The Food Supply Chain In India

Untapped Comparative Advantage

N. Viswanadham
Indian Institute of Science
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A Revolution in the Making

- Break through Innovations are possible with booming employment opportunities.
- What is needed is out of the box thinking in terms of product offerings made to various customer segments with appropriate business models with Affordability, Availability and Awareness in mind.
The India Advantage

- In India, 52% of land is cultivable & World average is 11%
- All 15 major climates of the World are in India
  - Snow bound Himalayas to hot humid southern peninsula,
  - Thar desert to heavy rain areas
- Has 20 agro-climatic regions & 46 out of 60 in soil types
- sunshine hours and day length ideally suited for year round crop cultivation.
- Mega centre for biodiversity in plants, animals, insects, microorganism and accounts for 17% animal, 12% plants and 10% fish genetic resources of the globe.
- Live stock sector: India has 16% of cattle, 57% of buffalos, 17% of goats and 5% of sheep population of the world.

The Plough-Plate Food Supply Chain

- The supply chain involves farmers, seed producers, fertilizer factories, financial institutions, millers, government, warehouses, fair price shops, retail shops, railways, truck transport companies, etc.
- The relationship among the actors is adhoc and not planned leading to inefficiencies
Food Supply Chain Excellence

Benchmarking Food Chain

Institutions
- Packaging Duties High
- Protectionist
- Trade Tariffs
- Economic Policies

Resources
- Abundant
- Management

Delivery Services and mechanisms
- Logistics
- No Cold Chain
- Information Technology
- No Supply Chain Visibility
- Packaging Duties High
- Protectionist
- Trade Tariffs
- Economic Policies

Product Offering
- Few Processed Products/Lab
- Too many intermediaries
- Abundant
- Inefficient and Fragmented Planning
- Too many intermediaries

State of Indian Food Sector

Strengths
1. Vast natural resources (cultivable land, water, seasons)
2. Established farming system
3. Growing economy
4. Supporting government policies (FDI, APEDA, subsidies)
5. Vital outsourcing hub

Weaknesses
1. Small scale conventional farming
2. Primitive post-harvest methods
3. No channel master & many farmers to consumers intermediaries
4. Hardly any Food processing industry
5. Inadequate storage & transport infrastructure

Opportunities
1. Cold chain infrastructure builders
2. Processed food manufacturers
3. Food packaging & logistics providers
4. Food retailers and Exporters
5. IT and data analysts
6. Research Institutions

Consequences
1. Surplus food wasted away
2. Low incomes to farmers
3. Inefficient supply chain
4. Not meeting the young consumer preferences (processed hygienic food)

Potential to become a leading food supplier for the whole world

N Viswanadham
**What Is Food Security?**

- The **World Food Summit of 1996** defined food security as existing **"when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life."**
- Thus food security implies both physical and economic access to food that meets their dietary needs, nutritional requirements and food preferences.
- Nutritious food providers have three functions: Making it **Available** at **Affordable** prices and creating **Awareness** to the consumers.
Food security: India ranks lower than Rwanda

- According to the International Food Policy Research Institute's Global Hunger Index, 2011, India ranks 67 of the 81 countries of the world with the worst food security status.
- The GHI is composed of three equally weighted indicators - the proportion of the population that is undernourished, the proportion of children that are underweight and under-five child mortality.

India needs to Usher the Agri-Service Revolution

- A strategic vision for the Agri-service sector
- Streamline and upgrade the agri-service chains using modern technologies: Demand driven agriculture, Processing industry, Visibility
- Initiate education, research and entrepreneurial programs in Agri-Service sector innovation
- Plan and Build integrated Food-service systems in rural and urban areas
## Specific Five things India Needs

- Post Harvest Research
- Food Manufacturing with Added Vitamins And Minerals
- Distribute Nutritious Food not Grains
- Attention to supply chain and logistics and minimize wastage
- Regulations by the State and Centre Governments: APMC act, Minimum support price act, etc

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## New to Market Innovation

### Food Product Market Estimation

**Estimate your market right**

How many people will buy orange juice packets if it is as cheap as a coffee or tea on a road side stall and costs only Rs 5

*Look at the reduction in the disease burden*
The IIT Kharagpur Initiative

- This initiative fills in the much needed research efforts in the supply chain, logistics and food security areas
- The involvement of the IIT faculty and research students would make a much needed contribution to the food security in India and the world.