

18

Younghoon Moon
Marco Kamiya
Yasou Konishi

Local Governments and Local Economic Development, Productive Capacity, and Spatial Analysis

Introduction

Economies of agglomeration and economies of scale are the two major benefits of urbanization, but despite a global trend towards urbanization, high population density—a key condition for realizing economies of agglomeration—is far from ubiquitous. Even the cities that do experience a rapid rise in density could suffer from negative externalities such as traffic congestion, environmental degradation, crime, violence, and slum formation. Likewise, unsustainable levels of density constrain cities from reaping the benefits of agglomeration and make provision of services inefficient and expensive. For cities with high population density to remain competitive and relevant, there is a growing need to devise plans to boost efficiency and supplement existing infrastructure, while cities with low populations must promote sustainable

expansion. This calls for policy interventions to help ensure that cities grow in a spatially and economically efficient and sustainable manner.

Dense, compact, and connected cities are hubs of ideas, knowledge, and investments. By facilitating interactions among people, they stimulate job growth, wealth, and innovation, which in turn enhance the quality of life of their residents.¹ Increasingly, cities are asserting themselves as major nodes for global supply chains, and competitiveness of a city is often defined by its level of connectivity. Some cities are gradually upending the conventional economic hierarchy by exerting more influence in the global economy than many countries. Cities can increase their influence by creating a business climate more conducive to investment and growth, and by implementing various development and planning tools to ensure this growth is sustainable and inclusive. Unfortunately, many fall short of fully integrating relevant economic dimensions into the urban planning process.

Previous chapters have focused on ways to diversify financing in order for local governments to provide better infrastructure and services. This chapter introduces an innovative local economic development (LED) methodology to help city leaders spur economic growth and generate jobs. Productive and competitive cities have demonstrated higher propensity to retain existing enterprises and talents while attracting new investors and skilled labour. A thriving local economy expands and diversifies the municipal tax base, which fosters sustainable local financial management. To this end, we propose an integrative approach of combining productivity analysis with spatial analysis to maximize the benefits of agglomeration while pursuing spatial sustainability.



For cities with high population density to remain competitive and relevant, there is a growing need to devise plans to boost efficiency and supplement existing infrastructure, while cities with low populations must promote sustainable expansion.

What is local economic development?

Local economic development (LED) is a participatory process in which various local stakeholders combine their efforts towards building a vibrant, resilient, inclusive, and sustainable economy by creating jobs and improving quality of life for all. LED is not a silver bullet or about “quick fixes”; rather, it is a strategic planning exercise that requires a long process of developing a deep understanding of a city’s economic assets and potential, identifying strategic growth industry sectors and their champions, and designing strategies and efficiently allocating resources to improve the competitiveness of the targeted sectors. The scope of the approach is broad and inclusive in nature; it engages both public and private, and formal and informal sectors of the economy. It aims at increasing the rate of economic growth and enlarging the size of the economy, while leveling the playing field for investment and generating productive employment opportunities for all.²

LED strategy complements a national government's urbanization strategy. While national governments often use a country's urbanization strategy to provide coordinated guidance and common vision for all actors, local governments have the best assessment of their own economic assets, and their potential and limitations. By targeting industries that are conducive to growth and job creation in one's specific urban configuration, this bottom-up approach promotes sustainable economic diversification and more efficient systems of cities.

Sustainable development of cities could be a daunting task for many developing countries, especially in South Asia and Africa, regions where populations are projected to double within the next 20 years. In an ideal world, a city would develop a wide spectrum of foundational infrastructure to increase productivity and competitiveness. In reality, however, governments struggle with limited resources and are in need of strategies to unlock growth potential efficiently. This is where the LED approach brings

strategic, targeted, and resource-efficient planning processes that complement the broader national economic development strategy.

The LED methodology consists of two major components: 1) productivity analysis of value chains and supply chains, and 2) spatial analysis.

Productivity analysis

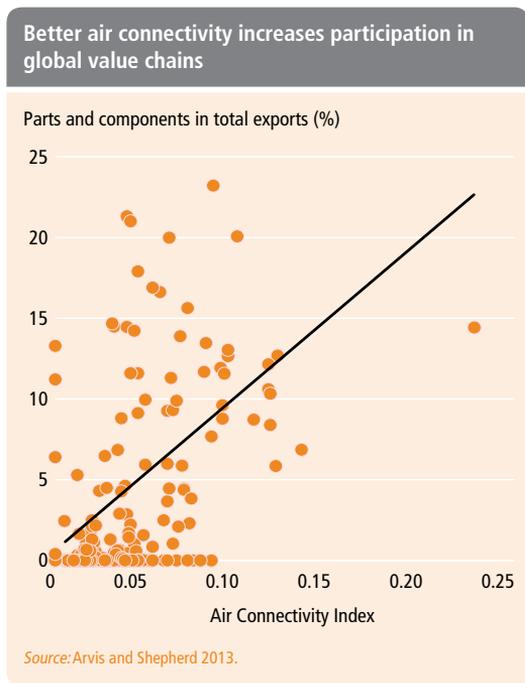
Cities are the primary platform for production, innovation, and trade, while industries are the engines of economic development and job creation. Cities promote mobilization of resources such as labour and capital; the resulting industrialization has transformed the landscape of many cities. Many cities have demonstrated how economic development policies backed by sector-specific strategies could deliver economic growth (examples include the software industry in Bangalore and Silicon Valley, trade and tourism in Dubai, or the shipping industry in Rotterdam). Productivity analysis helps identify an industry sector with potential for growth and creates a business-enabling climate to support the targeted industry sector to become more productive and competitive. By doing so, a city will be able to both expand and consolidate forward and backward linkages, creating more jobs across the sector value chain.

Well-connected cities are also vital nodes for global markets (see Figure A). It is now conventional wisdom that openness to trade has a strong correlation with growth and opportunities. Although trade is considered imperative for economic development, many developing countries are stymied by various endogenous factors. In this light, the productivity analysis approach also aims at making inroads into the global value chain by making the targeted sector more competitive and efficient.



Market in Sri Lanka © United Nations

Figure A: Air connectivity and participation in the global value chain



The graph demonstrates a strong correlation between air connectivity and participation in the global value chain. As connectivity increases, so does the share of exports composed of parts and components. This finding provides a basis for countries and cities to improve their logistics and connectivity to global networks while mitigating inefficiencies.

Source: World Bank, *Connecting to Compete: Trade Logistics in the Global Economy* (Washington, World Bank, 2014). Available from <http://www.worldbank.org/content/dam/Worldbank/document/Trade/LPI2014.pdf>.

Value chain analysis and supply chain analysis³

Productivity analysis takes into account both value chain analysis (VCA) and supply chain analysis (SCA). In general, a value chain/supply chain is considered more competitive if it can deliver high-quality goods and services at the lowest cost and in the least amount of time.

VCA is an accounting tool that deconstructs how value is created and added as a product flows from raw material to final product (see Case Study 1 for

a specific example). It is one of the most powerful tools in today's globalized economy for creating an enabling business environment. By dissecting and analyzing how much cost and value is added at each segment of the production process—from the raw materials stage until a product reaches end consumers—it allows us to measure the efficiency of each of these stages. VCA also identifies distortions caused by policies, regulations, and market and human resources that hinder industries from becoming more competitive.⁴

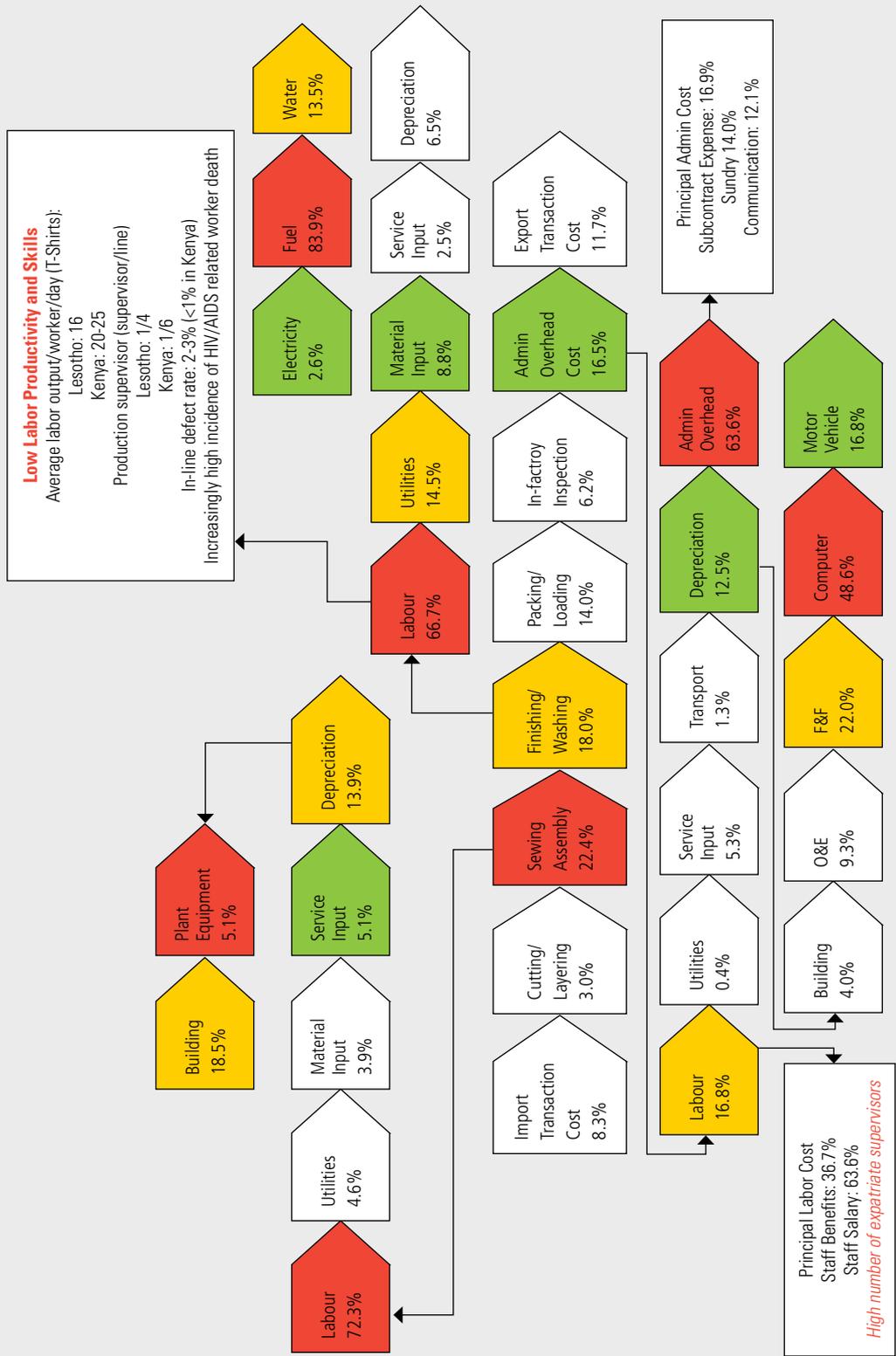
The process of VCA can be simplified into three stages:

- 1) Map out the industry value chain ranging from raw material to end users in qualitative and quantitative terms.
- 2) Set benchmarks against international competition and best practices in order to understand which specific segment of the value chain or policy is presenting challenges vis-à-vis the competition.
- 3) Combine this knowledge with the understanding of the institutional and regulatory factors that underlie performance measures to enable both the public and private sector to design strategies to mitigate hindrances while enhancing competitiveness.⁵

Some identified constraints may be industry-specific, while others may be cross-cutting across all industries. A proper VCA's scope goes beyond industry to integrate aspects of the policy and regulatory environment that bind enterprises' operations (as mentioned above). Hence, the analysis has significant implications for both the public and private sectors in designing strategies for growth and competitiveness. Thus, this calls for a participatory and integrated approach engaging a wide range of stakeholders.

Case Study 1: Productivity and competitiveness in Lesotho versus Kenya, sector level

Tool to Measure Productivity and Competitiveness Between Countries



The above figure provides an example of a value chain analysis map for the production of t-shirts in Lesotho for the U.S. market. As the figure indicates, the production of a t-shirt takes place in eight value-adding stages, namely import transaction cost (importing cotton material), cutting and layering, sewing and assembly, finishing and washing, packing and loading, in-factory inspection, administrative overhead, and export transaction cost (rail cost to Durban port, and shipping cost to the United States). The VCA map shows that sewing and assembly (highlighted in red) is the biggest cost driver for the production of a t-shirt, followed by finishing and washing (yellow highlight), and administrative overhead costs (green highlight). When each of these

key cost drivers are further disaggregated, the analysis draws attention to the weak labour skills associated with t-shirt production, which are undermining labour productivity (workers in Lesotho produce, on average, 16 t-shirts/person/day, while workers in Kenya producing the same t-shirt average about 20–25 t-shirts/person/day). This suggests that targeted training in skills development specifically for sewing and assembly, and finishing and washing would improve the competitiveness of the garment sector in Lesotho. Such analysis helps focus the attention of policymakers and private sector operators on specific interventions to help improve sector competitiveness.⁵

Source: *Global Development Solutions, Measuring the Cost of Trade Logistics on Agribusiness (Reston, Va., Global Development Solutions, 2013).*



Cities are the primary platform for production, innovation, and trade, while industries are the engines of economic development and job creation. Cities promote mobilization of resources such as labour and capital; the resulting industrialization has transformed the landscape of many cities.

While VCA helps us to understand the cost efficiency at each value-adding segment along a production system, supply chain analysis assesses the efficiency of the flow of goods and services from producers of raw inputs to end consumers both within and out of the country. A supply chain is an institutional arrangement that links a set of activities in which firms engage in a specific industry as they move from producers, packagers, marketers, and to consumers. It is a conduit through which products, services, information, and capital move from one segment of the chain to another until they reach the final consumer.⁷ For example, a supply chain mapping exercise captures the flow, cost, time, and efficiency of an agricultural crop from farm gate to the final consumer. This exercise provides insights into specific trade logistics constraints hindering competitiveness, and helps identify both policy- and market-based interventions to improve efficiency and competitiveness. Supply chain efficiency is bound by both physical and trade logistics infrastructure, which are often defined by urban planning.

Many consider improving functions of supply chains and logistics as central to global value chain participation and economic growth. Based

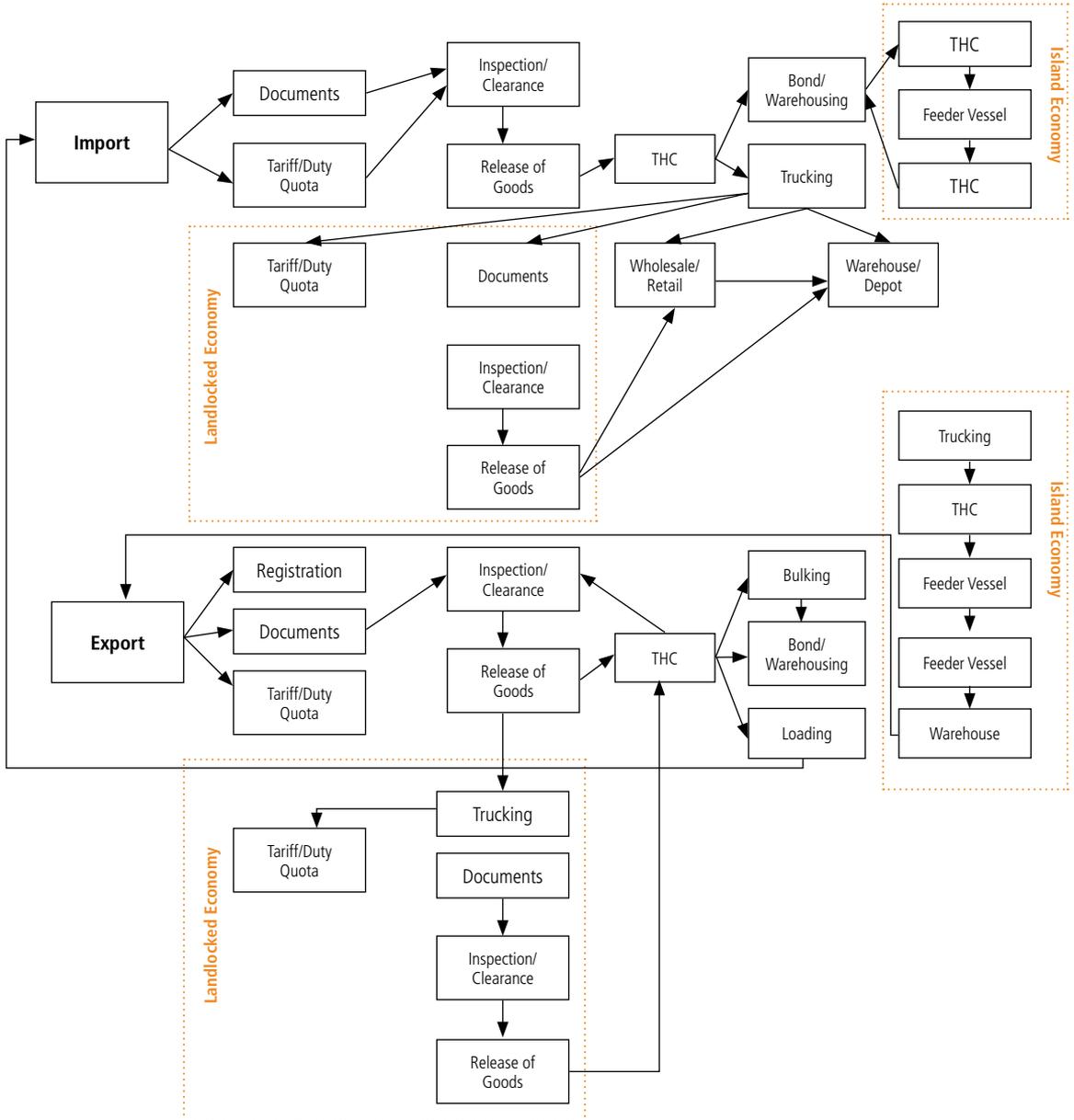
on the findings from the value chain analysis, one can identify particular value-adding segments or a sector that could be plugged into the global value chain. The objective of this exercise is to improve logistical performance on the premise that strong correlations exist between connectivity and global value chain participation.⁸ However, supply chains are often fragmented, especially in developing countries. Fragmentation results in, among other things, waste, income loss, increased product price, and lack of product availability in the market. For example, one can witness a domestic market importing agricultural products despite having farmers available domestically.

The proposed methodological framework highlights key factors that affect cost, time, and quality of goods and services required for operating a competitive sector. The entire flow from raw material to the arrival of final products and services into the hands of both domestic and foreign consumers needs to be considered in conducting the analysis. The process entails finding out the economic cost of each step along the flow. Figure B, for example, maps the logistical flow of imports/exports and the key factors involved in different geographies.



A supply chain is an institutional arrangement that links a set of activities in which firms engage in a specific industry as they move from producers, packagers, marketers, and to consumers.

Figure B: Import–export trade logistics framework



Source: Global Development Solutions, *Measuring the Cost of Trade Logistics on Agribusiness* (Reston, Va., Global Development Solutions, 2013).

The steps taken in the analysis parallel those of value chain analysis. Once the economic costs of key factors in the product flow are collected, we compare the efficiency of the targeted supply chain with competitors and global standards. Prior to designing strategies to overcome supply chain bottlenecks, developing a thorough understanding of institutional and infrastructural frameworks is crucial.

Likewise, developing a thorough understanding of how well a value/supply chain works demands primary and up-to-date information. Secondary desk research could suffice for understanding global and regional trends and demand. However, collecting data and information on domestic markets could be a great challenge, especially in developing countries due to limited data availability. It is both cost- and time-efficient to first look for already-existing relevant reports. In case such reports are not available or require updating, it is possible to build an estimate from scratch by conducting chain-wide surveys and interviews with stakeholders from relevant public and private institutions. In doing so, there are myriad factors to be taken into account.

Variables to consider for value/supply chain competitiveness

Value/supply chain analysis requires analyzing several variables that buttress a sector and, therefore, determine its competitiveness. They are broadly categorized into hard and soft infrastructure. The former includes:

- *Transport infrastructure:* There are three main modes of transport: land, air, and sea. A well-developed and connected network of roads, air links, and maritime shipping combined with an efficient trucking and cargo system will facilitate the movement of goods and services, while any poorly designed mode of transport will result in

slow movement and higher shipping costs. The quality of transport infrastructure heavily influences the true economic distance⁹ along the value chain.¹⁰

- *Logistics:* This refers to warehouses, refrigeration and distribution facilities, and cold-chain facilities. The importance of such facilities is greater for value chains that move time-sensitive and perishable goods, such as in agribusiness.

The following variables that fall under soft infrastructure are as critical to sector competitiveness as those of hard infrastructure:

- *Human resources:* This refers to labour skills (including both life skills and job- and task-specific skills) and wages, which determine labour productivity. It also includes formal educational institutions as well as vocational training institutions, which are responsible for disseminating technology, technical and managerial skills, and knowledge. Without strong support of these institutions, a sector will not be able to compete, even with advanced transport infrastructure.
- *Financial institutions:* While physical infrastructure is crucial for moving goods and services from producers to consumers, the financial sector plays a pivotal role in the efficient allocation of resources and in facilitating payments. The financial services industry consists of five broad categories of services: banks, insurance, securities, asset management, and financial information. The importance of financial services becomes amplified if an industry engages in international trade; these services are also important for the growth of enterprises.¹¹
- *Customs and freight forwarding:* Moving goods from producers to consumers along the supply chain also depends on the quality of transport and associated services, such as customs and freight forwarding.¹²

- *Legal/regulatory framework:* Governmental institutions provide services or set regulations that impact the competitiveness of trade logistics. Also, anticompetitive behavior and restrictive regulations towards transport services and infrastructure could increase transport costs and ultimately may undermine trade and market share. The private sector could play a major role in infrastructure investments as well as services, provided it gets the necessary credit for investments. Access to affordable credit by the private sector is particularly low in developing economies due to lack of strong institutions, poor enforcement of contracts, and weak rule of law. A weak regulatory framework makes investors apprehensive to invest in places where investments are most needed.¹³
- *Information and computer technology (ICT):* ICT is a cross-cutting issue that facilitates information and knowledge sharing along the value chain. For example, the development of computerized customs systems significantly lowers human error, corruption, and the length of clearance processes. Also, improved communication along the supply chain lowers inconsistency and unexpectedness while improving inventory management.¹⁴
- *Business climate:* In order for any sector to expand and grow, an economy needs investments and startups that could transform and support the development of existing and new products and services. In this regard, it is essential to have a business-enabling environment that promotes and rewards entrepreneurship and risk-taking.
- *Safety and security:* Security is a key prerequisite for economic growth. When there is an actual or perceived risk in security arising from military forces, terrorism, or religious fundamentalists, there is less likelihood for any future investment commitment. As the cost of doing business in an

unstable environment is high, very little, if any, investment will flow in.

In addition to the aforementioned endogenous variables, there are other factors, such as geography and climate change, that fall beyond the jurisdiction of city or national governments and that also affect supply chain and trade efficiency. Although the effects must not be overlooked, improving on the above endogenous variables will bring significant improvement to a city's supply chain and logistics performance. An efficient supply chain and logistics within a country is the gateway for participation in a global value chain.

Action-oriented participatory process

As the saying "a chain is as strong as its weakest link" suggests, components of the same value/supply chain are highly interdependent. The efficiency of one segment heavily influences the competitiveness of another. For example, if a leather tannery produces leather sheets at high cost, leather shoe manufacturers are likely to increase the market price for their finished leather shoes. Overall coordination that generates trust and predictability along the value/supply chain also enhances the efficiency of a sector. This gives supply chain-wide incentives to collaborate to bring about a more integrated value chain approach. Thus, from the outset, it is important to engage the wide range of members of the value chain and supply chain from both the private and public sectors. This will allow the sectors to develop a common vision and thus bring about an integrated, sustainable, and competitive value chain and supply chain.

Analyzing a sector through a value chain and supply chain lens allows us to identify and plug the gap along the chain. Combined with the findings from global and regional trends and demand, local sectors

could explore opportunities for value addition or expand their market share. In today's globalized economic landscape, specialization of a competitive sector or a segment of a sector could allow a city to plug itself into a global value chain while productively connecting its people to the world.

Spatial economic analysis

The principal objective of spatial analysis is to help cities design an urban layout that is compact, integrated, and connected. Urban reconfiguration brought about by ongoing urbanization has put local governments under pressure to provision essential services. Current research indicates that six out of seven cities in developing countries are undergoing a decline in population density, which incurs significant costs for governments.¹⁵ There is a growing need for better spatial allocation of services and infrastructure to enable cities to become livable and sustainable economic powerhouses.

The second component of our integrative LED approach examines the spatial and cartographic perspectives of a city and its key industrial sector. This not only allows us to develop a spatial understanding of a city, but more importantly, aids in improving cohesion among various infrastructure projects that connect and buttress industries.

Conducting spatial analysis

If productivity analysis is an exercise in uncovering the linkages among, and determining the efficiency of, stakeholders in a value/supply chain, spatial analysis is a visualization of the findings from the productivity analysis. This can be simplified into four stages:

1) Map the fundamental elements of the city, such

as roads, ports, and warehouses.

- 2) View the findings of productivity analysis through a spatial perspective: Map out the sector players as well as the flow of products, services, and labour among stakeholders of the targeted sector.¹⁶
- 3) Identify production hubs/clusters where there are concentrated business activities and enterprises.
- 4) Develop both immediate and long-term strategies to further integrate the supply chain and optimize the movement of production factors by combining the previous three steps with projected urban expansion. For example, by identifying key production hubs to support, subnational governments can plan city extension around the region to accommodate population expansion, facilitate the supply of skilled labour, improve infrastructure, and provide public transportation.

Key factors to consider in spatial analysis

The following are three of the key factors to consider while conducting spatial analysis to optimize its use:

- **Mobility:** The goal is to maximize mobility of production factors—people and goods—while minimizing economic distance. The intricate linkages and the flow of input and output among value/supply chain members will be identified during productivity analysis. Mapping the flow of products and services by using geospatial tools enables us to understand distance traveled by inputs. This exercise begets numerous potential activities in respect to improving mobility. For example, it allows sector stakeholders to detect whether there are any economic opportunities being lost by proximate suppliers. By analyzing the trend, stakeholders along a value chain can efficiently increase business transactions among

local companies. As a result, a sector will witness growth in production while making the flow of goods more economically efficient.

The same concept applies to labour. Labour is one of the key factors of production, and the ease of mobility affects productivity of a city.¹⁷ Increased mobility of labour brings economy-wide productivity gain by enabling a higher degree of skills matching. Furthermore, on the premise of increased mobility boosting accessibility, less time spent commuting allows people to pursue other productive activities. In developing countries where public transportation could be a major constraint and having multiple jobs is common, increased labour mobility and accessibility could yield significant economic benefit for individuals and the economy.

Indicators such as accessibility to arterial roads, intersection density, land use mix, and the presence of dedicated and safe pedestrian spaces can contribute to measuring the level of labour and product mobility in a given urban layout.

UN-Habitat views sustainable mobility as a means of realizing accessibility rather than an end in itself. The notion of accessibility surpasses simple physical distance; it encompasses access to opportunities and empowers people to fully exercise their human rights.¹⁸

- **Connectivity:** Connectivity of a city is measured by how central a city is to global markets and transportation and logistics networks. Connectivity is increasingly considered as one of the more powerful proxies for gauging a city's development potential. Being better and more efficiently connected to or having access to big markets lowers economic costs. Moreover, the more connected a city is, the higher is the propensity to access new ideas, technologies, innovations, etc. While connectivity is often defined by geographic location, it does not

necessarily determine competitiveness of a sector in a given location. Infrastructure also is a key variable, and spatial analysis allows us to assess the level of connectivity as well as identify areas for infrastructure investments and service provisions. There are indices, such as UNCTAD's Liner Shipping Connectivity Index, that measure countries' connectivity.¹⁹

- **Inclusiveness:** One objective of spatial analysis is to promote inclusive economic growth. It has been demonstrated over the years that urbanization is a powerful tool for economic development. Without proper planning and efforts, however, such positive externalities of urbanization will not be shared equally and may fail to reach vulnerable populations. Application of spatial analysis ensures that the new configurations of expanding urban areas are well-integrated into the existing urban network and are not alienated from the urban economy and basic amenities.



Rush hour in Port Moresby, Papua New Guinea © UN-Habitat

Spatial analysis for future projections

Spatial analysis is not only vital for assessing the status quo, but also for making projections and future plans.²⁰ A study of 120 sample cities shows that, on average, the growth of built-up urban areas has been outpacing that of population, leading to lower density in cities worldwide between 1990 and 2000.²¹ The trend is projected to continue. In addition to urban population doubling between 2010 and 2050 in developing countries, urban land will explode; land consumption rates per capita will increase due to lower transportation costs and economic growth. A mere one per cent increase in land consumption per capita per year will result in a tripling of urban land in developing countries. The effect will be even more dramatic for sub-Saharan Africa, where the same one per cent increase will result in a six-fold rise in urban land.²² Besides, poli-

cymakers must anticipate additional land and jobs being required to maintain available and affordable housing, to ensure quality of life is high, and to keep the unemployment rate low.

Overlooking this continued urban expansion and the need for evidence-based planning will have negative effects not only on urban mobility and connectivity, but also on urban productivity. Numerous cities are already experiencing the adverse effects of limited urban policy actions. Table 1 shows lower-than-average urban layout performance indicators for many African cities. Subnational governments will struggle to provide basic infrastructure and services in the face of ongoing low-density urban land expansion. Unchecked expansion in developing-country cities will aggravate already-poor connectivity and mobility.

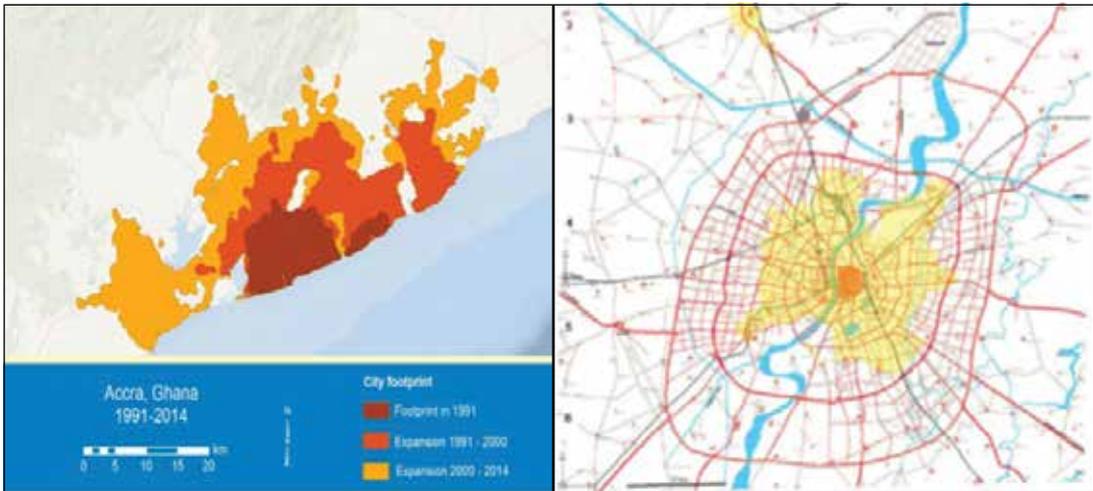
Table 1: Urban layout in Africa and Riyadh: Street networks

City / Region	Share of Built-up Area Occupied by Roads & Boulevards			Average Block Size (Hectares)			4-Way Intersection Density (Number per Hectare)			Walkability Ratio			Average Plot Size in Informal Land Subdivisions			Average Plot Size in Formal Land Subdivisions		
		±	%		±			±			±			±			±	
Accra	17	±	3%	3.7	±	1.0	0.12	±	0.08	1.7	±	0.2	949	±	287	905	±	
Addis Ababa	25	±	4%	3.9	±	1.7	0.33	±	0.10	1.6	±	0.1	239	±	365		±	
Arusha	14	±	3%	4.2	±	0.9	0.16	±	0.06	1.7	±	0.2	289	±			±	
Ibadan	13	±	1%	5.1	±	3.4	0.13	±	0.07	1.6	±	0.1		±			±	
Johannesburg	18	±	3%	7.5	±	3.0	0.16	±	0.08	2.3	±	0.5	191	±	96	291	±	103
Lagos	14	±	2%	4.4	±	1.2	0.01	±	0.02	1.8	±	0.3		±			±	
Luanda	15	±	2%	2.3	±	0.7	0.40	±	0.16	1.7	±	0.2	403	±	192		±	
Cairo	26	±	4%	5.3	±	1.8	0.28	±	0.34	1.6	±	0.2	672	±	187	418	±	1,953
Riyadh	34	±	4%	6.0	±	2.5	0.04	±	0.05	1.7	±	0.2		±		496	±	193
Average World	20			6.3			0.21			1.7			465			643		
Count	53			53			53			53			18			26		

Source: NYU, Lincoln Institute of Land Policy, and UN-Habitat, *Atlas of Urban Expansion* (n.p., forthcoming 2016).

In tandem with conducting urban expansion projections, cities may include arterial road grid plans in the urban development. The exercise maps out major transport infrastructure such as urban and intra-urban roads and public transport (see Figure C). The objective is to provide equitable access and connectivity among the entire projected area of expansion.²³ Well-planned transport infrastructure could significantly increase connectivity of a city and the movement of products and services along the supply chain.

Figure C: Urban land expansion in Accra, Ghana, and the arterial road grid for Ahmedabad, India



Source: NYU, Lincoln Institute of Land Policy, and UN-Habitat, *Atlas of Urban Expansion* (n.p., forthcoming 2016).



More often than not, government economic and urban planning functions occur in silos. Economic development projects tend to ignore the spatial dimension, while the economic perspective is consistently left out in many urban planning processes.

Conclusion: An integrative approach

More often than not, government economic and urban planning functions occur in silos. Economic development projects tend to ignore the spatial dimension, while the economic perspective is consistently left out in many urban planning processes. This integrative LED approach brings together the two critical dimensions of urban development. On the one hand, it conducts more of a conventional economic competitiveness assessment using value chains and supply chains to identify key players in a targeted sector and factors constraining it. The analysis then puts forward regulatory and sector policy recommendations to address the identified bottlenecks. On the other hand, the approach applies the spatial element of urban planning to visualize the functional aspect of the value/supply chain and to explore ways to harness the expansion of urban population and urban land consumption to be of the optimum use to industries and the economy.

By integrating economic and design aspects of urban development, the proposed LED approach surveys urban competitiveness and sustainability in a comprehensive manner that very few existing development tools can match. It provides a participatory framework for the public and private sectors to collaborate from the stage of problem identification to solution implementation. More competi-

tive and integrated sectors will benefit the private sector and city inhabitants by creating value-adding jobs and fostering a vibrant local economy. It also benefits local governments by providing a sound foundation for evidence-based policymaking, enhancing local governance, and by expanding opportunities for revenue enhancement.

The discussed LED tool proposes a sector-specific approach to enhancing local economic competitiveness and spatial sustainability. As opposed to spreading subnational governments' limited budget thinly across multiple industries, a sector-specific approach delivers greater impact in a more efficient manner. However, the question around sector identification is critical. Cities have to identify an emerging sector prior to applying the proposed LED toolkit. Although the identification process is a critical prerequisite for successful LED implementation, it may not be a trivial task for subnational governments, requiring technical analysis and a joint effort from the private sector. This can be done by combining trade data, sector value-added statistics, and labour intensity data; however, this information is not always available. Describing and developing this approach is beyond the scope of this chapter, but is part of an upcoming study by UN-Habitat.

Younghoon Moon is a consultant for the Urban Economy Branch of the United Nations Human Settlements Programme.

Marco Kamiya is coordinator of the Urban Economy Branch of the United Nations Human Settlements Programme.

Yasou Konishi is the managing director of Global Development Solutions LLC.

Endnotes

- 1 Edward L. Glaeser, *Triumph of Cities* (New York, Penguin Press, 2011).
- 2 UN-Habitat, *Promoting Local Economic Development Through Strategic Planning* (Nairobi, UN-Habitat, 2005).
- 3 VCA is often used interchangeably with supply chain analysis. The minor difference resides in the fact that supply chain analysis focuses on the movement of products, materials, services, and information, from one point of value addition to the next, while VCA focuses specifically on accounting for each stage of value addition for a good or service.
- 4 Foreign Investment Advisory Service (FIAS), *Moving Toward Competitiveness: A Value-Chain Approach* (Washington, Foreign Investment Advisory Service, 2007).
- 5 Foreign Investment Advisory Service (FIAS), *Moving Toward Competitiveness: A Value-Chain Approach* (Washington, Foreign Investment Advisory Service, 2007).
- 6 Since the analysis was conducted, skills development programmes were introduced in the garment sector in Lesotho, which has contributed greatly to improve sector competitiveness, and Lesotho continues to be the second-largest exporter of garments to the U.S. market under the African Growth and Opportunity Act.
- 7 Martha C. Cooper, Douglas M. Lambert, and Janus D. Pagh, "Supply Chain Management: More Than a New Name for Logistics," *International Journal of Logistics Management*, vol. 8, issue 1 (1997).
- 8 World Bank, *Connecting to Compete: Trade Logistics in the Global Economy* (Washington, World Bank, 2014). Available from <http://www.worldbank.org/content/dam/Worldbank/document/Trade/LPI2014.pdf>.
- 9 Economic distance is the time and cost of transporting goods between departure to destination. It could be measured by the costs incurred or the time required.
- 10 Global Development Solutions, *Measuring the Cost of Trade Logistics on Agribusiness* (Reston, Va., Global Development Solutions, 2013).
- 11 Global Development Solutions, *Measuring the Cost of Trade Logistics on Agribusiness* (Reston, Va., Global Development Solutions, 2013).
- 12 Global Development Solutions, *Measuring the Cost of Trade Logistics on Agribusiness* (Reston, Va., Global Development Solutions, 2013).
- 13 Global Development Solutions, *Measuring the Cost of Trade Logistics on Agribusiness* (Reston, Va., Global Development Solutions, 2013).
- 14 Global Development Solutions, *Measuring the Cost of Trade Logistics on Agribusiness* (Reston, Va., Global Development Solutions, 2013).
- 15 UN-Habitat, *State of the World Cities* (Nairobi, UN-Habitat, 2012). Available from <http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3387>.
- 16 UN-Habitat, *First Steps Towards Strategic Urban Planning* (Nairobi, UN-Habitat, 2008). Available from <http://unhabitat.org/books/garowe-first-steps-towards-strategic-urban-planning/>.
- 17 Mobility of capital is also crucial for the reasons mentioned in the financial institutions section under value chain analysis.

18 UN-Habitat, *Planning and Design for Sustainable Urban Mobility* (Nairobi, UN-Habitat, 2013). Available from <http://unhabitat.org/planning-and-design-for-sustainable-urban-mobility-global-report-on-human-settlements-2013/>.

19 UNCTAD, *Liner Shipping Connectivity Index* (Geneva, UNCTAD, 2016). Available from <http://unctadstat.unctad.org/wds/TableView/tableView.aspx?ReportId=92>.

20 There are a number of ongoing studies and platforms for urban spatial data and analysis that can be accessed by the public. City leaders are encouraged to explore platforms such as Lincoln Institute's Atlas of Urban Expansion and World Bank's Platform for Urban Management and Analysis (PUMA) to understand global urbanization trends and to compare urbanization across countries and cities.

21 S. J. Angel, D. Parent, L. Civco, and A. M. Blei, *Atlas of Urban Expansion* (Cambridge, Mass., Lincoln Institute of Land Policy, 2010). Available from <http://www.lincolninst.edu/subcenters/atlas-urban-expansion/>.

22 NYU Urban Expansion Program, *Monitoring the Quantity and Quality of Global Urban Expansion* (New York, New York University, 2015). Available from http://marroninstitute.nyu.edu/uploads/content/Monitoring_the_Quantity_and_Quality_of_Urban_Expansion,_22_September_2015_WP24.pdf.

23 NYU, Lincoln Institute of Land Policy, and UN-Habitat, *Atlas of Urban Expansion* (n.p., forthcoming 2016).