

Recreation as a Social Factor in Urban Development: A Response to Covid-19 Pandemic in Greater Jos, Nigeria

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ABSTRACT

The importance of recreation cannot be overemphasised. Recreation refers to an activity that people engage in during their free time, and it is socially-inclined and has attendant values. Inaccessibility to recreational areas affects the social wellbeing of residents, who will not have a sense of belonging when it comes to community development, hence a response to Covid-19. Taking Greater Jos (Nigeria) as a case study, this paper assesses the social factors with regard to the provision of recreational facilities. The study also identified and mapped out recreational areas using the geographical positioning system. A questionnaire survey was conducted amongst the residents, age fifteen and above to authentically gauge their opinions on the study and, adopting stratified-random sampling considering the ten sectors according to the Greater Jos Master Plan. Results revealed that the residents had a good level of awareness of the presence of recreational facilities and high-quality recreational facilities, which were found mostly within the core of the city. The facilities fostered a high level of family and community bonding. However, the distance of recreational activity areas from their place of residence was what was rather disappointing for most people. Thus, the recent Covid-19 pandemic demand of social distancing negates social inclusion. The emphasis on social orientation and effective social inclusion of disadvantaged groups was conspicuously pronounced. Thus, appropriate and easy access to recreational facilities for all genders and ages must be provided closer to the people for effective services to promote their social lives and weaken the Covid-19 repulsive protocol.

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1. Introduction

Awareness of and participation in recreational activities have increased significantly worldwide, specifically toward the end of the 19th century. This phenomenon is due to the fact that amongst all the other complex interrelated influences that promote recreation, more opportunities for the leisure and welfare of individuals are now available (Kara and Demirci, 2009). Recreation is an integral part of human life that promotes social cohesion as one of its many benefits (Wash and Mohamed,

2019; Eigenschenk et al., 2019). It has an essential influence on satisfaction and the value of life of the community; it is also highly regarded as an element of a sustainable city (Michèle et al., 2019). However, a growing concern for the issue of social inequalities in relation to the unequal distribution of environmental resources, especially recreational facilities, has been addressed (Feng et al., 2019; Schüle et. al, 2019).

In the light of the social inclusion with regard to recreation, a developed environment is built upon a demand and the urge to

provide assorted services together into an encompassing framework for easy identification as an entity (Nightingale, 2018). Hence, the provision of recreational facilities is important to improve society and meet the goal of sustainable development by activating the physical and mental health of the people. Some problems associated with the provision of such facilities include the lack of involvement in the development of community activities and access to a suitable outdoor environment (Cushman and Laidler, 1990; Mears et al., 2019). According to reports, cities are not sustainable, therefore, the problems must be studied, and solutions must be provided to enhance sustainability (Barbosa and Mateus, 2014). In view of the conflict between the demand and supply of recreational facilities, which has become discriminatory, therefore, the provision of places for the development of recreational resources will enhance social integration (Liu et al., 2010).

The main aim of this research was to determine the social factors that affect the provision of recreational facilities and its effect on urban development and relating it to the Covid-19 pandemic era in the Greater Jos area, in the state of Plateau, Nigeria. The benefits of recreation to an individual are expressed best by the adage 'All work and no play makes Jack a dull boy'. That is, the body system must be refreshed from time to time for active participation in daily routines. In addition, for the health and well-being of the people, different types of livelihoods and social improvements need to be explored for integration (Spalding and Parrett, 2019). The bond of unity amongst the people in a community is a factor that is produced by recreation, including family cohesion and community development (Jepson et al., 2019). Most importantly, the aesthetic nature of recreational areas, which calms the minds of anxious individuals, is worth studying. The difficulty in enjoying the benefits of such facilities prompted this research. The concern on Covid-19 is not focused on the rigorous analysis of the infected cases. Instead, it is centred on the people in the study area finding succour and having a purpose in a cared environment through recreational activities. The study area comprised parts of the six local government areas of Plateau North (Figure 1), which has an estimated 1.5 million people in an area of approximately 900 square kms.

1.1 Recreation Trends

Recreational development assumes importance in the direction of growth, although attempts that have been made indicate the difficulty in providing adequate information on world trends for outdoor recreation. This situation has necessitated interest and insights into the development of recreational activities (Eagles, 2002). Active involvement in outdoor recreation over the years has increased amongst all age groups. Awareness is unprecedented, especially with regard to physiological benefits and the exposure to nature for instance forests, lakes and mountains, being the focal attractions for outdoor activities in places where recreational facilities are located (M Adli and Wirdati, 2017).

The resultant effects of World War II include the emergence of outdoor recreation in America (Cordell, 2008). However, to

capture the story correctly, it all began with an awareness of the resources, especially the wildlife and land, which became attraction sites. Then, the Industrial Revolution, with its attendant economic growth, witnessed the participation of cultural activities and paintings that called for celebrations in the wilderness and amongst nature. The emergence of outdoor recreation dated midway of the 19th century with stories of life in the west, cowboys, wildlife and natural resources (M Adli and Wirdati, 2017). By 1960, outdoor recreation activities in summertime increased because of the pleasure derived from sporting, sightseeing, picking, fishing and hunting activities (Cordell, 2008). A turn in events was brought about by technology, which dramatically impacted outdoor equipment and clothing, and recreation activities have now become complex and are associated with interrelated factors of engagement.

Sometimes, the interrelated factors persist and are induced mostly by urbanisation. Some of these factors include the ineffective provision of facilities and effortless approaches in supporting the sector, including poor governance. It cannot be said to be an exciting story in the developing world. For instance, the situation in Nigeria has degenerated mostly amongst the low-income group, which constitutes about 70% of the population, whilst the urban population is estimated to be 90 million, thereby becoming a cause of concern (Ibem, 2009). The ever increasing interest in engaging in services that provide recreational activities and their advantages towards the development of peoples and societies has influenced the need to carry out studies to design, provide and manage recreational facilities in settlements throughout the world (Kara and Demirci, 2009). This development invariably suggests an emphasis on the provision of facilities that aid in productive recreational activities. Hence, cities are working towards development by attracting and establishing their identity and strategies and are competing with others, especially in providing services, such as recreational facilities (Kawakubo et al., 2012). Sustainable human development focuses on qualities that highlight the benefits of the wellbeing of member states such as increased life expectancy, education, equity and opportunities. It includes regions and institutions, and most importantly, the social relationships that improve community ties. This development, to a great extent, provides credence to a social movement with a prevailing ideology of attaining specific general goals of human development (IAEG-SDGs, 2016; Kates et al., 2016).

1.2 Covid-19 Pandemic

Coronaviruses (CoV) were first known in the 1960s. The virus was named Corona after its crown-like sugary proteins that surrounded the element (Gabutti et al., 2020). The first case of the Covid-19 infection was announced in China on December 31st, 2019. The WHO Director-General declared Covid-19 as a pandemic on March 11th, 2020. However, the facts about it were twisted as myths in social media, which invariably makes fighting the disease worldwide difficult. The virus is said to live on surfaces for up to 72 hours.

The pandemic began later in the sub-Saharan Africa to other counties in the world. Although the area reacted swiftly in implementing guidelines to prevent the importation and spread of COVID-19, the continent suffers early because the people did not believe on its existence, thereby leading to thwarting the effort of prevention (Renzaho, 2020). On February 28th, 2020, Nigeria reported its first case of COVID-19. The transmission of the virus is by person-to-person contact and droplet through coughing and sneezing. However, the most infective transmission is when the carrier is symptomatic (Corburn et al., 2020). Also, transmission is susceptible on transit, at public open spaces and family interactions (Kim et al., 2020).

Symptoms: Time from disclosure to the start of symptoms is usually between 2 and 14 days, with an average of 5 days. The first recorded illness of a CoV was the 2003 Severe Acute Respiratory Syndrome epidemic in China. The second severe infection outbreak, known as the Middle East Respiratory Syndrome, began in 2012 in Saudi Arabia (Corburn et al., 2020). The 2019 novel CoV (2019-nCoV) has changed the way of living, thereby affecting social interactions. The novel CoV mostly affects the respiratory systems of body organs with immense consequences. The vaccine that is critical for preventing the disease in humans has not been produced yet (Jaja et al., 2020). As such, the virus will continue to exist, and the infection will intensify until a remedy is found (Bruns et al., 2020). Thus, the effective strategy for indulging during this pandemic is minimal (Jenson, 2020). However, at present, several Covid-19 vaccines were produced and made available for trials.

The spatial pattern of the Greater Jos—a typical area with an informal setting's characteristics—concerns the Covid-19 pandemic. The need to defeat Covid-19 cannot be emphasised considering the havoc to do with the death rate the pandemic is consuming at a spate of time. Most towns in developing countries suffer from poor environmental conditions, which invariably lead to unhygienic homes and compounds without the improvement of basic amenities, such as water supply and waste management. Hence, the effects of sanitation and hygiene-related infections were reported to take between US\$3 and 8 billion per year (Nath, 2003). The COVID-19 pandemic has exposed deficiencies on individuals, scientific and organisational levels, and therefore the need for an opportunity to make drastic efforts towards defeating the disease (Kowalik et al., 2020).

1.3 Theoretical Background

The social environment is conceived through a neighbourhood setting of social cohesion that considers the character of disorder and protection from misconduct (Ghani et al., 2019). The word 'social' refers to an ideal moment of interactions with impactful information of social capital worth and an emphasis on relationships of intense value. Social capital is influenced by the social interactions of associations for the progress of a community, thereby resulting in the accessibility to services and other social developments, especially with regard to recreation in the concept of leisure (Forsell, Tower, & Polman, 2020). Problems concerning the provision and development of social

activities for all age groups must also be addressed, whilst being mindful of participation in strategizing and developing activities that are in line with the desires of the people (Staley et al., 2019). A study has shown that more facilities and services must be filled in in lacking areas. The connection between low-income earners and the number of recreational facilities is a factor that influences social inequalities. Other factors include the proximity or availability of such facilities, which affects perceptions about the environment and social cohesion invariably (Jacobs et al., 2019).

The provision of space for recreation is all that matters for social wellbeing to be effective. Social-cultural factors need to be promoted by all city residents who have access to areas for relaxation, as well for the safety of the community (Pussella and Li, 2019). The basic guide for effective social participation in recreation is through the provision of social supports, dealing with barriers and having more efficient opportunities that meet the needs of residents (Kubota et al., 2019). Likewise, relationships develop attributes in relation to social interactions. However, income provides a higher level of interaction (Troncoso et al., 2019). To enjoy tourism rights, national parks are a point of reference, because parks encourage interactions with the environment and are stimulated by culture and visiting tourists. The absence of such services is tantamount to the deprivation of social activities (Mlozi and Pesāmaa, 2018). Hence, the neighbourhood concept refers to the idea that neighbourhoods should be endowed with attractive interventions to promote active participation in social activities. Likewise, this concept may encourage social interactions between residents and the social environment (Kaufman et al., 2019). Research has revealed that urban areas with a sizable density encourage community bonds and frequent social relations whilst compact built environments experience better social interactions and a lively social life that inspire people to participate actively in recreation (Mouratidis, 2019).

The pursuit to achieve the Sustainable Development Goal 11, which is related to sustainable cities and communities, where the target is to 'make cities and human settlements inclusive, safe, resilient and sustainable', is of particular importance. This pursuit encourages policies and programmes for concrete actions, social inclusion and the creation of an urban identity that give rise to maximum social ties (Mondini et al., 2020). Outdoor recreational advocacy groups are needed to work towards promoting environmental social interactions and awareness that are effective and efficient in all areas of the social environment (Borden and Mahamane, 2020). Considering the spatial mapping of recreational potentials, with an emphasis on place attachments, is important. A perception of nature-based recreation will provide opportunities to relieve stress, enjoy nature (green spaces) and socialise (Rigolon, 2016; Scholte et al., 2018).

2. Methodology

This section is developed to discuss the methodology used for the study to achieve the main objectives. The methodology is a detailed arrangement of how the study intends to find answers

to the main research problems. The research adopted the mixed method referring to qualitative (GIS) and quantitative (Questionnaire field survey).

2.1 Description of the Study Area

Jos is said to be one of the oldest cities (first generation cities in Nigeria) that developed over 100 years (Dung-Gwom and Rikko, 2009). The ever increasing population led to competitiveness in the demand for land for all purposes, most especially for housing development and commercial. The city in earlier development experiences the entry of people from different parts of Nigeria because of the railway line, which was constructed in 1937 (Figure 1).

The Greater Jos area is situated in Plateau North of the Middle Belt of Nigeria and located on the Jos Plateau at an elevation of characteristics than formal characteristics.

approximately 1,238 metres above sea level, having an area coverage of about 26,899 square kilometres with a population of approximately 1,500,000 people (Wash et al., 2020). It occupies the whole of Jos-North and Jos-South and parts of Jos-East, Bassa, Riyom and Barkin-Ladi. The 2007 Population Census figures for the local governments within the planning area showed that Jos North had 429,300; Jos East was 85,602; Jos South, 306,716; Bassa 186,859; whilst Barkin Ladi and Riyom had population figures of 175,267 and 131,557, respectively. Out of a total population of 1,315,301 persons recorded for the six local governments, the three local governments of Jos North, Jos South and Jos East take up 821,618 or 62.47% of the population whilst the remaining three consist of only 37.53%. The results confirm that the large concentration of the people is within the Jos-Bukuru axis. Dung-Gwom and Adamu, (2017) estimated the population to be 1.4 m in 2017.

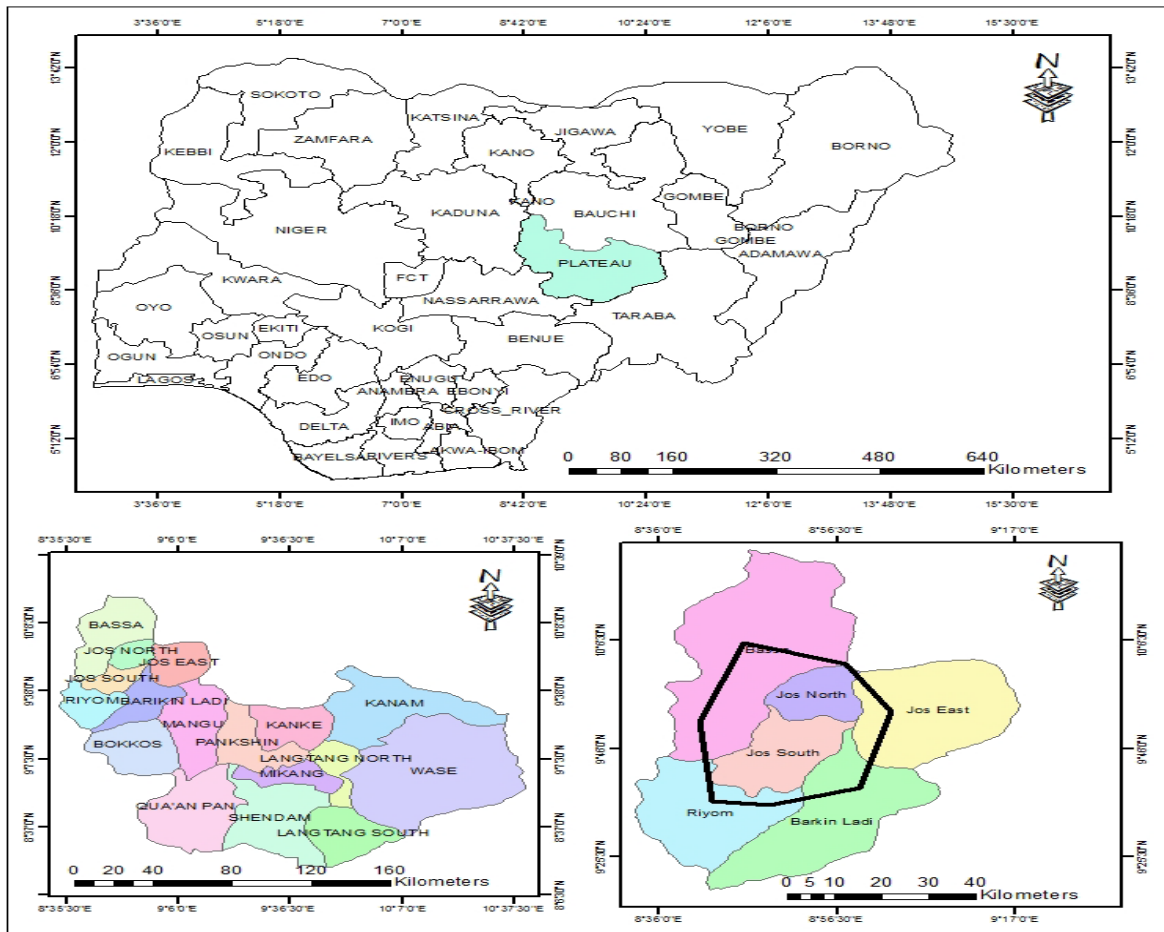


Figure 1 Locational Map of Greater Jos (Source: Plateau State Ministry of Lands Survey and Town Planning)

2.2 Data Collection - Selection of Respondents

The data collection was carried out in two phases, namely, through the GIS and quantitative data. The GIS tools were used to identify, map and determine various recreational activity areas, which were then enlisted into an inventory chart and

superimposed on a map (Figure 1). In the quantitative method, stratified-random sampling was used to carry out a survey that considers the 10 sectors of Greater Jos, thereby simplifying the representation of the samples. The survey forms were distributed to the selected respondents, who were permanent residents, as

self-administered questionnaires, although the survey was conducted at several locations in each of the sectors. The sectors included NNPC (Sector 1), Bassa (Sector 2), Jos the core City Centre (Sector 3), Kufang (Sector 4), Vom (Sector 5), Kassa (Sector 6), Foron (Sector 7), Du (Sector 8), Shen (Sector 9) and Bukuru (Sector 10). A total of 450 residents aged 15 years and above, males and females, were selected randomly from the 10

sectors for the questionnaire survey. The questionnaires were distributed to each of the sectors according to the density of development, that is, from a higher density cascading to the lowest. A total of 400 questionnaires were realised, analysed and presented in a cross tabulation using absolute figures and percentages.

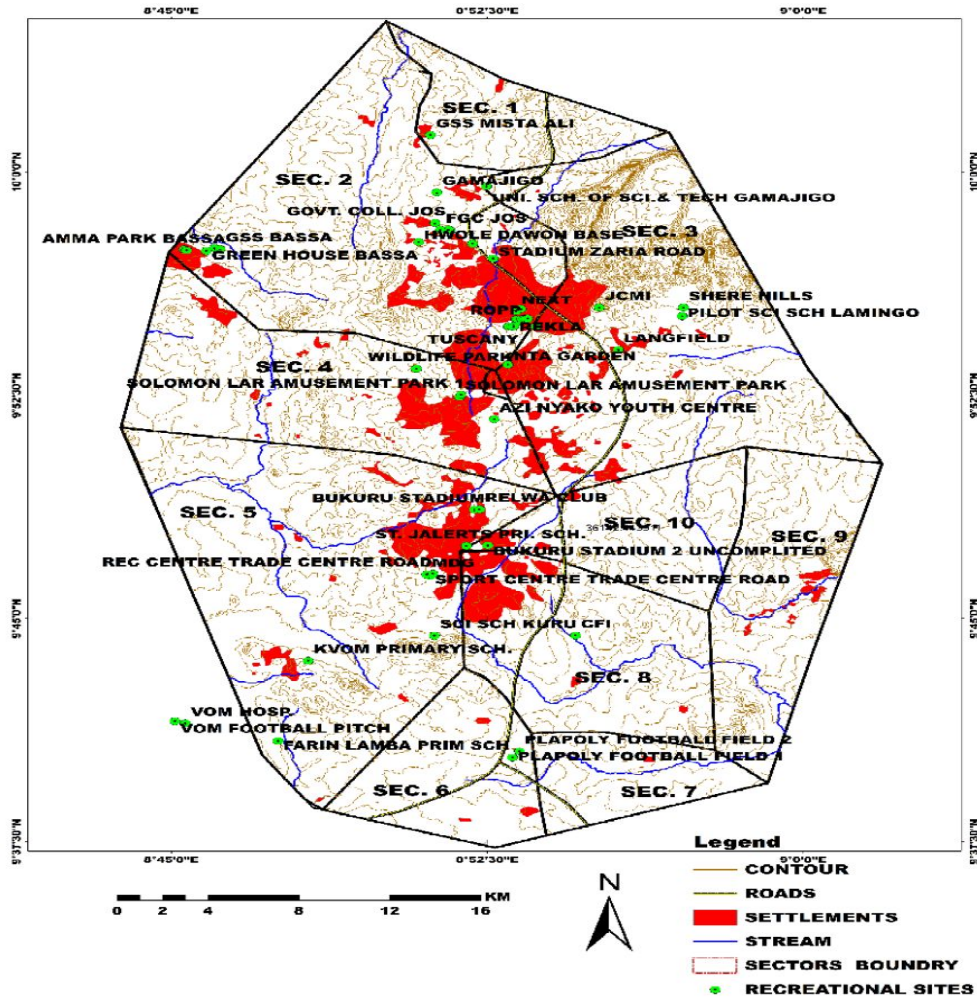


Figure 2. Distribution of Recreational Facilities in Greater Jos (Source: Plateau State Ministry of Lands Survey and Town Planning)

2.3 Data Analysis

The GIS analysis employed the use of ArcGIS software to analyse the data obtained in the field. The results were presented in a geometrical data analysis using a point mode, which aided in generating a map, as referred to in Figure 1. IBM SPSS Statistics version 24 was used to run the survey data, which were analysed descriptively using crosstabs, and the results were presented in tables. The descriptive results helped in summarising the samples and were used to determine the perception of the residents with regard to recreation in promoting social development.

2.3.1 Identification and Mapping Analysis

The identified recreational facilities were superimposed in a map initially produced by the Greater Jos Master Plan (2008–2025), as termed in Figure 2. It provided a visual expression and explanation of the spatial distribution of the existing recreational facilities. The map showed that most of the recreational facilities located at the centre of the city were termed as organised facilities and comprised parks, gardens, stadia and a zoo situated within the core of the capital city, Jos. Meanwhile, the unorganised facilities were found mostly in the outskirts and comprised bare open fields for communities or schools.

2.3.2 Covid-19 and Greater Jos, Plateau State

The captured data on Table 1 regarding Covid-19 rate in this section are without any guide on dates but are selected arbitrary. On June 23rd, 2020, there were 452 new confirmed cases and 8 deaths in Nigeria, having a daily test of 1,809 samples. Subsequently, 155,657 cases were confirmed, 133,742 cases were been discharged, and 1907 deaths recorded in 36 states and the Federal Capital Territory as of February 28th, 2021 (Nairametrics, 2020). These data placed Nigeria's fatality rate at 1.23% and the recovery rate at 85.9%.

Table 1 Covid-19 Cases

Area Coverage	Total Cases	Recovered	Active Cases	Death	Date
World	114.04	-----	-----	2,633,550	28-2-2021
	110,451,498	-----	-----	2,451,591	20-2-2021
	10,195,680	5,167,274	-----	502,802	29-6-2020
Nigeria	155,657	133,742	-----	1907	28-2-2021
	114,691	92,336	14,995	1,478	20-2-2021
	24,567	9,007	-----	565	29-6-2020
Plateau	8,889	8718	198	57	28-2-2021
	8,818	8,564	-----	56	20-2-2021
	8,724	3639	52	33	17-11-2020

Source: [Nairametrics](#), 2020 and NCDC 2020/21 and WHO 2020/21

In the case of Plateau State, as of February 20th, 2021, the fatality rate is 0.64, and the recovery rate of 97.1. Thus, the increase rate is considerably high, reflecting from November 2020 to February 2021, having a range of 3,324 to 8,889, respectively. Due to the intensity of the virus, the community testing centres also were increased to three (3), namely, the National Veterinary Research Centre Vom, Plateau State Specialist Hospital and Jos University Teaching Hospital (WHO, 2020).

Effect of Spatial Pattern: The formalisation of urban area process has had a remarkably negligible effect on urban social and economic inequality. Tracing this evolution in the capital city to the position of its hinterland and the global economy observed, change in urban settings generating and sustaining inequality, same could be said of the Greater Jos. The locations of these settlements in Greater Jos-Bukuru urban area have been identified as follows: Parts of Tudun Wada – (Sabon Gari, Mado, Angwan Miango), Rikkos, Gangare, Rusau, Gamajugo, Unguwan Rimi, Unguwan Rogo, Zinariya layout, Naraguta, Lyoh-Bukuru, Maiadiko and Kerana-Bukuru (Figure 2). The identified slum areas (marked red) are

seen scattered intermittently within the core city and along the spine of the roads. Meanwhile, the formal settlements (marked brown) are within and encircled the slum areas, which is an indication of mixed settlements of dual purposes.

The convergent and divergent movement patterns are associated with mostly nodal towns (many inlets in and out of the city as in figure 2) and cities unique to the Greater Jos, which possibly and significantly influenced the transmission of Covid-19. The complex nature of movement relating to such pattern is an easy way to make contacts and transfers of the virus from person to person within a spot and transfer to other areas reflecting the convergent and divergent complex patterns.

The capital city, Jos, comprised four of the sectors, namely, 2, 3, 4 and 10, as can be seen in the form of a linear pattern, and which ultimately had the advantage of having more recreational facilities than the six other sectors at the outskirts of the city centre. This finding implied a lopsided distribution of the facilities. It suggested the development strategies and policies that will provide quality opportunities, especially from the departments of garden and parks. To determine the social impact of the recreational facilities in Greater Jos, a survey was conducted to seek the views of the residents. The next section provides the results in the analysis of the questionnaire survey.

2.3.3 Questionnaire Analysis

(Residents' Awareness of Recreational Facilities)

The results in Table 2 express the residents' acknowledgement of the presence of recreational facilities in the area. The results revealed that 37.3% of the residents were moderately informed, whereas those that were satisfactorily and extremely informed were 29.0% and 6.8%, respectively, thereby resulting in a total of 73.1%. From the results and considering the sectors, a higher percentage of the respondents were from the core city areas. They tended to have more and better services, as could be seen by referring to sectors 2 (7.8%), 3 (4.8) and 4 (7.0%) which had the highest percentages, thereby indicating the awareness of the availability of recreational facilities. The results in Table 3 revealed the quality of the outdoor recreational facilities.

Table 2 Rate of awareness of recreational facilities in the area (Authors' Field Survey, 2019)

	Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7	Sector 8	Sector 9	Sector 10	Total
Never informed	1.5%	3.0%	3.3%	0.0%	1.3%	0.0%	1.3%	0.0%	0.3%	0.5%	11.0%
Somewhat informed	1.3%	2.0%	1.8%	0.0%	1.8%	4.0%	0.8%	1.3%	0.5%	2.5%	15.8%
Moderately informed	3.0%	9.0%	8.8%	0.5%	2.5%	2.0%	2.3%	3.0%	2.3%	4.0%	37.3%
Satisfactorily informed	1.0%	7.8%	4.8%	7.0%	1.8%	0.8%	0.3%	2.5%	1.3%	2.0%	29.0%
Extremely informed	0.8%	0.5%	1.5%	0.0%	0.3%	0.8%	0.5%	0.8%	0.8%	1.0%	6.8%
Total	7.5%	22.5%	20.0%	7.5%	7.5%	7.5%	5.0%	7.5%	5.0%	10.0%	100.0%

Table 3 Level of Unattractiveness (Authors' Field Survey, 2019)

	Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7	Sector 8	Sector 9	Sector 10	Total
Strongly disagree	0.5%	0.5%	0.3%	0.0%	0.3%	0.5%	0.5%	0.5%	0.3%	0.8%	4.5%
Disagree	0.5%	2.0%	2.3%	0.0%	3.0%	0.5%	0.3%	0.8%	0.5%	1.3%	11.0%
Somewhat agree	2.0%	4.8%	8.0%	1.5%	2.8%	3.3%	1.5%	1.3%	1.8%	3.3%	30.0%
Agree	3.0%	11.5%	8.5%	4.8%	1.0%	3.0%	1.8%	3.5%	2.0%	2.5%	41.5%
Strongly agree	1.0%	3.8%	1.0%	1.3%	0.5%	0.3%	1.0%	1.5%	0.5%	2.3%	13.0%
Total	7.5%	22.5%	20.0%	7.5%	7.5%	7.5%	5.0%	7.5%	5.0%	10.0%	100.0%

The results showed that 41.5% of the residents agreed that the available facilities were unattractive, whereas those that strongly agreed and somewhat agreed were 13.0% and 30.0%, respectively. Results showed a total of 84.5%, which invariably implied that the available facilities were unattractive. The category of the outdoor facilities should have been, to a greater extent, the desirable ones that were appealing and attracted high participation. From the sources considering the sectors, it was shown that a higher percentage of the respondents were from the main city, where they were amply informed and had a better chance of assessing the quality of the facilities.

Sectors 2 (11.5%), 3 (8.5%) and 4(4.8%) had the highest percentages, thereby confirming the level of unattractiveness of the available recreational facilities.

Table 4 shows the assessment of the recreational facilities by determining their importance. The results showed that 47.8% of the residents strongly agreed that the available facilities were of concern, whereas those that agreed and somewhat agreed were 39.8% and 8.3%, respectively, thereby obtaining a sum of 95.9%, which inferred that the recreational facilities were of great significance to their social life the location should create an environment to attract high participation. The positive response emanated from sectors 2, 3, 4 and 10, which were experiencing the availability of recreational facilities. This fact was so apparent from the affirmative answers as to how vital the facilities were to the residents.

Table 4 Residents' attachment to recreational facilities (Authors' Field Survey, 2019)

	Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7	Sector 8	Sector 9	Sector 10	Total
not very important	0.5%	0.3%	0.5%	0.0%	0.3%	0.0%	0.5%	0.0%	0.0%	0.3%	2.3%
not important	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.5%	1.8%
Somewhat important	0.0%	2.3%	3.3%	0.0%	0.5%	0.0%	0.5%	0.8%	0.0%	1.0%	8.3%
important	2.3%	8.3%	10.3%	6.5%	2.8%	0.3%	1.0%	3.8%	2.3%	2.5%	39.8%
very important	4.8%	10.8%	6.0%	1.0%	4.0%	7.3%	3.0%	2.8%	2.5%	5.8%	47.8%
Total	7.5%	22.5%	20.0%	7.5%	7.5%	7.5%	5.0%	7.5%	5.0%	10.0%	100.0%

Table 5 Family and Community Bonds (Authors' Field Survey, 2019)

	Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7	Sector 8	Sector 9	Sector 10	Total
Very poor	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.5%	0.3%	0.0%	1.5%
Poor	0.3%	1.0%	0.5%	0.0%	0.3%	0.0%	0.0%	0.5%	0.0%	0.5%	3.0%
Satisfactory	1.5%	5.0%	9.0%	2.3%	1.5%	0.3%	1.5%	3.0%	0.8%	2.8%	27.5%
Good	0.3%	7.8%	5.5%	5.0%	1.0%	1.0%	0.5%	1.8%	0.8%	1.3%	24.8%
Very good	5.5%	8.8%	4.3%	0.3%	4.8%	6.3%	3.0%	1.8%	3.3%	5.5%	43.3%
Total	7.5%	22.5%	20.0%	7.5%	7.5%	7.5%	5.0%	7.5%	5.0%	10.0%	100.0%

Table 6 Distance from Home to Facility Area (Authors' Field Survey, 2019)

	Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Sector 7	Sector 8	Sector 9	Sector 10	Total
Strongly disagree	0.5%	1.0%	0.8%	0.0%	0.5%	0.3%	0.3%	0.8%	0.0%	0.0%	4.0%
Disagree	0.5%	3.0%	3.0%	0.0%	1.0%	0.5%	0.8%	0.8%	0.3%	1.8%	11.5%
Somewhat disagree	1.5%	4.3%	4.8%	1.8%	2.5%	1.5%	1.3%	0.8%	1.0%	2.5%	21.8%
Agree	4.0%	10.0%	9.3%	4.3%	2.8%	4.5%	2.0%	3.5%	2.5%	3.8%	46.5%
Strongly agree	1.0%	4.3%	2.3%	1.5%	0.8%	0.8%	0.8%	1.8%	1.3%	2.0%	16.3%
Total	7.5%	22.5%	20.0%	7.5%	7.5%	7.5%	5.0%	7.5%	5.0%	10.0%	100.0%

The results in Table 5 assessed the mood and the rate at which people socialised during recreation as an influence via the available recreational facilities. The results showed that the highest percentage of 43.3% opted for 'very good', whilst those who opted for 'good' and 'satisfactory' were 24.8% and 27.5%, respectively. This finding invariably revealed that 95.6% believed that a certain level of social interaction was influenced by the provision of recreational facilities.

The results in Table 6 determined the average distance to a desirable outdoor recreational facility. The results revealed that, the 46.5% of the respondents agreed that the available facilities were not at a desirable distance, according to the policy and standard of providing recreational facilities in each neighbourhood within walking distance. Meanwhile, those that strongly agreed and somewhat agreed were 16.3% and 21.8%, respectively. This sum up to 84.6%, which inferred that the recreational facilities were not being distributed within easy reach of homes.

3. Discussion

This section presents a detailed discussion of the results and defines the connections of the study's findings by being compared with the findings of previous similar research as presented in earlier discussed literature. The results, as shown above, provided a picture of the available recreational facilities and their effects on the social life of the area. Firstly, the findings about the residents' awareness on recreational facilities revealed that 73.1% of the respondents had knowledge on the recreational facilities, and a higher percentage of the respondents were from the core city (Table 1).

A similar research by Kubota et al. (2019) showed that a substantial advance in the responsiveness to recreational facilities as well as intervention of sustained community-level efforts in promoting physical activities as a social component to assess the long-term impact of keeping fit. Also, the findings by D'Antonio et al. (2012) supported the aspects of visitors' awareness of resources, which was indicated to have less of an effect as a means of widening the knowledge of users about recreational

activities. This has serious effects on Covid-19 response, considering the lockdown and movement restrictions, where large number of people could not actively participate in on-site physical activity. However, passive recreational facilities, such as gardens and parks, could be a source of relief for the stress of keeping the Covid-19 protocols.

Regarding the quality of recreational facilities (Table 2), 84.5% of the respondents answered in the affirmative when it came to the level of unattractiveness, which invariably implied that the available facilities were unattractive, and therefore, in dire need of drastic attention. A similar research concerning the unattractiveness of recreational facilities was carried out by Knapp et al. (2019), who opined that communities should consider increasing the attractiveness of existing parks as a relatively low-cost environmental strategy to encourage the use of the parks and increase physical activities, whilst ensuring that they are attractive to low-income earners. Kirtland et al. (2004) supported and asserted that the quality of recreational facilities can help establish participation in recreational activities in urban centres. Abdullah and Mohamad (2016) also affirmed that the quality of recreational facilities attracts individual to make use of the facilities, such as for health purposes, outdoor recreation and sports. Attractiveness of recreational facilities, such as gardens, in difficult times of maintaining Covid-19 protocols, brings about a suiting relief and emotional satisfaction of the mind. This would invariably improve the wellness of the people.

Concerning the benefits of recreational facilities, the findings inferred those recreational facilities were of great significance to the social life of the respondents. A similar research by Eigenschenk et al. (2019) found that recreational facilities, most especially those associated with outdoor recreation, have a high impact on the social life of a community, such as with regard to physical health, mental health and wellbeing, education and lifelong learning, active citizenship, crime reduction and anti-social behaviour. Thus, the benefits of recreational facilities could be seen in the long-term effects on personal and social development. Lo and Jim (2012) argued further that green places are valued more because of their 'microclimatic and amenity benefits' than for any other social environmental benefits. Aside from the social benefits, Czajkowski et al. (2015) emphasised the economic benefits, with large differences in annual economic benefits from recreation, which go into billions of EUR, although this aspect requires further research. This fact

is incontestable with regards to Covid-19 period of restriction, but adaptation of new normal to keep fit.

The finding revealed family and community bonds, referring to Table 4 revealed that 95.6% of the respondents believed a high level of social interaction with the availability of recreational facilities. A similar finding provided the impact of the provision of recreational facilities in a community in terms social integration that facilitate family ties (Chen et al., 2016). Similarly, a research by Jepson et al. (2019) demonstrated that the coming together of a family established a sense of belonging to recreate firm family ties and to have 'we-relationships' that develop the quality of family life in the long run. Covid-19 should not be a distraction to family bonding, a sizable number congregating, most especially the immediate family and perhaps neighbouring families.

The findings about the distance to recreation areas, as presented in Table 5 and in Figure 1, revealed that 84.6% of the recreational facilities were not distributed within easy reach of homes, thereby affecting accessibility. A similar research by Jiao et al. (2015) who found out that the spatial distribution of users is influenced by population, recreational sites, accessibility and travel time to recreational facilities. Hence, the ability of users or the decision of the community determines the distance to recreation areas. In the same vein, McCormack et al. (2006) discovered that recreational activities and the location of recreational facilities affected the travel distance. This finding clearly shows that the distance to recreational facilities is dependent on the availability and types of recreational facilities, and this differed from the finding of this study, in which the unequal distribution of facilities results in a considerable travel distance for users. This result tends to influence Covid-19 response with regard to social distancing. Bringing recreational facilities closer to the people in the neighbourhood or housing units is better than congregating crowded facilities at the core city.

4. Conclusions

This study sought to ascertain the effects of social integration on the provision and distribution of outdoor recreational facilities with reference to Greater Jos. The results showed that awareness, quality of recreational facilities, benefits of recreation, family and community bonds and the distance to recreational areas have significant positive and negative effects on social performance about the provision and distribution of recreational facilities. Theoretically, this study contributes to the injustice in the social environment, and the benefits of social inequalities, as set forth by Jacobs et al. (2019). The study also validates the findings of Pussella and Li (2019), which showed that social wellbeing was predicated on the provision of recreational facilities.

The provision and distribution of recreational facilities toward the enhancement of social integration can only be felt when users derive pleasure and express an attachment to the available facilities. There is no gainsaying that recreational areas are meeting places where families, friends and communities interact

to refresh their minds. Also, friendships are renewed, and family ties are strengthened. The social effects are immeasurable, where effective and efficient services are paramount.

The provision of recreational facilities is supposed to trigger awareness of the facilities to improve accessibility to the facilities and reduce the travel time to recreational centres within and outside the sector areas. This is greatly, a reverse to Covid-19 protocol of observing social distancing. Hence, further investigations into the inter-territorial relationship with the core city and the periphery are needed to harness potential resources to improve cordiality. As social integration only exists when there is a means of socialising, which benefits are based on an equitable provision of recreational space to accommodate minimal size of people to avoid transmission of the diseases and environmental quality (Winter et al., 2019). Therefore, the provision of recreational facilities will evidently enhance environmental quality and cohesion amongst the people as expected to deal with Covid-19 pandemic in Greater Jos.

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