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Last-mile distribution in Ethiopia

With about 123 million people, Ethiopia is the second most populous nation in Africa after Nigeria, and one of the fastest-growing economies in the region. Ethiopia exhibits a consistent demand for consumer products that is anticipated to continue to grow over time.[1] However, Ethiopia's vast and diverse landscape presents formidable challenges to delivering vital services and infrastructure to its remote and underserved communities, often referred to as the 'last mile'.

This brief report highlights the intricate web of challenges faced in the last mile, including geographical diversity, infrastructure deficiencies, and limited technology access, particularly in relation to critical areas such as healthcare. The analysis underscores the importance of addressing last-mile distribution issues to stimulate economic growth, improve access to essential services, and make distribution systems more efficient in Ethiopia.

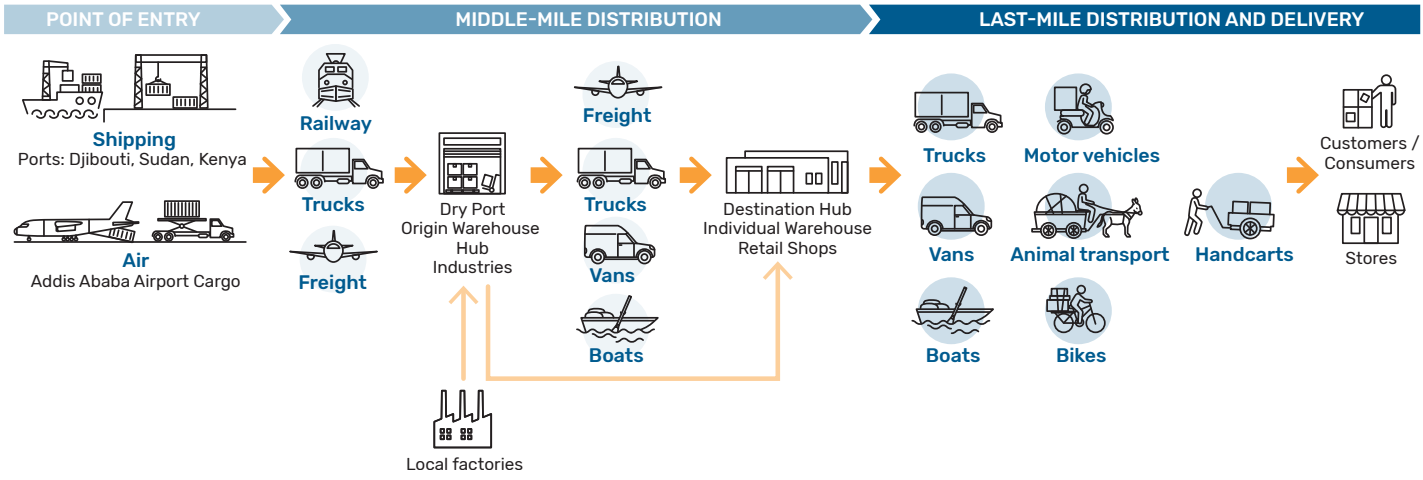
Current transportation patterns: An introduction

Transport patterns play a pivotal role in shaping the last-mile distribution sector in Ethiopia. In rural areas, the freight transport and distribution process typically starts with farmers using porterage or pack animals to move produce to their homes. Surplus goods are taken to the nearest market using similar means. Traders and cooperatives purchase these products, often using small trucks or pack animals, and may process them locally. Finally, the goods are delivered to nearby warehouses or freight stations as part of the rural logistics chain.[2]

'Last-mile distribution' refers to the final stage of the delivery process when goods or services reach the end consumer. The term is frequently used in the contexts of supply chain management and transportation planning to describe the efficient movement of products from a transportation hub to the final delivery destination.[3]

In Ethiopia, last-mile distribution plays a significant role in various sectors of the supply chain, including logistics and transportation, agriculture, healthcare, waste management, postal and courier services, FMCG (fast-moving consumer goods), education and telecommunications. The components of Ethiopia's supply chain are shown in Figure 1.

Figure 1. COMPONENTS OF THE ETHIOPIAN SUPPLY CHAIN



Ethiopia's last-mile consumers represent a vast market segment, with over 24 million rural Ethiopians at the bottom of the economic pyramid who have purchasing power but limited access to high-quality goods and services.[4] This presents a significant growth opportunity for investors to cater to the needs of this underserved population and foster inclusive economic development.

Currently, last-mile delivery in Ethiopia, particularly in rural areas, operates within an informalised gig economy. There are approximately 62,000 last-mile delivery trucks in Ethiopia, often owned by individuals who are not members of associations and frequently lack cargo insurance, increasing the risks for commercial cargo owners. Moreover, these trucks are often booked based on verbal agreements, with no formal obligations for truckers to adhere to the expected pick-up times. Finally, as there is no clear pricing methodology or itemisation of receipts, truck owners often set high and arbitrary rates.[5]

In urban areas, the freight transport and distribution process is more streamlined. Goods are typically transported using trucks, vans or specialised delivery services directly from suppliers or distribution centres to retail stores, warehouses or consumers. This urban logistics system is characterised by faster and more efficient transportation compared to rural areas, where traditional methods such as porterage and pack animals are often used.[6]

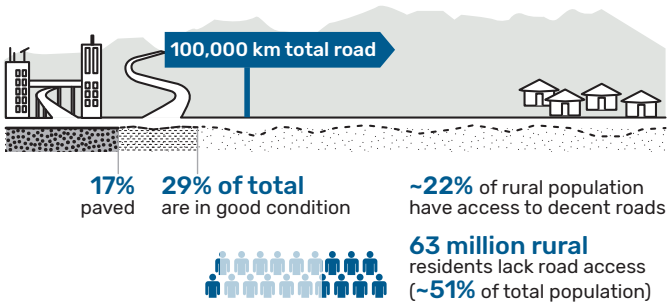
Despite these differences, the current status of last-mile delivery in Ethiopia is marked by underdevelopment and fragmentation, especially in rural areas. Limited transportation options and poor road infrastructure pose significant challenges, making deliveries more difficult and reliant on traditional methods such as foot traffic, animal cart transportation, and smaller vehicles. In contrast, urban areas, while still facing logistical complexities, generally have better access to distribution networks. Cities such as Addis Ababa have more organised and efficient delivery systems due to improved infrastructure and technological advancements, such as mobile apps and door-to-door delivery.[7] Various delivery services, including motorcycles, vans, and trucks, are commonly utilised in urban areas.

Interestingly, throughout Ethiopia, the private sector has developed solutions for last-mile delivery, access to finance, and agricultural input services. Several companies have expanded their operations in Ethiopia to meet the rising demand for express logistics and last-mile delivery.

The following are examples of those companies:

- Holland Dairy
- Moha Soft Drink Manufacturing Plc
- Menkem International Plc
- Coca-Cola
- Unilever
- Bopinc
- Deliver Addis
- 54 Capital
- Seregela Gebya
- UPS
- Habesha Beer
- Aramex
- Kidame Mart
- Eshi Express
- Heineken

General accessibility conditions



STATUS QUO OF FLOW OF GOODS

In terms of the flow of goods, Ethiopia relies on a multi-modal transportation system. Goods typically enter the country through major points of entry, such as the ports of Djibouti, Sudan, and Kenya for sea freight, and Addis Ababa Airport Cargo for air freight. From these points, goods are transported via major arterial routes, via the main road and rail networks, predominantly by road, to various internal distribution centres and urban hubs. Once goods are sorted at warehouses and dry ports, logistics companies, warehouse operators, and freight handlers, will transition goods to the last mile; factories also send their output to these hubs for last-mile delivery.

For the last mile in urban areas, goods are delivered using a network of trucks and vans that navigate the comparatively well-developed city roads. In contrast, in rural regions, where the infrastructure is less developed, a variety of modes come into play, including animal-drawn vehicles, motorcycles, bicycles, and manual transport. The Ethiopian government, through its infrastructural development initiatives, is working to bridge these urban-rural disparities, aiming to create a more seamless flow of goods from the point of entry to the final destination.[8]

ROAD CONNECTIVITY

One reason for the poor last-mile distribution performance in Ethiopia is bad road conditions. The total Ethiopian road network consists of nearly 100,000 km of roads, but only 17% are paved and only around 29% of all roads are in good condition. Additionally, there is poor connectivity in rural areas – there are simply not enough roads that are in a good condition. Approximately 22% of rural residents have access to roads in a decent condition. As a result, 63 million rural residents lack road access.[9] This is significant, considering that the total Ethiopian population is about 123 million people. However, challenges remain, such as the lack of integration and coordination between different modes of transportation, which can lead to inefficiencies, delays, and increased costs in the transportation system.

STORAGE AND WAREHOUSING

Access to storage and warehousing facilities, especially in the context of rural, regional and international freight movement and distribution, relies on a variety of entities. These include government agencies, public enterprises, private commercial companies, individual traders and farmers' cooperative unions. These diverse ownership models underscore the critical role of storage facilities in preserving and efficiently distributing goods. The accessibility of these facilities is influenced by factors such as their location, capacity and infrastructure, all of which play a pivotal role in ensuring timely and cost-effective last-mile distribution within Ethiopia. However, the effectiveness and efficiency of last-mile distribution operations can vary based on the level of investment in infrastructure and technology associated with different ownership models, underscoring the importance of addressing these considerations for improved accessibility and logistics efficiency in Ethiopia.[2]

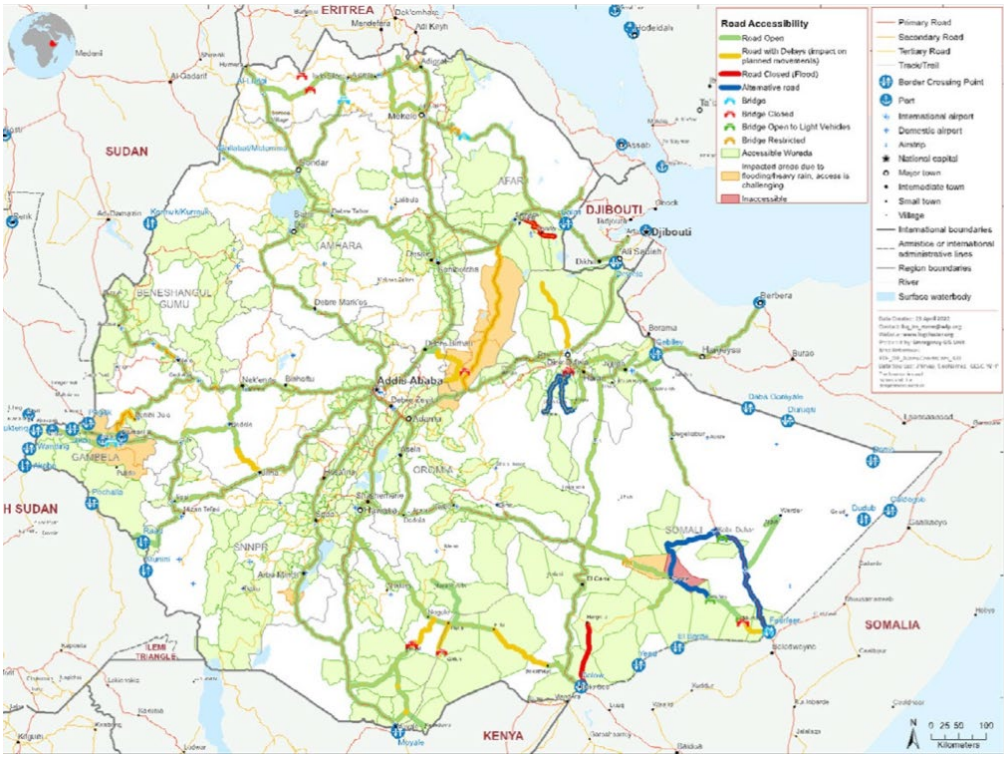
SECURITY

Accessibility varies in different regions of Ethiopia. In areas that are easily accessible, businesses can operate with limited impact from security situations, ensuring a smoother last-mile delivery of goods and services. However, in partially accessible areas, intermittent violence can disrupt operations, severely hindering the process. This is especially concerning for organisations and agencies working in hard-to-reach areas. The volatile security situation in Ethiopia not only impedes their distribution operations but also limits their ability to serve the people in need, making the last leg of the distribution journey increasingly complex and unpredictable.[10]

Government initiatives in action

In recent years, the Ethiopian government has made efforts to enhance the last-mile distribution sub-sector with a focus on improving accessibility to essential goods and services, particularly in remote and rural areas. These efforts encompass multiple sectors and initiatives, including transportation infrastructure, road security, healthcare, electrification, and broader economic development.[10]

Figure 2. MAP SHOWING PHYSICAL ROAD CONSTRAINTS. SOURCE: WORLD FOOD PROGRAMME LOGISTICS CLUSTER, MAY 2022



In the realm of transportation, the Ethiopian Ministry of Transport and Logistics has undertaken initiatives to upgrade rail and road transport for freight, aiming to connect remote regions with urban centres. This strategy seeks to ensure that goods can be efficiently transported to even the most distant parts of the country.[11]

In healthcare, collaborative endeavours with organisations such as Last Mile Health are strengthening the community health workforce in rural areas. Included in this are digital solutions, such as the last mile Logistics Management Information System (LMIS) which is being deployed to optimise the supply chain for health commodities, improving the availability of critical medical supplies in underserved regions.[12] Additionally, projects such as the USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM)[13] are supporting healthcare logistics.

The Ethiopian government is also committed to improving last-mile distribution by extending electricity access to remote areas through rural electrification, emphasising renewable energy, partnering with the private sector, and involving local communities. These efforts aim to improve the last-mile distribution of essential goods and services in underserved regions. Additionally, innovations such as drones for medical supply deliveries, mobile clinics, and solar-powered kiosks for electricity and internet distribution are being explored to improve logistics services.

Despite these innovations and efforts to enhance last-mile distribution in Ethiopia, the challenges associated with last-mile logistics in the country persist and remain largely unaddressed.

BOX 1. MERKATO: AFRICA'S LARGEST OUTDOOR MARKET AND LAST-MILE DISTRIBUTION HUB

Africa's largest outdoor market, Merkato, situated in Addis Ababa, spans several square kilometres and hosts 7,100 businesses employing 13,000 people. This vast market complex encompasses approximately 120 shops, alongside a substantial retail centre, with 75 shops offering a wide range of products, including local agricultural produce, clothing, heavy industrial goods, tyres, textiles and electronics. Merkato's distribution system operates through a complex network of intermediaries, such as wholesalers, semi-wholesalers and retailers, facilitating the movement of goods from producers to consumers. Due to the market's congested streets, most goods are manually transported by day labourers known as 'kullies'. Despite facing challenges such as congestion, outdated infrastructure, and waste management issues, Merkato contributes significantly to Ethiopia's economy by generating employment opportunities, reducing poverty, and playing a vital role in the distribution process. Ongoing efforts aim to modernise and enhance the market's infrastructure and operations.[14]

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Challenges, opportunities and potential impact

CHALLENGES

GEOGRAPHICAL AND INFRASTRUCTURAL HURDLES: Last-mile distribution in Ethiopia encounters formidable geographical and infrastructural challenges, particularly in remote rural regions. Inadequate road infrastructure and limited transportation access contribute to higher operational costs and delivery delays.

SOCIO-ECONOMIC DISPARITIES: Addressing accessibility issues in rural areas often involves empowering local entrepreneurs, especially women, as sales agents and distributors. However, this initiative is hampered by socio-economic disparities, including gender inequality and limited access to education and training opportunities.

ENVIRONMENTAL SUSTAINABILITY: Climate change and resource limitations pose a growing challenge for last-mile distribution. The reliance on traditional transportation methods and cool chain systems not only contributes to carbon emissions but also increases the vulnerability of temperature-sensitive products to post-harvest losses of perishable goods, thereby affecting food security and income generation. Furthermore, adapting to eco-friendly practices, such as solar-powered logistics and green refrigeration, necessitates significant investment and innovation.

FINANCIAL BARRIERS: Many rural areas lack access to formal financial services, impeding payment processing and financial transactions related to distribution.

SECURITY CONCERNS: Insecurity and conflict in certain regions pose risks to distribution personnel and goods, resulting in interruptions or delays in distribution operations.

INADEQUATE STORAGE FACILITIES: Frequently, warehouse facilities suffer from insufficient infrastructure, equipment and cool chain systems, resulting in inefficient storage, handling and transportation of goods, which in turn adversely affects last-mile distribution. However, addressing this issue poses challenges in terms of implementing cutting-edge technologies, optimising facility locations and ensuring sustainability.

INEFFICIENT LOGISTICS SYSTEMS: Logistics systems lack standardisation and cargo handling equipment, which hinder the flow of goods to remote areas. Furthermore, the absence of basic utilities – such as electricity, transportation hubs and telecommunications – further complicates rural delivery.

HIGH OPERATIONAL COSTS: The combination of geographical challenges, infrastructure limitations and other factors contributes to higher operational costs for last-mile distribution, impacting affordability for consumers.

INVESTMENT OPPORTUNITIES

TECHNOLOGY SOLUTIONS: Investors can introduce innovative technology solutions, such as mobile applications for order tracking and delivery optimisation, to enhance the efficiency and effectiveness of last-mile distribution.

GREEN ENERGY SOLUTIONS: Investing in solar-powered logistics and climate-friendly cool chain refrigeration systems can address challenges related to inadequate cooling facilities in rural areas, reducing post-harvest losses of temperature-sensitive produce.

LOCAL SALES AGENTS/DISTRIBUTION: Supporting and empowering local entrepreneurs, especially women, to act as sales agents and distributors in rural areas can create employment opportunities while improving product accessibility.

INFRASTRUCTURE DEVELOPMENT: Investing in innovative modes of transportation and infrastructure, including road upgrades and transport corridors, as well as upgrading warehousing facilities – which involves implementing advanced technologies, optimising location and improving efficiency in storage, inventory management, security and sustainability to enhance overall warehouse performance – can streamline the distribution process and enhance accessibility to remote areas.

INNOVATIVE WAREHOUSING AND STORAGE SOLUTIONS: Investors can play a pivotal role in transforming Ethiopia's last-mile distribution by establishing modern, strategically located warehouses that integrate vital cool chain storage facilities for perishables, thus reducing post-harvest wastage and ensuring a constant supply of fresh products.

FINANCIAL SERVICES: Investors can make a substantial difference in low-income communities by investing in tailored mobile banking solutions that address the lack of traditional banking services. Furthermore, supporting the establishment of credit unions and microfinance organisations, specifically in low-income areas, not only fosters economic growth but also enhances financial inclusion, offering a path toward greater financial stability for these communities.

POTENTIAL IMPACT

Last-mile distribution highlights several potential areas of impact and opportunities, aligning with various Sustainable Development Goals (SDGs). Here's a breakdown of the potential impacts and the corresponding SDGs:

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