

Regional Integration from within: Transition to the Greater Nairobi Metropolitan Region in Kenya from the Perspective of Metal Valence Bond Theory

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Abstract

Valence bond theory (VBT) was developed by Linus Paulin. It assumes that the metal-ligand bonds are formed by donating an electron pair by the ligand to the metal and thus form a coordinate bond between the metal and ligand. Economic, social, and political sharing creates a strong bond between Nairobi city and the three county towns of Kiambu, Machakos, and Kajiado. In the modern dispensation, agglomeration of neighboring urban centers and their adjacent rural areas are transforming into regional economic development areas guided by political outline. There is a likelihood that cities adjacent to each other can grow and expand until they are joined, forming a formidable economic development bloc. Nairobi, Kiambu, Mlolongo Athi River, Machakos, Ngong, Kitengela, and Kajiado have a trend that, in 25 years, they will have merged into a conglomeration of a mega urban area. This paper empirically examines the four-county towns: Nairobi, Machakos, Kiambu, and Kajiado, using a geospatial perspective to assess the probability that Nairobi Metropolitan Area can change into the Greater Nairobi Metropolitan Region through integration. Our case study is premised on the coupling distance between the urban centers is made to be understood because of the metal valence bond theory. That is how sharing resources of neighboring urban centers with their counties can be made into a regional economic development hub. We found that: There are Challenges facing the Greater Nairobi Metropolitan Region integration process. Industrial satellites; EPZ in Athi River Machakos County and Thika in Kiambu County are spillovers from Nairobi city and vital to the peripheral counties' industrialization. The current infrastructure (Roads, railways, water and sewer systems, electricity supply, and airports) in the envisaged Greater Nairobi Metropolitan Region is adequate to

steer regional integration and development. Infrastructure is very crucial to regional economic and social integration. Member counties must grant some powers or sovereignty to a supra-institution—The Greater Nairobi Metropolitan Region for it to execute the regional objectives. A more excellent Nairobi Metropolitan Region agreement should spell out explicitly provisions for its legal personality for it to execute the regional objectives. The greater Nairobi Metropolitan Region needs functional personality and descriptive capacity to steward regional development integration. A capacity-building program against insecurity and terrorism is needed for the greater Nairobi Metropolitan Region to realize peace, security, and development in the face of insecurity and terrorism. Creation of The Greater Nairobi Metropolitan Regional Inter-county Assembly union to introduce the context for popular participation in decision-making and advance cooperation is necessary. The removal of trade tariffs/licenses in the metropolitan region should be developed to enhance business growth by lowering business costs across counties. Member counties should identify any cross inter-border economic activities that they can start cooperating on, eventually leading to a comprehensive Greater Nairobi Metropolitan regional integration. Political, economic, and social challenges face the realization of the Greater Nairobi Metropolitan Regional integration. Finally, infrastructure has a sustainable impact on the transportation, trade, development, and integration of the Greater Nairobi Metropolitan Region.

Keywords

Regional Integration, Nairobi Metropolitan Area, The Greater Nairobi Metropolitan Region, Metal Valence Bond Theory

1. Introduction

This paper has chosen the Greater Nairobi Metropolitan Region in Kenya (GNMR) to illustrate how regional spatial integration results can be used. The Valence bond theory (VBT) developed by Linus Paulin guides the study. It assumes that the metal-ligand bonds are formed by donating an electron pair by the ligand to the metal and thus form a coordinate bond between the metal and ligand (Patel & Patel, 1947). The economic, social, and political aspects of sharing create a strong bond between Nairobi city and the three county towns of Kiambu, Machakos, and Kajiado. The study considers the four towns/cities of Nairobi, Machakos, Kiambu, and Kajiado as a case study. Nairobi city is an economic, social, and political center of Kenya and Eastern Africa that has moved Kenya to the middle developing countries level. That is, Nairobi influences, and not only the surrounding counties influence it but also East African countries. Hence the social, economic, and political role Nairobi plays in Kenya is under-influenced of what happens in the neighboring towns of Kiambu, Machakos, and Kajiado, which are the headquarters of their respective counties. This study empirically lays out a prop for the National government-county integration policy that will

unleash a concerted effort in achieving the Greater Nairobi Metropolitan Region sustainable development process.

In the GNMR framework of spatial planning, Nairobi, Kiambu, Machakos, and Kajiado as their county headquarters, respectively, they are the region's epicenters for industrialization, financial and technological centers that serve as economic growth hubs of the region. The term Nairobi Metropolitan got its genesis in 2008 when the government of Kenya created a particular ministry of Nairobi Metropolitan Development. Development issues aiming at area-wide governance interventions in this region were put under the jurisdiction of this ministry. In particular, roads, bus, and all rail infrastructure meant to create an efficient transport system were to replace slums with affordable low-cost and rental housing; enforce planning and zoning regulations; facilitate water supply and waste management infrastructure; and promote, develop, and investing in sufficient public utilities, public services, and infrastructure were under the in charge of the ministry.

In 2010 the Nairobi Metro 2030 vision was crafted in response to pervasive urban growth projects. This was meant to proactively address current and future challenges that face the growth of the Nairobi Metropolitan area. The government of Kenya redefined spatially the Nairobi Metropolitan Area. This was in an attempt to make it a world-class city region that would generate sustainable wealth and quality of life for the residents, investors, and visitors. The vision of the Nairobi Metropolitan Area was to create the best-managed metropolis in Africa. The Nairobi Metro 2030 sought to brand and promote Nairobi as East Africa's key gateway city by creating a framework for comprehensively addressing a broad range of policy areas, including the economy, trunk and social infrastructure, transportation, slums and housing, safety and security, and financing. The Nairobi Metropolitan Area covers about 3000 km² that depend on Nairobi's regional functions for employment and social facilities. Apart from the Nairobi Metropolitan Area 2030 vision, particularly for Nairobi city of a radius of 40 km, the planning extends to a 100 km radius that includes Kiambu, Machakos, and Kajiado county areas. This strategy was initiated in 2010 (Mundia, 2017).

Therefore this paper looks at the Greater Nairobi Metropolitan Region as a transition from the initial Nairobi Metropolitan Area. This encompasses Kiambu, Kajiado, and Machakos urban centers that bring with them their respective counties. The paper uses the agglomeration of urban city networks buttressed with the business process reengineering process, coupling distance, and the metal valence bond theory to explain how a paradigm shift can be possible in the Greater Nairobi Metropolitan Region. Thus it covers the current state of the Greater Nairobi Metropolitan Region, challenges, and new approaches to planning and implementing a development plan that looks at the Nairobi region.

The Structural Adjustment programs (SAPS) forced down the developing countries' throats by Breton Woods institutions benefitted the North more than the South, especially the globalization aspect. Therefore, with the undoing of international integration, third-world countries deemed it fit to premise their politi-

cal, economic, and social development on regional integration. Regional strategies have become the most common space typologies on which sustainable development in developing countries relies on global competition. Spatial agglomeration approaches motivate poor countries to pursue regional integration plans to fast-track, speed off and sustain regional development. However, it would be disputable by regional integration scholars to pile credit it as the perfect policy tool to bring about sustainable development.

There is an unending debate because of the practice of regional integration economies championed by regional integration based on traditional agglomeration and urban network theories. Many types of research have shown positive effects on specific urban centers and the region due to regional cooperation and integration strategies. However, it cannot go without appreciating studies that have empirically cited negative aspects of regional integration. This is where small and relatively more significant economies or states come together with a view of mutually benefitting from regional integration. However, small cities or states have ended up on the receiving end of this amalgamation. Countries or cities found in a particular regional block or community before integration was at different development stages and sizes, which leads to spatial heterogeneity in development.

Most of the proponents of regional integration are of developed countries' orientation; therefore, an approach formulated in a developed environment being tested or implemented in developing countries creates a debate about whether it is feasible. This is because the success noted in developed countries' regional integration, such as the E.U., is not reflected in regional blocks like IGAD, ECOWAS, or even EAC. Hence, there is uncertainty in the regional integration process and its spatial effect on regional integration success. One would question regional integration planners or policymakers who ignore city integration within countries and hope to achieve national sustainable development within a specific regional community. This is because building integration from city to city environs leads to county integration and development. This is then enhanced by region integration upon which development is built and eventually promotes international integration that comes with international development, notwithstanding the negatives accompanying integration. Repeated construction, resource waste, and even widened regional gaps causing severe inequality are based on bad decision-making. This is a manifestation of ineffective spatial agglomeration strategies. It overemphasizes the regional integration process and its spatial consequences in developing countries like Kenya as much as it's likely to bring balanced development across neighboring counties.

There is some prudence in the perspective of urban networks, applying the "enterprise-city" two-mode network to convert the connection of Nairobi, Kimbu, kajiado, and Machakos urban physical space into an "internal urban network" which would be followed by the exploration of regional integration processes as well as its influence in the creation of a significant inter-county political, social and economic block that will serve as an epitome of reference. The experience of

developed countries forms the basis on which these models are developed, which lacks situational compatibility in developing countries. This is because, taking the example of E.U., the regional integration process has gradually changed into a stage of country networking without being under spatial constraints, for example, proximity and separation or even administrative division of groups. In this study, we employed a research method based on a measurement tool called “coupling distance”. This is meant to convert network connections that include socio-economic and political aspects to determine the coupling effect among the four county towns, especially the interaction between central city—Nairobi and peripheral towns—Kiambu, Machakos, and Kajiado. This forms a model other regions in Kenya can adopt to construct regional integration.

The structure of this paper is as follows: Section One introduces, section two covers the literature review, section three looks at the study’s methodology, section four handles the results, section five looks at the discussion, and Section Six introduces the conclusions and recommendations.

2. Literature Review

The promulgation of the new constitution of 2010 marked a significant milestone in how the country is now governed. Politically and economically based resource distribution from the centralized government in Nairobi was dispersed to the grassroots in the counties in the name of devolvement of governance. Thus it was done on the premise that counties closer to the grassroots would become a formidable level of development rather than at the national level. Hence, integrating the four counties forming the greater Nairobi Metropolitan Region will become a renewed economic engine for Kenya’s economic development, given that the region contributes 60% of the country’s GDP (Omolo, 2010).

Global researchers are interested in the study of the spatial influence of regional integration. This is because when one talks about regional integration, then the citizens’ welfare, politics, income, ecology, and culture integration (Bouvet, 2021). The only debatable issue is whether all of these components can be achieved at once or one or some can start, and once achieved; they can trigger the happening of the rest. Then how long will it take to realize all that defined regional integration (Beckfield, 2019). The understanding of regional integration as a process and its spatial ramifications is still blurred (Alinsato, 2022). Different regional integration scholars have expressed various views. For instance, empirical studies through economic growth mechanisms debate that regional integration has a positive spatial effect on regional development (Shi, Cao, Shi, & Wang, 2020).

The central city for example Nairobi, through traditional agglomeration theory, can obtain upgraded space by fetching disposable resources. In contrast, the neighboring cities such as Machakos, Kiambu, and Kajiado help themselves with spillover industries and population from the big city. Hence each city can leverage its comparative advantage to get on an economic growth trajectory (McPhearson et al., 2016). This will cause each county town to perform its func-

tions and consequently attain the effect of the overall regional income that will be bigger than the individual sum of the single County (Meijers et al., 2016). This is in contrast to the new economic geography “core-edge” model in which the core center should have the stronger force of attraction to those around it (Krugman, 1991). In regional integration, the core area, in this case, Nairobi county, has a strong attraction for the outskirts area, population, capital, and other economic factors will perpetually accumulate in the center that will bring about “agglomeration shadow,” hence restricting the development of neighboring counties (Krugman & Elizondo, 1996). Thus, the expansion of Nairobi, for instance, will be at the expense of Machakos, Kajiado, and Kiambu counties (Fujita & Thisse, 2022).

The above literature shows that regional integration and its spatial results have positively affected urban development. This is because there is a clear indication that urban centers radiate development from their center to their outskirts and finally to the peripheral rural areas in a county or district. Nevertheless, its application and sustainability to its consequences are still unclear, but clarifying its tenets guides this study.

The principal economic, political, and social interaction of the Greater Nairobi Metropolitan Region (GNAMERE) falls squarely into the Metal Valence Bond theory. This theory was propounded by Pauling in 1935. It deals with the electronic structure of the central metal ion in its ground state, the kind of bonding, geometry, and magnetic properties of the complexes (Pauling, 1935). This theory assumes that the central metal atom or iron makes available several empty spaces and atomic orbitals equal to its coordination number. These vacant orbits hybridized together to form hybrid orbits, which are the same number as the atomic orbitals hybridized together. These hybrid orbits are vacant, equivalent in energy, and have solid geometry. That is, atoms in a metal are interconnected by sharing electrons which are distributed on covalent bonds. These covalent bonds form the source of strength between connecting atoms. In application to the Greater Nairobi Metropolitan region, the longer the distance between Nairobi city and the surrounding county towns, the weaker they are linked to it (Wilson, 2010). This is because the longer the covalence bond, the easier it is to break the inter-atomic linkage through external interference that is other county towns other than Nairobi, thus contributing to weaker relationships between the atoms, in this case, the county towns.

When attracted or interfered with by a perturbed system, free electrons within the metal can participate in external exchanges; any temperature change, for example, or other conditions initiate a dynamic interaction relationship in the system, forming different matching modes under different circumstances (Hesse, 2007). Therefore, the flow of characteristics in the Greater Nairobi Metropolitan Region is consistent with electron exchanges in metals. Thus, GNMR agglomeration is similar to compounds formed by multiple elements (urban county centers) through covalent bonds (cooperation), in which the internal members of a single metropolitan region share element. Therefore, the flow of

elements may be subject to external disturbances, either actively or passively. Hence as far as the Greater Nairobi Metropolitan Region is concerned, the metal valence bond theory provides a strong similitude for investigating interactions in the four-city system (Nairobi, Machakos, Kajiado, and Kiambu), both externally and internally. The level of exchange shows the intensity of interaction due to different dynamic and interactive relationships through the element (city/town) allocation formed by the towns in the metropolitan region (Wang, Zhang, Zang, & Duan, 2022). These four towns would meaningfully combine to form a formidable matching model that is influenced by their various demands or capabilities.

The interaction between the counties led by their respective towns/cities depends on how close they are to each other, not just by distance but the volumes of economic, social, and political interaction. Therefore, this paper calls for exploring the interaction in “coupling distance” lenses. Coupling distance is the connection intensity between cities based on elements exchanged in metal spaces; thus, a shorter coupling distance stipulates a robust interaction, while vice versa may eliminate the integrating state. The phenomenon of uneven development may emerge on the premise of one or both of the following conditions: Inactive state: If the outer circle city or County, in this case, Machakos, Kiambu, and Kajiado’s ability to offer comparative advantages and receive elements from the central city county (Nairobi) gradually weakens or competition with other peripheral cities or counties shoves it out of the stage, it then becomes an “agglomeration shadow” within the metropolitan region. Hence such a participant will find himself in a passive state. Active state: A city or a county can either remain clued or not to the metropolitan and have less interest in working with non-member cities/counties. That is, the peripheral city actively seeks external contact and can thus divert its attention from the original core, or the original center (Nairobi) loses its centrality, thereby removing a member from the group. In this scenario, the peripheral city or County becomes an “enclave” within the metropolitan agglomeration (Wang, Zhang, Zang, & Duan, 2022). The two interactive situations will likely bring urban boundaries into a flexible range that enhances sustainable political, social, and economic activities. This study will move it from the preconditions for the takeoff stage of integration to take off stage.

The Greater Nairobi Metropolitan Region had basics that would require business process reengineering. Reengineering aims to make all your processes the best in class. Frederick Taylor suggested in the 1880s that managers could discover the best processes for performing work and reengineer them to optimize productivity. In the early 1990s, Henri Fayol originated the concept of reengineering to conduct the undertaking toward its objectives by seeking to derive optimum advantage from available resources (Hammer & Champy, 1993).

The findings of this study provide the Greater Nairobi Metropolitan policymakers and stakeholders with a clean slate so that they can fundamentally rethink radical redesign to reinvent the metropolitan from scratch region. Regions

are experiencing the harsh realities of an increasingly competitive environment. They recognize that they must make mega-changes in how they operate or face extinction. Therefore, the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in contemporary critical performance measures, such as cost, quality, service, and speed, is necessary for the Greater Nairobi Metropolitan region (Bhaskar & Singh, 2014).

A fundamental rethinking of business processes requires management to challenge the basic assumptions under which it operates and to ask such rudimentary questions as “Why do we do what we do?” and “Why do we do it the way we do it?” (Talwar, 1993). Without fundamental rethinking, technology often merely automates old ways of doing business. The four governors of Nairobi, Kiambu, Machakos, and Kajiado will have to rethink, restructure and streamline the more marvelous Nairobi Metropolitan Region structure, processes, methods of working, management systems, and external relationships through which value will be created and achieved within this region. Radical redesign relies on a fresh-start, clean-slate approach to examining an organization’s business processes (Al-Mashari, Irani, & Zairi, 2001). This approach focuses on answers to the question, “If we were a brand-new business, how would we operate our company?” Achieving dramatic improvements in performance measurements is related to the preceding two elements. This calls for concurrent redesigning of the metropolitan region, counties, and their supporting information systems to radically improve time, cost, quality, and citizens’ regard for the metropolitan services (Petrozzo & Stepper, 1994). The Greater Nairobi Metropolitan Region should focus on its core competencies to dramatically improve its performance (Lowenthal, 1994).

This paper examines how the metropolitan can employ Total Quality Management within respective County urban centers/cities and eventually to the supra-region (The Greater Nairobi Metropolitan Region). This will improve the whole metropolitan region’s competitiveness, effectiveness, and flexibility. Essentially, this is a way of planning, organizing, and understanding each activity depending on stakeholders at each level (Oakland, 1993). This also will place the metropolitan region’s citizens as the focal point of operations. There has to be continuous improvement in process performance to satisfy the citizens’ expectations and requirements. Thus, there is a need to combine bottom-up and top-down approaches by taking advantage of their respective strengths. Bottom-up should adhere to communication and deployment of objectives, and the bottom-up implementation of continuous improvement activities meant to bring a leap in the service provision of these counties within the metropolitan region (Bennis, 1992).

The greater Nairobi Metropolitan Region integration can be achieved through automatic identification and tracking technology, enabling it to track resources in the whole metropolitan. Also, decision support tools will be helpful, especially the knowledge management tools that allow decision-making to be part of everybody’s responsibility. A shared database will avail information in four counties

simultaneously, enabling work to be performed simultaneously rather than sequentially and allowing counties to be centralized and decentralized simultaneously (Davenport & Short, 1990).

The most important aspect where the Greater Nairobi Metropolitan region can start is infrastructure integration among the urban centers with their respective counties. This is because infrastructure is key to integration. Infrastructure refers to the basic facilities and structures a country or organization requires to function correctly. They mainly involve the production of public monopolies such as energy, communication systems, transport network, water systems, and sewer and drainage systems. Therefore, they are vital to the development and growth of an entity or a country. Hence, the Kenya government has been aggressively supporting and implementing various infrastructural development projects, with a significant focus on the transport sector, with the key beneficiaries being road construction.

Partnership strategies such as Public Private Partnerships (PPPs) and Joint Ventures (J.V.) are cost-effective ways of delivering infrastructural projects within any region. The Current infrastructure state in the Greater Nairobi Metropolitan Region (Roads, railways, water and sewer systems, electricity supply, and airports) is a good example. Challenges on infrastructure; housing integration; industrial satellite-EPZ in Athi River Machakos county and Thika in Kiambu county; current development plans in the pipeline.

3. Study Area and Methodology

3.1. Study Area

The study area is the greater Nairobi Metropolitan Region. Having thoroughly looked at Kenya as a whole, there is other mentioned regional integration, such as the Lake Basin region, but they have not taken off. Greater Nairobi Metropolitan Region generates about 60% of the nation's wealth.

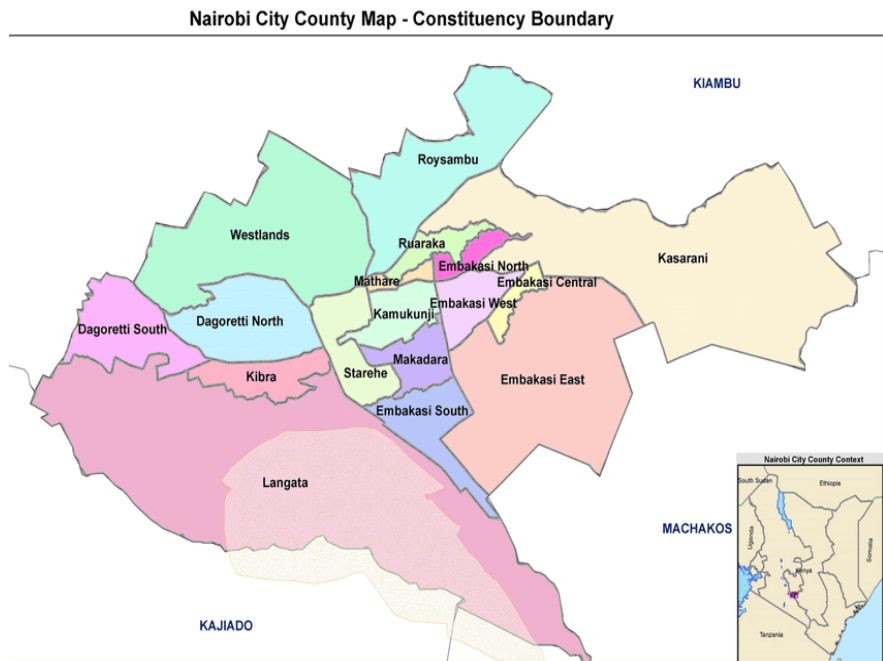
Nairobi County

Nairobi County is the home of the capital city of Kenya-Nairobi. Nairobi is derived from Enkare Nairobi, a Maasai name that translates to "place of cool waters" about the Nairobi River, which flows through the city. According to the 2019 population census, it had a population of 4,397,073, with a project of 10.8 million by 2022. Therefore Nairobi is City County.

Nairobi City County is the home of the Kenyan parliament buildings. It hosts thousands of Kenyan businesses and over 1500 major international companies and organizations, including the UNEP and the United Nations Office in Nairobi (UNON). The city is an established hub for business and culture. The Nairobi Securities Exchange (NSE) is one of the largest in Africa and the second-oldest on the continent of Africa. It is Africa's fourth-largest exchange in terms of trading volume, capable of 10 million trades turnover a day. It has the Nairobi National Park, and in 2010, it joined the UNESCO Global Network of Learning Cities.

Nairobi County is the central city and County within the Greater Nairobi Metropolitan Region, consisting of 5 out of 47 counties in Kenya. Greater Nai-

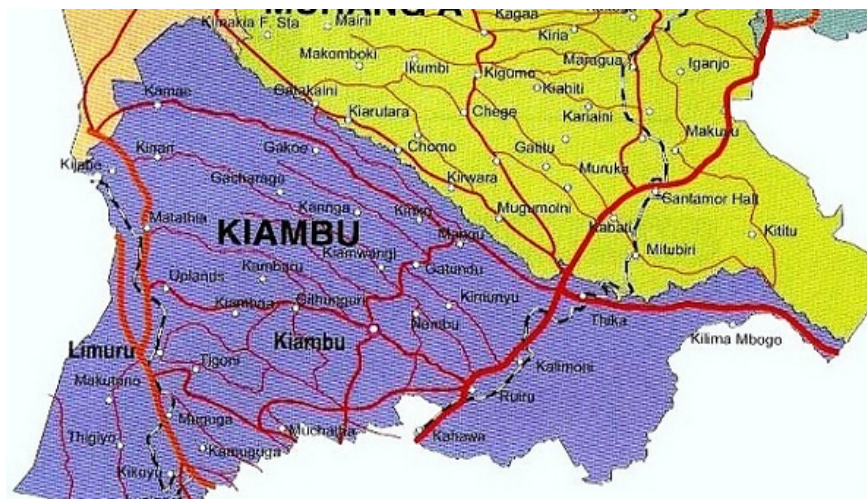
robi Metropolitan Region alone generates 40% of the nation’s GDP as per 2022 data by the Kenya National Bureau of Statistics. On its own, Nairobi County contributes to 27.5% of the country’s GDP, while Kiambu follows with 5.9%, according to the same report.



Nairobi City County Map

Kiambu County

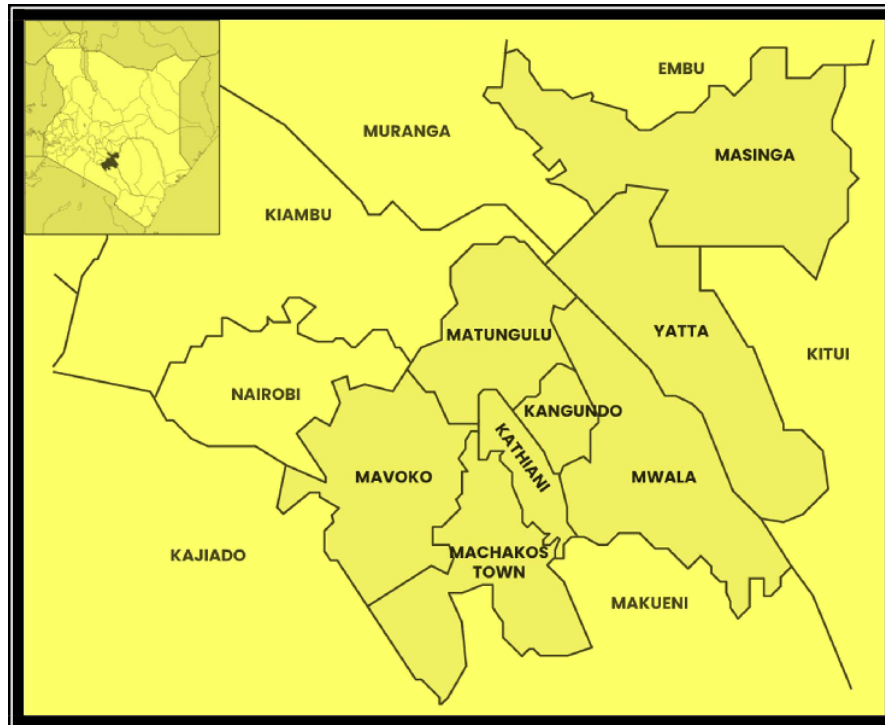
Kiambu County is the second most populous after Nairobi County. It borders Nairobi, Kajiado, Machakos, Murang’a, Nyandarua, and Nakuru. It has a population of 2,417,735. The County is 40% rural and 60% urban, owing to Nairobi’s consistent growth. It contributes 5.9% to Kenya’s GDP. It is an industrial satellite of Nairobi County.



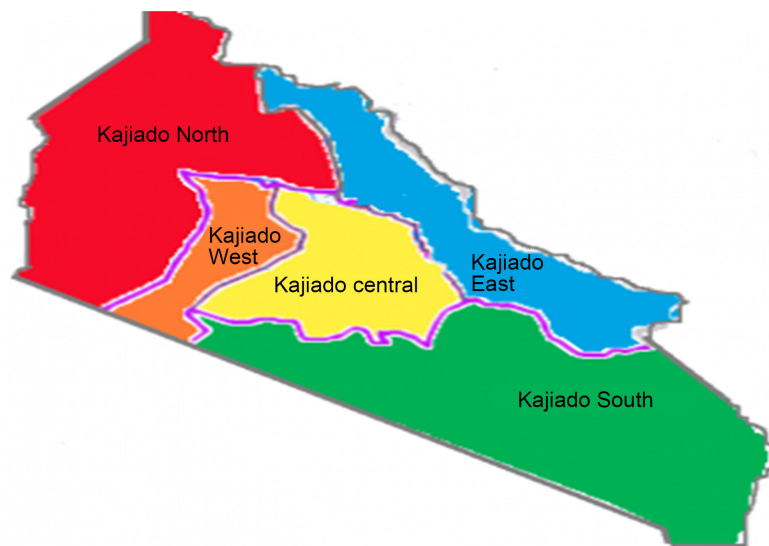
Kiambu County

Machakos County

The County has Machakos town, which was the first Country’s administrative headquarters before it was moved to Nairobi. It has a population of 1,421,932 as per the 2019 census. It borders Nairobi, Kiambu, Embu, Kitui, Makueni, Kajiado, Murang’a and Kirinyaga. The County will host the Konza Technology City.



Kajiado County



The County covers an area of about 21,292.7 square kilometers, with a population of 1,117,840. It borders Nairobi and Tanzania.

3.2. Research Methods

Descriptive survey studies are designed to obtain pertinent and precise information concerning the current status of the phenomenon and, whenever possible, to draw valid general conclusions from the facts discovered. The descriptive design was applied due to its relatively less scientific sophistication. The researcher piloted the instruments to a surrogate sample to ascertain the reliability and validity of the instruments. The researcher himself administered the instruments. There was a briefing to the respondents from these organizations. The English language was used to get the appropriate information from the respondents. The study used a 5-Likert scale: 1) Very Low Extent; 2) Low Extent; 3) Moderate Extent; 4) Great Extent; 5) Very Great Extent. The analysis was done based on the means of responses per every question or response from respondents. The data is presented using frequency tables. Semi-structured questionnaires were administered to 120 respondents, with 30 participants from each County. They were purposively sampled from departments of Finance and Economic Planning of the four counties. The basis of selection was that they have knowledge on data and information related to intention of expanding the economic development catchment area of Nairobi. With devolved workload to subcounties the Finance and Economic Planning is functional at the ward levels that each county has between 80 110 employees. This gave a target population of 400. Therefore, since the target population is 400, the researchers using the Rule of thumb took 30% of the target population as a sample.

Rule of Thumb: Equal to or less than 1000 take 30%; more than but less than or equal to 10,000 take 23%; more than 10,000 but less or equal to 100,000 take 10%; and more than 100,000 take 1% of target population. Therefore, in target population of 400, sample size was calculated as follows: $n = 30\%/100\% \times 400 = 120$.

Validity of the questionnaire

When a test can be able to measure what is meant to measure, then it is deemed to be valid. The validity of the questionnaire depends on, reliability. The degree at which the test is confirmed when it comes to measuring exactly what the instrument was meant to determine or measure, then that is its validity (Kothari, 2004). Researchers submitted the questionnaire to the experts who made their judgment in regards to the questions addressing all areas of the study. Adjustments and additions to the research instrument consultations and discussions with the experts were done to establish content validity. After a Validity Coefficient of 87% was confirmed from experts the researchers accepted the questions in the questionnaire as valid which therefore, collect valid data.

Reliability

A research instrument that is able to consistently give the same findings when administered to the same population sample at different times when repeated it is a reliable instrument (Mugenda & Mugenda, 1999). Reliability is all about the test and retest method. Thus if the researcher distributes his questionnaires to the same number of people twice or thrice and finds out that there is a big difference then the instrument has a problem and that it needs to be fixed before

the can roll out a mass data collection using the instrument.

A test of 10 participants from the target population selected randomly was issued with questionnaires and their responses were used in order to monitor its reliability. The instrument reliability was assessed utilizing Cronbach's Alpha Coefficient, which is proportion of internal coefficient. A reliability of 0.70 at $\alpha = 0.005$ significant level of confidence was acceptable. Changes were made appropriately when a low Coefficient was derived as to improve the instrument's reliability. The results were as shown in **Table 1**.

From the results, the Cronbach alpha coefficient were higher than 0.7 for all the 13 study variables.

The higher than 0.7 Cronbach alpha coefficient implied that there was internal consistency for the respective 13 variables hence high reliability among the

Table 1. Reliability statistics results.

	Cronbach's Alpha	No. of items
Current infrastructure state in the Greater Nairobi Metropolitan Region is adequate to steer regional integration and development	0.732	8
There are challenges facing the Greater Nairobi Metropolitan Region integration process	0.726	5
Industrial satellites—EPZ in Athi River in Machakos and Thika in Kiambu counties are spillovers from Nairobi city and key to the peripheral counties' industrialization	0.714	6
Infrastructure and regional economic and social integration	0.707	10
Grant some powers or sovereignty by member counties to supra-institution—The greater Nairobi Metropolitan Region for it to execute the regional objectives.	0.722	4
The Greater Nairobi Metropolitan Region Agreement	0.708	9
The Greater Nairobi Metropolitan Region functional personality and descriptive capacity	0.730	7
Creation of the Greater Nairobi Metropolitan Region Inter-county parliamentary union to introduce the context for popular participation in decisions-making and advance cooperation is necessary.	0.724	5
Region peace, security and development through capacity building programs against insecurity and terrorism	0.716	7
Removal of trade tariffs/licenses in the metropolitan region development.	0.721	4
Member counties cross-border economic activities	0.720	6
Political, economic and social challenges facing the realization of the Greater Nairobi Metropolitan Regionan integration	0.731	8
Infrastructure sustainable impact on the transportation, trade, development and integration of the Greater Nairobi Metropolitan Region.	0.720	5
Average	0.720	6.4

variables in measuring the concept of interest (Transition to the Greater Nairobi Metropolitan Region in Kenya).

4. Results and Discussion

4.1. Current Infrastructure State in the Greater Nairobi Metropolitan Region

Respondents were asked whether the current infrastructure (Roads, railways, water and sewer systems, electricity supply, airports) state in the Greater Nairobi Metropolitan Region was adequate to steer regional integration and development.

As shown in **Table 2** below, the distribution of the responses indicates that 45.8% were in agreement with Very Great Extent, 17.5% great extent, 26.7% moderate extent, 8.3% low extent, and 1.7% very low Extent in agreement with the statement that the current infrastructure (Roads, railways, water and sewer systems, electricity supply, airports,) state in the Greater Nairobi Metropolitan Region was adequate to steer integration and development in the region. These findings, with a mean of 3.95, implied that infrastructure was adequate to jumpstart integration and development in the metropolitan region. These results support the findings of **Andrey and Garbo (2014)**, who noted that infrastructure systems are a key area of concern for adaptation, given their importance in supporting a wide range of social, economic, and environmental goals, including public health, economic development, and environmental protection.

4.2. Challenges Facing the Greater Nairobi Metropolitan Region Integration Process

Respondents were asked whether there are Challenges facing the Greater Nairobi Metropolitan Region integration process.

From **Table 3** below, the distribution of the responses indicates that 69.2% Very Great Extent, 20.0% great extent, 4.2% moderate extent, 2.5% low extent, and 4.2% very low Extent in agreement with the statement that there are

Table 2. Current infrastructure state in the Greater Nairobi Metropolitan Region.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	69.2%	55	272	1.05	1.1025	60.6375
Great Extent 4	20.0%	21	84	0.05	0.0025	0.0525
Moderate Extent 3	4.2%	32	96	-0.95	0.9025	28.88
Low Extent 2	2.5%	10	20	-1.95	3.8025	38.025
Very Low Extent 1	4.2%	2	2	-2.95	8.7025	17.405
Total	100%	120	474		14.5125	145

Mean = 3.95; STD = 1.0990.

Challenges facing the Greater Nairobi Metropolitan Region integration process. These findings, with a mean of 4.475, implied that there are Challenges facing the Greater Nairobi Metropolitan Region integration process. These results support the findings of Qobo (2007), who stated that regional integration in Africa has repeatedly met with failure in the past. This is because of wrong priorities that hinder success. For instance, lack of “political will” where there is non-implementation of commitments and trace its reasons to a lack of focus and willingness by leaders to transcend narrow nationalistic concerns. To support the argument, defending sovereignty has been more important than the fundamental commitment to growth and development, which is the means to a well-managed integration process.

4.3. Industrial Satellites-EPZ in Athi River Machakos County and Thika in Kiambu County Are Spillovers from Nairobi City and Key to the Peripheral Counties’ Industrialization

Respondents were asked whether industrial satellites such as EPZ in Athi River Machakos county and Thika in Kiambu county are spillovers from Nairobi city and whether they are critical to the industrialization of the peripheral counties.

From **Table 4** below, the distribution of the responses indicated that 55.8% very great Extent, 26.7% great extent, 5.8% moderate extent, 6.7% low extent, and 5.0% very low Extent in agreement with the statement that industrial satellites-EPZ in Athi River Machakos county, and Thika in Kiambu county are spillovers from Nairobi city and also key to the industrialization of the peripheral counties. These findings, with a mean of 4.2167, implied that industrial satellites EPZ in Athi River Machakos County and Thika in Kiambu County are spillovers from Nairobi city and key to the peripheral counties’ industrialization. These results are supported by the findings of Lumbasi (2003), which recommends that for Kenya to achieve integrated National development through strategies such as EPZs to transform them into viable industrial development tools, there is a need to select industries with strong backward and forward linkages.

Table 3. Challenges facing the Greater Nairobi Metropolitan Region integration process.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Exten 5	55.8%	83	415	0.525	0.2756	22.8748
Great Extent 4	26.7%	24	96	-0.45	0.2256	5.4144
Moderate Extent 3	5.8%	5	15	-1.45	2.1756	10.8780
Low Extent 2	6.7%	3	6	-2.45	6.1256	18.3768
Very Low Extent 1	5.0%	5	5	-3.45	12.0756	60.3780
Total	100%	120	537			117.922

Mean = 4.475; STD = 0.9913.

Table 4. Industrial satellites-EPZ in Athi River Machakos county, and Thika in Kiambu county.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	57.5%	67	335	0.7833	0.6136	41.1112
Great Extent 4	14.2%	32	128	-0.2167	0.0470	1.5040
Moderate Extent 3	2.5%	7	21	-1.2167	1.4804	10.3628
Low Extent 2	13.3%	8	16	-2.2167	4.9138	39.3104
Very Low Extent 1	12.5%	6	6	-3.2167	10.3472	62.0832
Total	100%	120	506			154.3716

Mean = 4.2167; STD = 1.1342.

4.4. Infrastructure and Regional Economic and Social Integration

Respondents were asked whether infrastructure is very key to regional economic and social integration.

From **Table 5** below, the distribution of the responses indicated that 57.5% very great Extent, 14.2% great extent, 2.5% moderate extent, 13.3% low extent, and 12.5% very low extent in agreement with the statement that infrastructure is very key to regional economic and social integration. These findings with a mean of 3.9083 implied that for regional economic and social integration to be achieved infrastructure plays a key role. These results are supported by the findings of **Yu (2017)** that physical infrastructure connectivity improvement is the key determinant for achieving closer East Asian regional economic cooperation and integration in the future.

4.5. Grant Some Powers or Sovereignty by Member Counties to a Supra-Institution—The Greater Nairobi Metropolitan Region for It to Execute the Regional Objectives

Respondents were asked whether member counties will need to grant some powers or sovereignty to a supra-institution—The greater Nairobi Metropolitan Region for it to execute the regional objectives.

From **Table 6** below, the distribution of the responses indicated that 22.5% very great Extent, 17.5% great extent, 15% moderate Extent, 28.3% low extent, and 16.7% very low extent in agreement with the statement that member counties will need to grant some powers or sovereignty to a supra-institution—The greater Nairobi Metropolitan Region for it to execute the regional objectives. These findings with a mean of 3.0083 implied that member counties will not be willing to grant some powers or sovereignty to a supra-institution. The greater Nairobi Metropolitan Region for it to execute the regional objectives. These results are supported by the findings of **Kicha (2021)** which show Ethiopia primarily employs either bilateral or multilateral approaches in its engagement in regional integration. This is evidenced in its engagements which do not usually pass through IGAD—the supra-national institution the region has.

Table 5. Infrastructure and regional economic and social integration.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	57.5%	69	345	1.0917	1.1918	82.2342
Great Extent 4	14.2%	17	68	0.0917	0.0089	0.1513
Moderate Extent 3	2.5%	3	9	-0.9083	0.8250	2.4750
Low Extent 2	13.3%	16	32	-1.9083	3.6416	58.2656
Very Low Extent 1	12.5%	15	15	-2.9083	8.4582	126.873
Total	100%	120	469			269.9991

Mean = 3.9083; STD = 1.5.

Table 6. Grant some powers or sovereignty by member counties to a supra-institution—The greater Nairobi Metropolitan Region for it to execute the regional objectives.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	22.5%	27	135	1.9917	3.9669	107.1063
Great Extent 4	17.5%	21	84	0.9917	0.9835	20.6535
Moderate Extent 3	15.0%	18	54	-0.0083	0.0001	0.0000
Low Extent 2	28.3%	34	68	-1.0083	1.0167	1.0337
Very Low Extent 1	16.7%	20	20	-2.0083	4.0333	16.2675
Total	100%	120	361			145.061

Mean = 3.0083; STD = 1.0995.

4.6. The Greater Nairobi Metropolitan Region Agreement

Respondents were asked whether the greater Nairobi Metropolitan Region agreement should spell out explicitly provisions for its legal personality for it to execute the regional objectives.

From **Table 7** below, the distribution of the responses indicated that: 32.5% very great Extent, 9.2% great extent, 1.7% moderate extent, 23.3% low extent, and 18.3% very low Extent in agreement with the statement that the greater Nairobi Metropolitan Region agreement should spell out explicitly provision for its legal personality for it to execute the regional objectives. These findings, with a mean of 3.1417 implied that for the metropolitan to execute its regional integration objectives, its legal personality must be explicitly spelled out in the agreement. These results are supported by the findings of [Weldesellassie \(2011\)](#), which note that when a regional institution meets its objective criteria, having been created by the member states, by treaty under international law, and recognized by international organs, it possesses international legal personality. However, fulfilling these criteria alone may not ensure the institution's national legal personality. At this point, it is necessary to obtain further evidence by investigating its founding treaty and subsequent practices.

Table 7. The greater nairobi metropolitan region agreement.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	32.5%	39	195	1.8583	3.4533	134.6787
Great Extent 4	9.2%	11	44	0.8583	0.7367	8.1037
Moderate Exte 3	1.7%	20	60	-0.1417	0.0201	0.4020
Low Extent 2	23.3%	28	56	-1.1417	1.3035	36.498
Very Low Extent 1	18.3%	22	22	-2.1417	4.5869	100.9118
Total	100%	120	377			280.5942

Mean = 3.1417; STD = 1.5292.

4.7. The Greater Nairobi Metropolitan Region Functional Personality and Descriptive Capacity

Respondents were asked whether the greater Nairobi Metropolitan Region needs functional personality and descriptive capacity to be able to steward regional development integration.

From **Table 8** below, the distribution of the responses indicated that; 29.2% very great Extent, 27.5% great extent, 12.5% moderate extent, 14.2% low extent, and 16.7% very low Extent in agreement with the statement that the greater Nairobi Metropolitan Region needs functional personality and descriptive capacity to be able to steward regional development integration. These findings with a mean of 3.3833 implied that for the greater Nairobi Metropolitan Region to steer regional development integration it needs functional personality and descriptive capacity. The legal capacity in accordance with the agreement binding the four counties together empowers the metropolitan as a functional entity to be able to perform any legal act appropriate to its purpose (Weldesellassie, 2011).

4.8. The Greater Nairobi Metropolitan Region Peace, Security and Development through Capacity Building Programme against Insecurity and Terrorism

Respondents were asked about whether a capacity building programme against insecurity and terrorism was needed for the greater Nairobi Metropolitan Region to realize peace, security and development in the face of insecurity and terrorism.

From **Table 9** below, the distribution of the responses indicated that; 54.2% very great Extent, 29.2% great extent, 6.7% moderate extent, 5.8% low extent, and 4.2% very low Extent that for the region to realize peace, security and development in the face of terrorism there is need for capacity building programme against insecurity and terrorism. These findings with a mean of 3.1667 implied that when there is a concerted effort in fighting terrorism this can be achieved through effective capacity building of the security stakeholders. These results are supported by the findings of (UNHCR, 2004), which recommended creating a training and policy unit whose main responsibilities were to develop further UNHCR's approach to security management and develop an appropriate security information management system.

Table 8. The greater Nairobi Metropolitan Region functional personality and descriptive capacity.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	29.2%	35	175	1.6167	2.6137	91.4795
Great Extent 4	27.5%	33	132	0.6167	0.3803	12.5499
Moderate Extent 3	12.5%	15	45	-0.3833	0.1469	2.2035
Low Extent 2	14.2%	17	34	-1.3833	1.9135	32.5295
Very Low Extent 1	16.7%	20	20	-2.3833	5.6801	113.602
Total	100%	120	406			252.3644

Mean = 3.3833; STD = 1.4502.

Table 9. Region peace, security and development through capacity building programme against insecurity and terrorism.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	54.2%	65	325	1.8333	3.3610	218.465
Great Extent 4	29.2%	35	140	0.8333	0.6944	24.304
Moderate Extent 3	6.7%	8	24	0.1667	0.0278	0.2224
Low Extent 2	5.8%	7	14	-1.1667	1.3612	9.5284
Very Low Extent 1	4.2%	5	5	-2.1667	4.6946	23.473
Total	100%	120	380			275.9928

Mean = 3.1667; STD = 1.5166.

4.9. Creation of the Greater Nairobi Metropolitan Region Inter-County Parliamentary Union to Introduce the Context for Popular Participation in Decision-Making and Advance Cooperation Is Necessary

Respondents were asked whether creating The Greater Nairobi Metropolitan Region Inter-county parliamentary union is necessary to introduce the context for popular participation in decision-making and advance cooperation.

As per the results shown in **Table 10** below; 22.5% very great Extent, 24.2% great extent, 2.5% moderate extent, 25.8% low extent, and 25% very low Extent in agreement with the statement that the Creation of The Greater Nairobi Metropolitan Region Inter-county parliamentary union to introduce the context for popular participation in decision-making and advance cooperation is necessary. These findings with a mean of 2.9333 implied that when there is need for the creation of inter-county parliamentary union because this will introduce popular participation when it comes to decision-making and buttress cooperation. These results are supported by the findings of (Ntele, 2016) that noted regional integration process to be deepening particularly due to the expanding scope of the legislative instruments, coordination of national economic and social policies, the expansion of trade between countries as well as it trade with the rest of the world.

Table 10. Creation of The Greater Nairobi Metropolitan Region Inter-county parliamentary union to introduce the context for popular participation in decision-making and advance cooperation.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	22.5%	27	135	2.0667	4.2712	115.3224
Great Extent 4	24.2%	29	16	1.0667	1.1378	32.9962
Moderate Extent 3	2.5%	3	9	0.0667	0.0044	0.0132
Low Extent 2	25.8%	31	62	-0.9333	0.8710	27.001
Very Low Extent 1	25%	30	30	-1.9333	3.7376	112.128
Total	100%	120	352			287.4608

Mean = 2.9333; STD = 1.5477.

4.10. Removal of Trade Tariffs/Licenses in the Metropolitan Region Development

Respondents were asked whether removal of trade tariffs/licenses in the metropolitan region should be developed to enhance business growth.

As per the results shown in **Table 11** below; 44.2% very great Extent, 17.5% great extent, 15.8% moderate extent, 5.8% low extent, and 16.7% very low Extent in agreement with the statement the removal of trade tariffs/licenses in the metropolitan region should be developed to enhance business growth. These findings, with a mean of 3.65, implied that enhancing business growth in the metropolitan region can be made possible by removing trade tariffs/licenses. These results are supported by the findings of **Ratna and Huang (2014)** that states that Free Trade Areas reduce trade costs because of reduction in tariff and non-tariff barriers, thus increasing the competition and thereby improving the efficiency in the markets and in effect, increasing consumer welfare by bringing down the prices of imported goods, as well as by diversifying consumers' choice.

Speaking during a courtesy call by KAM Central Chapter Committee members, Kiambu County Governor, Mr. William Kabogo, announced that his government now recognizes Trade Licenses from other counties. *“In order to ease of doing business in Kiambu and to encourage manufacturers and suppliers from outside the county to do business in our county, my government is now recognizing trade licenses from other counties,”* said Mr. Kabogo.

KAM Central Chapter Chair, Mr. Anup Bid, hailed this as a positive step towards removing inter-county barriers. *“Since the inception of the new constitution dispensation, manufacturers have been facing serious challenges when distributing goods across county boundaries due to multiple trade licenses required. We appreciate the action by Kiambu County and hope that all other counties will take this example and recognize trade licenses across the whole country,”* he added.

On his part, Tobias Alando—KAM Head of Membership, commended the Governor on taking the lead and the initiative. *“This will send a strong message to other governors that recognizing other counties’ business permits is long.*

Table 11. Removal of trade tariffs/licenses in the metropolitan region development.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	44.2%	53	265	1.35	1.8225	96.5925
Great Extent 4	17.5%	21	82	0.35	0.1225	2.5725
Moderate Extent 3	15.8%	19	57	-0.65	0.4225	8.0275
Low Extent 2	5.8%	7	14	-1.65	2.7225	2.7225
Very Low Extent 1	16.7%	20	20	-2.65	7.0225	140.45
Total	100%	120	438			250.365

Mean = 3.65; STD = 1.4444.

4.11. Member Counties Cross Inter-Border Economic Activities

Respondents were asked whether member counties should identify any cross inter-border economic activities that they can start cooperating on, eventually leading to a comprehensive greater Nairobi Metropolitan region integration.

As per the results shown in **Table 12** below, 72.5% very great Extent, 19.2% great extent, 1.7% moderate extent, 2.5% low extent, and 4.2% very low Extent with the statement that member counties should identify any cross inter-border economic activities that they can start cooperating on that will eventually lead to a comprehensive greater Nairobi Metropolitan region integration. These findings with a mean of 4.5333 implied that when counties within the Greater Nairobi Metropolitan Region identify natural resources or activities that they can start cooperating on at individual levels this will form a base on which the final integration will be achieved. These findings are supported by the study on Master Plan for Urban transport in the Metropolitan Area which shows the existing water supply in Nairobi city has four sources, namely Kikuyu Spring, Sasumua Dam, Ruiru Dam, and Ngethu, and Ruiru found in Kiambu County (JICA, 2006). Local area sewerage disposal systems are proposed in Ngong and Ongata Rongai in Kajiado County on the northwest of Nairobi city. The planned area of piped water supply covers the Nairobi City and some part of Ruiru to the north in Kiambu County, and Syokimau and Athi River to the southeast.

4.12. Political, Economic and Social Challenges Facing the Realization of the Greater Nairobi Metropolitan Regional Integration

Respondents were asked whether there are political, economic and social challenges facing realization of the Greater Nairobi Metropolitan Regional integration.

Table 13 below show respondents' level of agreement, of which: 75.8% very great Extent, 16.7% great extent, 1.7% moderate extent, 2.5% low extent, and 3.3% very low extent that there are political, economic and social challenges facing the realization of the Greater Nairobi Metropolitan Regional integration. These findings with a mean of 4.5917 implied that the greater Nairobi Metropolitan Region

Table 12. Member counties cross inter-border economic activities.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	72.5%	87	435	0.4667	0.2178	18.9486
Great Extent 4	19.2%	23	92	-0.5333	0.2844	6.5412
Moderate Extent 3	1.7%	2	6	-1.5333	2.3510	4.702
Low Extent 2	2.5%	3	6	-2.4333	5.9209	17.7627
Very Low Extent 1	4.2%	5	5	-3.5333	12.4842	62.421
Total	100%	120	544			110.3755

Mean = 4.5333; STD = 0.9591.

Table 13. Political, economic and social challenges facing the realization of the Greater Nairobi Metropolitan Regional integration.

Level of Agreement (x)	Proportion	f	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$
Very Great Extent 5	75.8%	91	455	0.4083	0.1667	15.1697
Great Extent 4	16.7%	20	80	-0.5917	0.3501	7.002
Moderate Extent 3	1.7%	2	6	-1.5917	2.5335	5.067
Low Extent 2	2.5%	3	6	-2.5917	6.7169	20.1507
Very Low Extent 1	3.3%	4	4	-3.5917	12.9003	51.6012
Total	100%	120	551			98.9906

Mean = 4.5917; STD = 0.9082.

faces political, economic and social challenges to become an integrated region of four counties. These findings conform with Shemmy (2000), that content that politicians demonstrate little effort towards creating propitious conditions for the success of regional integration. Also, there is a lack of private sector activity in the regional integration schemes. Different rules and regulations and divergent tax procedures inhibit trade integration as much as the levels of intra-regional trade are still too low to contribute significantly to integration.

4.13. Infrastructure Sustainable Impact on the Transportation, Trade, Development and Integration of the Greater Nairobi Metropolitan Region

Respondents were asked whether infrastructure has a sustainable impact on the transportation, trade, development and integration of the Greater Nairobi Metropolitan Region.

As shown in Table 14, 74.2% very great Extent, 19.2% great extent, 0.8% moderate extent, 2.5% low extent, and 3.3% very low Extent that infrastructure has a sustainable impact on the transportation, trade, development and integration of the Greater Nairobi Metropolitan Region. These findings with a mean of 4.5833 implied that the Greater Nairobi Metropolitan Region can achieve sustainable transportation, trade, development, and integration through effective

Table 14. Infrastructure sustainable impact on the transportation, trade, development and integration of the Greater Nairobi Metropolitan Region.

Level of Agreement (x)	Proportion	f	xf	$(x - \bar{x})$	$(x - \bar{x})^2$	$(x - \bar{x})^2 f$
Very Great Extent 5	74.2%	89	445	0.4167	0.1736	15.4504
Great Extent 4	19.2%	23	92	-0.5833	0.3402	7.8246
Moderate Extent 3	0.8%	1	3	-1.5833	2.5068	2.5068
Low Extent 2	2.5%	3	6	-2.5833	6.6734	20.0202
Very Low Extent 1	3.3%	4	4	-3.5833	12.8400	51.36
Total	100%	120	550			97.162

Mean = 4.5833; STD = 0.8998.

infrastructure. The findings of this study are supported by the Nairobi Metropolitan Area Infrastructure Note 2019; infrastructure opens up areas for development and reduces development costs. It facilitates the decongestion of populous metropolitan Kenya with a relatively high urbanization rate of 4.3%, compared to the global average of 2.3%, resulting in notable human traffic in the capital city. Improving infrastructure, mainly in emerging County towns encourages residential and commercial living in these city outskirts, thus decongesting the city, and relieving pressure on the available limited resources and facilities.

5. Conclusion

The lack of effective mechanisms for coordination and dialogue on the Greater Nairobi Metropolitan regional integration through funding infrastructure projects poses major challenges to further infrastructure improvement. There is also a serious trust deficit among neighboring four counties that have risen from the ongoing sharing of resources that transcend county boundaries. They rank poorly on infrastructure performance concerning physical connectivity.

The greater Nairobi Metropolitan regional integration as an approach to development in Kenya has been the top priority of successive Kenyan leaders. It has been pursued in other Kenya regions such as the Lake Basin region, passing through several ups and downs. However, urban planning and development stakeholders still consider it as an indispensable part of their development ambitions.

Regardless of development efforts made on creating several regional integration blocks in Kenya, the Greater Nairobi Metropolitan Area has not fully realized the benefits of county neighborhood benefits because of challenges such as inadequate infrastructure, high levels of poverty, poor health conditions, food insecurity, inequitable distribution of wealth, political conflicts, high county cross-border taxes, low deepening financial pace and harmonized regulations. The Greater Nairobi Metropolitan area has made some progress towards enhancing the free movement of the people, opportunities for employment, and viable public institutions that share economies of scale.

6. Recommendations

The Government of Kenya should fast-track Nairobi Metro 2030 vision. This will redefine the Nairobi Metropolitan Area spatially to create sustainable wealth and quality of life for the residents of the four counties, investors, and those coming from the entire country.

To pave the way for seamless implementation of the Greater Nairobi Metropolitan Region by-laws, commitment and consensus is key by member counties. This is because it is a consequence of all-inclusive diplomatic consultation by leaders and citizens of the four counties.

Improvement in implementation policies developed by the Greater Nairobi Metropolitan Region (GNMR) must depend on member county development, harmonization, and integration of best practices from County Assemblies. This will likely lessen the risks of dissimilarities in the impact of GNAMER laws and policies on member counties. This should align with the supra-GNAMER laws to be viewed as operating within the Greater Nairobi Metropolitan Region.

The Greater Nairobi Metropolitan Region resource mobilization can be facilitated through a comprehensive program created by member counties. Thus there will be adequate resources to guarantee the operations of GNAMER.

To ensure coordinated policy formulation at each county level, policy formulators and legislatures at the County Assemblies must initiate capacity-building mechanisms. This will reduce conflict between the two levels and counties, enhancing cooperation and coordination at the metropolitan and regional level.

Meaningful public participation of all stakeholders and citizens of each County must rubberstamp any mandate and authority of the metropolitan region. That's what any county should be undertaken before it joins any regional block.

Member counties must be committed to implementing any law enacted by the supra institution without undue delay. They must strive to inculcate confidence among each other and also in the capacity of the Greater Nairobi Metropolitan Region to benefit the entire metropolitan region.

Member counties should avoid overlapping membership to more County regional blocs since this will eliminate wasteful and resource strain. However, based on the county's priority needs and strategic and economic pursuits, it has to be clear what the county will benefit by joining the metropolitan regional bloc.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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