Challenges and Opportunities
Cold Chain - India

Captain Pawanexh Kohli
A cold chain is a climate-controlled supply chain, consisting of storage and distribution activities which maintains a product at a given ambient range.

**Refrigerated Transport**
- Uses refrigerator trucks, cars, van, rail, containers and ships for transporting perishable products

**Surface Storage**
- Consists of refrigerated warehouses for storage of perishable products

**Transportation**
- Activities related to transportation to market from production locations

**Quality Assurance**
- Activities to assure Technical and Quality parameters to ensure Shelf Life and saleability

**Key Activity**
- Procurement/Precool
- Transport
- Storage
- Distribution
- End Customer

**Segments**
- Manufacturer
- Farms
- Climate Controlled Haulage
- Cold Storage
- Distribution Centre
- Refrigerated Secondary move
- Retail
- Consumption

**Cold Chain**
- for Value Preservation
**Executive Summary**

**India Scenario**

- Nascent Yet increasingly Demanding, Estimated USD 9 billion in 2015.
- Increasing Volumes and global exposures.
- Domestic development, burgeoning parity.
- Fragmented and disjointed.

**Drivers & Challenges**

**Drivers:**
- Growth in Organized Retail
- Shift Towards Horticultural Crops
- Growth in Processed Food Sector
- Government Initiatives
- Growth in Bio-Pharma sector

**Challenges:**
- Human Resources
- Lack of Logistical Support
- Uneven Distribution of Cold chains
- Cost Structure
- Power Supply

**Trends**

- Cold Chains based on Public Private Partnership (PPP) model
- Rail Based Reefers, organised distribution.
- Backward Integration, forward economy.
- Cold Chain Facilities for exports.

**Competition**

- Minimal: Few Private and State owned players.
- Surface Storage comprising of both organised and unorganised.
- At least 50 companies are offering refrigerated transport services in India
- Captive establishments & New entrants.
Globalisation

- Process Integration.
- Bilateral trade.
- Diminishing world, singular demands.
- Right Cost Country optimisation.
- Business friendly Global Banking.
- Borderless consumers.
5th largest retail market worldwide.
62% of retail - food; fresh & processed.
Farmers shifting to horticultural crops.
Food processing (US$98 bn), 9% of GDP, growing at 15% last 3 years.

**Vision 2015** (GOI) action plan to double processed foods to US$210 bn.

**MoFPI** Envisages investment of US$21.05 bn in next 5 years.

**FICCI-E&Y** study sees investment opportunities to shoot up by 42.5% to US$ 181 billion in 2015 and to US$ 318 billion by 2020.
Food Processing

- Changing consumer trends for convenience and processed foods.
- Government of India’s setting up 30 mega food parks
  - To propel demand for cold storage and transportation.
Indian Pharma Industry: US$ 20 billion in 2009; the domestic retail market is expected to cross the US$ 10 billion mark in 2010 and reach an estimated US$ 12 billion to US$ 13 billion by 2012.

Indian clinical trials market currently sized at US$ 250 mill to US$ 275 mill and expected to grow at CAGR of 30%, at almost double the global average.

Source: IBEF, CRIS INFAC
Drivers / Challenges

**Drivers**
- Growth in Organized Retail
- Shift towards horticultural crops
- Growth in Processed Food Sector
- Government Initiatives
- Demand from all user sectors

**Challenges**
- Human Capital, Domain Skills
- Lack of Logistical Support
- Uneven Distribution of Cold Stores
- Cost Structure (Capital), Parity
- Power Supply (Erratic)
Lack of Logistical Support (Agri-produce)

- Small Land holding; remains logistical challenge
  - Requires multiple farm gate collection centres.
- Fragmented cold chain industry has not encouraged the growth of cold logistics for horticulture produce.
- Minimal cooperative farming
  - Irregular parameters in one catchment area.
- Underdeveloped domestic market for fresh perishable produce.
- Standard Refrigerated Systems inefficient & poorly designed.

Uneven Capacity distribution

- Capacity mostly for focused on single commodities.
- Financial viability due to seasonality.
- No proper origin/destination pairing.
Other Bottlenecks

- Capital Intensive Infrastructure.
- Restrictive land use and other regulations.
- High Operational costs, Low yield models.
- High Insurance/risk coverage premiums.
- Nascent, Limited knowledge, limited experience.
- Large gap in demand supply conducive to small unorganised service providers.
- Users have developed captive resources.
- Federal tax and commercial regulations.
- No fast-track perishables corridor.
Policy as Catalyst

Government policy as a 'Catalyst'

- Encourages Investments
- Encourages Organised Sector
- Liberalises Marketing Norms
- Rationalises Tax Laws
- Grants & Subsidies
- Foreign Investment Eased

- Agri/Foods identified as priority sector
- ECB route opened, Import duty relaxed
- Focus on increased Retail, improved supply chain.
- Moving towards uniform VAT/GST
- VG Funding, Grants, Infrastructure status
- 100% FDI in food sector, ECB for cold chain
Excise waived on F&V, meat preparations, ice cream, other RTE food mixes.

Automatic approval for 100% foreign equity in processed food items. External Commercial Borrowing opened (except alcohol, beer, etc).

Priority lending status; Duties reduced on imports; zero service tax on installations.

EOI floated for 30 mega food parks - allocated US$ 1.02 billion by 2012.
- Objective of the scheme is to provide backward and forward linkages as well develop reliable and sustainable supply chain

Gol initiating National Highway Development Program and partnering with Indian Railways to establish cold chain infrastructure.
- Indian Railways is planning to invite private parties to run refrigerated container trains for transporting agricultural products across the country.

Integrated Food Law (FSSA) notified and ready for implementation.

Rs 1000 cr corpus for agro-processing industry and market development.

Task Force on Development of Cold-Chain established & National Centre for Cold Chain Development (NCCD).

100% capital depreciation for cold chain.

Weighted deduction 200% for R&D in Pharma.
Mega Food Park Model

**Field Collection Centers**
- Primary Processing - Precooling, Grading, Sorting, Waxing, packing, Temporary storage

**Central Processing**
- Processing Units, Aseptic packing, Pulping, RTE units, CA chamber, Dairy products, Logistics center, Warehouse, QC Labs, Utility, Supply Lines, etc.

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**GoI PPP venture**
- Cluster based Approach.
- Food Processing Focus.
- Backward & Forward Integrated.
- Shared enabling Infrastructure.
- Common facilities/amenities.

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**Mega Food Park CPC Industries**

**Farmer Groups**

**Self Help Groups**

**Individual farmers**

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**Value added Product**

**Domestic Distribution**

**Exporter**

**Importer**

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**Domestic Retail**

**Fresh Products**

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Pawanexh Kohli
Market Grows yet fragmented

- Large area spreads.
- Increasing volumes is each sector, large service gap.
- Rising Demand, yet misaligned / fragmented.

- Case - 1: Vaccines Distribution
- Case - 2: Seafood Distribution
- Case - 3: Agri Farm to Fork

Source: USTDA, 2008; Supply Chains.com July 2009; Transport Reporter
Challenges or Opportunity?

Cold Supply Chain (India): Poised for a Quantum Jump

- Best practises for India Market.
- Demand for training establishments.
- Gaps in appropriate Infrastructure development.
- Adoption of energy efficient technology.
- Adapting to Indian backdrop - move from mass storage to direct access storage.
- Partner with networked Indian logistics companies.
- Manage and develop Multiple complexities in human capital development.
- Anticipate ahead of a developing market.

Here is History in the making and the Opportunity to be part of it. A market develops to oblige.
Manage Information

- Changing Perceptions
  - Process delays - understanding.
  - Control - global.
  - Quality - total.

- Customer Attrition and Loyalty.

- Market specific Branding.

- India specific USPs.

- Socio-ecological interactions.

- Inter-cultural communications.

“The key to improved logistics is complete and high quality information from the supply chain.”
Manage Customer

Global Exposure / Needs

- Multi-modal risk managed movement.
- Single window service.
- Solutions biased provider.
- Cost effectual transactional process.
- Pro active communication.
- Transparent Supply chain.
- JIT – Shortened lead time.

“Globalisation increases the scope and involvedness of the supply chain manager”

Pawanexh Kohli
A Human Chain
Manage People

- People.
  - Cross cultural exposure
  - Local Knowledge
- Leadership Mix.
  - Best practices in cross functions
  - Synergise corporate and managerial mores
- Laws & Norms.
  - Commercial Taxation
  - Regulatory Compliances
  - Corporate Governance
- Affiliation with Trade Development Bodies.
- Partner Integration, Cross-enterprise processes.

“We've got the fuel. We've got the technology... It's what's in between that's the challenge.”

Pawanexh Kohli
Chain of Trends
Manage Strategy

- Changing Demographics.
- Modified Purchase Habits.
- Traceability and flexibility.
- Free Trade Agreements.
- Inclusive Globalisation.
- Security & IP Concerns.
- New Business & Opportunities.
- Affected National Priorities.
- Environmental Sustainability.
- Changed perceptions, fading borders.
- Technology reliant business processes.

“Dynamic, Innovative, Lean, Universal, Enabled, Agile, Involved - Cold Chain Solutions”

Pawanexh Kohli
Clarion Call for...

- Technology Provision and implementation.
- Cold Logistics and Supply Chain services.
- Infrastructure designers and planners.
- Scalable Refrigeration technology.
- Refrigerated Vehicles and delivery systems.
- Alternate energy, environmental protection expertise.
- Shipping and international food trade.
- Innovators and solutions biased companies.
- Education, Training & Cold chain experts.
- Knowledge Managers and Integration specialists.

There is a fledgling Cold chain awaiting shape - to serve a billion people.
End of Deck

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Thank You
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