



Restructuring and Building a Resilient Supply Chain



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Introduction



- Leventis Foundation Nigeria Ltd/GTE (LFN) is an organization that has been executing agricultural training for youths and farmers since 1988.
- 6 Schools in the different agro-ecological zones of Nigeria, located in FCT, Osun, Ondo, Kaduna, Kano and Gombe States.
- The Foundation has trained over 25000 youths and farmers, employing a deliberate practical training approach that helps them transition to a more profitable farming experience.
- The Foundation also leverages her strength through partnerships with other institutions.

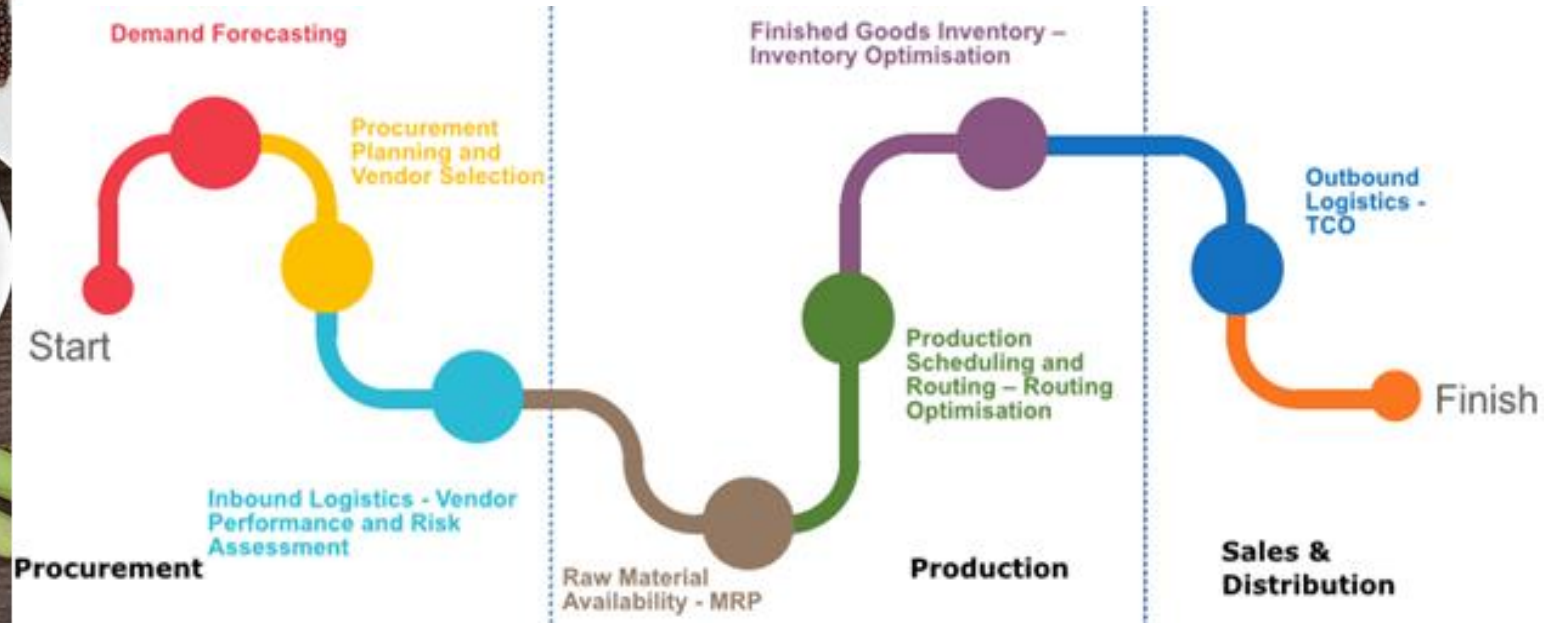
Who is your speaker ?



Development & Strategy Office, Leventis Foundation Nigeria. She is an Agribusiness Expert providing business strategy, development & technical support to producers, traders & exporters, empowering them for international trade and global compliance. She also works with stakeholders in the private and public sectors to lobby and advocate for the adoption and implementation of food production/safety policies and regulations that will enhance agricultural trade and investment in Nigeria.

Supply Chain

A **supply chain**, is a vast and complicated network.



Companies source product from suppliers, who might source materials or components from others, who in turn might source from others. When one part of this network is exposed to risk, all parts are vulnerable to disruption.



Supply Chain Resilience

- It is increasingly accepted that supply chains in all forms face increasing volatility across a range of business parameters from energy cost, to raw material availability and currency exchange rates
- Ponomarov and Holcomb (2009) define **supply chain resilience** as “the adaptive capability of the supply chain to prepare for unexpected events, respond to disruptions and recover from them by maintaining continuity of operations at the desired level of connectedness and control over structure and function”

Resilience vs Sustainability

- it is important to provide clarity on the relationship between resilience and the similar terms of “sustainability” are sometimes used interchangeably.
- Using the definition of sustainability outlined in the Brundtland Report: “meeting the needs of the present without compromising the ability of future generations to meet their own needs”, sustainability can be described as a normative measurement for assessing long-term performance against ideal environmental, economic and social standards.
- resilience is more of a descriptive methodology concerning short-term ability to withstand and/or adapt to disturbance.
- It is a key attribute for any organisation with long-term sustainability goals.

Agri-food supply chains (AFSCs)

- Agri-food supply chains (AFSCs), include all steps involved in production, manufacturing and distribution of food until its final consumption, not only share these general risks but also face their own unique vulnerabilities due to the limited shelf life of food, and variability in quality and availability of raw materials.





Agricultural Supply Chain Resilience

the focus of every attempt to enhance resilience in agricultural supply chain should concern the unbroken flow of safe and appropriate food to end consumers in the face of disruption

How can the multidisciplinary concept of resilience be applied to AFSCs?

AFSC resilience:

- The collective ability of Agri-food supply chain stakeholders to ensure acceptable, sufficient and stable food supplies, at the required times and locations, via accurate anticipation of disruptions and the use of strategies which delay impact, aid rapid recovery and allow cumulative learning post-disruption.

Resilience Elements

The Four Elements of a Resilient Supply Chain



- Elements of resilience can be categorized by phases.
- **READINESS** – elements that assist in monitoring changes to the operating environment and those which, while being useful in later phases, must be built in in advance.
- **RESPONSE PHASE** – Elements in the Response Phase focus on mitigating the impact of disruption and helping to maintain functionality.



Resilience Elements

- RECOVERY PHASE – Elements in the Recovery Phase are orientated towards minimising the time needed to restore any lost functionality and enabling adaptation at an operational level (such as accepting new ingredients or distribution routes)
- ADAPTIVE PHASE – alignment of core values with an ever-changing operating environment. Therefore, adaptive phase elements concern the ability for long term, system wide, adaptation, perhaps significantly affecting core function, in response to changing operating environments.

“resilience-enhancing principles”

- Maintaining the diversity and redundancy of system components for example maintaining multiple types of farmers, processors, and/or distributors in a particular value chain. Provide substitutes for components that may fail in the face of a disturbance.
- managing the connectivity between components can facilitate flows and constrain the spread of a disturbance
- Identify and manage the key variables and feedbacks that interact in order to determine the configuration of a system. This builds on the first two principles, as configurations will depend on the patterns of change that system components are undergoing,

“resilience-enhancing principles”

- maintaining the flexibility of components to take different positions and adapt operations to changing requirements with minimum time and effort. Flexibility can be linked to the diversity principle, because it is created when value chain actors depend on a diverse portfolio of human resources, products, suppliers and buyers, and income sources
- One example of flexibility through diversity is the establishment of a combination of short and long chains in a given market is maintaining a redundancy of value chain resources that perform the same function in the value chain



Benefits of Resilience

- First, where resilience strengthens a value chain's ability to tolerate and operate in uncertain environments, it can enable it to seize entrepreneurial opportunities by providing food products to market segments in which there is unmet demand.
- Second, where resilience is a unique capability that a business or value chain has developed and where it improves the marginal welfare of consumers, it can be a source of competitive advantage in a given market.
- Third, by enabling a value chain to prepare for uncertainty and mitigate its impacts, resilience might reduce transaction costs and the risks of exploitation within the value chain.



Resilience of what ?

- The first part of the assessment focuses on understanding the value chain services for which one wants to build resilience: “resilience of what?”
- You have to define and describe the boundaries, services, and key components and institutions of the value chain system. The first step is to map out the structure of the value chain system.
- Essential pieces to include in the mapping are value chain segments, stocks and flows of resources (e.g. Inputs, information, products, money), institutions, and important nested systems with which the value chain interacts

Resilience of what ?

- Next, identify and describe the essential services generated by the value chain. This identification should include marketable products and services, especially rare attributes that meet particular customer needs and which form the basis of the value chain's comparative advantage and its economic sustainability.
- However, you should also consider the broader role that the value chain plays in food security for particular groups of people, and identify other essential services (e.g., employment, multiplier effects on other value chains) provided to other stakeholders.



Resilience to what ?

- identify and describe the major types of supply and demand disturbances that threaten the value chain system's essential services and explore their causes and effects.
- You do this by reflecting back on actual disturbances that have occurred in the past ten to fifty years, then by imagining other disturbances that could likely occur in the future.



Build resilience

- identify and describe the resilience-enhancing principles that are already being employed (if any) to address disturbances, and analyze their effects on resilience and other dimensions of value chain performance
- consider other resilience-enhancing upgrades that could be implemented.
- For each upgrading option, you should thoroughly assess the effects on other dimensions of value chain performance, the potential synergies and counter-vailing relationships between the upgrading options.
- You must assess which value chain stakeholders are best positioned to implement these upgrades, and how the costs and benefits will be shared in an equitable manner.

Build resilience

- To these ends, the information and findings emanating from the assessment can be used as an input for business strategies, or leveraged to design future research, organize additional stakeholder meetings, conduct advocacy, or petition for project funds.



Effects of Building Resilience

- Building an appropriate level of resilience will sometimes require the value chain to make significant capital investments or operational changes that increase the per unit cost of its marketable goods and services.
- Value chain stakeholders should rigorously assess customers' willingness to pay for the increased resilience value.

In cases where the market is not ready to compensate for these added costs, the value chain can consider developing communication and marketing strategies aimed at influencing preferences towards more sustainable consumption.

Agricultural Supply Chain

Resilience

- Yes, in many works, the priority of resilience is often organisational competitiveness. In addition to that, the goal for any actor or stakeholder in the agriculture or agri-business, should be food security



- At Leventis Foundation Nigeria, we can be of service to you in **strengthening your supply chain** and develop a **comprehensive resilience implementation “strategy”** for your agri-business.

You can do it.





THANKS FOR LISTENING

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