



TEMPERATURE-
CONTROLLED
LOGISTICS:
*Emerging Market
Opportunities*



IFC

International
Finance Corporation
WORLD BANK GROUP

Creating Markets, Creating Opportunities

What Is the Third-Party Temperature-Controlled Logistics (TCL) Market Creation Potential in Emerging Markets?

The Temperature-Controlled Logistics (TCL) market represents an attractive investment opportunity in emerging markets. Simply put, there is a growing demand for services, and there are relatively few organized providers. There are ample opportunities for third-party TCL infrastructure and equipment investments in the agricultural sector, as well as higher-priced sectors like frozen food and pharmaceuticals including vaccines. Successful TCL operations require a critical mass of high-value products. Other products, such as fruits and vegetables, can contribute to increased asset utilization and further reduce unit costs. Demand for TCL will increase significantly in developing countries for several reasons:

- *Growing world population:* In the next 30 years, the world's population is expected to increase from 7.7 billion to more than 9 billion. To feed this population, we will need both higher agricultural productivity and a lower food wastage rate. This goal can be achieved by intertwining state-of-the-art logistics with improved food production techniques.
- *Urbanization:* By 2045, the world's urban population will increase by 1.5 times to 6 billion. Exploding urbanization is changing the geographical distribution of consumption and driving up demand for logistics services.
- *Rising middle class:* A growing middle class in emerging markets is expected to change consumption patterns significantly. Rising disposable incomes will increasingly allow people to afford better-quality foods that require a proper cold chain.
- *Changing family structures:* Growing urbanization and rising incomes accompany changes in family structure that are shifting food consumption patterns. There are a growing number of families made up of dual-income earners who have less time for meal preparation. This drives up consumption of convenience foods requiring TCL services.
- *Climate change:* Climate change has already had an impact on the agricultural sector and supply chains. Food production has

become more volatile, and displaced populations must be fed.

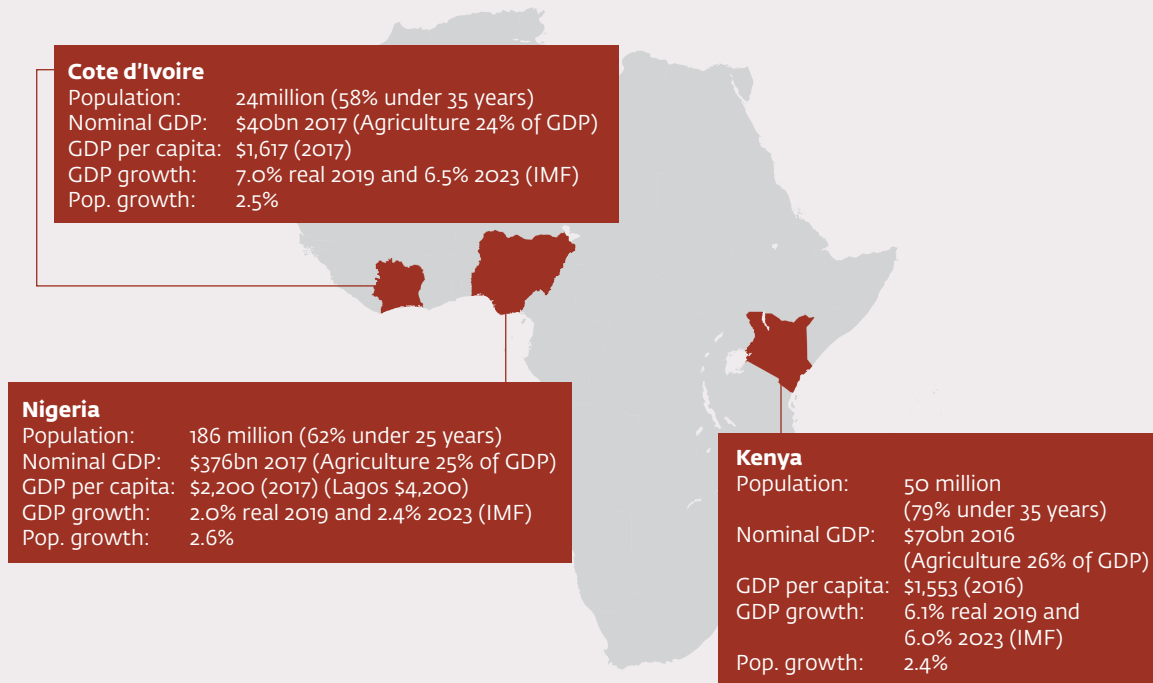
- *Increased global interest in energy efficiency:* Motivated by a desire to stem climate change and reduce pollution, many countries are seeking energy-efficient means to feed their populations. Optimal TCL, especially if powered by renewables, can reduce agriculture's carbon footprint.

IFC is currently exploring opportunities to create third-party TCL markets in various emerging economies. IFC seeks to promote the reforms needed to unlock the supply and demand for these services and to identify market niches where pioneering investments can be made. IFC's efforts in this space started with market assessments to pinpoint market and regulatory gaps and identify potential partners. In Africa, IFC has conducted TCL market assessments in Nigeria, Cote d'Ivoire and Kenya. In South Asia, Pakistan and Bangladesh have been assessed.

The market assessments explored the existing and future demand for TCL services in these countries along the entire value chain of targeted industries, including fruit and vegetables, pharmaceuticals, dairy products, meats and seafood. The assessments also helped identify existing suppliers of TCL services, as well as their growth plans and key constraints for relevant sectors. Most importantly, the TCL

Assessing Emerging TCL Markets in Africa

Key Macroeconomic indicators in Nigeria, Kenya, and Cote d'Ivoire



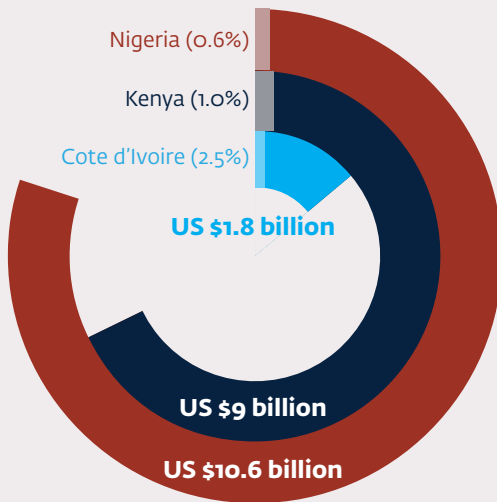
studies produced specific recommendations for IFC to support the development of third-party TCL markets and outlined potential private investment opportunities.

IFC used key macroeconomic and other indicators to select a limited number of countries in Africa for in-depth market studies. These indicators included population, per capita income, GDP growth outlook, urbanization, external trade in products requiring TCL, existing cold storage capacity, level of formalization of the retail sector, and importance of agriculture to GDP.

The three market assessments conducted in Africa showed that a one-size-fits-all approach

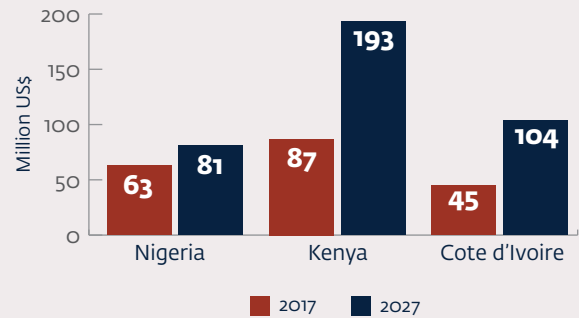
will not solve TCL challenges. They also revealed that the size of the TCL markets, as a proportion of GDP, is much smaller in these countries than in larger and more evolved emerging markets, pointing to the high growth potential of the sector. As the economies of these nations continue to grow, there will be a multiplier effect on the growth of the TCL services market. Finally, the studies showed that although the bulk of demand for TCL is generated through domestic production in all three countries, external trade is an important driver for the development of the sector. In Kenya, the customer base for exports is high, while in Nigeria and Cote d'Ivoire demand for imports is strong.

Actual TCL Market Penetration and Potential TCL Market, 2017



Legend:
 Dark colors: Potential TCL market
 Light colors: Actual market penetration of current TCL market

TCL Market Growth Potential in Nigeria, Kenya, and Cote d'Ivoire



Country Results of Market Assessments

The assessments conducted in Africa found commonalities across the countries analyzed, including the fact that outsourced TCL in Nigeria, Cote d'Ivoire and Kenya continues to be a niche market. Cold chain services are not cheap and they must compete with existing, unorganized fresh markets. The low margins of domestic fresh markets do not always justify the more extensive use of TCL services within domestic supply chains. It is therefore not surprising that third-party TCL services are more common in organized markets. Despite rising incomes, cold chain products are often

affordable only for a small fraction of the population, limiting supply and constraining economies of scale and scope. TCL service providers must convince customers that they can maintain the integrity of the cold chain at all stages. For example, in Nigeria, large-scale importers and distributors of seafood have invested in their own cold storage and will not easily be persuaded to outsource their needs. Power cuts, inadequate infrastructure, and traffic congestion are other major challenges for offering third-party TCL. High price fluctuations of fresh products in traditional markets due to volatility in product availability make it difficult to establish a stable TCL business. Establishing TCL services not only

increases product quality, but also offers the opportunity to integrate value-added services, such as cleaning, sorting, grading, packaging and labeling.

The country market assessments also revealed important opportunities for TCL investments. The market potential for third-party TCL services in Nigeria is high, with significant unmet demand from the organized sector. There are good prospects in Kenya, where there is a well-established presence of consumers who value TCL services, an expectation of development in such end-user sectors as vegetables, dairy, and meat. There is also a significant interest in outsourcing TCL in Kenya.

Based on the results of its market assessments, IFC is exploring potential investment opportunities to develop the local TCL market in Nigeria because of the lack of any third-party TCL service providers. A critical element of IFC's approach is to forge partnerships with international service providers with the technical expertise to expand into emerging markets, local logistics service providers interested in expanding into the TCL space and large end-customers looking to outsource their cold chain and become anchor clients.

Exploiting Synergies

Currently, IFC is performing market research in Asia, the Middle East and Latin America, including market evaluations in Cambodia, Indonesia, the Philippines and Thailand. IFC is evaluating how cold chain infrastructure is being used for vaccine distribution in these countries and identifying private sector players who could become partners. This information will be useful in determining potential avenues for private sector participation in Covid-19 vaccine logistics. In addition, as part of its Covid-19 response program, the World Bank Group is working with other international organizations and partners to assess the readiness of national health systems, including the capacity of existing cold chain infrastructure and services, existing gaps and investment requirements.

IFC is also holding workshops which bring together participants from IFC, the World Bank and other organizations to identify potential TCL investment opportunities. These opportunities are often associated with existing operations in complementary sectors, such as transportation infrastructure and agriculture. In one recent workshop focused

on Asia, the World Bank Group team explored the linkages between agribusiness development projects and TCL investments. The World Bank Group team then developed various investment hypotheses, including private-sector development of cold chain facilities along a transportation corridor that will be upgraded with World Bank financing in

Bangladesh. These services are examples of a new approach where IFC aims explicitly to leverage existing World Bank Group programs and interventions to create new markets. Tying logistics market development efforts to existing World Bank and IFC programs in other sectors will multiply the development impact of World Bank Group projects.

A series of notes on new investment opportunities in Temperature-Controlled Logistics

- **Why Now?**
- **An Essential Tool for Growth and Health**
- **Piloting Investments**
- **Learning from Experience**

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