Kabo

There is a strong desire to use public space both as a place for recreation, and as a driver of community bonds. This was how public space was used in traditional villages, but is not the case in modernist neighbourhoods.

Public space as a driver of community development vs. purely functional.

The ability to connect with one's home village should be easy and regular

Related Personas

Kabelo Lorato

Masego Kabo

Malebogo

A significant portion of one's sense of self and identity stem from their connection to their home village. This creates a contestation between the expression of identity and the expected trajectories of life which lead people to leave their home villages for large urban areas.

Identity

Current Situation

Expected Trajectory

Fast, cheap and reliable transportation options are needed to connect the entire region

Related Personas

Kabelo Masego

Malebogo

The lack of affordable public transportation options are limiting the ability of people across the region to carry out lives that they value. Opportunities that could be sought out are otherwise out of reach due to a lack of connection options.
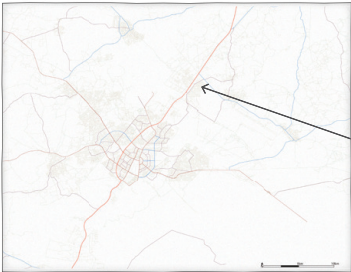
The road network is extensive, but a lack of public transportation makes movement cost prohibitive

Village and rural areas need to be integrated into the larger region to ensure people are not systemically left behind

Related Personas

Kabelo Malebogo

Disconnectedness and lack of public services create situations where people living in rural areas can become trapped, with little possibility to seek out lives they value.
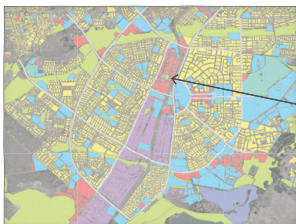
Services and opportunities are concentrated in the city centre. With growth concentrated in village areas, regional integration is critical
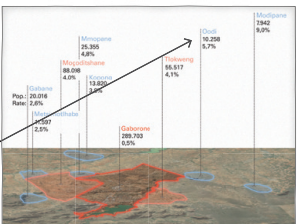
Diverse and cheap housing options should be available across geographies

Related Personas

Kabelo Lorato

Masego Kabo

Building regulations strictly limit the types of homes that can be built, the materials that must be used, and where they can be built. This has caused housing to become more expensive and therefore more difficult to attain. It is also increasingly difficult to find housing in desired locations.
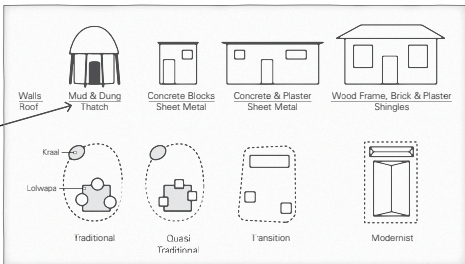
Traditional housing was constructed using local materials by individuals. The institutionalization of building practices has led to increased prices and few options

Traditional lifestyle practices should be possible while still participating in modern society

Related Personas

Goitse Thabo

Kabelo Lorato

Masego Kabo

Malebogo

Many of the practices that were core to the way that traditional societies functioned are either no longer possible, or have been altered significantly in the present day.

Traditional

Village
Field
Cattle Post

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

— Men — Women and Girls — Herdboys — Elderly and Schoolkids

For example, movements between the villages and location of economic production occurred in the past, and continues to this day, but on different timeframes. Traditional movement patterns occurred over the course of a year, whereas the modern movement pattern occurs across a lifetime. Short visits to the home village happen for holidays or gatherings as a way to stay connected.

Modern

Expected Trajectory
Short Term Visits
Village
City
Person's Age 0 10 20 30 40 50 60 70 80+

Community building and sense of belonging must be promoted

Related Personas

Thabo Lorato

Masego Kabo

Community was the foundation of traditional societies, being fully integrated into both societal structures and spatial design. It has been removed from modern spatial planning and the formation of communities has become very challenging as a result.

Traditional layouts were centered around public space and encouraged community formations. Modern layouts prioritize efficiency and simplicity.

Keeping livestock should be possible in city and village environments

Related Personas

Goitse Masego

Many homesteads in village areas currently keep some livestock and many urban dwellers are interested in this practice as well. It was very common to keep livestock at each homestead in traditional Tswana society, which further advances the consideration of keeping livestock as a good practice. Most modernist neighbourhoods do not permit this to occur.

Kraal
Lolwapa

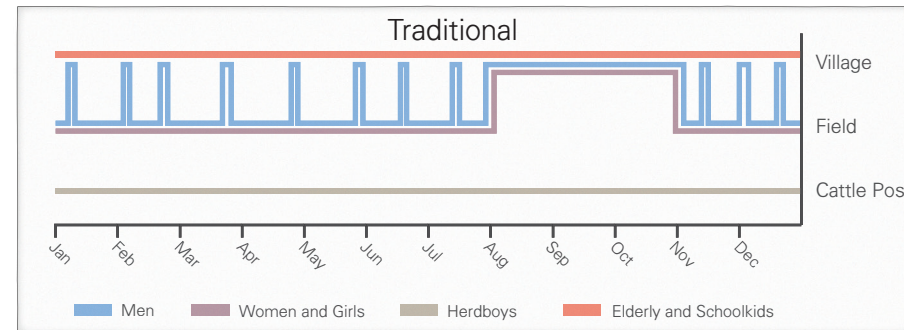Most homesteads had kraals meant for keeping livestock, whereas modern homesteads are dominated by structures
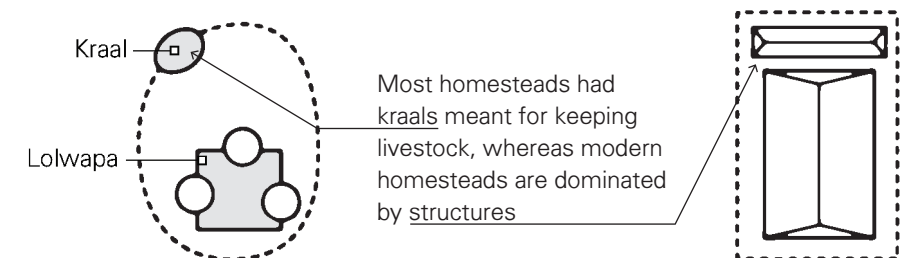
Self-help development at plot, neighbourhood and village level should all be encouraged

Related Personas

Kabelo Lorato

Masego
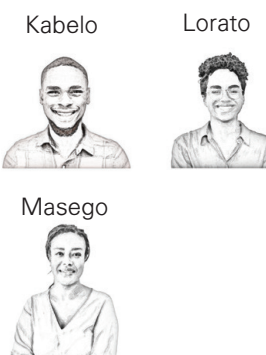
Construction of both private and public buildings and facilities was done through collective action in traditional societies, acting as a key method for the development of community. The professionalization and institutionalization of construction has eliminated this as a method for building community and has also made housing more expensive. There is demand for both more affordable housing and better sense of community, leading to a need for self-help development at all levels.

Collective Action → Community Formation
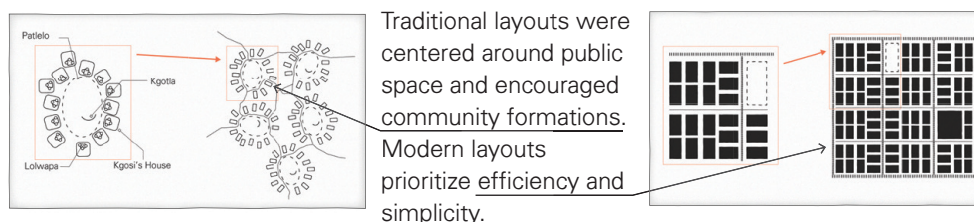
Access to reliable water, electricity, internet and food must be available to all people

Related Personas

Kabelo   Malebogo

Basic infrastructure, especially in rural areas, is still not necessarily available everywhere. This creates further disadvantage for low-income people in these areas, further entrenching a cycle of poverty.

Poverty

Infrastructure
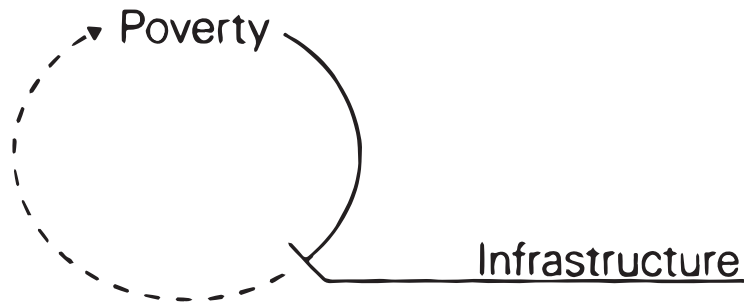
Balance must be struck between traditionalism and modernism

Related Personas

Goitse   Thabo

Kabelo   Lorato

Masego   Kabo

Malebogo

There are clearly benefits stemming from both the traditional and modern ways of life. A strong sense of identity, happiness and fulfilment is derived from traditional values and practices. Modern development has led to significant improvements in material situations and has opened up possibilities that were not otherwise available. Finding a way to strike a more even balance between these two systems is key for progressing the urban system.

Traditionalism   Modernism
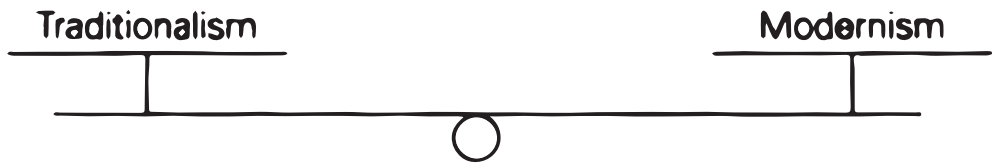
Compiled Lessons from Analysis

Analysis of Traditional Places and Society

◦ Community building principles are integrated into spatial design philosophy

◦ Movements between village and production environments occur on yearly timescales

◦ Neighbourhood design incorporates culturally important spaces, such as the patlelo, lolwapa and kgotla

◦ Significant freedom of land use and building and development rules

◦ Neighbourhood maintenance and improvement occurs through communal action

◦ Most homesteads did their own farming and animal husbandry

Analysis of Modernist Places

◦ Educational and employment facilities are provided in an ordered and logical manner

◦ Efficient and cost effective provision of infrastructure is prioritized

◦ Transportation systems are organized for fast and efficient movement patterns

Analysis of Modern Society

◦ Public spaces should be accessible, open and facilitate community development

◦ The ability to connect with one's home village should be easy and regular

◦ Fast, cheap and reliable transportation options are needed to connect the entire region

◦ Village and rural areas need to be integrated into the larger region to ensure people are not systemically left behind

◦ Diverse and cheap housing options should be available across geographies

◦ Traditional lifestyle practices should be possible while still participating in modern society

◦ Community building and sense of belonging must be promoted

◦ Keeping livestock should be possible in city and village environments

◦ Self-help development at plot, neighbourhood and village level should all be encouraged

◦ Access to reliable water, electricity, internet and food must be available to all people

◦ Balance must be struck between traditionalism and modernism

Broad Forces

Personal
- ◦ Wants
- ◦ Needs

Spatial
- ◦ Modernist
- ◦ Traditional

Societal
- ◦ Expected trajectory

Cultural
- ◦ Norms
- ◦ Values

Contestation

Life Fulfilment Inequality
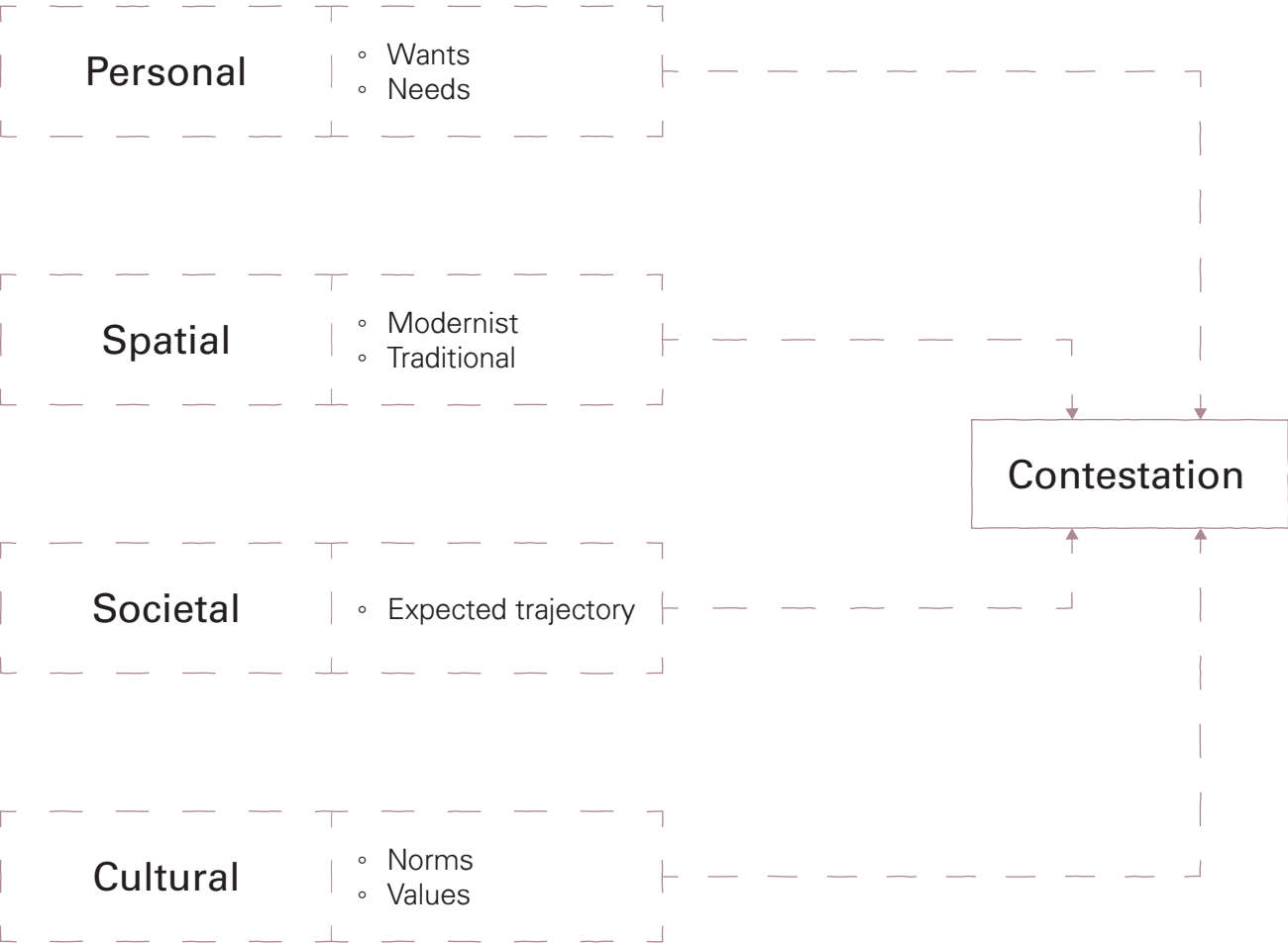
Conclusion to the Analysis

The analysis has shown that there is a contestation between personal, spatial, societal and cultural forces. This contestation is directly leading to life fulfilment inequality in the Greater Gaborone region. The next section provides the outcomes of this analysis and explores possibilities as to how the urban system could be altered to promote life fulfilment equity.
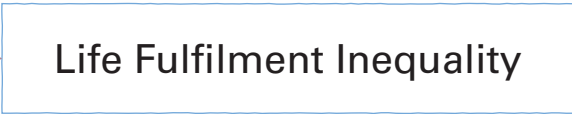
Outcomes

Figure 104. Gaborone looking West from City Centre. Source: Author.

Principles for a New Urban System

The primary outcome of the above described analysis is a set of principles for a new urban system. These principles fall into three categories: Development of Kagiso/Botho, Promotion of Lifestyle Freedom and Harmonious Regional Functioning. The following pages present the principles in a graphical manner, link the principles to the learnings from the previous section, then explores suggestions on how the principles could be applied through design demonstrations and program possibilities.

Development of Kagiso/Botho

1. **Community building** and Kagiso/Botho development forms the basis of spatial design across all scales and settlement types.

2. **Culturally relevant spaces**, such as the patlelo (public space), lolwapa (courtyard) and kgotla are integrated into neighbourhood design.

3. **Self-help development** and community led neighbourhood improvement projects are encouraged and supported.

4. Residential development patterns are planned to ensure **affordable and desirable housing** is available in all settlement typologies in the region.

5. **Public spaces** are available abundantly and act as **drivers of Kagiso/Botho** development.

Promotion of Lifestyle Freedom

6. Residents and community organizations have significant **freedom to choose how to develop and utilize their land.**

7. **Seasonal movement** between villages and the urban core is possible and normalized.

8. The ability for people to explore and engage in **lifestyles that suit their personal needs**, wants and desires is promoted.

9. **Small scale agriculture** and animal husbandry is supported in all residential areas, subject to community agreement.

Harmonious Regional Functioning

10. Access to education and employment opportunities is provided in a **spatially equitable** manner across settlement typologies.

11. **Reliable and safe** water, energy and internet **infrastructures** are available for connection at all plots.

12. **Efficient and cost effective transportation** options are available for all people across the region.

13. Village and rural environments are **well integrated** into the functioning of the region.

Well Integrated Environments

Community Building

Efficient Transportation

Culturally Relevant Spaces

Harmonious Regional Functioning

Development of Kagiso/Botho

Reliable Infrastructure

Self-Help Development

Life Fulfilment Equity

Desirable Housing

Spatially Equitable

Small Scale Agriculture

Public Space Drives Kagiso

Promotion of Lifestyle Freedom

Personalized Lifestyles

Freedom to Utilize Land

Seasonal Movement Normalized

Figure 105. Representation of New Urban System Principles. Source: Author.

Lessons from Analysis

Analysis of Traditional Places and Society

◦ Community building principles are integrated into spatial design philosophy

◦ Movements between village and production environments occur on yearly timescales

◦ Neighbourhood design incorporates culturally important spaces, such as the patlelo, lolwapa and kgotla

◦ Significant freedom of land use and building and development rules

◦ Neighbourhood maintenance and improvement occurs through communal action

◦ Most homesteads did their own farming and animal husbandry

Analysis of Modernist Places

◦ Educational and employment facilities are provided in an ordered and logical manner

◦ Efficient and cost effective provision of infrastructure is prioritized

◦ Transportation systems are organized for fast and efficient movement patterns

Analysis of Modern Society

◦ Public spaces should be accessible, open and facilitate community development

◦ The ability to connect with one's home village should be easy and regular

◦ Fast, cheap and reliable transportation options are needed to connect the entire region

◦ Village and rural areas need to be integrated into the larger region to ensure people are not systemically left behind

◦ Diverse and cheap housing options should be available across geographies

◦ Traditional lifestyle practices should be possible while still participating in modern society

◦ Community building and sense of belonging must be promoted

◦ Keeping livestock should be possible in city and village environments

◦ Self-help development at plot, neighbourhood and village level should all be encouraged

◦ Access to reliable water, electricity, internet and food must be available to all people

◦ Balance must be struck between traditionalism and modernism

Principle Formation

New Urban System Principles

Development of Kagiso/Botho

Community building and Kagiso/Botho development forms the basis of spatial design across all scales and settlement types.

Culturally relevant spaces, such as the patlelo (public space), lolwapa (courtyard) and kgotla are integrated into neighbourhood design.

Self-help development and community led neighbourhood improvement projects are encouraged and supported.

Residential development patterns are planned to ensure affordable and desirable housing is available in all settlement typologies in the region.

Public spaces are available abundantly and act as drivers of Kagiso/Botho development.

Promotion of Lifestyle Freedom

Residents and community organizations have significant freedom to choose how to develop and utilize their land.

Seasonal movement between villages and the urban core is possible and normalized.

The ability for people to explore and engage in lifestyles that suit their personal needs, wants and desires is promoted.

Small scale agriculture and animal husbandry is supported in all residential areas, subject to community agreement.

Harmonious Regional Functioning

Access to education and employment opportunities is provided in a spatially equitable manner across settlement typologies.

Reliable and safe water, energy and internet infrastructures are available for connection at all plots.

Efficient and cost effective transportation options are available for all people across the region.

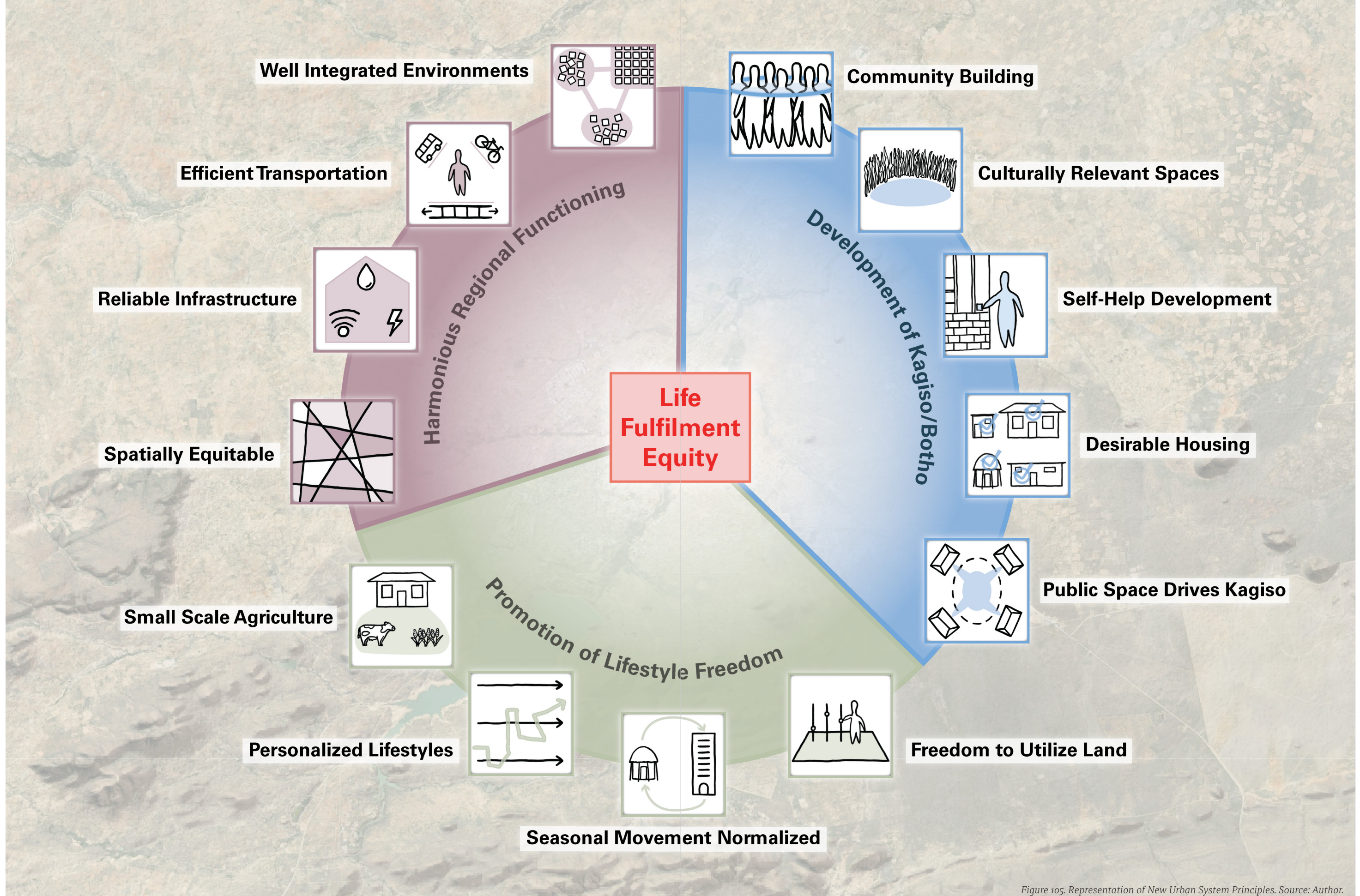Village and rural environments are well integrated into the functioning of the region.

Feasibility Analysis of Principles

This section is an analysis and discussion of the feasibility of implementation of the 13 principles. The purpose of this analysis is to understand what forces within present-day society would be either promoting or interfering with the implementation of the principles. This is an important step in identifying what roadblocks may exist to the eventual achievement of a balanced urban system and therefore what additional actions will need to be taken to achieve that balance.

The relevance of the principles to the research question is also explored to clarify how these outcomes relate to the driving concepts behind the project.
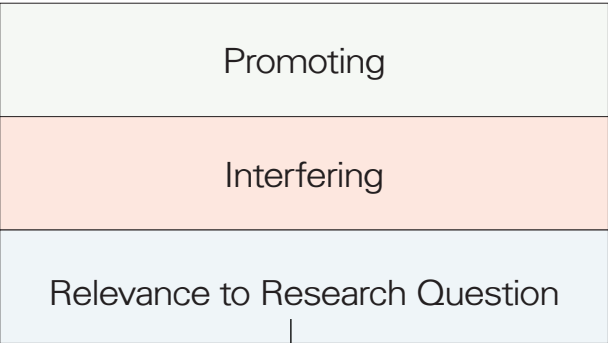
| Promoting |
| Interfering |
| Relevance to Research Question |

How can urban design and planning be leveraged as tools to create a new spatial development paradigm that reduces life fulfilment inequality in the Gaborone region?

1. Community building and Kagiso/Botho development forms the basis of spatial design across all scales and settlement types.

   - Strong heritage of this development pattern occurring in the past provides a strong basis for a return to this style.
   - Development of community is seen as highly desirable by most Batswana.
   - Centralized planning system provides relatively simple avenue for altering planning policy on at a broad scale.

   - Development system is based on capitalist principles, heavily prioritizing economic efficiency in land use development.
   - There is currently no entrenched method for measuring community development and individual life fulfilment. A lack of measurement tools makes it more difficult to justify significant policy changes as it is then more difficult to prove the effectiveness of changes.

   - In considering that spatial design is playing a significant role in driving both inequality and lack of happiness and fulfilment, a radical re-think is necessary in order to reduce life fulfilment inequality.
   - The prioritization of Kagiso/Botho and community development in spatial design will help to foster a feeling of connectedness between people, their neighbourhoods and their culture.

2. Culturally relevant spaces, such as the patlelo (public space), lolwapa (courtyard) and kgotla are integrated into neighbourhood design.

   - These spaces are very important in traditional Tswana settlements and therefore tie in strongly with peoples' identity and sense of place.
   - The introduction of these spaces into modernist neighbourhoods will greatly assist in the formation of community bonds.
   - Public spaces and dikgotla are accounted for in modern planning doctrine already, albeit to different standards than the traditional designs.

   - Modernist neighbourhoods do not have space allocated for these space typologies. Retrofitting neighbourhoods will be a significant design challenge.
   - It may be seen as a waste of space to introduce so much 'non-productive' space into neighbourhoods that are designed around economic efficiency.

   - The re-introduction of culturally relevant spaces into neighbourhood design will help to both foster community building and a sense of identity in the neighbourhood itself. These will help to improve happiness and sense of fulfilment through the improvement of social ties.
   - Improving community and social ties can also help to manage economic and socio-spatial inequality by encouraging greater levels of co-operation amongst neighbours.

3. Self-help development and community led neighbourhood improvement projects are encouraged and supported.

   - There is an existing Self-Help Housing Administration which is tasked with supporting self-help housing programs.
   - Community led neighbourhood improvement was the method taken for doing public works in traditional societies. This is still practiced in some village and rural areas in the country today.

   - The Self-Help Housing Administration has had many issues in effectively delivering their program and mandate. Issues such as stop and start development, misuse of funds and lack of local knowledge have all been contributing to a lack of effectiveness (Mosha et al., 2022).
   - National building and development control codes make building standards high and require the use of non-native or abundant materials. This makes the construction process expensive and therefore out of reach for lower income people.

   - While national regulations do make self-help development more difficult, it is still an avenue to enabling more cost effective development of housing, helping to mitigate the effects that economic inequality can have on the delivery of liveable housing.
   - Neighbourhood improvement projects are an important way to foster strong community bonds, helping to create a sense of togetherness and community amongst neighbours.

4. Residential development patterns are planned to ensure affordable and desirable housing is available in all settlement typologies in the region.

◦ There are large swaths of undeveloped land throughout the Greater Gaborone region that could be used for development purposes.

◦ Provision of affordable housing is seen as an important goal in many guiding policy documents, such as the National Development Plan (Government of Botswana, 2017).

◦ The development control code is relatively restrictive with regards to both building standards and housing typology requirements, limiting the possibilities for creative or different housing that could respond to latent demand.

◦ The desire of the government to recover costs related to infrastructure delivery and other public goods adds significant costs to residential development.

◦ Housing is a key contributor to both economic and socio-spatial inequality. Searching for new ways to deliver housing in a more affordable way can be a key contributor to reducing those inequalities.

◦ Housing and neighbourhood design can also have a significant impact on happiness and fulfilment, so allowing people to be more creative in their search for housing that suits their needs will help to improve overall well-being.

5. Public spaces are available abundantly and act as drivers of Kagiso/Botho development.

◦ Public space was a vitally important aspect of traditional neighbourhood design, and as stated under principle 2, is still part of peoples' identity and cultural core.

◦ Public space is still present in modernist neighbourhoods and planning doctrine and tends to be well used, especially places such as football pitches.

◦ Botho is being promoted as one of the 5 core principles of the National Vision 2036.

◦ As stated in principle 2, it may be seen as a waste of space to introduce more 'non-productive' spaces into neighbourhood design.

◦ There would likely be a significant economic cost for introducing more public spaces, especially into existing neighbourhoods.

◦ A lack of ability to measure the effectiveness of the development of Botho/Kagiso will make it difficult to justify whether or not spatial changes are working as intended.

◦ Returning to a doctrine of prioritizing the development of Kagiso/Botho rather than only prioritizing economic efficiency should improve happiness and fulfilment by focusing life back on the fostering of strong social networks.

6. Residents and community organizations have significant freedom to choose how to develop and utilize their land.

◦ Traditional land development occurred at small scale, with decisions being made at the ward and village level through kgotla meetings. This instilled a sense of ownership over the direction that villages could develop in.

◦ The tribal land tenure has a more relaxed implementation of regulations and provides more freedom to local authorities to land development decisions.

◦ There is a strong tradition of people using their plots for different purposes based on their needs, such as keeping small livestock or running a tuck shop.

◦ The development control code is very restrictive in terms of what can and can't be done with land. The code nominally applies to designated planning areas, however it is relied on for guidance across the country.

◦ The centralized nature of the planning system provides little existing regulatory precedent for community led development initiatives.

◦ Providing greater flexibility and autonomy for communities to manage their own land requirements will enable a greater ability to alter their environment to suit their needs. This can improve life fulfilment inequality by enabling private lands to generate greater value in whatever residents themselves covet.

7. Seasonal movement between villages and the urban core is possible and normalized.

◦ There is a strong heritage of this type of movement happening on a yearly basis in traditional Tswana societies.

◦ With many people deriving their identity and sense of self from their attachments to home villages, this movement should align with the desire that many people have to spend time in those places.

◦ The current labour culture is not aligned with this practice. Those who do have stable employment are only guaranteed 15 days of vacation per year (G-P Meridian, 2022) and seasonal time off is not built into societal norms.

◦ A high unemployment rate creates an environment where competition for employment is very strong, making it more difficult to justify adding significant benefits for workers in a capitalist system.

◦ A significant factor in terms of happiness and fulfilment is the ability to feel one's identity can be expressed and appreciated appropriately. The geographic nature of this village-based part of identity creates a tension between the realities of the modern economy and the expression of identity. Regularized movement that enables a relatively long stay in the home village while still allowing for participation in the modern economy provides a balance that can maximize life fulfilment without ignoring economic realities.

8. The ability for people to explore and engage in lifestyles that suit their personal needs, wants and desires is promoted.

- ◦ Botswana is a relatively free country. As explored on page 100, most people feel free from government oppression and that they can express themselves. While there is still progress to be made with regards to gender and women's rights, the legal baseline in the country offers strong protections for all people.
- ◦ It is common to engage in daily practices that may not align with regulations, but that suit the needs of people, such as the creation of roadside tuck shops. This spirit translates well to the promotion of the exploration of personalized lifestyles.

- ◦ The current societal arrangement is pushing people all into a similar life trajectory which revolves around exploiting the capitalist system as much as possible.
- ◦ Regulations such as the development control code or local planning area regulations are very prescriptive with regards to the appropriate development and use of land. This level of regulation makes it difficult to fully explore which lifestyle is most suited to an individual person.

- ◦ Allowing for freedom to find the lifestyle that suits people should lead to a greater sense of fulfilment as people can appropriately find the life for them.
- ◦ While promoting lifestyle freedom may not necessarily reduce economic or socio-spatial inequality in a systemic sense, the consequences of those realities should become less acute since people will have found their own happiness.

9. Small scale agriculture and animal husbandry is supported in all residential areas, subject to community agreement.

- ◦ This is a practice being observed by many people already, especially in village and urban village environments. Having this knowledge base existing will help to further promote this practice.
- ◦ There is a long tradition of small scale agriculture being practiced dating back to traditional Tswana societies, providing a strong heritage to return to.

- ◦ The development control code currently does not permit this practice in most residential areas across the country.
- ◦ Many residential areas have been developed without animal husbandry or agriculture in mind and as such the introduction of those practices may create both spatial and social conflicts.

- ◦ Again, providing another avenue to explore different lifestyles should lead to a greater sense of happiness and fulfilment amongst the population. The relationship with traditional practices will help to further support the effectiveness of this principle.
- ◦ Allowing for the production of food and other animal products at the homestead level will open another set of economic possibilities for people that otherwise would not have been there, assisting to mitigate economic inequality.

10. Access to education and employment opportunities is provided in a spatially equitable manner across settlement typologies.

- ◦ Significant efforts have been made over the past few decades to improve education nationwide (Makwinja, 2017).
- ◦ Community operated schools have been opened in places that are not covered by the formal education system, creating a self-organizing culture in those places.
- ◦ Natural resources are spread around the country, with mining activity occurring in the north, east and south.

- ◦ There are still places in rural areas that are not adequately covered by the government-sponsored education system. This has led to children being left out of government education if they cannot secure transportation to larger villages.
- ◦ Most formal employment is concentrated in the large cities that can be difficult to access for people who do not have access to private motor vehicles.
- ◦ Promoting the relocation of employment to non-established locations may impact the productivity of labour, which would be seen as negative in a capitalist system.

- ◦ Spreading around goods and services will reduce socio-spatial inequality across the region and between different settlement typologies.
- ◦ A more equitable spatial distribution of these resources will provide greater flexibility for people to choose where to live and work, leading to a greater ability to find happiness and fulfilment.

11. Reliable and safe water, energy and internet infrastructures are available for connection at all plots.

- ◦ Rural infrastructure development programs have been ongoing in the country for a number of years, to varying degrees of success. For example, roughly 55% of homesteads in Mogoditshane and Tlokweng have access to directly piped water and 58-66% have electricity connections (Toteng, 2009).

- ◦ Internet connectivity is relatively low in Botswana, and especially so in village and rural environments. Access to cellular data is generally possible, however it remains very expensive and therefore cost prohibitive to use extensively.
- ◦ The further expansion of infrastructure will be very financially expensive. The central government would likely seek user fees to recover these costs, which would either be too expensive for many Batswana to afford, or could otherwise cause new residential construction to become cost prohibitive.

- ◦ Access to basic infrastructure is a key contributor to both happiness and to the reduction of inequality. It can act at the basic building block to enable people to seek a better life for themselves.

12. Efficient and cost effective transportation options are available for all people across the region.

- It is common to walk long distances, or to use shared transportation such as carpooling or hitchhiking. Being comfortable with using differing means of transportation allows for a greater creativity to be used when considering new options for the transportation system.

- The region itself is not very large geographically. Shorter distances between centres of activity mean that the costs of providing transportation between those centres is low.

- There is no government operated public transit system in the country presently. As such, there is little institutional capacity existing with which to build off of.

- This would be another program that would require government funding and therefore would need legislative approvals, new funding mechanisms, etc. Having a capitalist basis for economic function means that significant justification for economic performance would also be required.

- Access to transportation and commute times is of critical importance for individual economic mobility (Chetty & Hendren, 2018). Providing better transportation service can help to significantly reduce the degree of economic inequality in a region.

- Opening new transportation options can also assist people to find new activities, places and people, and therefore lifestyles, that would otherwise not be available.

13. Village and rural environments are well integrated into the functioning of the region.

- There are strong personal ties linking village and urban environments together. This provides a basis of networks to build off of to improve economic integration.

- Production does occur at small scales in the form of agriculture.

- Agricultural production is underdeveloped, with little technological investment having been made into most small scale farms. As such, there is little institutional basis to build from.

- Most rural areas in the region have a very low population density and little economic production other than agriculture.

- Investment into the village and rural areas in the region will help to reduce the socio-spatial and economic inequality that exists between these and the urban areas in the region.

- Better integration into the region will open new possibilities for lifestyles to be explored by rural dwellers that may suit them better than what is presently available to them.

Conclusion to the Feasibility Analysis

The feasibility analysis of the principles show that while there are significant hurdles that stand in the way of their implementation, implementation is feasible. Any future policy implementations that could stem from this research in the future should start by addressing the interfering forces that are identified in this section, while taking advantage of the promoting forces.

Design Demonstration 1 - Urban Design Plan

The first of the design demonstrations is an urban design plan. This is intended to show how the principles could be applied to a new neighbourhood development. The design is exploratory in nature, and not a prescription as to what all new development should look like. Rather, it will highlight the important elements that ought to be considered for future developments and what a possible interpretation of the principles is.

Most Relevant New Urban System Principles
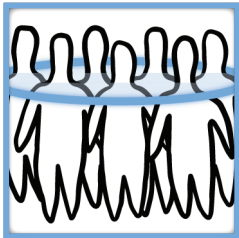
1. Community Building
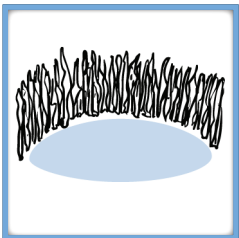
2. Culturally Relevant Spaces

4. Desirable Housing
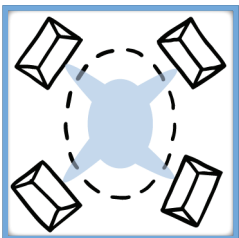
5. Public Space Drives Kagiso
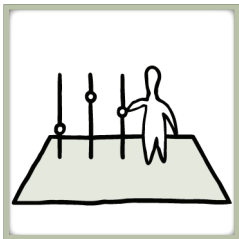
6. Freedom to Utilize Land
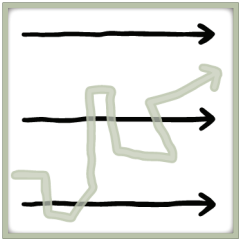
8. Personalized Lifestyles
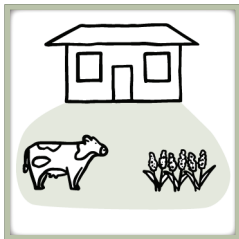
9. Small Scale Agriculture
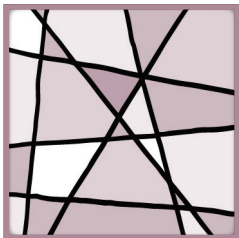
10. Spatially Equitable
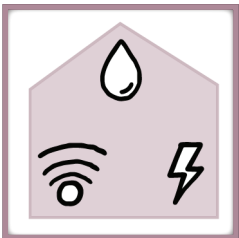
11. Reliable Infrastructure
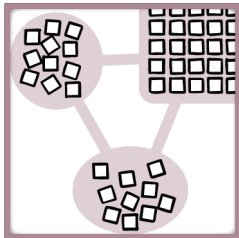
13. Well Integrated Environments

Location Map

Design Location

Gabane

Kweneng District

Kgatleng District

Modipane

Gaborone Centre

Tlokweng

South-East District

Gabane

Gaborone Dam

Mokolodi Reserve

Greater Gaborone

South Africa

N   5km   10km

Figure 106. Urban Design Demonstration LocationSource: Author, (Google Maps, n.d.-i)

Design Plan

The goal of this urban design plan is the striking of a balance between modernist and traditional urban design typologies, finding the benefits from both. As will be shown, the central planning leading to this plan will be kept to a minimum, with a sites and services style of planning envisioned. Only the major infrastructure will be centrally planned for, with major land uses being suggested, but not dictated. A tribal-style ownership framework would then enable individual residential lots to be established by the residents themselves, rather than by a central agency. This will mimic the traditional development methodologies and enable a greater sense of ownership and freedom by residents over their neighbourhood. Traditional dikgotla and dipatlelo are also contemplated within the plan, acting as foundational elements for the social and cultural networks of the neighbourhood.

Hybrid of modernist and traditionalist development principles

Community oriented lotting pattern

Regularized road structure to enabled efficient movements

Dirt Path

Tarred Road

Employment or Commercial

Homestead

Patlelo/Kgotla

Employment or Institutional

School

N   500m

Figure 107. Urban Design Plan. Source: Author.

Employment, institutional, employment and education uses present

Integration of dipatlelo and dikgotla
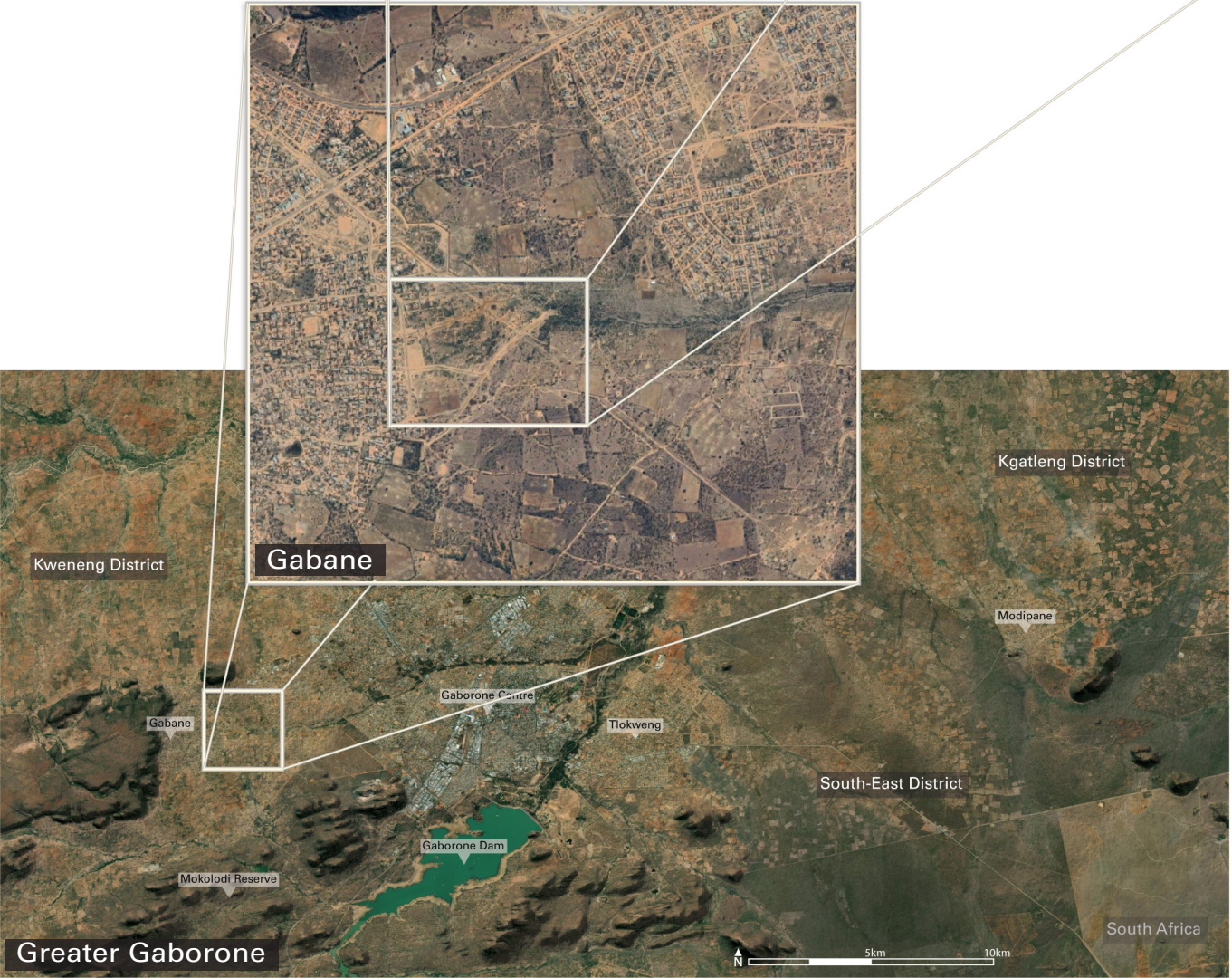
Possible Pattern #2

Possible Pattern #3

Figure 108. Urban Design Plan Variations. Source: Author.

By not strictly controlling the lotting patterns, there is an infinite number of possibilities for how the neighbourhood could develop. Negotiation between neighbours will be necessary when new homesteads are established. Residents will feel that they have truly created their own environments, helping to create attachment to the neighbourhoods.

Sites and Services Development Planning

Figure 109. Sites and Services Development. Source: Author.

Legend:
- Planned Road
- Planned Services
- Potential Kgotla
- Potential planned land use

N — 500m

Central planning will be focused on the provision of basic infrastructure to the site, setting the foundational elements for good development. Government investment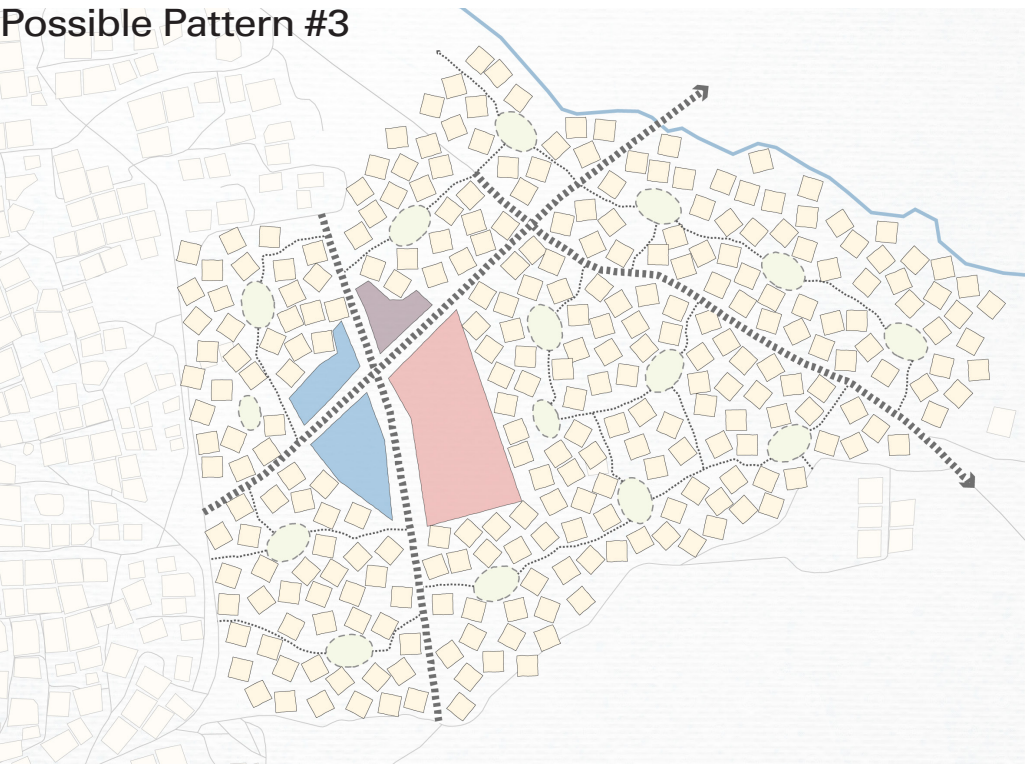 into development can be done in an economically efficient manner by providing these simple elements that can then be tied into by residents as they develop their own plots. The intention of encouraging development to proceed in this manner is to ensure that basic infrastructure services are provided holistically, while also enabling people to develop neighbourhoods to suit their needs.

Social Connectivity
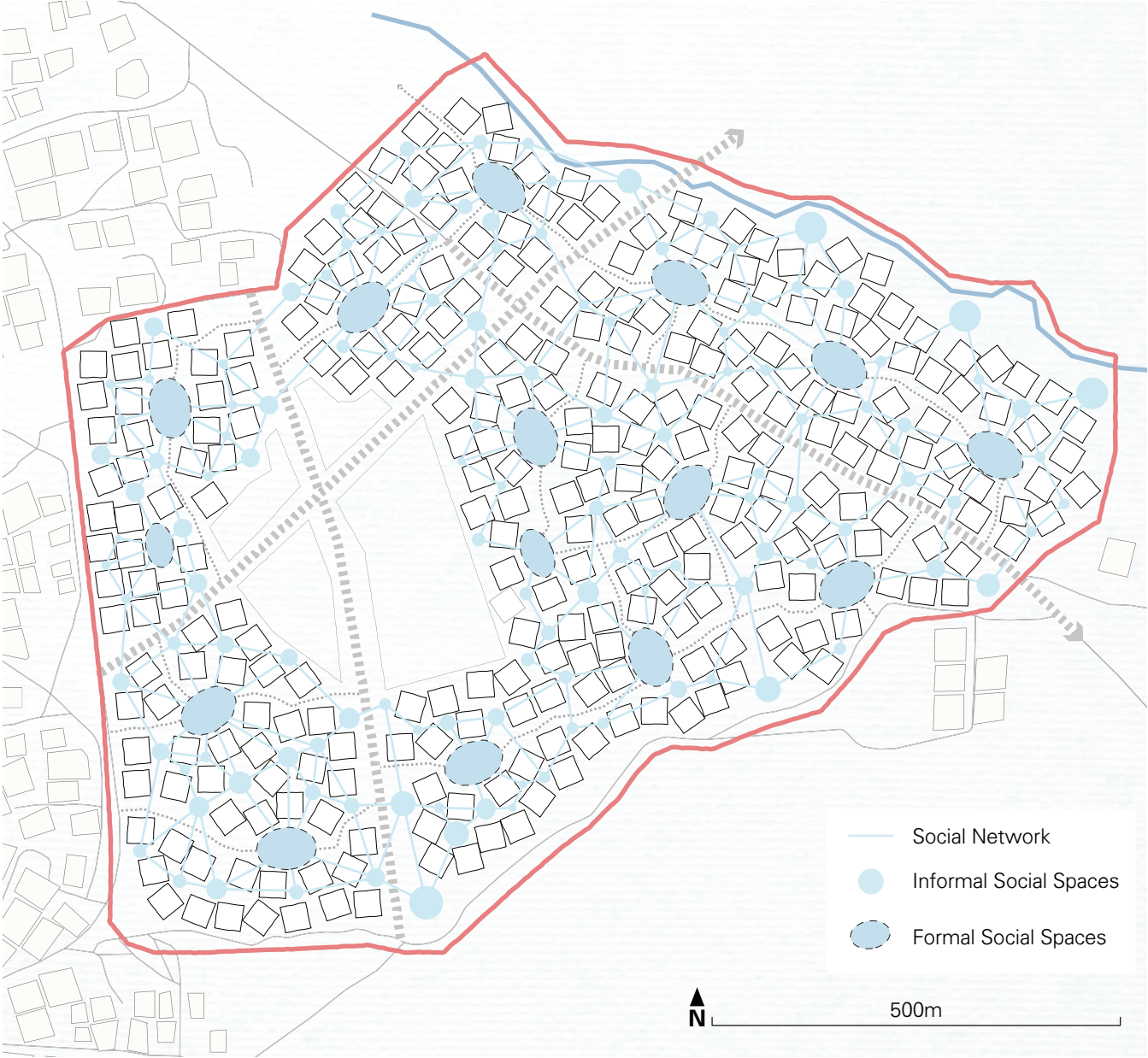
Figure 110. Social Connectivity Diagram. Source: Author.

Legend:
- Social Network
- Informal Social Spaces
- Formal Social Spaces

N — 500m

The dipatlelo and dikgotla retake their places as the social hearts of neighbourhood units. Having lots oriented around these spaces turns them in the natural centres of gravity in neighbourhoods, encouraging people to gather and forge their community bonds. By not strictly regulating the development pattern of the residential plots, a network of informal spaces emerges in the spaces between each homestead. These spaces are critical for encouraging serendipitous encounters amongst neighbours. They further act to bolster the social network of the community as there are no physical barriers separating these spaces from the dikgotla and dipatlelo.

Integration of Principles

Figure 111. Integration of Principles Diagram. Source: Author.

The principles for a new urban system are clearly present within this spatial development paradigm. The provision of reliable infrastructure and assurance of a well functioning region forms the baseline for neighbourhood design. The development of kagiso/botho drives the philosophy behind dedicating significant amounts of space to social functions. Moreover, the ability for residents to establish their own homesteads enables the exploration of different lifestyles based on their own needs and naturally creates an environment that fosters the development of community.
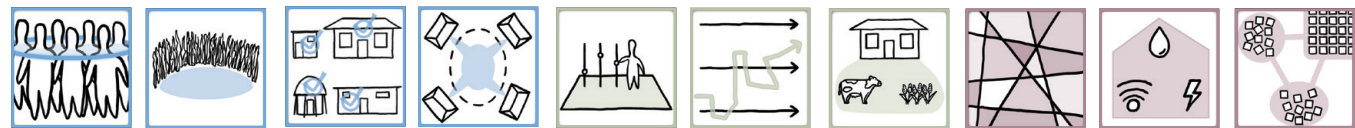
Closer View

Zooming in closer and adding more detail to the view demonstrates further how this type of community would function. Homesteads develop in different styles and with different uses, according to the needs of the residents. The large amount of open space also allows people to use it more freely to suit their needs. This is very important as, for example, the Thabo persona demonstrated the desire of children to play in public spaces that are relatively unencumbered. By limiting the amount of expensive infrastructure such as tarred roads, development can proceed in a more affordable manner.

Open development concept allows for different lot orientations

Mini-open spaces form creating possibilities for different public interactions
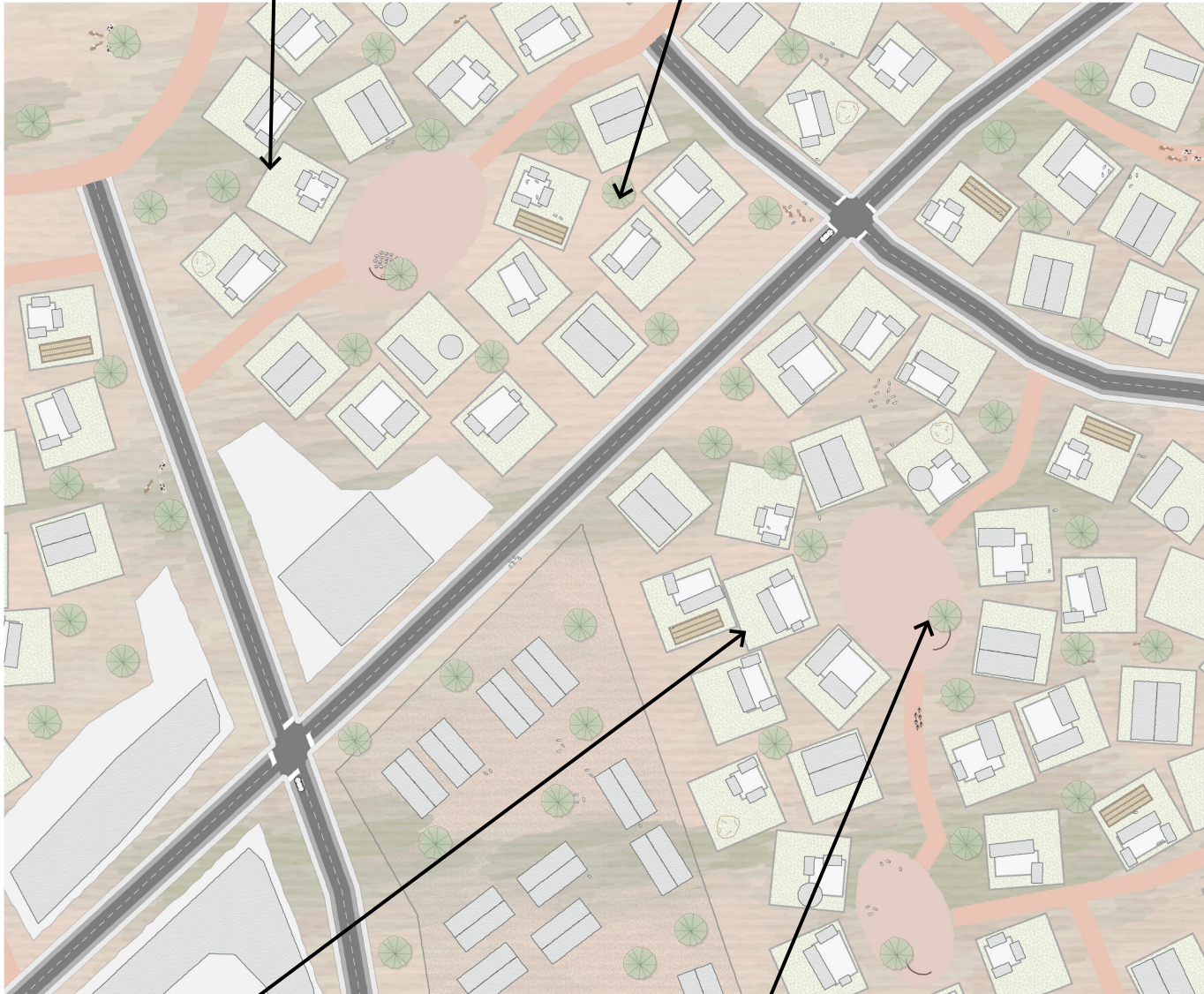
Figure 112. Urban Design Zoom in. Source: Author.

Flexibility of development styles

Community land trust or tribal land arrangement

N 100m

Varied Homestead Styles

This shows more clearly the different types of development that may occur when there is less regulation of development and architecture. Forms that are both reminiscent of the traditional homestead style, and of the modernist style, are possible and present, based on the needs of the residents. The six examples below are intended simply as examples, not as an exhaustive demonstration of all possibilities, and are based on observations of different existing architectural styles made while on site .

Traditional Layout with Lolwapa

Modern and Traditional Styles

Quasi-Traditional with Lolwapa

Large Modernist Style

Large Buildings with Lolwapa

Medium Buildings with Lolwapa
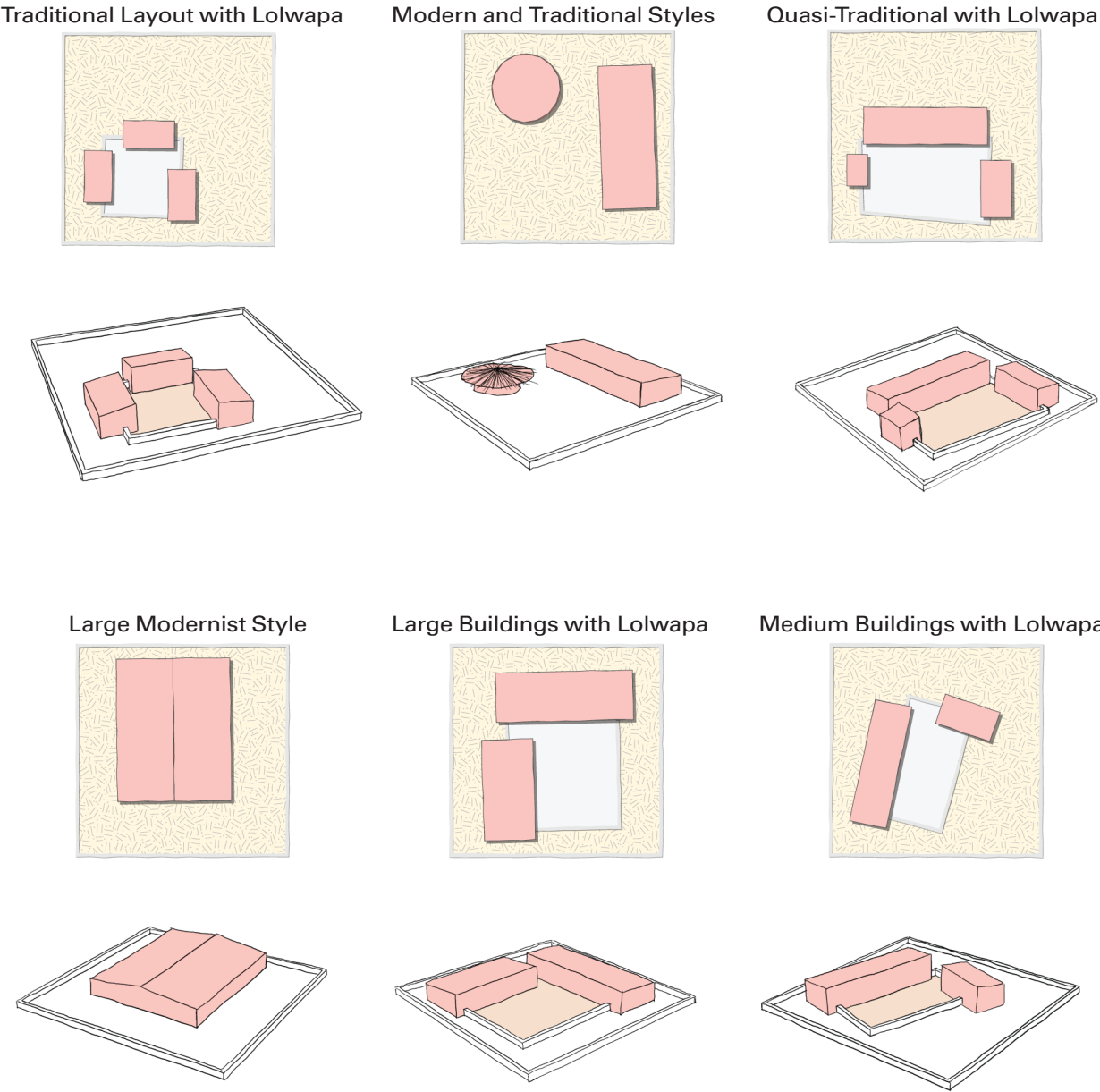
Figure 113. Housing Style Variability. Source: Author.

Land Use Freedom

Coupled with the freedom and variation of homestead styles is freedom regarding the actual use of land. There is a strong demand to practice animal husbandry or small scale agriculture, as seen with the personas of Masego and Goitse. This freedom enables people to use their lands for production if necessary, or otherwise to allow them greater flexibility in the lives they are able to lead.

Agriculture

Animal Husbandry

Tuck Shop

Open
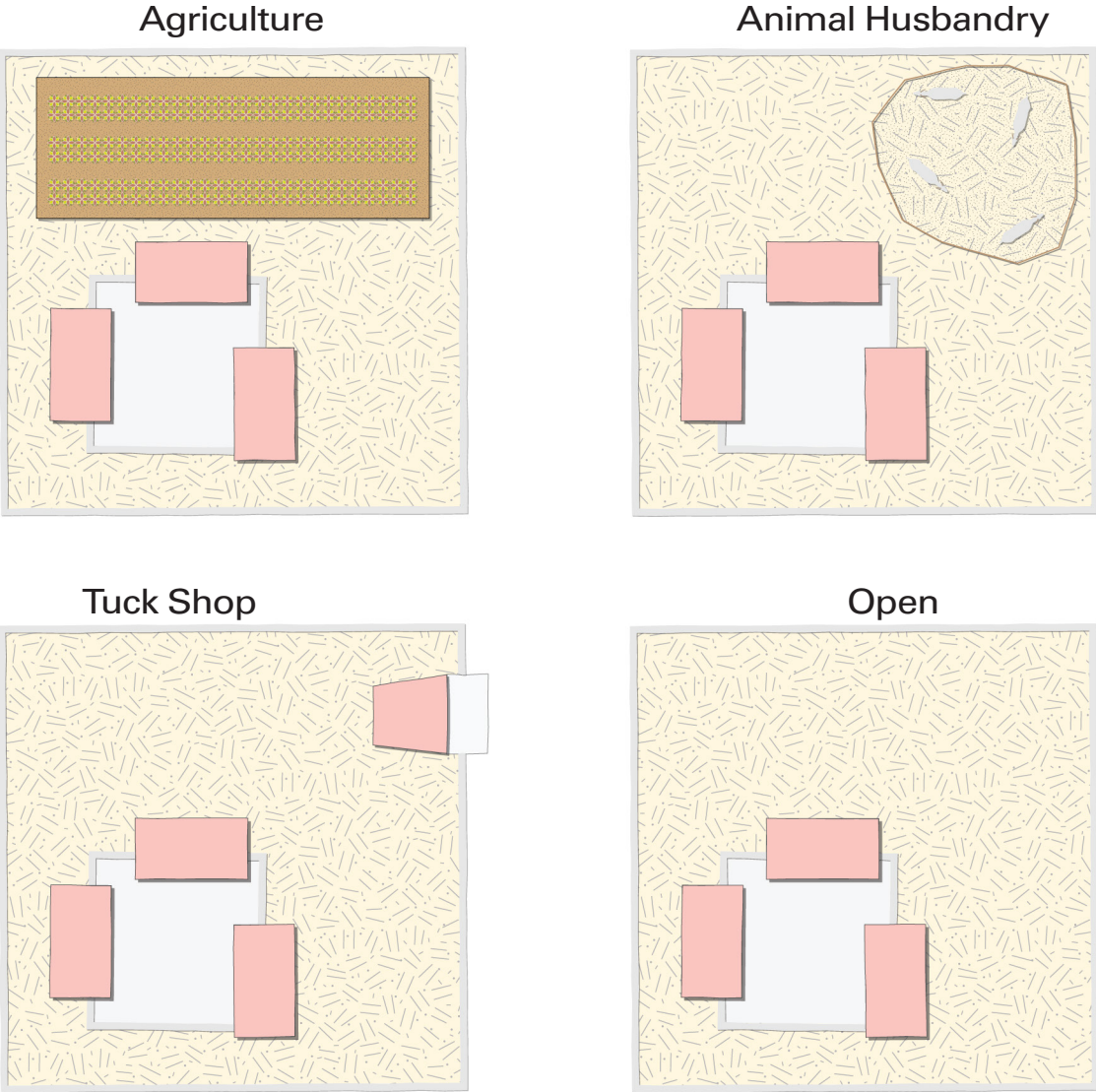
Figure 114. Residential Land Use Variability. Source: Author.

Perspective Sketches

These sketches show the experience of being in these possible spaces. They are somewhat abstract by design in considering the fact that each neighbourhood that develops according to these principles will be unique in its own right.

Proximity of different uses enables active transportation

Open space integrated into the form encourages serendipitous encounters

Homesteads interface with surroundings

Figure 115. Urban Design Perspective Sketch 1. Source: Author.

Figure 116. Urban Design Perspective Sketch 2. Source: Author.

Shade trees improve the urban environment

Coexistence of modernist infrastructure and traditional development

Kgotla placed at the centre of neighbourhood formations

Freedom to use space as desired

Design Demonstration 2 - Seasonal Movements

The second design demonstration is an exploration into what a seasonal movement pattern reminiscent of that in traditional societies could be in the modern day. In considering this would represent a major societal change, the focus of this demonstration is what requirements there are to enable such a lifestyle. Each requirement is tied to a case study of other similar types of lifestyles or seasonal movements that happen elsewhere in the world.

Most Relevant New Urban System Principles
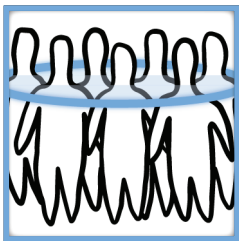
1. Community Building
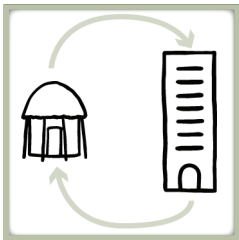
7. Seasonal Movement Normalized
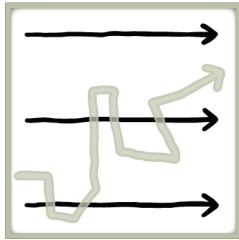
8. Personalized Lifestyles
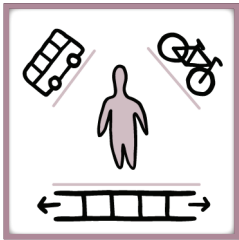
12. Efficient Transportation
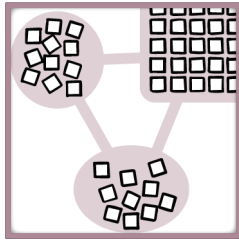
13. Well Integrated Environments

Requirements to Enable Seasonal Movements

This provides an overview of the different requirements that feed into this seasonal movement program. They will be expanded upon in the next pages.
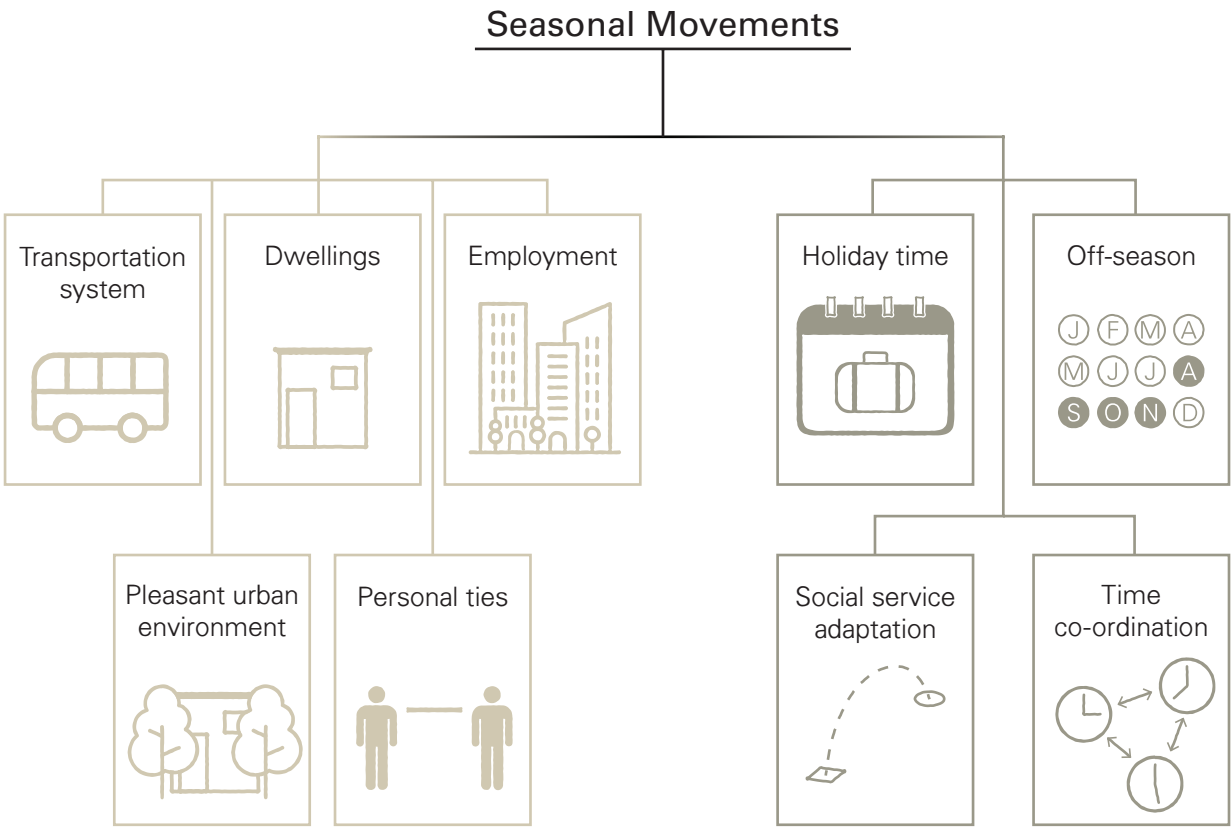
Figure 117. Seasonal Movements Requirements Diagram. Source: Author.

Case Studies

There are four primary case studies that are being used to inform the necessary requirements that would enable seasonal movement between the city and villages/rural areas: Migratory agricultural workers, Tourism workers, Canadian Snowbirds, and French Holiday Culture. This section contains a brief description of what these cases are, then the relevant lessons from them are described in the following pages as they have informed each requirement.

Agricultural Workers

Migration for agricultural work most commonly occurs as a result of the seasonal nature of agriculture combined with wage and wealth disparities across geographies. An example of such an occurrence is in Spain, where workers are recruited from countries such as Romania and Morocco (Molinero-Gerbeau et al., 2021). Workers will sign up for work programs through either government or private recruitment, and will move from their home countries to Spain to work in fields or other agricultural roles. Often the workers will spend 8-9 months in Spain (spring-summer-fall) and then return to their home countries for the winter.

Tourism Workers

Tourism is another industry that is seasonally based, especially form tourism that relies on natural factors, such as the need for winter weather to enable skiing. Many ski resorts will only have limited programs running through the summer, and as such employ far fewer people than they do in the winter. This creates a pattern where employees have to factor in the seasonality of their work into the rest of the lifestyle, and sort out where they should live for the rest of the year while not working (Lundmark, 2006). This also affects the ski resort communities themselves, where they have to accommodate many more people in the winter than in the summer, and therefore optimize their systems for vastly different populations in the winter versus summer.

Canadian Snowbirds

Canadian Snowbirds, contrary to the name, are actually human beings. This is the name that is given to a group of people who migrate from Canada to either the south of the United States or Mexico during the winter to escape the cold weather (Coates et al., 2002). Snowbirds are almost exclusively retired people who do not have other work commitments and so have few factors limiting their movement patterns other than money and personal health. The popularity of this lifestyle has created quasi-exclaves in the places that are most commonly visited by snowbirds during the winter, with places such as Quartzsite, Arizona changing in character entirely between the summer and winter due to the influx of migrating northerners.

French Holiday Culture

The final case study is that of holiday culture in France, and its highly seasonal nature. Citizens of France are entitled to significant holiday time every year, and the cultural norm is for people to take either three or four full weeks off in either July or August (Beardsley, 2018). This creates situations where a megacity such as Paris feels party deserted during the summertime. Businesses close and residents depart the city to spend their holidays in either other parts of France or further abroad.

While the four cases presented are all different than the proposed seasonal movement pattern for Botswana and the Greater Gaborone Region, they each have elements that relate do relate directly, or can provide lessons for the practicalities that go into seasonal movements of large groups of people.

Enabling Transportation System

Explanation

For seasonal movements from the city to the rural areas and villages, people need adequate transportation options. They must be affordable enough so as not to be a barrier to make the journey, while also providing the connections for where people want to go.

Case Study

In the temporary foreign workers program in Spain, in some cases employers will provide transportation to and from Spain to the countries they are recruiting from (often Romania) as part of the recruitment process (Molinero-Gerbeau et al., 2021). This can also expand into collectives, where large employers and large worker groups work together to co-ordinate transportation, thereby making the migration simpler and more cost effective for all.

Possibilities

1. Create transportation collectives in rural villages to form networks that enable movement patterns which serve residents.
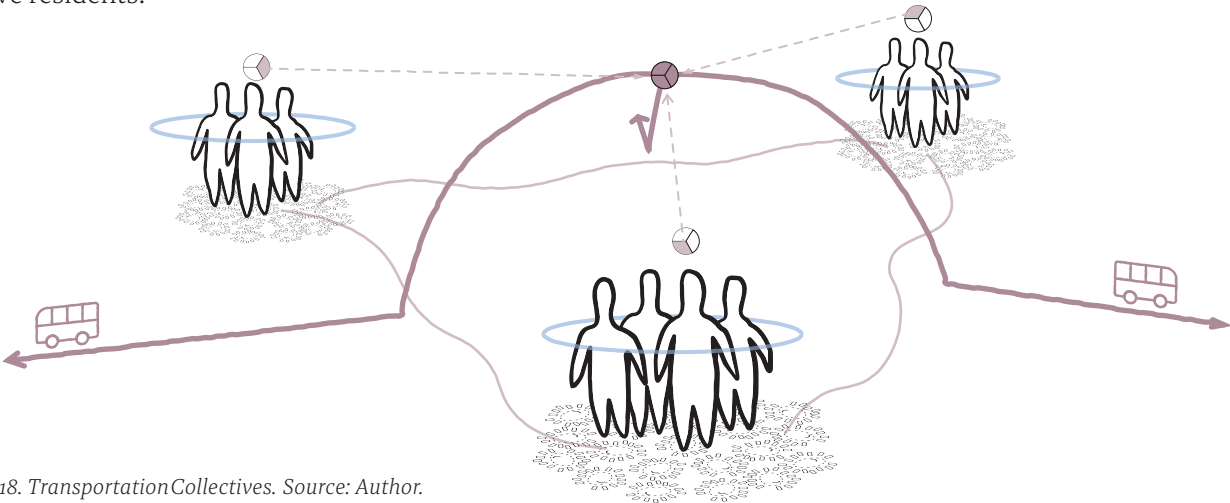

Figure 118. Transportation Collectives. Source: Author.

2. Improve public transportation between the larger cities and villages across the country to form a robust base network for collectives to tie into.
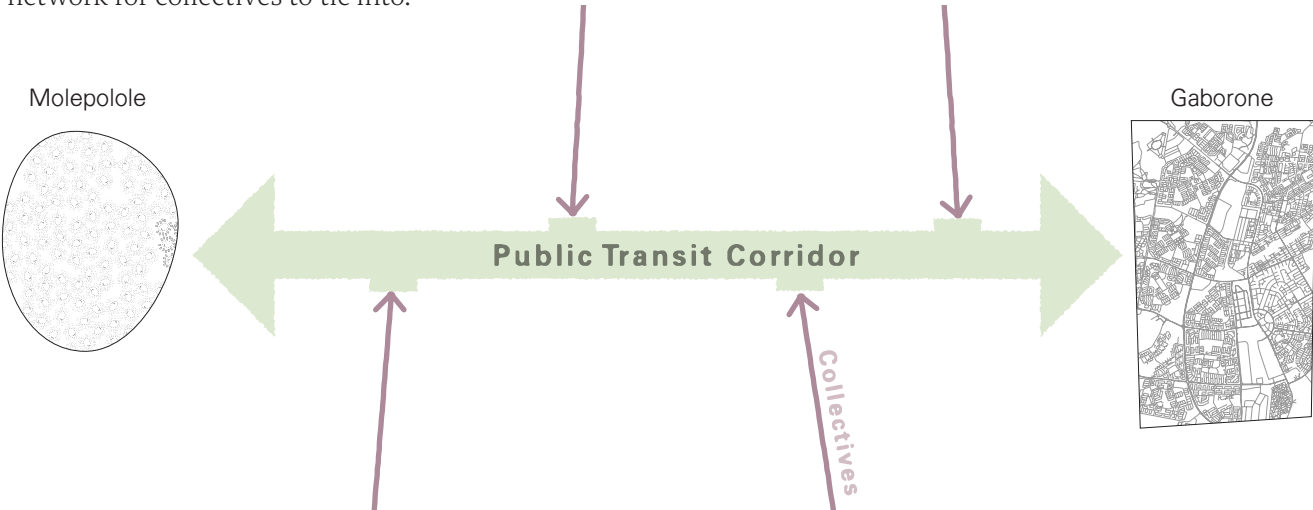

Figure 119. Public Transit Network. Source: Author.

Available Dwellings in Both Locations

Explanation
Dwellings must be available to facilitate people's comfortable stay in the two (or more) locations they would be staying across the year. If adequate dwellings are not available, people would be discouraged from making the trip.

Case Study
In the case of Canadian snowbirds, having dwellings in the summer location is critical for enabling the seasonal movement (Coates et al., 2002). Affordability is a key consideration of these movement patterns, so different dwelling types and ownership styles emerge to fit the needs, including time shares or mobile homes. Time share communities and trailer parks then are established in the common snowbird destinations to provide needed and desired resources.

Possibilities

1. Enourage communal ownership and maintenance of dwellings, especially in villages and rural areas, to make the keeping of multiple dwellings more affordable.
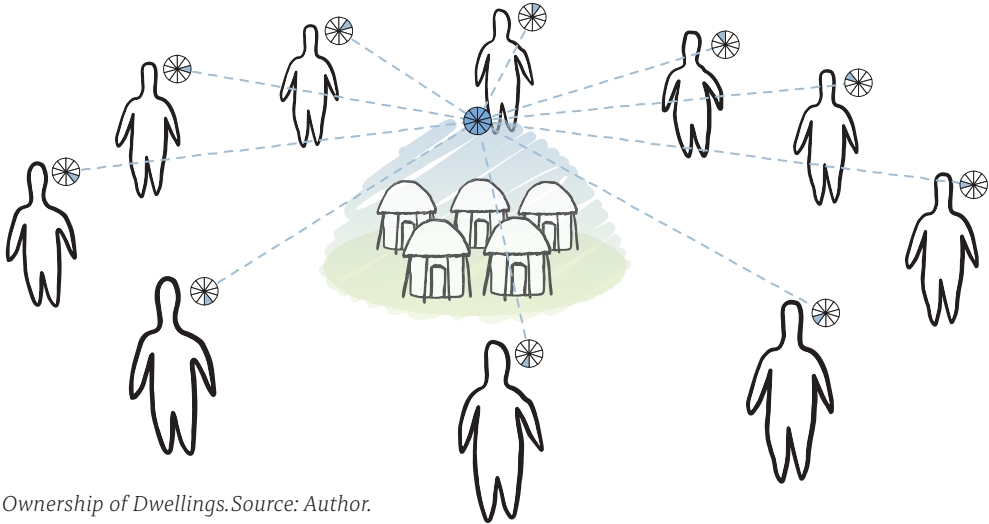
Figure 120. Communal Ownership of Dwellings.Source: Author.

2. Provide building regulation flexibility, for residential areas, especially in villages and rural areas, to reduce costs associated with construction and maintenance. However, safety of buildings should not be compromised.
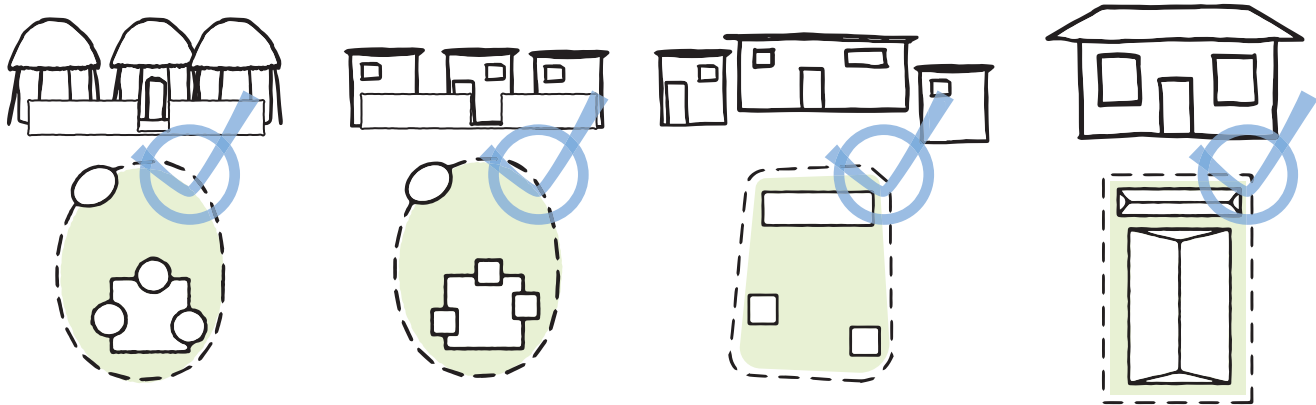
Figure 121. Building Regulation Flexibility. Source: Author.

Employment Located at Most Productive Location

Explanation
Introducing an 'off-season' of work, where most people in the country are not working means that the work being done in the 'on-season' must be as productive as possible. Prioritizing the highest productivity locations will help to facilitate this.

Case Study
In the case of migratory work patterns for the tourism industry, many workers chose this industry and the location of their permanent residence for lifestyle preferences, rather than necessity (Lundmark, 2006). The preferred to work in a pattern that maximized earnings over a shorter time, and so chose to temporarily relocate on a frequent basis to access this type of work. In turn, their other lifestyle preferences could be accommodated by working fewer hours at a higher productivity.

Possibilities

1. Encourage expertise clustering in cities to boost productivity.

Figure 122. Expertise Clustering.Source: Author.

2. Ensure appropriate investment and development is allocated to agriculture to maximize the productivity of labour and land in agricultural areas.
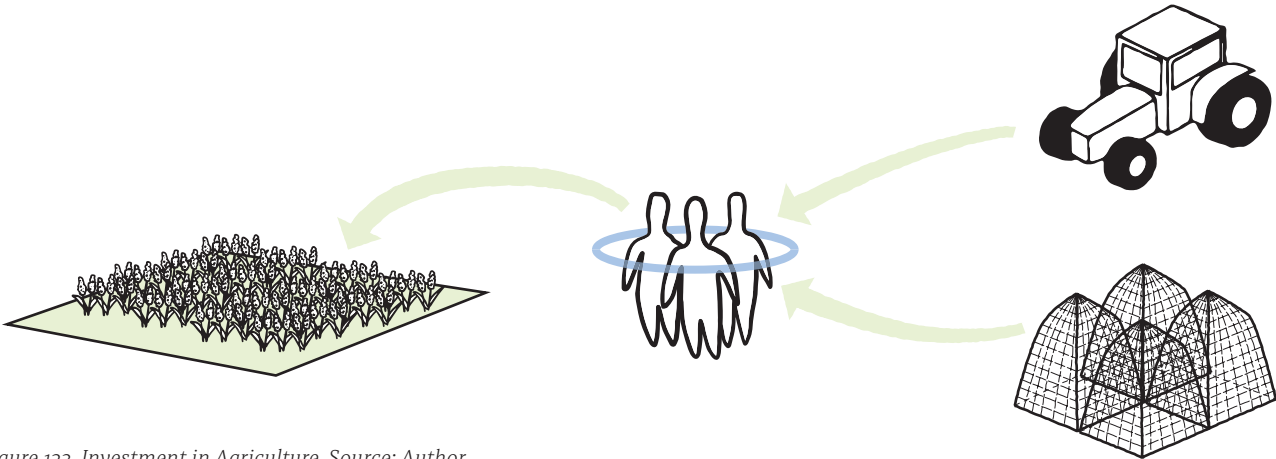
Figure 123. Investment in Agriculture. Source: Author.

Pleasant Environment in Cities
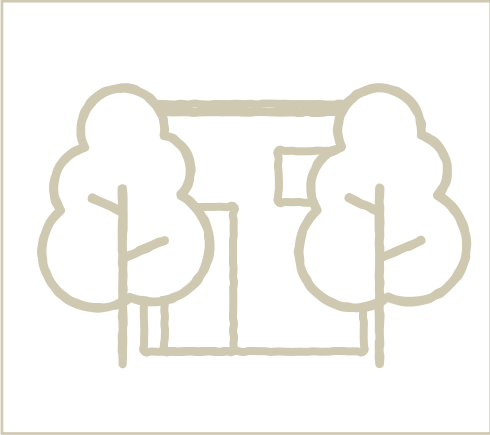
Explanation
While not expressly necessary to enable seasonal movements, the advancement of a pleasant environment in cities cannot be ignored even if people may not be occupying it all year round. The portion of the year spent in the city should still facilitate enjoyable lifestyles.

Case Study
In many different cases where seasonally migrate for work, the urban environment in the working location is very poor (Panda & Mishra, 2018). The non-permanent nature of the work environment is used as an excuse to save costs, and to accept a low quality urban environment. This leads to insecurity, poor health and unhappiness amongst the people subject to these environments.

Possibilities

1. Continue to advance the quality of the urban environment and strive for neighbourhood designs in cities that can enable the lifestyles that people want to lead.
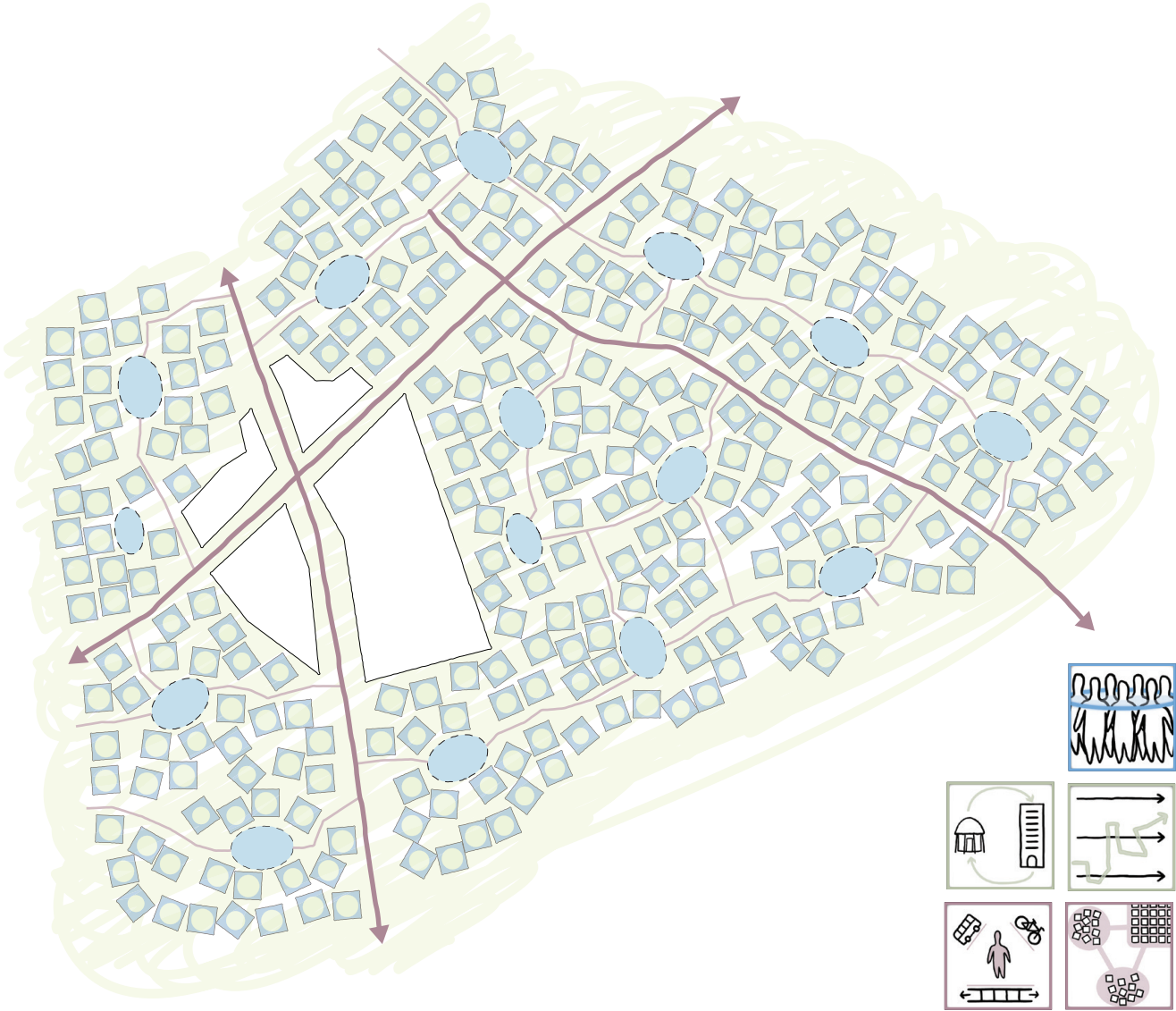
Figure 124. Improved Urban Environment. Source: Author.

Encourage the Formation and Deepening of Personal Ties Outside the City
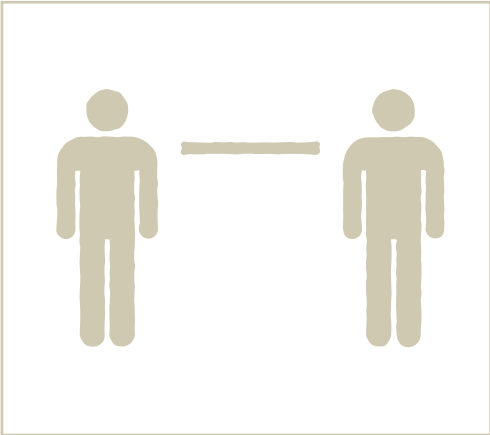
Explanation
Not all Batswana were born in rural areas or villages and not everyone will have strong ties outside the city. Encouraging the deepening of existing ties and formation of new ones will help to improve the inclusivity of this lifestyle.

Case Study
In the case of Canadian snowbirds, most people do not begin with personal ties to the locations that they choose to relocate to every winter. However, communities have formed over time across different migratory locations which improves ties to those locations, and helps people to feel welcome (Northcott & Petruik, 2011). This feeling of welcome, in turn, encourages people to return year after year, making a more pleasant social environment for the snowbirds.

Possibilities

1. Encourage the formation of community collectives in villages and rural areas that can extend into the cities, providing a point of entry for those who don't have their own strong ties.
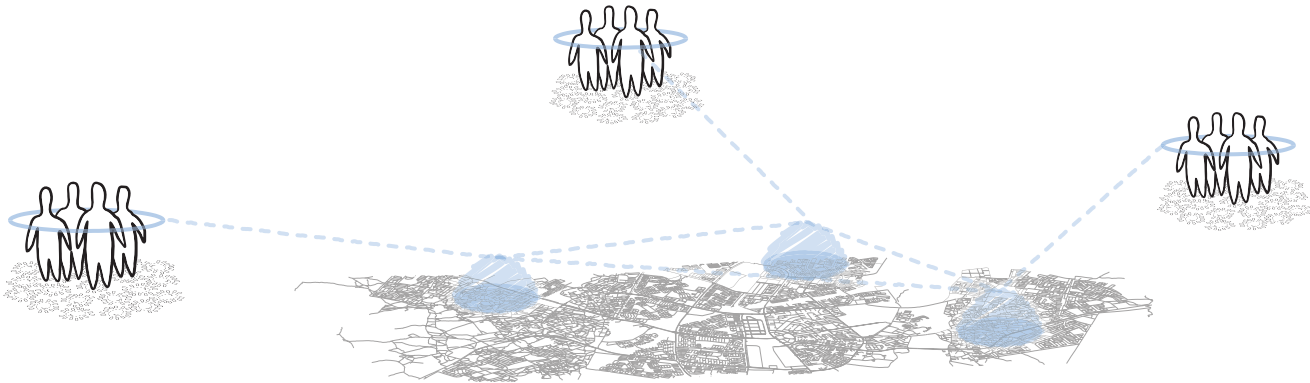
Figure 125. Community Collectives. Source: Author.

2. Invest in temporary accommodations in different rural and village areas across the country to allow people to explore different areas that they may not have been exposed to.
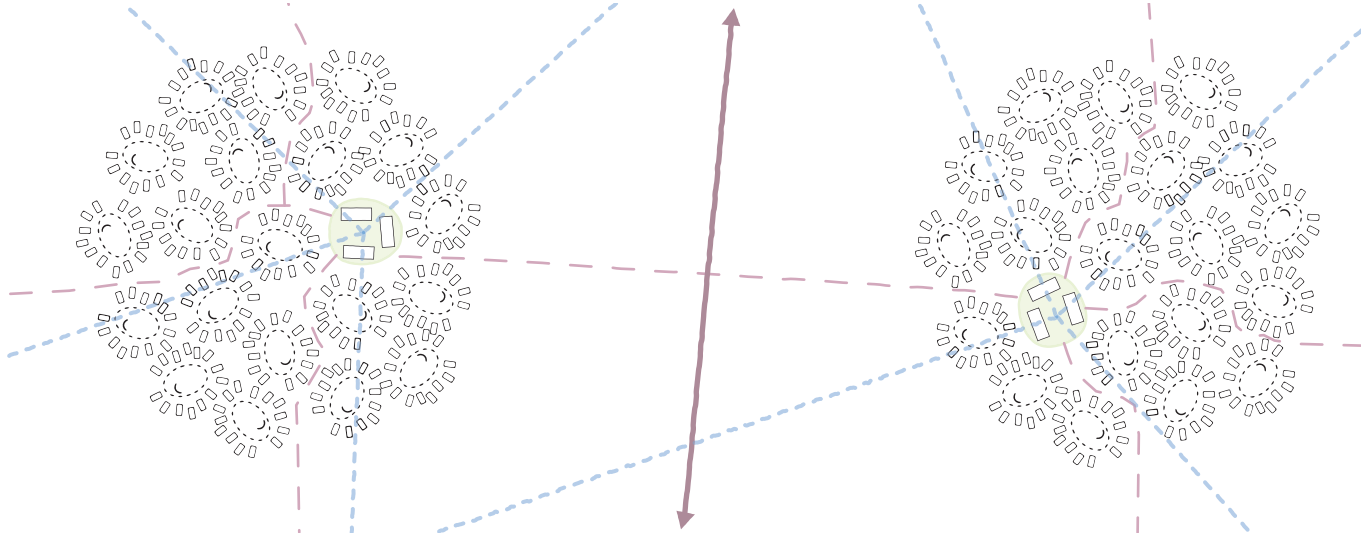
Figure 126. Temporary Accommodations. Source: Author.

Require Enough Holiday Time so People Can Spend Meaningful Time Away
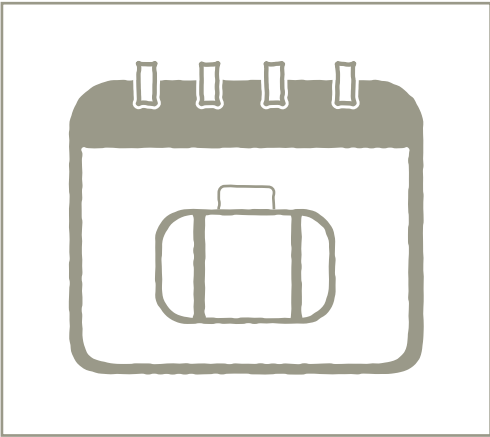
Explanation
Currently, employees are guaranteed 1,25 days per month of holiday time (15 days per year). This does not align with the seasonal pattern and is likely not adequate to enable meaningful time to be spent away from the city.

Case Study
In the case of France, people are entitled to a minimum of 30 days of holiday, with different regulations bringing that number even higher in certain cases (Service Publique Française, 2022). This is a key factor in enabling the strong culture of taking long summer holidays away from the big cities.

Possibilities

1. Increase the minimum required amount of holiday time that each employee is entitled to.

Figure 127. Holiday Time. Source: Author.

2. Encourage employers to run programs which enable employees to take long uninterrupted time off work while still ensuring the company can be successful.
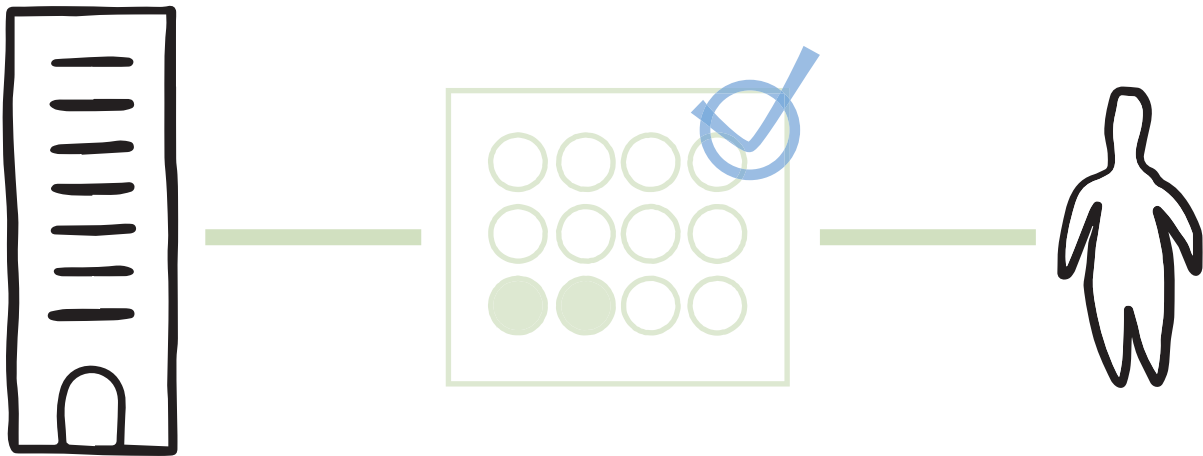
Figure 128. Time Off Programs. Source: Author.

Have a Culturally Accepted "Off-Season"
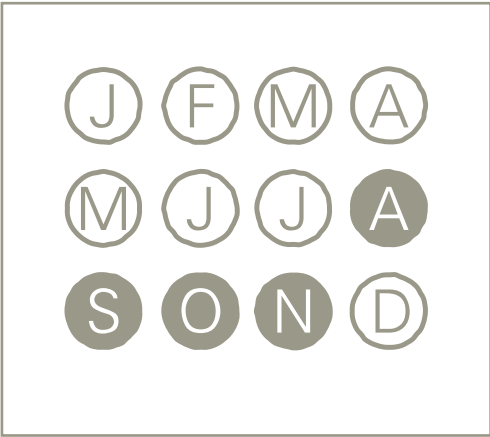
Explanation
Having a time of the year where it is expected that most people will not be working, or at least that the amount of work being accomplished is drastically reduced, makes it simpler for people to take long holidays during that time since they are expected to do so.

Case Study
In the case of France, it is expected and accepted that most people go on holidays either in July or August (Beardsley, 2018). As a result, the rhythms of work are planned in such a way as to accommodate this schedule, and there is very little expectation that much will be accomplished over the summer. People can therefore feel free to take significant time off and completely disconnect from their work.

Possibilities

1. Add specific times of the year into holiday time laws to encourage a holiday season to form (For example, require that employers must allow employees to take extended holidays surrounding Botswana day in October.)
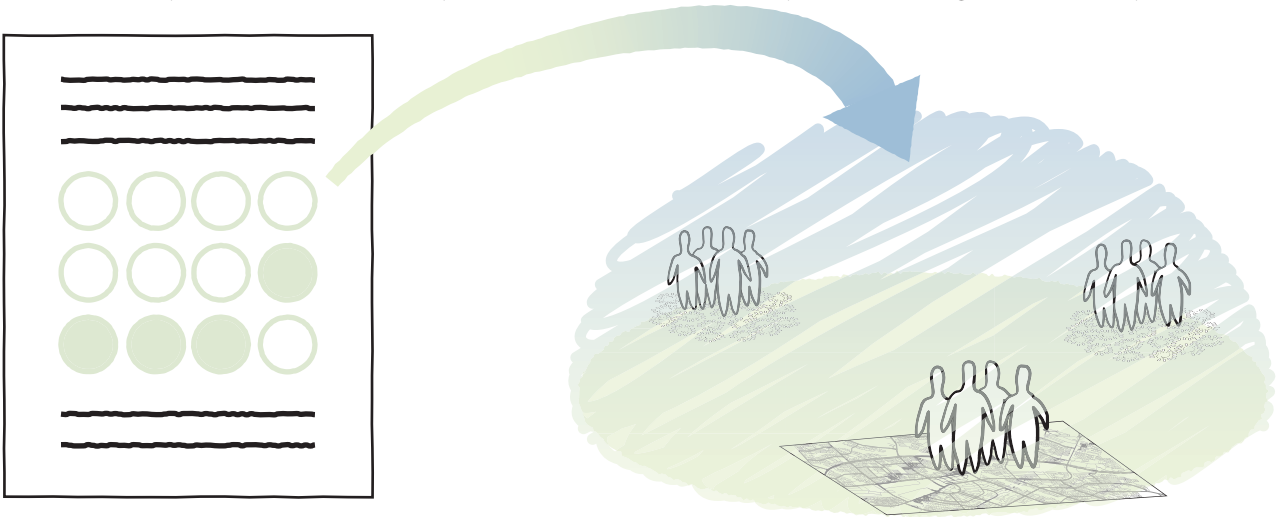
Figure 129. Holiday Season Formation. Source: Author.

2. Run programs that make travelling outside of the city to villages and rural areas easier in the "off-season."
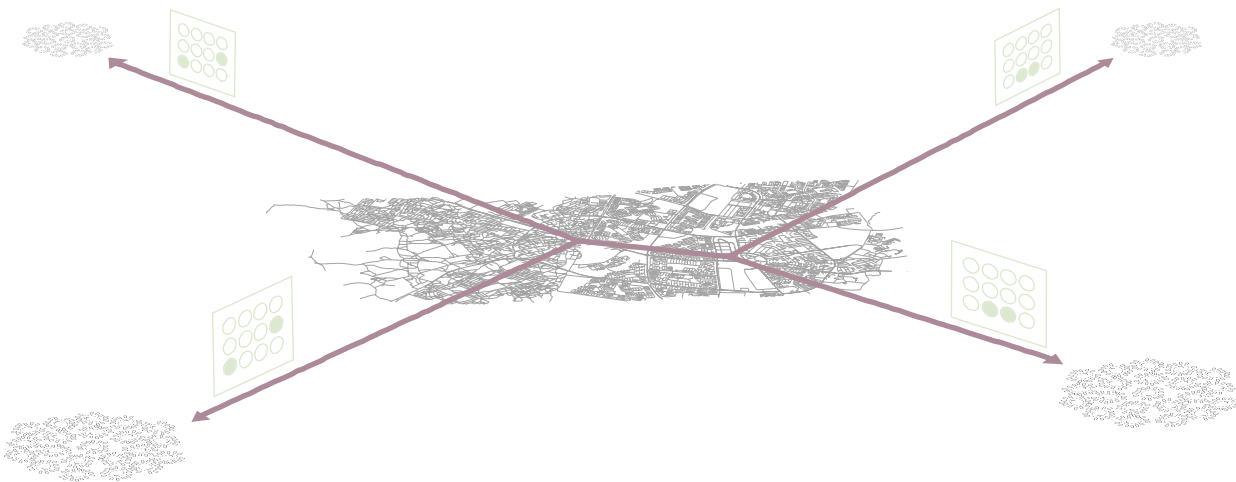
Figure 130. Off-Season Transportation Programs. Source: Author.

Update Social Service and Other Support Programs to Enable Movements
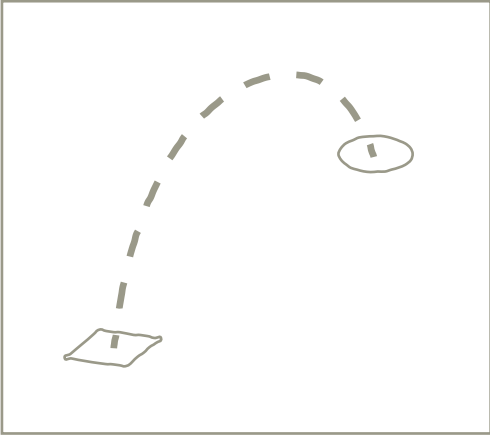
Explanation
Many Batswana rely on social services that are being provided in urban areas. They would not be able to leave for long periods of time if those services were not designed to enable those movements. Prescription drugs, for example, would need to be issued to provide enough supply for the entire season.

Case Study
In the case of Canadian snowbirds, insurance plans and healthcare coverage is organized to ensure the time spent out of the country does not mean people lose access to the services they need. Significant numbers of medical practices were opened in Mexico specifically catering to the snowbird demographic (Coates et al., 2002).

Possibilities

1. Update legal and policy frameworks to ensure that service and insurance coverage takes seasonal movement patterns into account.

Figure 131. Legal Frameworks Support Movements. Source: Author.

2. Encourage essential services, such as healthcare, to establish presences in rural and village areas. Provision of service in these locations could also follow seasonal patterns by the professionals who themselves are travelling to or are staying in those locations.
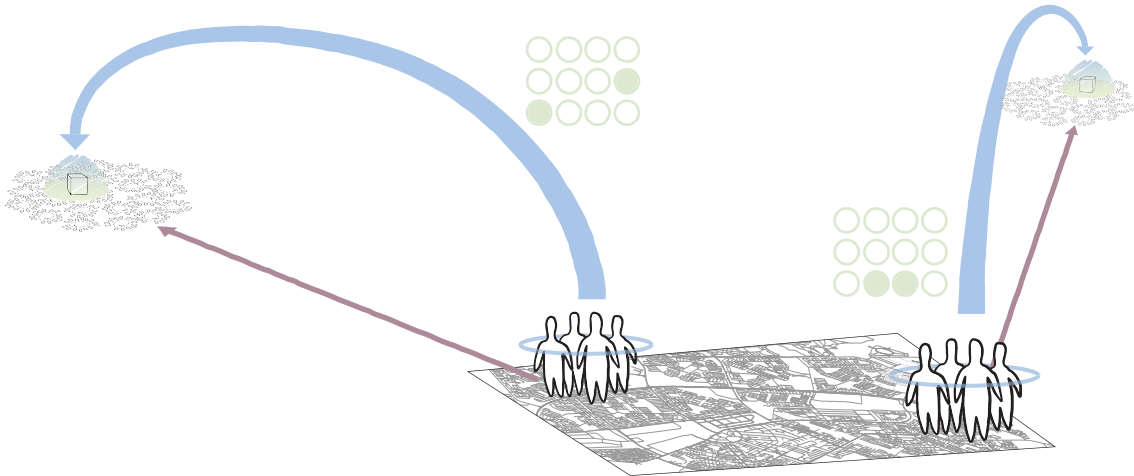
Figure 132. Seasonal Essential Services. Source: Author.

Ensure Co-ordination of Timing to Ensure Basic Services are Always Provided
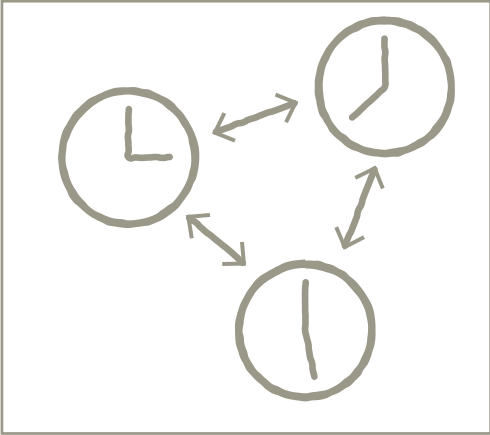
Explanation
If large portions of the population are taking holidays at the same time, disruptions in essential services, such as healthcare, could occur. As such, co-ordination amongst employees and employers must take place to ensure good service functioning can still occur.

Case Study
In the case of France, there is a divide amongst people who take their holidays in July (Juilletistes) and August (Aoûtiennes) (Xu, 2021). This divide provides a natural co-ordination of holidays amongst the population. Services can continue to be provided throughout the summer even as many people take full months off from work.

Possibilities

1. Encourage employers and service providers to co-ordinate time off amongst employees to ensure that basic levels of service can be provided throughout the year.
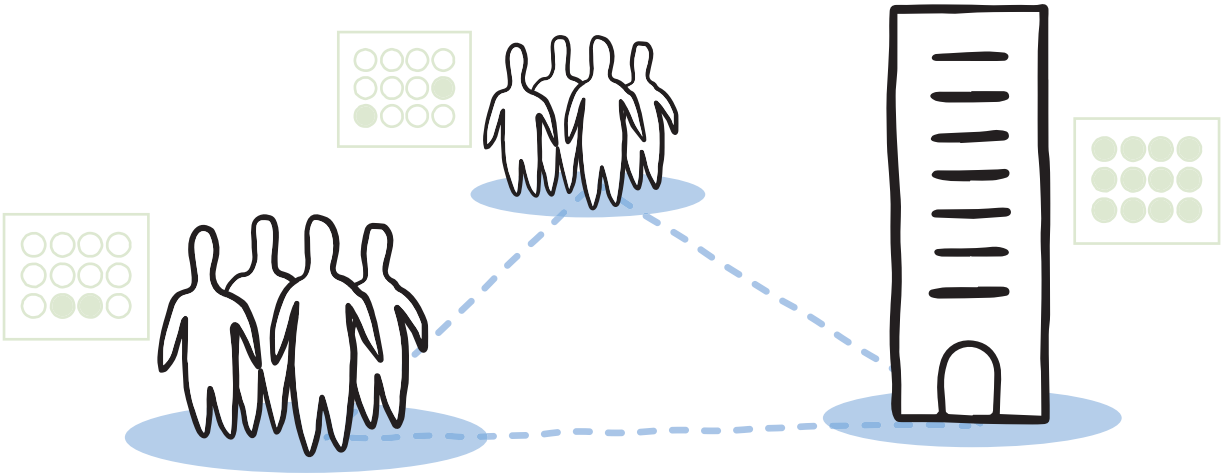
Figure 133. Time Off Co-ordination. Source: Author.

2. Encourage different villages and rural areas to establish their specific times of attraction. For example, towns in the North and East could claim August and September, whereas towns in the West and South could claim October and November. This would enable service provision to occur in cities while also ensuring that most residents of the same villages can be together in the "off-season."
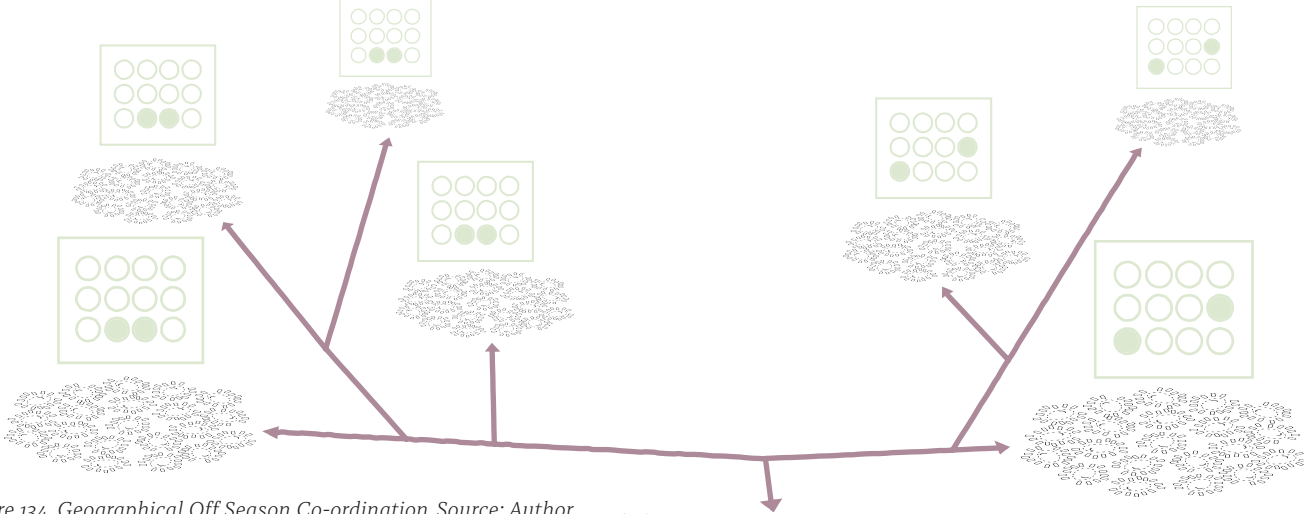
Figure 134. Geographical Off Season Co-ordination. Source: Author.

Possible Movement Patterns and Density Spread

Population densities across the country would be vastly different at different times of the year if this system were implemented. It would be critical to have some co-ordination in this system to ensure a continuity of essentially services is provided at all times. Not all people will want to adhere to this pattern either, which must be accounted for.
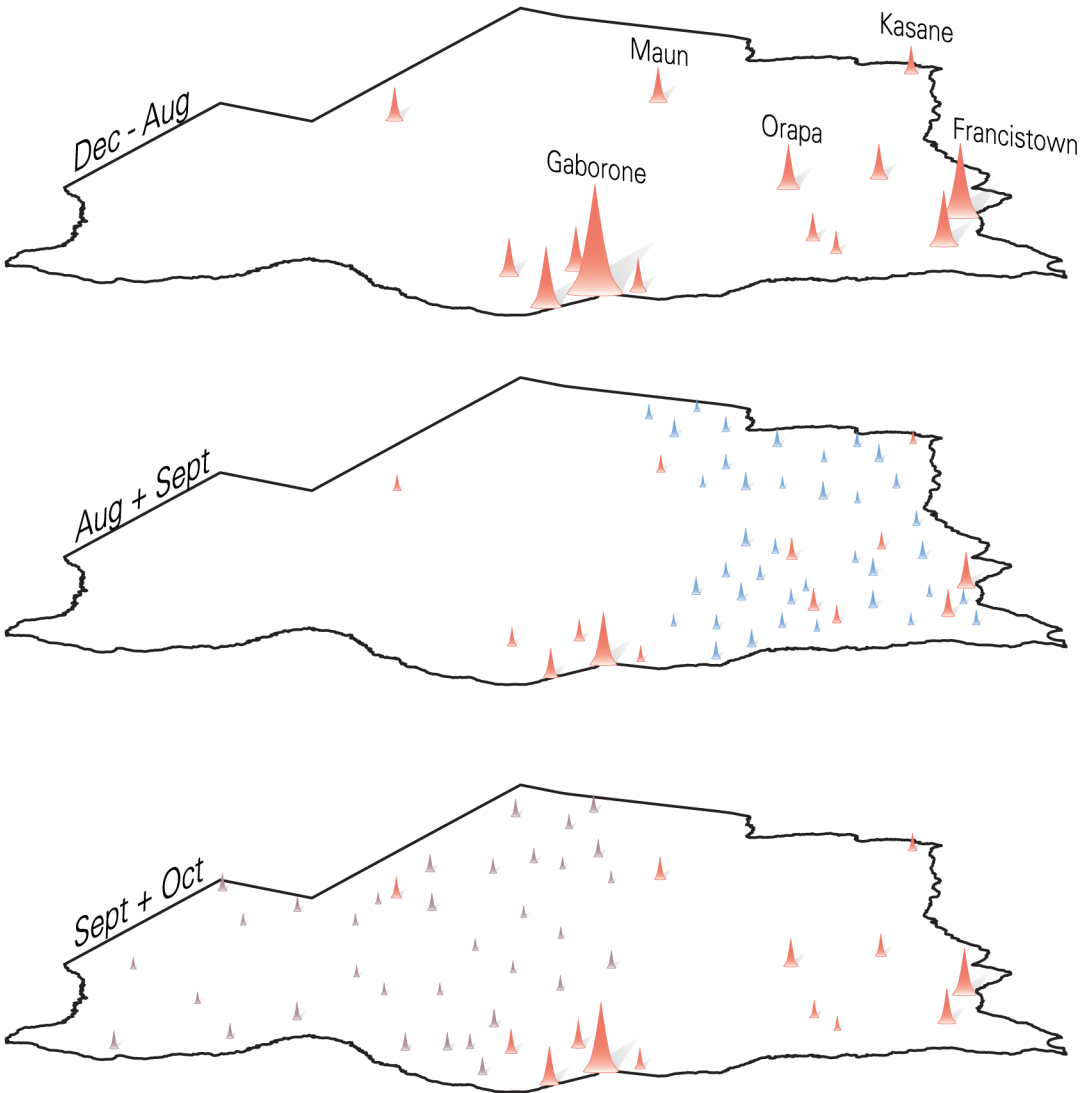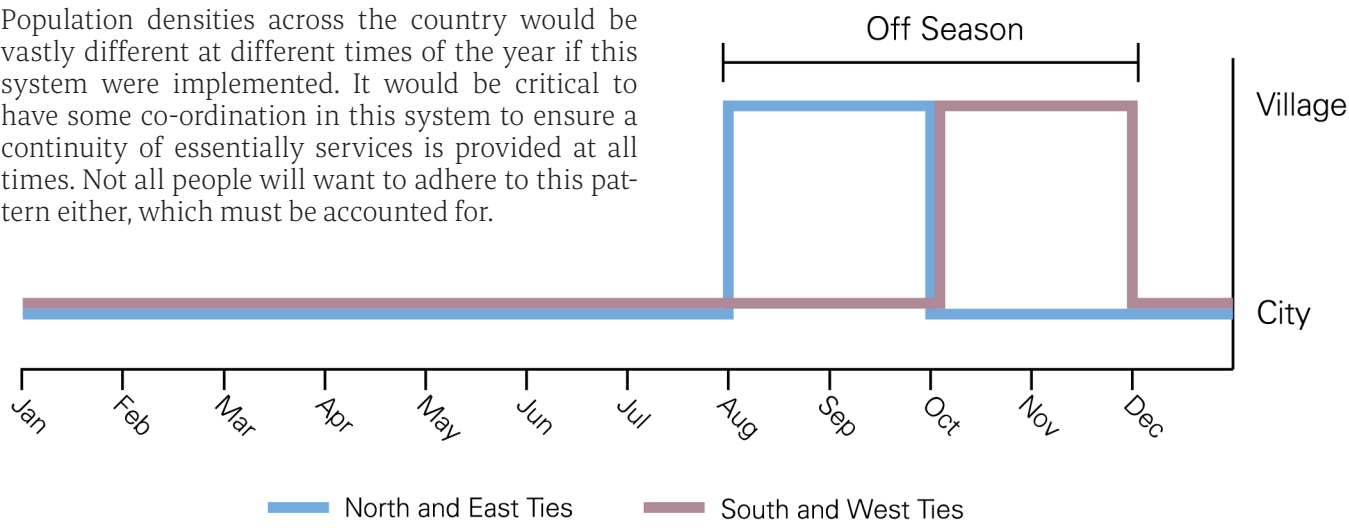
Figure 135. Seasonal Movements Timing and Densities. Source: Author.

Effect of the Intervention

Presently, there is a strong psychological relationship between urban and rural environments. The sense of identity and belonging that people derive from their home villages keeps them connected, even while living in cities. However, the physical relationship is weak, as there is a lack of convenient and affordable transportation options linking the places together and few opportunities to visit for extended periods of time.

The effect of this intervention is primar-

ily the improvement of the physical relationship. The introduction of programs and services that are directly promoting this relationship should improve this relationship significantly. A positive externality of improving the physical relationship will be the improvement of the psychological relationship as well. By enabling more frequent and longer trips to village and rural environments, peoples' sense of connection to these environments will continue to be bolstered further.

Urban - Rural Relationship
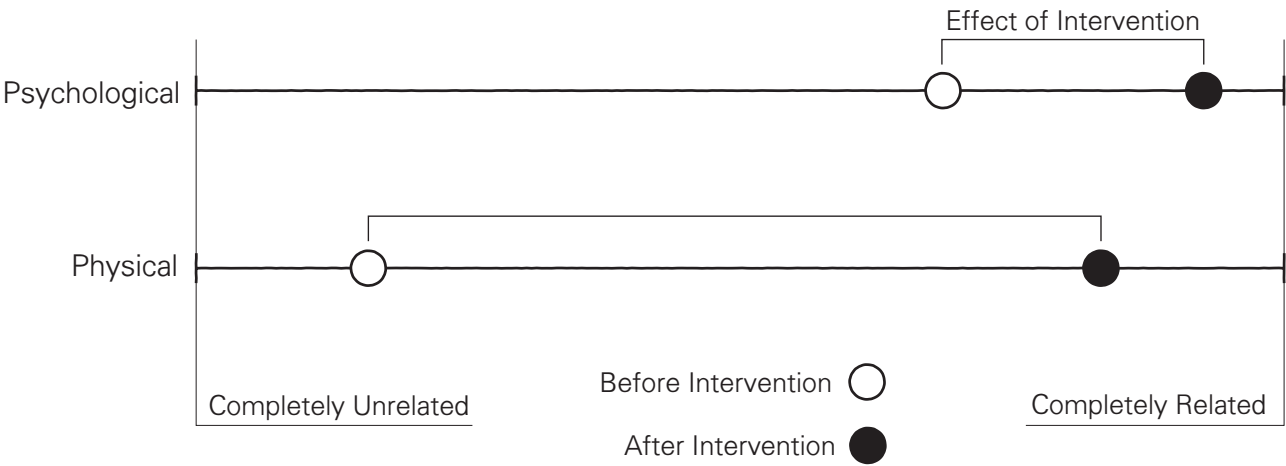
Figure 136. Effect of Intervention. Source: Author.

Conclusion

Figure 137. Rural Botswana. Source: Author.

Main Concluding Points

◦ Botswana is a country with many positive attributes that have led to significant improvements and growth since it gained independence in 1966.

◦ While conditions have improved dramatically over that time period, systemic forces and societal arrangements have created a country with significant life fulfilment inequality.

◦ The Greater Gaborone region exemplifies this phenomenon, where the contestation between personal, spatial, societal and cultural forces is both leading to, and perpetuating, life fulfilment inequality.

◦ To create an urban system that prioritizes economic and socio-spatial equity and life fulfilment, a wholesale rebalance of the values that underpin the system is necessary.

◦ The value system that formed the practices associated with traditional Tswana society offers an important guide for how the current system could be rebalanced. However, to truly prioritize life fulfilment for all, this value system cannot simply be implemented on its own. People need to be able to choose the lifestyles that suit their personal needs.

◦ The forces and values that underpin modern society cannot be ignored when considering principles for a new urban system. Rather, they should be understood and integrated into the principles to ensure that they are based in reality.

◦ The evaluation and analysis of the proposed principles clearly shows that their potential implementation will be a challenge. While there are certainly promoting forces existing today, there are many interfering forces that will act as barriers.

◦ Overcoming these barriers will require focused and consistent effort. An emphasis on communication of the set of values that guides the principles is critical.

◦ The design demonstrations show that the implementation of the proposed principles is possible in a tangible way. They can act as starting points for imagining what an urban system with these rebalanced value sets could look like.

◦ The capabilities approach provides a very useful lens with which to understand the issues that must be addressed in an urban system. If we do not understand what the people actually want, we will never create successful urban environments.

Answering the Research Questions

How can urban design and planning be leveraged as tools to create a new spatial development paradigm that reduces life fulfilment inequality in the Gaborone region?

To use urban design and planning as tools, the most important first step is the establishment of what the people within the urban system want out of their lives. This information makes clear what changes to the environment are necessary in order to make it a successful one.

The next step is to clarify the value system that aligns with those desires.

Finally, urban design and planning can be used to take the value systems of the populace and implement policy and design frameworks that create urban and rural environments which are the manifestation of the values. It is important to set frameworks, rather than prescriptions, as we must acknowledge that no planner or designer can ever imagine a perfectly designed system that accounts for all possibilities. Agency within the framework is as important as the framework itself.

SRQ1. What is life fulfilment inequality and what are the social impacts of this phenomenon in the Greater Gaborone region?

- Life fulfilment inequality was revealed through the analysis of both traditional and modern societies in the region. It is a combination of personal trajectories, societal forces, cultural expectations and economic realities.

- The spatial, political and economic situation in the Greater Gaborone region leads to an uphill battle in the quest for personal happiness and fulfilment. The maximization of life fulfilment and economic/socio-spatial equity are clearly not being prioritized in the current system.

SRQ2. Why has the urban form taken its current shape and how is it contributing to life fulfilment inequality?

- The unique urban form in this region stems from the clash between traditional and modern/colonial settlement planning institutions.

- The desire to align with international standards and participate in the capitalist global order drives the perpetuation creates an unequal urban development pattern. The inequality of this pattern and a value system that prioritizes the accumulation of material wealth is driving life fulfilment inequality.

SRQ3. What are the principles that could form a new urban system which reduces life fulfilment inequality in the Greater Gaborone region?

- 13 principles for a new urban system were identified as being key in creating a balanced urban system.

- The goal of these principles is to find the balance between the quest for economic prosperity and the need for social connections and expression of humanity.

SRQ4. How can design interventions be used to operationalize the principles for a new urban system and improve communities across the urban region?

- As a researcher working with subject matter that is inherently personal to a community that I do not belong to, I do not want to make a prescription as to what specifically should be implemented in the region.

- Design demonstrations are intended to show the possibilities that could occur if the proposed principles and associated value systems were used to guide urban development and societal organizations. What is critical is the interpretation and actioning of this value system.

- Above all, for the right change to occur, the people themselves must be engaged.

Recommendations for Future Research

There are many different possible future research avenues result from this project. Firstly, different methodologies, such as comprehensive interviews or surveys, could form the backbone of a deeper dive into understanding the desires of residents and how urban and rural environments are enabling the achievement of those desires. The development and usage of personas in this project provided a useful methodology to approximate people's desires based on information gathered through expert interviews, first hand observation and literature review. That being said, methods that can take a more rigorous investigation into residents' psychology would form an important validation of this research and would surely yield other insights that were not found as part of this research.

A second avenue for research would be understanding more thoroughly the governance structures that would be required to enable the implementation of the design demonstrations. For example, a sites and services style development scheme would need different governance and oversight than what is currently being used. While the tribal administration system, as stemming from traditional land management practices, provides an important starting point, more research is needed to identify more specifically what administrative institutions may be needed.

A third avenue for research would be a more detailed comparative analysis on how residents of different neighbourhood typologies are experiencing their environments and how those environments are affecting happiness. This research would further bolster the information gained through the spatial analysis and would provide a more personal understanding of the impact that different neighbourhood typologies are having on people. It would also be very interesting to cross reference information gained from this research the first recommendation for understanding more deeply the desires of people in this urban region.

A final recommendation for research would be the application of the capabilities approach analysis methodology that was used in this project to other jurisdictions. An important difference in the way that the capabilities approach was used for this project compared with other urban analysis methods is the ability to translate individual desires to systemic issues. By focusing on individuals, we can understand what it actually is that residents want out of their urban environment, rather than relying on 'first principles' for defining what 'good urbanism' is. A common challenge that arises when focusing on individuals in urbanism research is the generalization of the insights gained. The capabilities approach analysis methodology used in this project provides a clear avenue for this generalization and therefore could provide useful for similar research in other contexts.

Societal Relevance

I began this thesis project with very little knowledge of Botswana. Before starting, I knew I wanted to study somewhere in sub-Saharan Africa, both because it is a region that has interested me for a long time, and because it is the fastest urbanizing region in the world and therefore is facing the most acute urban challenges anywhere (in my opinion). After scanning around on google maps and reading the wikipedia pages of most of the countries in the region, I decided that Botswana would be an interesting place to choose for my project.

Upon commencement of the project, I thought that informal settlements would be an interesting topic to focus in on. I also wanted to tie this work into other large societal issues, which through research and exploration I came to realize was inequality. As I began to explore the relationships between informal settlements, inequality and the urban system, I had the chance to speak with a number of local experts who helpfully steered me away from informal settlements as a research focus. They highlighted the fact that they, quite frankly, are not a very pressing concern in the country. As such, I began to dive deeper into the realities of inequality and its manifestation in space.

In noticing how completely different the urban, peri-urban and rural environments looked, I started to wonder why that was, how people felt about these places and how that may relate to economic inequality. This line of thinking eventually led to the place where the project is now, which is trying to identify how the different urban environments are affecting both societal inequality and peoples' happiness and sense of fulfilment. By taking this approach, the outcomes of the project hope to be able to pose a way forward to mitigate this challenge of inequality that is pressing the country, while also proposing a new urban system that can actually respond to the wants, needs and desires of the people. This is where the societal relevance of the project is derived: an attempt to mitigate the greatest challenge the country is facing in a way that helps people to live happier and more fulfilling lives.

Discussion of Methodology

Since I came into this project with limited background knowledge on the context, I knew that the methodology would have to be based on exploration. I tried to gather information about Botswana and the Greater Gaborone region from as many sources and regarding as many topics as possible. This gave me a broad understanding of many different issues that are all pressing in the country and has enabled me to connect disparate challenges together in ways that would not have been possible without an expansive knowledge. For example, I do not believe that I would have been able to make the connections between changing societal philosophies to present-day urban challenges without taking this methodological approach.

The ever present limitation of this approach is knowing when to stop the expansive search and turn to the depth building and refinement portion of the project. To make actually insightful and innovative research, it is necessary to reach a certain level of depth within the subject matter. So, from my expansive search, I had to choose what specific aspects deserved to be fully dived into, which was a very difficult task in considering the large number of different topics I had began to look into.

This has also meant that the focus of my research, including my research questions and other defining elements, have had to change as my understanding of the different issues has evolved. Assumptions that I had going into the project informed the first versions of my research questions. As I realized that those assumptions may either be incorrect, or not tell the whole story of this place, my research setup had to change as well.

Issues During Data Collection

The biggest problem with regards to data collection was simply the lack of accessible data. Many of the lines of inquiry that

I was attempting to go down ended with no data being available to answer the question I had, or what was available was not comprehensive enough to be applicable at the scale of my project. In the cases where data did exist, it was often not freely available and priced so expensively (multiple thousands of USD) so as to be outside of my means to access.

This constraint of accessible data was instrumental in leading me down the path of exploring philosophy and anthropology as methods for understanding. Rather than doing technical analyses of densities, land coverage, etc., I looked to the human experience in the past and present as a primary method for understanding the inner workings of the urban system.

I also relied heavily on the site visit and discussions with both locals and subject matter experts to deepen my understanding of the human experience there. Reading anthropological papers could only get me so far in learning what the actual experience of the place is. On my site visit, when I was not talking with people, I focused very intently on observing how people were interacting in the different spatial contexts across the region. These observations led directly to my design approach which focuses on setting the principles for a new urban system, rather than implementing strict urban design plans. Many spaces in this region are clearly not being used in the ways they were planned for, but rather people find their own ways to use them as they see fit. As such, it would be naïve to think that a design I create could actually provide what people are looking for.

It was only due to a lack of hard data and a focus on the human experience that this type of project outcome could be possible.

Generalization of Research
The research and design of this project are heavily based in the local context and take many cues from the cultural practices that are relevant here. I do not think that the principles for a new urban system that I am proposing would necessarily work in another context and neither would the design demonstrations. The strong focus on finding solutions that are highly contextual inherently makes them less translatable in other places.

That being said, I do believe the research methodology and some specific methods could and should be used in other contexts. Focusing on the philosophical underpinnings of a society provides an amazing ability to understand why certain decisions are being made and why places look the way that they do. Taking this approach would likely provide a whole new set of insights into a place that otherwise would not reveal themselves through "traditional" urban analysis methods.

I also believe that the capabilities approach is a very powerful tool to understand whether an urban area is actually doing what the people want it to do or not. Inquiring deeply into peoples' wants, needs and desires reveals everything that we as urbanists need to know in terms of what the environment should be providing. It is only through understanding what people value that we can imagine what a successful urban future is.

Ethical Issues and Dilemmas
First and foremost, I must acknowledge that I am from a western nation (Canada). I do not have a shared cultural background with the Batswana and prior to beginning this project did not know much about the country. I am aware that my background and upbringing will cause me to have implicit bias, so I always interrogated my conclusions to ensure that bias was not influencing them as much as possible. In speaking with residents, I had to be sensitive to frame my intentions as being purely exploratory and academic - not as someone intending to impose my ideas on them.

My being a foreigner of these communities could mean that the responses I received from people may not necessarily reflect their true opinions. If I was not seen as trustworthy, I could have been met with responses that either concealed the real truth, or were editorialized to "tell me what I want to hear." Further to this, societal forces may be biasing the mindset of would-be respondents even without my presence.

As Sedupane and Materechera (2021) point out in their work regarding ethnographics and traditional Tswana architecture, some Batswana view traditional architecture as "something they would like to outgrow in the name of civilization." Deciphering the positioning of that type of response, while also using Ubuntu/Botho philosophical underpinnings to the project, may lead to a conflict between my approach, my understanding of culture and cultural practices, and the wants of current residents.

Furthermore, in considering that conducting statistically significant surveys was not within the scope of this project, I am aware that the responses that I am able to receive may not accurately reflect the opinions of the general population. Having a strong theoretical foundation is an important counterbalance to the potential biases that may arise from the more personal nature of this research methodology. Again, though, I am aware that I cannot fully understand the entirety of the cultural practices and philosophies that are incorporated into this project. Being an outside researcher, there is a limit to the fullness to which I can entrench myself in this subject matter.

Applications in Practice
I do believe that the application of the results would be a good step forward for urbanism in Botswana. If a new way of thinking about what the point of the existence of cities and villages is, and what they should be optimized for was introduced, people would be able to lead happier and more fulfilling lives. In suggesting an entire paradigm shift, I am cognisant of the fact that the entirety of my results may not necessarily be realistic to implement in the real world. I do think, however, that using this as a guiding direction for future works in the country will help to align the urban system more closely with what the people actually want.

Relationship to TU Delft
Within the Planning Complex Cities studio, a general approach is offered that guides us to understand broad complexities of urban regions across the world, while also taking nuanced and contextualized positions. This project is well positioned within that approach, as I am looking at the intersections between societal forces, philosophical underpinnings and local opinions. The goal of my taking this approach is to get a holistic picture of this place, which leads to the creation of recommendations that are relevant and appropriate in the local context. I hope to expand the knowledge base of the studio by introducing a research approach that has a greater focus on its philosophical basis as a guide for the project direction, but that also integrates empirical analysis and local voices.

Within the overall Urbanism program, and the AUBS masters, this project contributes to the growing discussion of how to best integrate societal and philosophical analysis with urban design. By trying to answer the question of what urban design is for from a different perspective, new ways of imagining the city will emerge, adding to the broad web of knowledge in the faculty.

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Appendix 1 - Additional Data

Population Proportions by Age

Population Proportions by Location
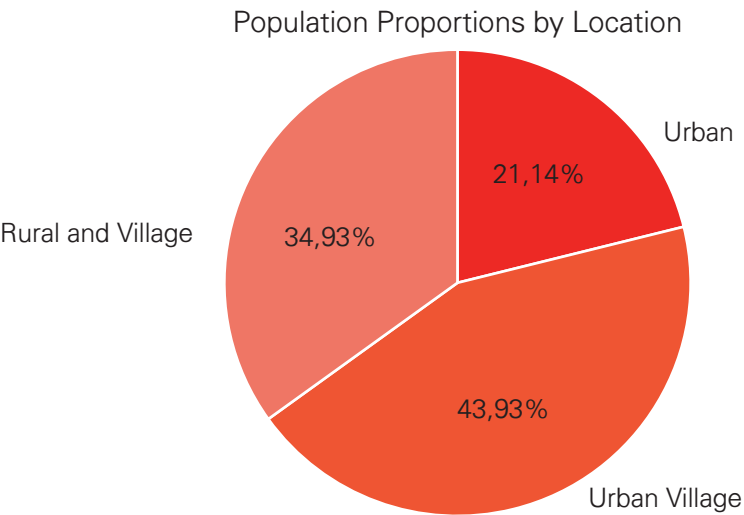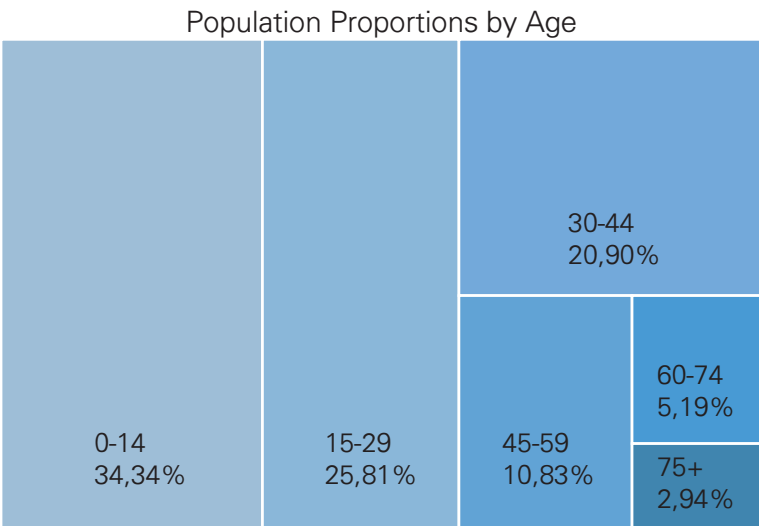
Source: (Mguni, 2022), (Statistics Botswana, 2018a)

Educational Attainment Rates (Percentage) by Age Range

	Never Attended	Primary	Junior Secondary	Senior Secondary	Vocational	University/College	Graduate	Non-Formal	Not Stated
2-4	54,2	44,4							3,3
5-9	0,1	16,6	4						0,6
10-14	0,3	2	17,7	4,3	0,3	0		0,3	2,8
15-19	0,1	0,4	6,1	14,2	1,3	1	1,2		1,5
20-24	0,8	1,7	15,2	25	13,9	17,7	3,8	1,7	7,9
25-29	1,2	2	14,1	19,5	16,2	19,3	13,5	0,8	6,4
30-34	1,9	2,8	13,9	15,3	20	19,3	15,1	1,1	15
35-39	1,3	2,7	12,3	10,6	17,8	14,3	15,2	0,7	4,6
40-44	2,4	3,9	8,3	5,4	13,1	10,2	17,9	2,7	9,8
45-49	2,9	5,2	3,7	3	6,2	8,1	11,8	5,8	10,5
50-54	5,2	5,2	2	1,3	4,2	3,8	7,2	16,2	2,5
55-59	5,9	3,9	1,1	0,8	2,8	3,2	7,7	16	7,7
60-64	5,5	3,3	0,8	0,3	2,9	1,6	6,5	14	6,1
65-69	4,2	2,3	0,4	0,2	1	0,7		10,8	4,9
70-74	4,2	1,2	0,3	0,1		0,4		7,3	2,7
75+	10	2,2	0,2		0,4	0,2		22,5	9,7
Unknown									3,9

Appendix 2 - Permits and Permissions

Research Permit

TELEGRAMS: PULA
TELEPHONE: 3950800
TELEX: 2655 BD

MINSTRY FOR STATE PRESIDENT
PRIVATE BAG 001
GABORONE

REF: OP 5/59/8 XXII (33)

07 February, 2023

Mr Daniel J. Watchorn
Department of Urbanism
Faculty of Architecture & the
Built Environment
Delft University of Technology
The Netherlands

Dear Sir,

APPLICATION FOR RESEARCH PERMIT

Reference is made to the above subject matter.

You are hereby granted a research permit to conduct a study titled: *"Life Fulfilment Inequality: A social, cultural and spatial investigation of the Greater Gaborone region,"* towards meeting the requirements for your Masters thesis.

The permit is valid for 12 Months, from 6th February 2023 to 15th February 2024.

   i.   Copies of any report/papers written as a result of the study are directly deposited with the Office of the President.

   ii. The permit does not give authority to enter any premises, private establishment or protected area. Permission for such entry should be negotiated with those concerned.

   iii. You conduct the project according to the particulars furnished in the approved application considering the above conditions.

   iv. Failure to comply with any of the above stipulated conditions will result in the immediate cancellation of the permit.

Thank you.

Yours faithfully

William K. Sentshebeng
DEPUTY PERMANENT SECRETARY
BOTSWANA GOVERNMENT COMMUNICATIONS AND
INFORMATION SYSTEMS

Introduction Letter and Participant Consent Form

TUDelft

To whom it may concern,

You are being invited to participate in a research study titled "Life Fulfilment Inequality: A socio-spatial investigation of the Greater Gaborone region." This study is being run by Daniel Watchorn; a master's student affiliated with the Delft University of Technology in The Netherlands.

The purpose of this research is:

1. To UNDERSTAND the challenges that residents are facing in their daily lives,
2. To MAP and UNDERSTAND what physical/spatial factors contribute to those challenges, and then
3. To PROPOSE alternative physical/spatial options that address those challenges.

The interview will take approximately 10 minutes and will ask a few questions about typical daily activities and overall considerations on the topic of life fulfilment. However, this is meant to be casual, so please feel free to chat about anything you want!

Your participation in this study is completely voluntary and does not involve any financial or institutional obligation from any of the parts. The results of this interview will be used in my graduation project, which is non-commercial. Your information will be anonymized if you so request, and a pseudonym will be assigned to you. Any sensitive information will be treated as confidential. You can withdraw at any time without giving any reason.
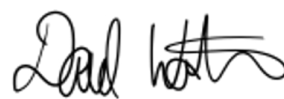
If you have any follow up questions once the interview is over or otherwise would like to get in contact with me, please use the following contact details:

Email: d.j.watchorn@student.tudelft.nl

Whatsapp: +31 0627 161545

Your participation is really appreciated!

Thank you for your time,

Daniel Watchorn

TUDelft

Inequality of Life Fulfilment Participant Consent Form

	Yes	No
1. I have read and understood the study information dated or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.		
2. I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.		
3. I understand that taking part in this study involves the answering of interview questions and discussion with the researcher. My answers will be recorded by written notes and/or audio recording. Any audio recordings will be later transcribed into text and will not be rebroadcasted.		
4. I understand that this study involves the collection of basic personal information (name, city/village of residence, employment situation). Names will not be published without a separate consent that will be requested after the interview. No specific information (ex. Address) will be collected or published.		
5. I understand that the information I provide in this interview will be used by the researcher in his study regarding the Inequality of Life Fulfilment. This study will result in an academic publication which will contain my answers.		
6. I understand that it could be possible that I could be identified as a respondent to this research based on the contents of my answer, even though the researcher will make every effort to remove any and all identifiable information from the publication.		

Participant Name: Date:

_____   _____

Signature:

I, as researcher, have accurately read out the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.

Name: Date: Signature:

Inequality of Life Fulfilment Participant Name Release Form

	Yes	No
1. Now that the interview has been completed, I consent to my name being published alongside the answers that I have provided		
- Or -		
2. Now that the interview has been completed, I consent to only part of my name being published alongside the answers that I have provided		
Specify name to be published:		
- Or -		
3. Now that the interview has been completed, I do not consent to having any part of my name be published alongside the answers that I have provided		

Participant Name: Date:

_____   _____

Signature:

I, as researcher, have accurately read out the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.

Name: _____   Date: _____   Signature: _____

HREC Approval

Date 10-Feb-2023
Contact person Dr. Cath Cotton, Policy Advisor Academic Integrity
E-mail c.m.cotton@tudelft.nl

Human Research Ethics Committee
TU Delft
(http://hrec.tudelft.nl/)
Visiting address
Jaffalaan 5 (building 31)
2628 BX Delft
Postal address
P.O. Box 5015 2600 GA Delft
The Netherlands

Ethics Approval Application: Life Fulfilment Inequality: A socio-spatial investigation of the Greater Gaborone Region
Applicant: Watchorn, Dan

Dear Dan Watchorn,

It is a pleasure to inform you that your application mentioned above has been approved.

In addition to any specific conditions or notes, the HREC provides the following standard advice to all applicants:

- In light of recent tax changes, we advise that you confirm any proposed remuneration of research subjects with your faculty contract manager before going ahead.
- Please make sure when you carry out your research that you confirm contemporary covid protocols with your faculty HSE advisor.
- Our default advice is not to publish transcripts or transcript summaries, but to retain these privately for specific purposes/checking; and if they are to be made public then only if fully anonymised and the transcript/summary itself approved by participants for specific purpose.
- Where there are collaborating (including funding) partners, appropriate formal agreements including clarity on responsibilities, including data ownership, responsibilities and access, should be in place and that relevant aspects of such agreements (such as access to raw or other data) are clear in the Informed Consent.

Good luck with your research!

Sincerely,

Dr. Ir. U. Pesch
Chair HREC
Faculty of Technology, Policy and Management