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RESEARCH & INSIGHTS

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Cold Chain Logistics Driving Food Security and Economic Growth

Efficiency. Integrity. Safety. Our supply chains must provide all three of these attributes whether hot, cold, ambient, in the skies or sailing the seas. In an increasingly global world we need to be ready to move perishable goods with expensive and complex storage and transportation needs seamlessly. Cold chain logistics is at the forefront now as it transports our vaccines that need to be stored at sub-zero temperatures around the world, but really cold chain logistics is even more critical to our growing world as it transports our food and enables greater food security.



Photo Source: Coldstar Logistics

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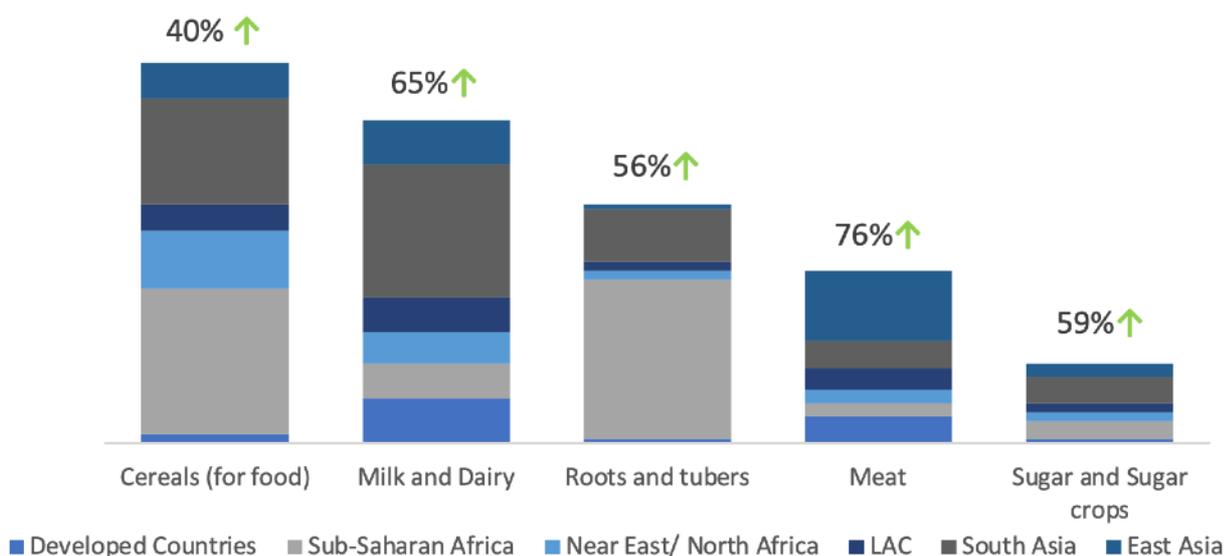
According to the United Nations, we will have nearly 10 billion people on our planet by 2050. The extra 2 billion people between now and then will need to be fed. In the last 12 months, most of us would have had a chance to watch popular documentaries such as David Attenborough's "A Life on Our Planet" and Ali Tabrizi's "Seaspiracy" and the common theme in both is that we simply will not be able to sustain current levels of food production to meet the 2050 population estimates. According to the Food and Agriculture Organisation (FAO), one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tonnes per year.

Governments around the world are launching national food security strategies and exploring vertical farming as a means to increase production to prepare for future requirements, but a simpler solution may lie in our cold chain logistics services. Globally, we do not need to increase food production to meet the 2050 demands. We simply need to reduce food wastage by providing end-to-end integrated cold chain services so that product integrity can be maintained throughout the product lifecycle.

The 2050 Problem

More people will need more food. Global population expected to grow at a minimum of 2% annually till 2100 and there is a rise of the middle income consumer who will demand more meats and high value imported foods.

Food Demand by Commodities in 2050 relative to 2005-07 (Billion kg per year)



Source: FAO

Unfortunately, some of the world’s highest fresh food production countries, have some of the least developed infrastructure to support their production volumes. This is what leads to such high wastage. The current solution is the innovations that we see occurring in agricultural technology to increase production. These are all great, but would be more effective if coupled with improvements in end-to-end integrated cold chain logistics.

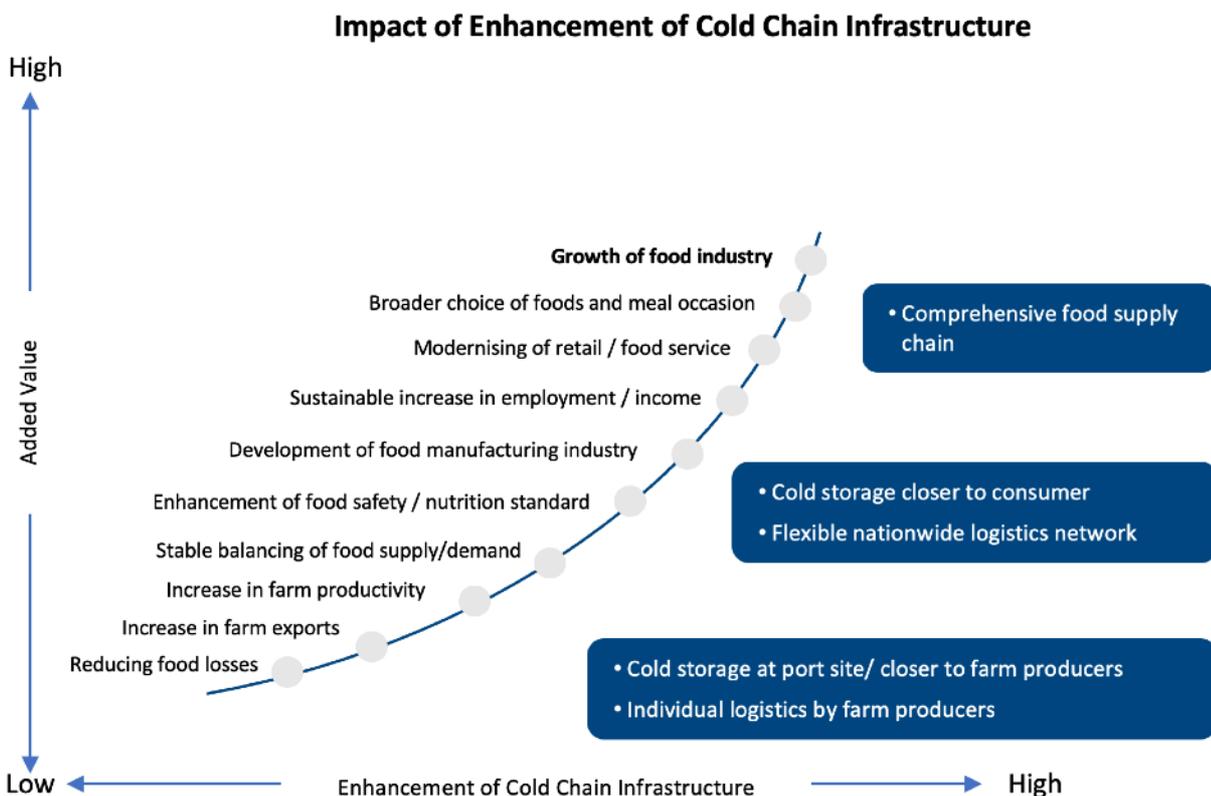
What does end-to-end integrated cold-chain services mean?

Getting a product whether fruits, vegetables, meat, dairy or seafood into the cold chain as close to the time of harvest and keeping it at the appropriate temperature conditions from the farm, to the processing centre, in the transport vehicles, to the sea or air cargo, until the consumer receives it.

A cold chain maintains food quality and increases product integrity and lifespan. Using refrigerated warehouses, mobile chiller units, reefer trucking, reefer containerised shipping and temperature-controlled air cargo amongst other rapidly evolving technologies keeps our food at the best it can be.

Benefits of Cold Chain Logistics

There are many benefits to the development of cold chain logistics, many of which spill-over to global trade, export growth and ultimately economy growth.



Trade impact benefits:

- Improved food quality commands higher prices in global markets positively impacting GDP
- Less food wastage contributes to higher revenue potential for producers impacting income
- Farmers are able to fetch a higher price for their product which increases their standard of living and their ability to further invest in their farms
- Higher volume of production paves the way for the growth of the food processing industry creating new business

How do we implement cold chain logistics and who needs to be involved?

Cold chain implementation is a long-term strategy for growth that needs to involve the government, private sector and producers. Cold chain cannot just be an isolated storage facility. Maintaining the temperature controlled link throughout the product journey is key to success.

Governments need to upgrade poor road networks to enable shorter travel times with perishable products, and they need to incentivize producers to put product into the cold chain to realise benefits.

Private sector usually has the cash and is ready to invest. The government needs to incentive them to build the necessary infrastructure such as capital intensive warehouses and temperature controlled technology.

Producers need to be educated that the current levels of approximately 1/3 wastage is not normal and can be reduced if the right practices are put in place and if they adopt the technology that is being made available.

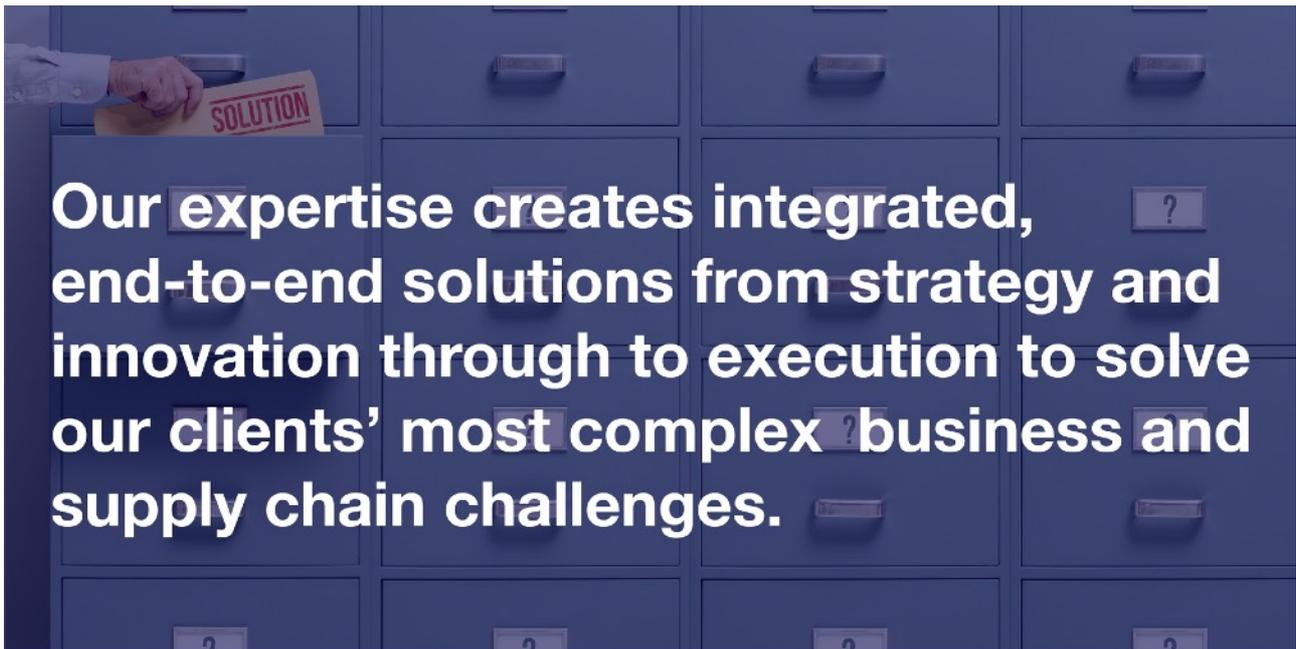
As with any large-scale project, it is best to start with a feasibility study including but not limited to economic environment, market conditions (drivers, trends, future), production areas, market potential (markets, customers, volumes), warehousing and transport networks (current network capability/capability, quality and future network potential). This will provide insights into the success viability of the development of cold chain logistic product.



Closing thoughts

In using cold chain to increase food security and grow the economy, you should consider how to:

- Increase food availability by solving a waste issue
- Increase available food volume for export
- Increase food exports as an earner for the country
- Improve the standards of cold chain storage, value added services and refrigerated transport
- Improve the value of food product being sold / grown by producers
- Help connect producers to new markets by introducing an end-to-end integrated cold chain logistics solution that ensures product integrity throughout the lifecycle



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Aindrea is a Business Intelligence and Talent Management Specialist at Logistics Executive Group in the Middle East. With a degree in Economics from S P Jain School of Global Management in Australia she is experienced in project management related to feasibility studies, M&A business intelligence, supply chain restructuring, initial project viability reports working across reputed government investment organisations, private enterprises, international MNC and major global logistics providers. She is a highly-qualified professional with experience and solid market knowledge in corporate advisory related projects pertaining to the Middle East having been based in Dubai for 5 years.

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- Conduct market research and feasibility studies
- Develop your cold chain logistics market entry strategy
- Offer logistics and supply chain design & optimization solutions.



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