



MARKET ESTIMATION & & INVESTMENT POTENTIAL

Transforming Agro-Logistics in Bangladesh

- Stocktaking Exercise on Agro-Logistics
- The **\$10.5 Billion** Opportunity
- Bridging Production & Value

AGRO-LOGISTICS MARKET ESTIMATION & INVESTMENT POTENTIAL IN BANGLADESH:

Study Rationale & Scope

CONTEXT: Stocktaking Exercise on Agro-Logistics in Bangladesh



Commissioned by Embassy of the Kingdom of the Netherlands, Dhaka.
Focus: Sustainable Business-led Development as a 'Transitional Partner'



OBJECTIVES OF THE STUDY

1. QUANTIFY MARKET SIZE & VALUE



Across key commodity groups:
Vegetables, Fruits, Dairy,
Poultry, Fish, Cereals.



2. MAP FINANCIAL INSTRUMENTS & FUNDING



Identify existing channels
available to the industry.



3. IDENTIFY PRIORITY INVESTMENT AREAS



Including FDI & Public-Private
Partnerships (PPPs) for
modernization & waste reduction.



OUTCOME: STRATEGIC ROADMAP FOR STAKEHOLDERS

Bridging the information gap on market values & financial pathways.

Transforming Bangladesh's agro-logistics into a
RESILIENT, VALUE-RETENTIVE, and GLOBALLY COMPETITIVE SYSTEM.



Embassy of the Kingdom of the Netherlands



Agro-Economic
Development

DATA SOURCES



Data Foundations: Mapping the Sources of the Bangladesh Agro-Logistics Report





KEY ASSUMPTIONS OF THE STUDY

THE MATHEMATICAL ASSUMPTIONS FOR AGRO-LOGISTICS MARKET ESTIMATION



Transport Cost Method:

Commodity-Wise Market Surplus (MSi) = $\{Vi - (Cf + Sr + Fa + Wp + K)\}$

Tonnage Kilometer ($TKMi$) = $(MSi \times Di)$

Commodity-wise Total Transport Cost ($CTrans,i$) = $(TKMi \times AFRi)$



Storage Cost Method:

Output Volume Entering Storage ($Vstored,i$) = $(MSi \times Sti)$

Warehousing Revenue ($CStore,i$) = $V(stored,i) \times Tduration \times ASCi$



Value-Added Services Method:

Total Value-Added Service Revenue

(CVAS) = \sum (Revenue from sorting, grading, packaging, milling, etc.)



Total Agro-Logistics Market Size

(MTotal) = \sum ($CTrans,i + CStore,i + CVAS,i$)



KEY FINDINGS OF THE STUDY

THE AGRO-LOGISTICS MARKET SIZE OF BANGLADESH FY 2023-24

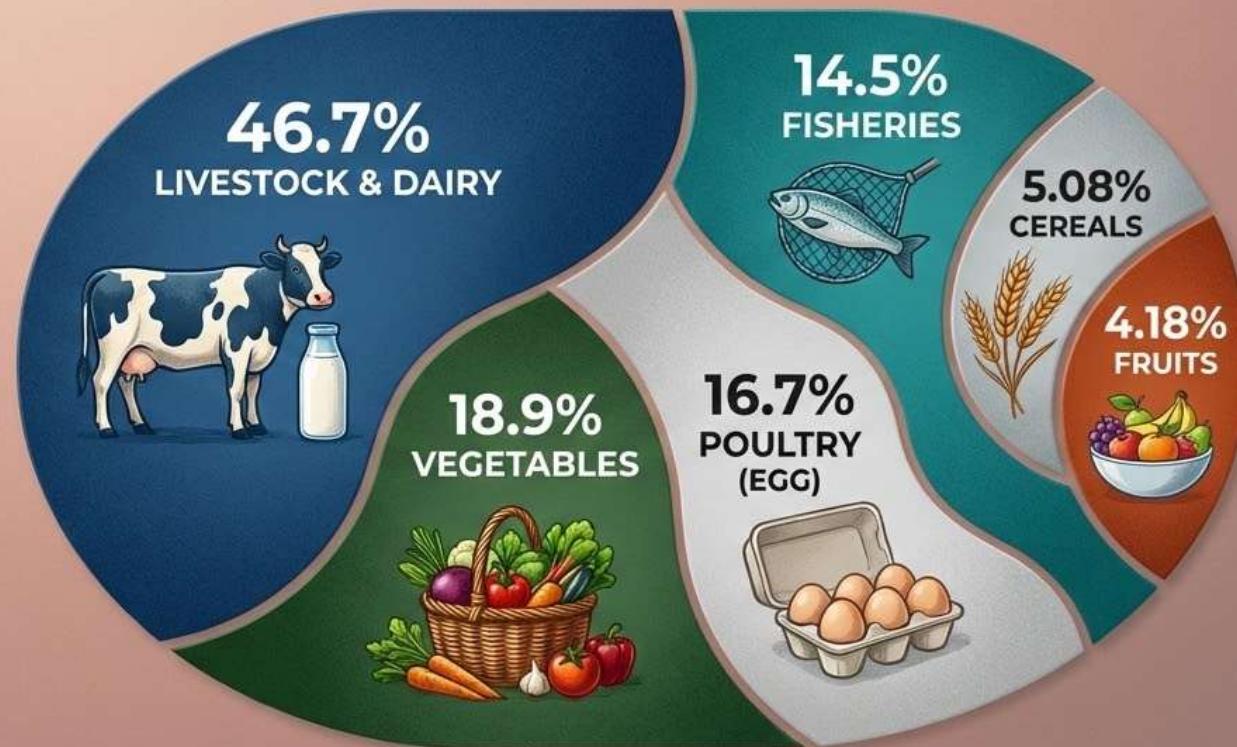
Commodity Category	Transportation Cost (C_{Trans}) (BDT Bn)	Storage Cost (C_{Store}) (BDT Bn)	Cost of Value-Added Services (C_{VAS}) (BDT Bn)	Total Market Size (BDT Billion)	Total Market Size (USD Billion)
Cereals (Rice, Maize, Wheat)	14.96	1.47	47.75	64.18	0.52
Vegetables (General)	22.08	Negligible	44.26	66.34	0.54
Potato	9.91	127.46	33.44	170.81	1.4
Fruits (General)	6.02	Negligible (direct market access)	22	28.02	0.23
Mango	6.8	Negligible (direct market access)	18.23	25.03	0.2
Fisheries	39.46	Negligible (direct market access)	65.76	105.22	0.86
Livestock (Meat)	42	0.44	403.81	446.25	3.65
Dairy (Milk)	20.43	Negligible (direct market access)	120.02	140.45	1.15
Poultry (Eggs)	50.1	0.01	160.31	210.42	1.72
Total Aggregate	211.76	129.38	915.58	1,256.71	10.28

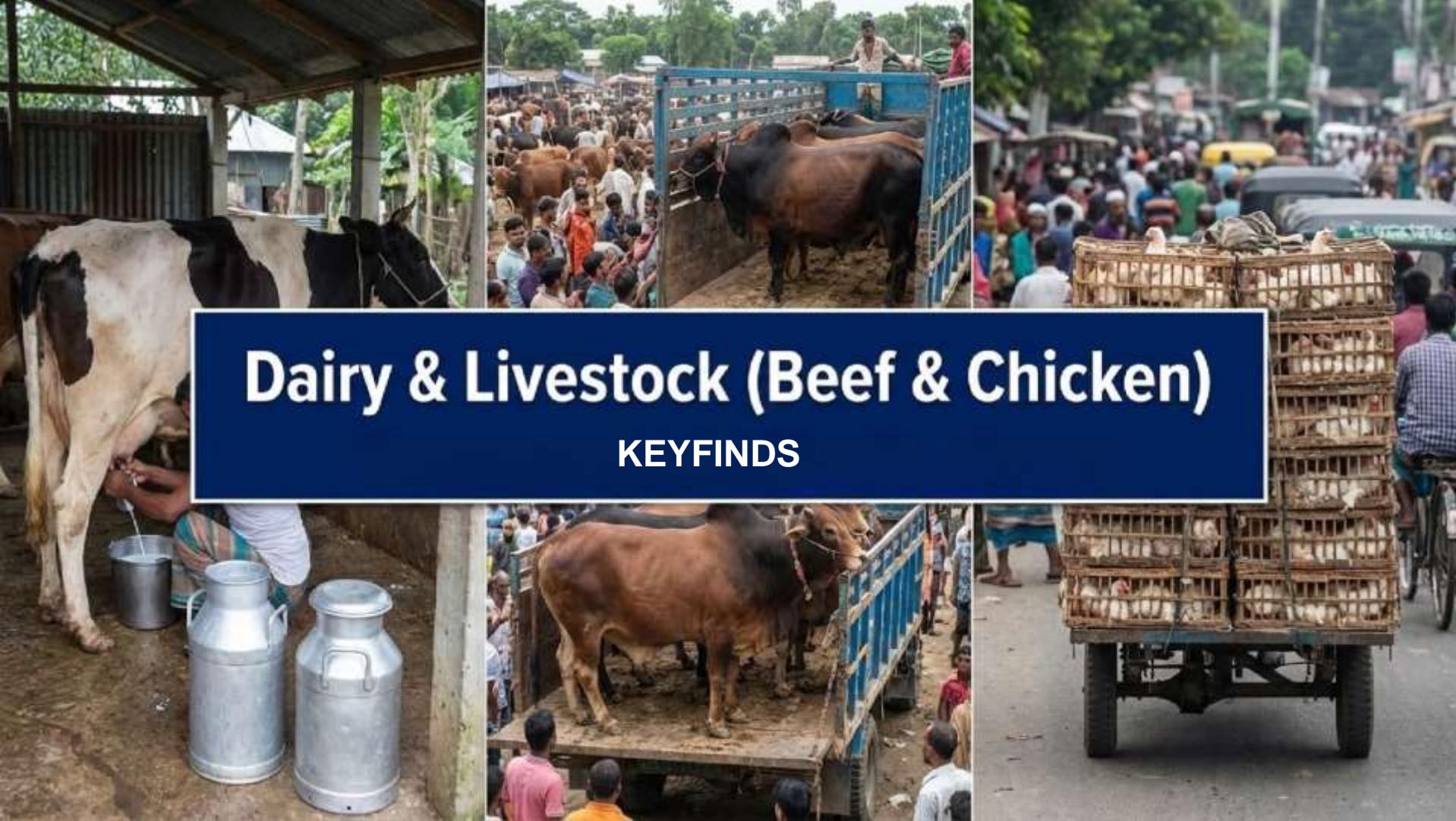
THE AGRO-LOGISTICS MARKET SIZE OF BANGLADESH FY 2023-24

Total Market Valuation:
BDT 1,282 Bn
(~\$10.5 Billion)

Insight:
High-value perishables drive the logistics market, not cereals.

Cost Driver:
Transportation is the highest expenditure across all sectors.

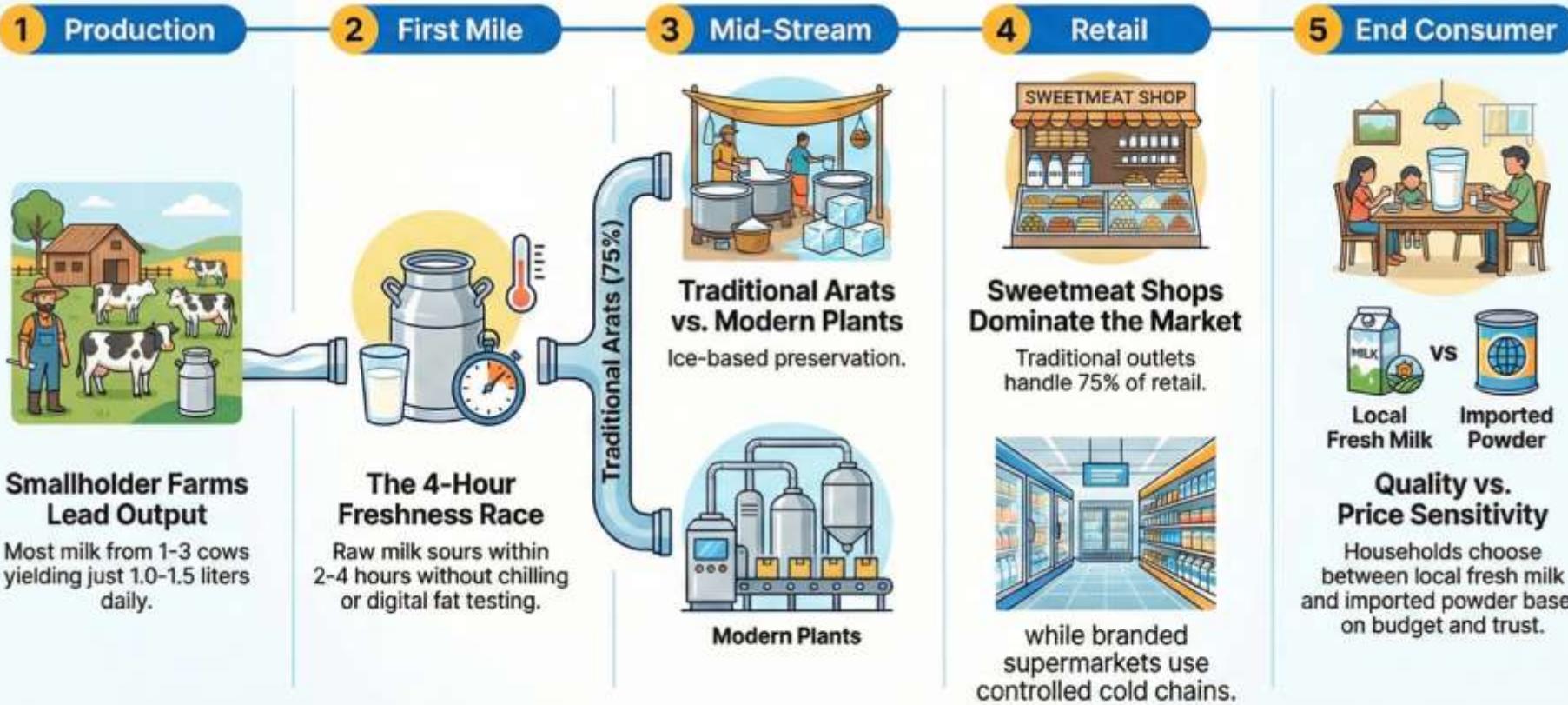




Dairy & Livestock (Beef & Chicken)

KEYFINDS

The Dairy Flow: Bangladesh's Milk Value Chain



Two Paths for Bangladesh Beef: Traditional vs. Modern

TRADITIONAL CHANNEL

STAGE 1: PRODUCTION



Traditional Channels Control 93% of Supply

Informal smallholder farms and rural "Hats" (markets) set price via spot bargaining; high congestion.

STAGE 2 & 3: LOGISTICS



Live Transport Causes 3-5% Weight Loss

Non-refrigerated trucks and high-stress environments lead to significant loss and transport mortality.

MODERN/EXPORT CHANNEL (<7% Supply)

RETAIL BRANCHING



Informal "Hanging Meat" on Floors

Traditional butchers sell ambient meat on wet market floors.

STAGE 1: PRODUCTION



Modern Channel Utilizes Mechanized Chilling

Emerging high-standards channel (<7%) targets premium retail and global export.

STAGE 2 & 3: LOGISTICS



HACCP Abattoirs & Mechanized Chilling

<7% modern channel utilizes mechanized chilling, vacuum packing, and vacuum-packed transport.

Bridge
the
Cold
Chain
Gap

Shifting from price-sensitive "warm" meat to cold-chain branded stores unlocks Halal export markets in the Middle East.



Vacuum Packed/Cold Chain Display

<7% channel utilizes vacuum packing and cold-chain branded stores.

EXPORT
MARKETS

Bangladesh's Poultry Pulse: From Hatchery to Plate

STEP 1: HATCHERY OUTPUT



**7.2 Billion
ANNUAL CHICKS**

Grand Parent and Parent Stock farms fuel a massive breeding engine to meet national protein demand.

STEP 2: COMMERCIAL FARMING



**Contract
Models
Dominate
50–60%**

of production relies on contract farming, where dealers provide chicks and feed on credit.

STEP 3: LOGISTICS & TRANSIT



**Mitigate
High-Stress
Ambient
Logistics**

Reliance on open trucks and limited cold chains creates significant mortality risks during transit.

STEP 4: RETAIL MARKET



**Traditional
Markets
Outpace
Modern Retail**

97% of consumers prefer live birds and manual slaughter in wet markets over processed supermarket products.

STEP 5: GROWING AMBITION FOR HALAL EXPORTS



**Growing
Ambition for
Halal Exports**

While domestic use is price-sensitive, there is significant interest in expanding Halal exports to the Middle East.

The Journey of an Egg: Bangladesh's Poultry Value Chain

STAGE 1: INPUTS & BREEDING



Imported GP
& Layer PS
Stock

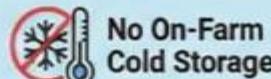


Feed Mills
(70% of
input costs)

STAGE 2: **18,000+** PRODUCTION FARMS



Daily Collection



No On-Farm
Cold Storage

STAGE 3: AGGREGATION & WHOLESALE HUBS



Open Pickup
Transport



Manual
Auctioning
(e.g., Tejgaon,
Kaptan Bazar)

STAGE 4: TRADITIONAL VS. MODERN RETAIL

90%
TRADITIONAL



Sold Loose in
Wet Markets

10%
MODERN



Graded/Packaged
in Supermarkets



Horticulture & Fisheries

KEYFINDS



Farm to Fork: The Journey of Bangladesh's **VEGETABLES**

Bangladesh's **VEGETABLES** chain relies on a complex network to move 700,000 kgs of vegetables daily.

STAGE 1:

Smallholder Production



60% 60% of farmers cultivate one acre or less, relying on manual harvesting and traditional methods.

STAGE 2:

The “Hidden Middle”



Local Farias and Beparis aggregate produce using rickshaw-vans, tractors, and head-loading for initial transport.

STAGE 3:

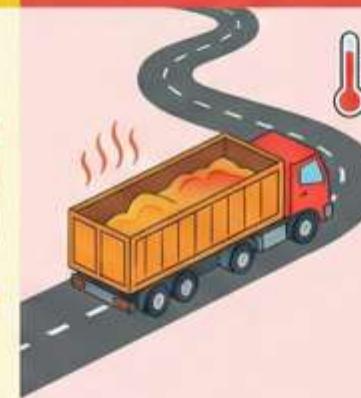
The Wholesale Hub (Arat)



Aratdars (commission agents) at major hubs like Karwan Bazar facilitate price setting through open auctions.

STAGE 4:

High-Risk Distribution



95% 95% of produce moves via non-refrigerated road transport, a primary driver of the **30-40%** post-harvest loss.

STAGE 5:

Diverse End-Markets



Traditional Wet Markets
(Price-sensitive)



Modern Superstores
(Quality-conscious)



Traceable Export Channels

From Orchard to Export: The Bangladesh Fruit Supply Chain

Visualize the journey of fruit from farm to table and identify the critical bottlenecks causing 40% post-harvest loss.

STAGE 1: SMALLHOLDER PRODUCTION & AGGREGATION



ORCHARD PRODUCTION



TRADITIONAL BASKETS & JUTE SACKS

Produce moves from small orchards to local agents (*Farias*) and regional traders (*Beparis*).

THE LOGISTICS 'HOT ZONE'



30–40% HARVEST RUINED

Over 95% of fruit travels in non-refrigerated trucks, exposed to heat, vibration, and compression.



THE COLD STORAGE GAP:
2.7M metric tons capacity, 95% for potatoes. Fruits at mercy of ambient temperatures.

EXPORT CHANNEL



CENTRAL PACK HOUSE (VHT & SPS TESTING)

Exports must pass through Central Pack Houses for Vapor Heat Treatment (VHT) and SPS testing.



GLOBAL MARKET READINESS:
Shift to certified traceability & strict phytosanitary compliance for EU, UK, Middle East.

DOMESTIC DIVERGENCE

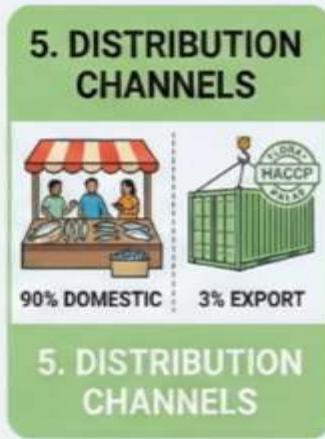
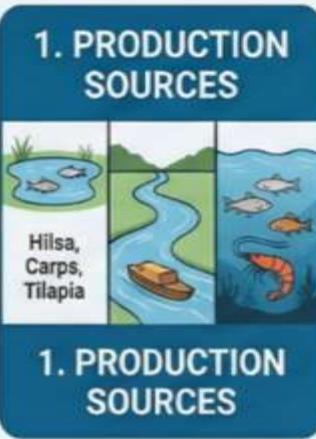


ARATDARS (WHOLESALE AUCTIONS) & WET MARKETS

Local fruit hits wholesale auctions for wet markets.

From Catch to Consumer: The Journey of Bangladesh's Fish

The Bangladesh fish value chain is a high-speed, 5-stage race against time and temperature.



Diverse Origins: Inland, Riverine, and and Marine

Sources range from inland ponds and rivers (Hilsa, Carps, Tilapia) to the deep sea (Marine Shrimp).

The 'Dadon' System: Informal Credit Ties

Farmers and fishermen are often bound to local traders (Farias) via advance informal credit.

The Ice Race: Non-Refrigerated Transport

95% of fish moves via road using only loose ice, facing high heat stress risks.

Aratdars: The Central Auction Hubs

Commission agents facilitate open auctions in congested hubs like Karwan Bazar and Jatrabari.

Domestic Wet Markets vs. Global Export

90% of fish serves local consumers via wet markets, while a specialized 3% enters global HACCP-certified channels.

THE GRAIN PATH: BANGLADESH'S CEREAL VALUE CHAIN

Bangladesh is a global leader in cereal production, yet **10% to 17.8% of the harvest** is lost due to infrastructure gaps between the farm and the consumer.

1: PRODUCTION (The Source)



Smallholder Farms Drive National Supply

Rice is the staple crop, but Maize production has surged to ~5.7M MT for poultry and aquaculture feed demand.

HIGH LOSS RISK

2: FIRST-MILE LOGISTICS (The Vulnerability)



Drying is the Major Loss Hotspot

85-90% of grains are sun-dried on open roads, making them highly vulnerable to moisture damage and erratic rainfall.

The "First-Mile" (Harvesting to Drying) is the highest-risk zone for economic leakage.

3: AGGREGATION (The Network)



A Multi-Tiered Informal Trading System

Farias (village traders) and Beparis (aggregators) move volume to Aratdars (commission agents) in wholesale hubs.

4: STORAGE (The Holding)



Traditional Golas vs. Modern Silos

While government silos offer modern protection, most smallholders rely on traditional bamboo "golas" with minimal pest protection.

5: PROCESSING (The Transformation)



Transitioning to Automatic Milling

Shifting from traditional husking mills to automatic systems reduces grain breakage and improves total recovery rates.

6: DISTRIBUTION (The Destination)



Feeding 170 Million People Daily

Grain flows through three main paths: traditional wet markets, industrial feed plants, and government-run social safety nets (PFDs).

A vibrant outdoor market scene featuring a variety of fresh produce. In the foreground, there are large piles of green and yellow mangoes, red and orange carrots, and green bell peppers. A person in a red shirt is seen from behind, reaching for a fruit. Another person in a purple shirt is visible on the left, also handling produce. The scene is filled with the colors of ripe fruits and vegetables under bright sunlight.

AGRO-LOGISTICS MARKET & INFRASTRUCTURAL CHALLENGES

Sector Vulnerabilities: Horticulture & Fisheries



Vegetables & Fruits:
30–44% Loss
due to distress sales and
lack of storage.

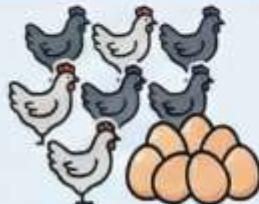


Fisheries:
\$151 Million
Annual Loss in marine
sector alone.

THE POULTRY PARADOX: Modernizing Bangladesh's Farm-to-Table Logistics

Massive production undermined by a fragmented, ambient-temperature logistics system.

HIGH PRODUCTION



36% of National Animal Protein Intake

Sector produces 23.35 billion eggs & 1.5 million tonnes of meat annually (90% informal)

THE BOTTLENECK: LOGISTICS & PROCESSING GAP



<2% Cold Chain Gap

Less than 2% of agricultural transport fleet is refrigerated, exposing live birds and eggs to heat stress.



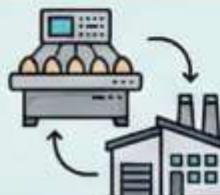
Traditional Wet Markets vs. Modern Processing

95% of meat sold live in wet markets; only 2-3% of broilers pass through mechanized slaughterhouses.



13% Annual Loss in Egg Production

Physical breakage & heat deterioration lose ~3 billion eggs every year.



RESULTING LOSSES & OPPORTUNITY

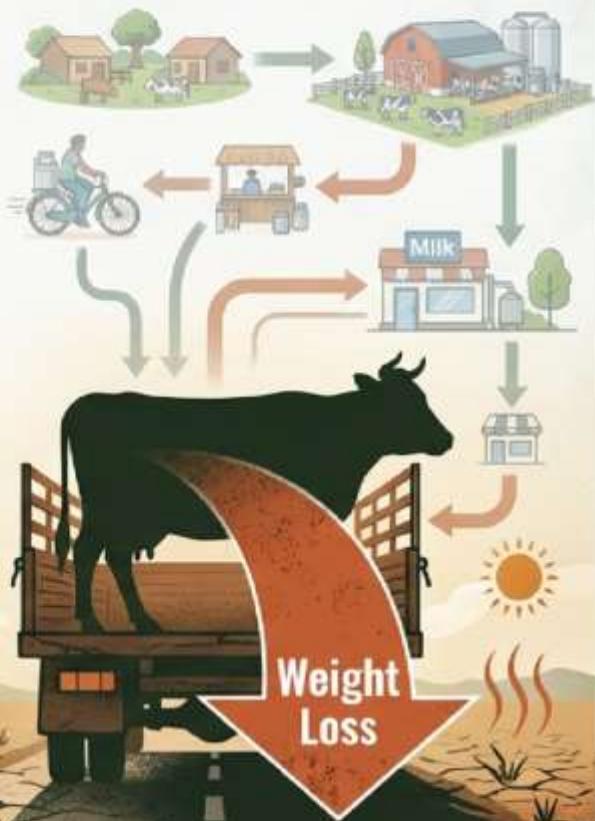
\$5M Opportunity in Modern Grading & Packing

Investment in automated egg-grading & 6-8 mid-sized slaughterhouses is critical for urban demand.

The Tyranny of Time: Dairy & Meat



- **Dairy:** Only 10% enters formal cold chain; milk spoils rapidly.
- **Import Dependency:** \$370M spent annually on milk powder.



-5% Live Weight Loss
due to stress.

The Potato Paradox: Solving Bangladesh's \$2.4B Cold Chain Crisis

THE \$2.4 BILLION ANNUAL ECONOMIC DRAIN

Post-harvest losses range from 20% to 44% for fruits, vegetables, and fish due to fragmented, ambient-temperature handling.



The Potato A Storage Monoculture

95%



Of Bangladesh's 2.7 million MT cold storage capacity, 90–95% is dedicated exclusively to potatoes, leaving almost zero space for mangoes, milk, or meat.

The Missing Cool Chain on Wheels

<1%



Less than 1% of the national agricultural transport fleet is refrigerated, forcing a reliance on open trucks that expose produce to heat and vibration.

ECONOMIC LEAKAGE & LOSS

A \$440M MARKET OPPORTUNITY BY 2031

Rapid urbanization and LDC graduation are driving a massive surge in demand for temperature-controlled logistics and certified food safety.



Bridge the 'Missing Middle' Financing Gap



Informal
'Dadon'
Credit



Two-Step
Loans (TSL)



Multi-commodity
Cold Hubs

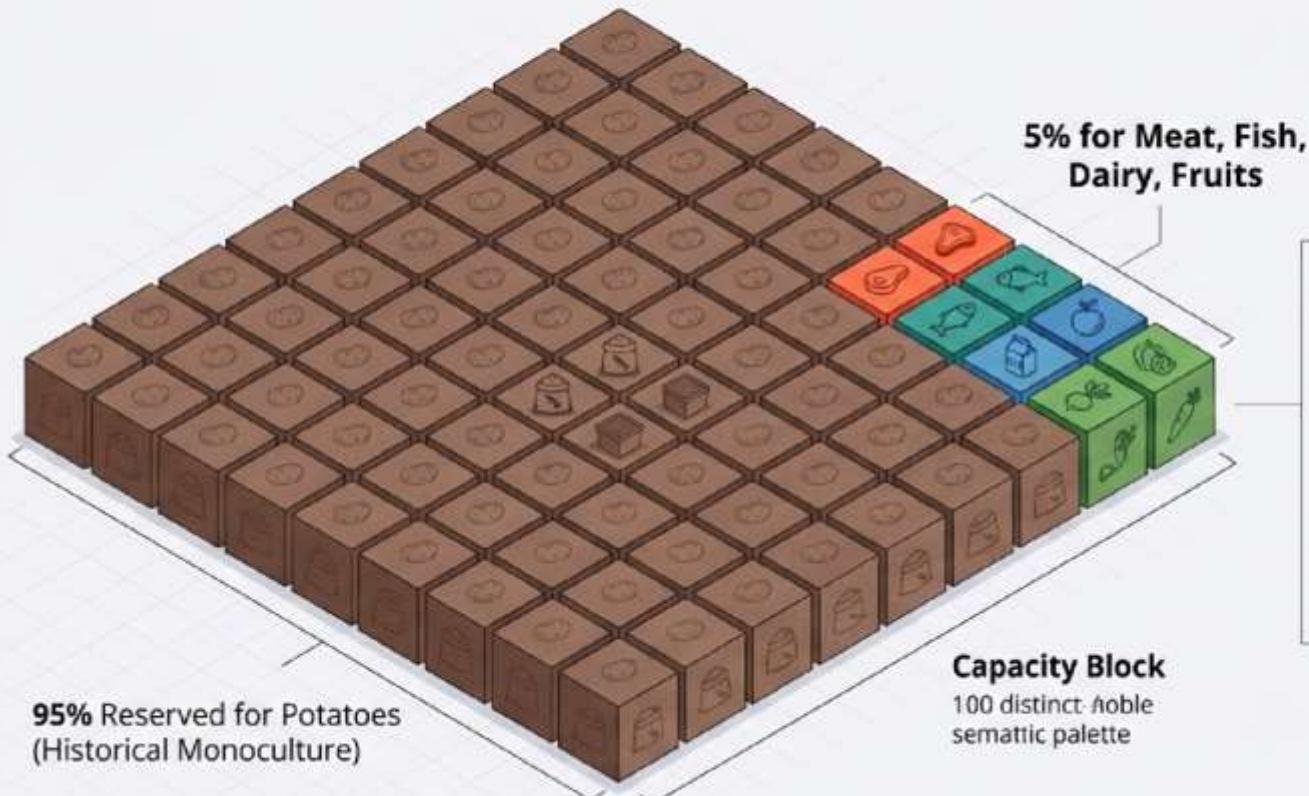


Transitioning from informal 'Dadon' credit to Two-Step Loans (TSL) is essential to help SMEs fund the high CAPEX of multi-commodity cold hubs.



SECURE, CERTIFIED
COLD CHAIN MARKET

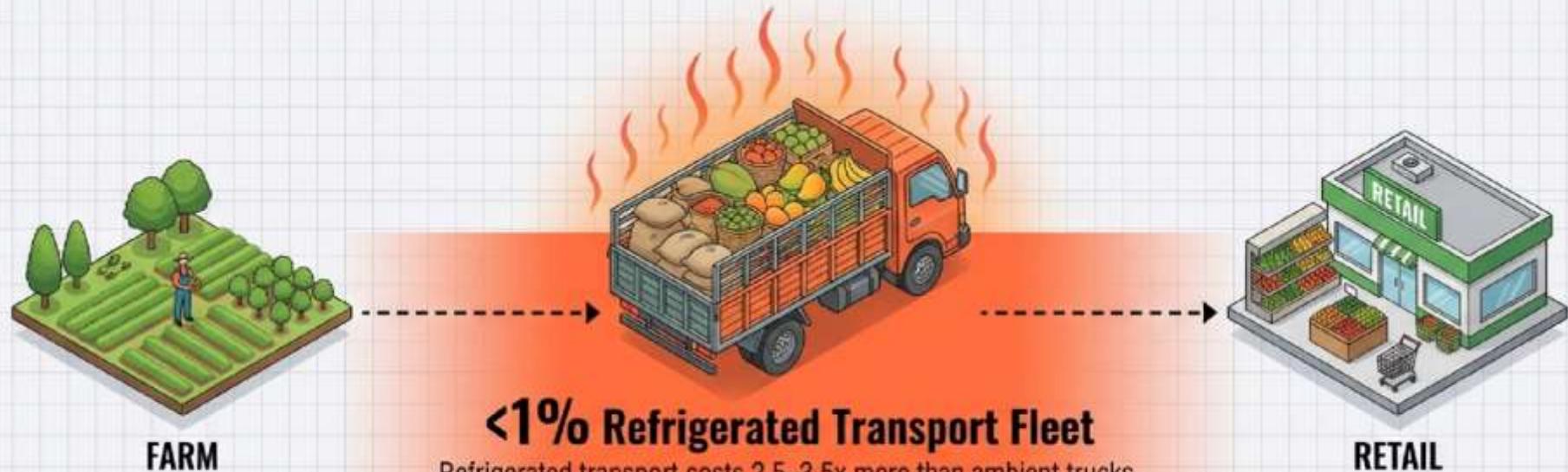
The Potato Paradox: A Monoculture of Storage



The Consequence:
High-value perishables
have no buffer storage,
forcing “distress sales”
“distress sales”
immediately after
harvest.



The Cold Chain Distortion: The ‘Hot Zone’ on Wheels



Heat Stress



Vibration Damage



Compression

The Price of Distortion: Sector-Level Impact



Fisheries



The Ice Trap:

Reliance on 'Loose Ice'. Marine fisheries lose **\$151 Million** annually.



Dairy

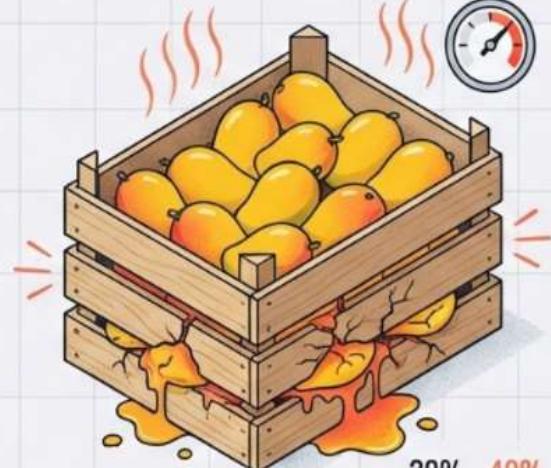


The 4-Hour Trap:

Raw milk spoils rapidly.
90% informal trade without chilling.



Fruits



The Pressure Cooker:

Ambient transport causes
30-40% rot and compression damage.





INVESTMENT LANDSCAPE, BLOCKADE & EMERGING TRENDS

The Virtuous Cycle of Investment

Input: FDI & Technology

Injection of Foreign Capital & Modern Cold Chain Solutions. Technology Transfer for Efficiency.

Impact: Higher Farmer Income & GDP

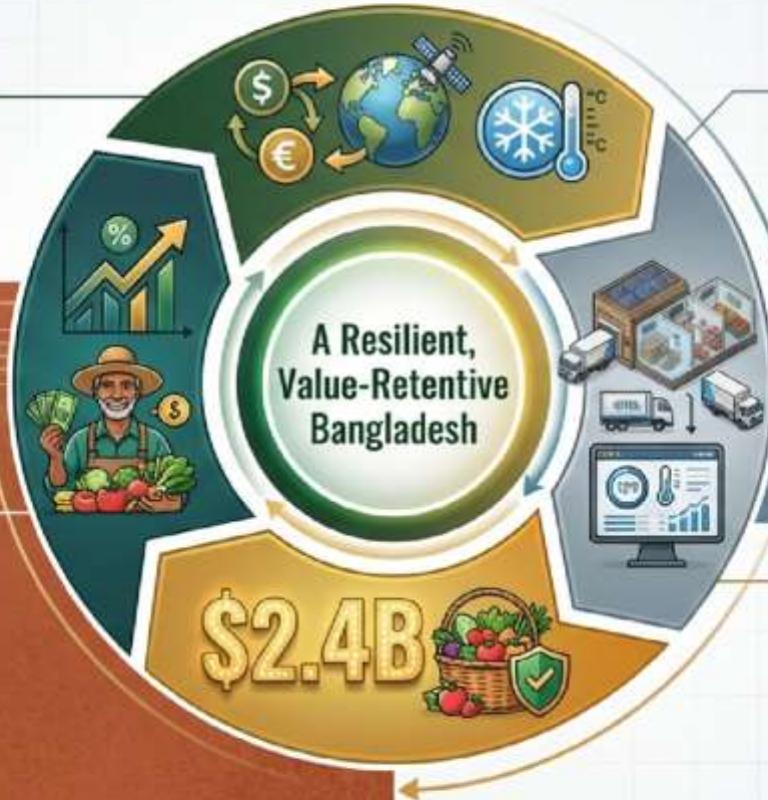
Exponential Farmer Prosperity. Boost in Export Growth and Global Competitiveness.

Process: Modern Cold Chain Infrastructure

Specialized Facilities, Reefer Fleets, and Digital Tracking. Breaking Monoculture with Multi-Modal Hubs.

Output: \$2.4 Billion Value Reclaimed

Reduced Post-Harvest Wastage. Preserved National Wealth.



Agro-Logistics is not a service industry; it is a macro-critical growth engine.

GOVERNMENT AS THE CATALYST: POWERING BANGLADESH'S AGRO-LOGISTICS EVOLUTION



HIGH-IMPACT FISCAL INCENTIVES & CASH SUPPORT

15% VAT EXEMPTION
on Cold Storage Machinery

10-20% Cash Incentives for Exporting Agro-Processed Products



\$500M "PARTNER" PROGRAM FOR SYSTEM MODERNIZATION

ESTABLISHING 'TECHNOLOGY VILLAGES'



World Bank-backed government initiative modernizing post-harvest testing & storage across 53 districts.



BRIDGING THE CAPITAL GAP WITH "TWO-STEP LOANS"

CONCESSIONAL FINANCING CAPPED AT ~6% INTEREST



BIFFL and IDCOL provide far below commercial rates to fund cold chains and processing plants.



RAPID MARKET ENTRY VIA ONE-STOP SERVICE (OSS)

COMPANY REGISTRATION IN UNDER 7 DAYS



BIDA streamlines investment; utility connections within 30 days for new agribusinesses.

SPECIALIZED LAND VS. TRADITIONAL SCARCITY PROVIDING SERVICED INDUSTRIAL PLOTS & 'PLUG-AND-PLAY' INFRASTRUCTURE



BEZA and the PPP Authority solve land scarcity in Special Economic Zones.

INTERNATIONAL ACTORS IN BANGLADESH'S AGRO-LOGISTICS ECOSYSTEM: ROLE & INVESTMENT



LOGISTICS & COLD CHAIN

Nippon Express Holdings
Logistics Service Provider (3PL)
Acquired 20% equity in Cold Chain Bangladesh Limited (CCBL) for end-to-end logistics & warehousing

LixCap
Advisory & Investment
Provides business advice for cold chain development; identified \$2.4B annual post-harvest losses to justify TCL investment

Celtic Cooling
Technology Provider
Designs & installs energy-efficient refrigeration & climate control systems for cold storage

Yusen Logistics
Logistics Service Provider
Major market leader operating in the Bangladesh cold chain market



AQUACULTURE & FISHERIES

WorldFish (CGIAR)
Research & Innovation
Implements ECOFISH-BD; focuses on value chain innovation, genetics (hatcheries) & reducing post-harvest losses

Charoen Pokphand (CP) Foods
Input Supplier & Integrator
Major player in aqua-feed & poultry feed; contract farming, supplies hatcheries/feeds

Skretting (Nutreco)
Feed Manufacturer
Produces high-quality fish & shrimp feed; potential partner for feed efficiency improvements

De Heus
Feed Manufacturer
Produces complete range feeds & concentrates; supports animal protein value chains

Solidaridad Network
NGO/Development Partner
Implements SaFaI II project (coastal region) for market linkages, food safety, logistics in shrimp & dairy



DAIRY & LIVESTOCK

World Bank
Development Financier
Approved \$500M credit for Livestock and Dairy Development Project (LDDP) to improve productivity, market access, climate resilience

Heifer International
NGO/Capacity Building
Works with women farmers (Northern BD) to improve value chains in dairy, beef, & goat sectors

Nestlé
Processor/Buyer
Active in dairy market; sourcing & processing milk products

American Dairy Limited
Genetic Improvement/AI
Involved in Artificial Insemination (AI) programs to improve cattle breeds

Danida
Donor
Financed Rural Microenterprise Transformation Project (RMTP) with PKSF for safe meat & dairy product markets



HORTICULTURE (FRUITS & VEG)

Syngenta
Input Supplier (Seeds/Chemicals)
Supplies crop protection & hybrid seeds; uses retail network to reach farmers

Bayer Crop Science
Input Supplier
Active in crop protection & hybrid seed distribution

East West Seed
Seed Company
Produces & distributes tropical vegetable seeds; knowledge transfer to farmers

USAID (DAI)
Development Partner
Implemented Agricultural Value Chains (AVC) project to strengthen fruit/vegetable value chains (Southern Delta)

Naktuinbouw
Regulatory/Inspection Support
Dutch inspection service for horticulture; potential partner for phytosanitary systems & variety protection



CROSS-CUTTING / POLICY & FINANCE

JICA
Development Partner
Implements Food Value Chain Improvement Project; provides Two-Step Loans (TSL) via BiFFL for agribusiness & food processing finance

IFC (World Bank Group)
Private Sector Investor
Financing private agribusinesses (e.g., PRAN); working on weather index-based agriculture insurance

Swisscontact
Technical Assistance
Implemented Katalyst project for market systems development in agro-processing & vegetable sectors

Embassy of the Kingdom of the Netherlands (EKN)
Donor/Strategic Partner
Designated Bangladesh as a transitional partner; commissions sector studies for Dutch-Bangla trade & investment

FAO
Technical Assistance
Leads 3AD+ program for dairy/beef value chain development; supports food safety & nutrition security policies

Private Sector Leaders & Emerging Trends



FDI Entry



Tech Aggregation
(e.g., iFarmer)

**The Shift: From Informal Middlemen
to Digital Supply Networks.**

Modernizing the Agro-Logistics Value Chain

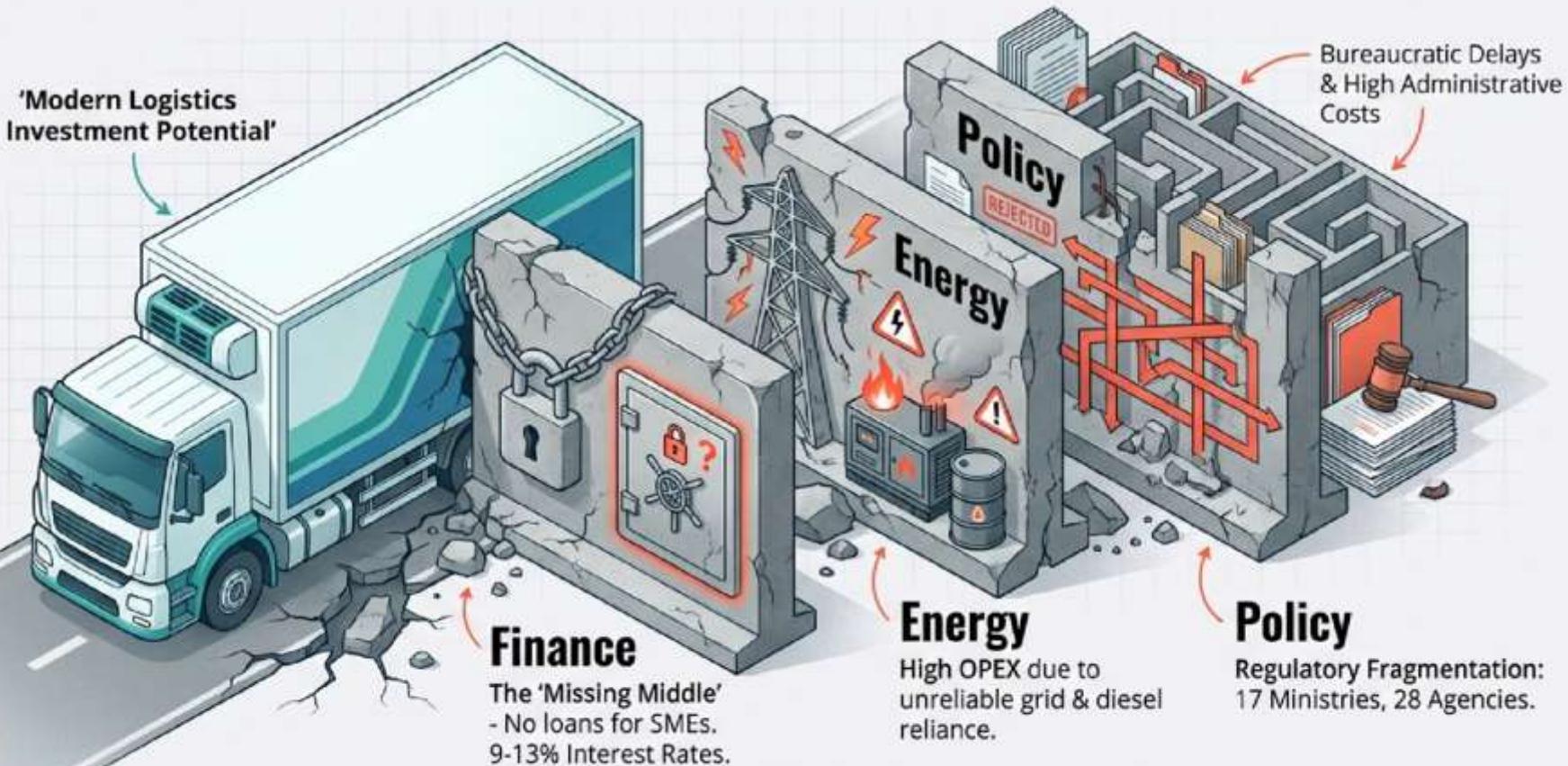


Vertical Integration (PRAN/Golden Harvest)



Export Compliance

The Investment Blockade: Why the Gap Persists





FINANCIAL INSTRUMENTS & POLICY RECOMMENDATIONS

Financial Instruments & Policy Actions



Policy Priorities

Warehouse Receipt Systems (Storage as Collateral)

Warehouse Receipt Systems for agricultural, (storage as collateral)

National Logistics Policy Implementation

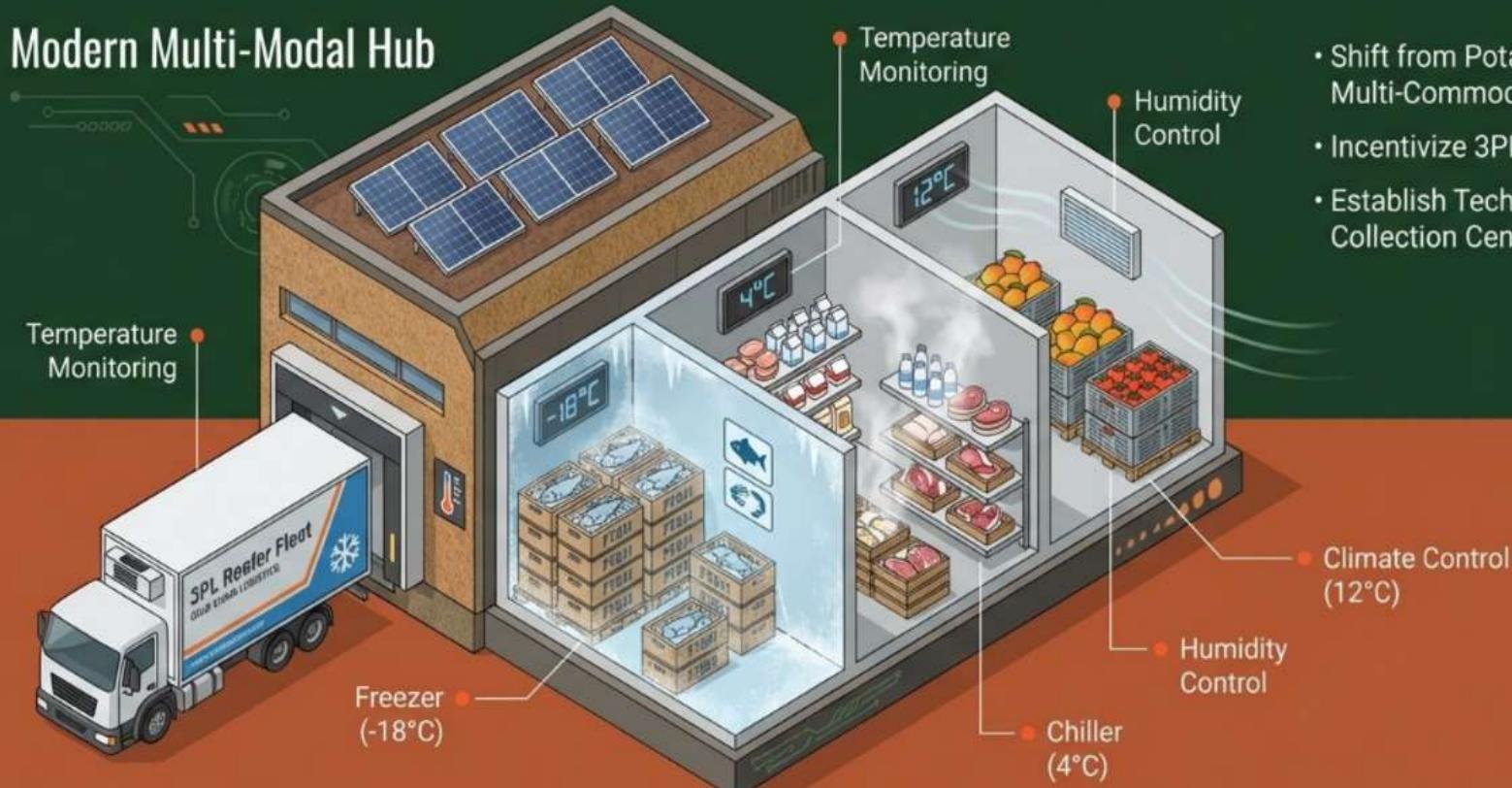
National Logistics Policy and Implementable assessment

Agency Harmonization

Agency Harmonization and tech-enabled farmer

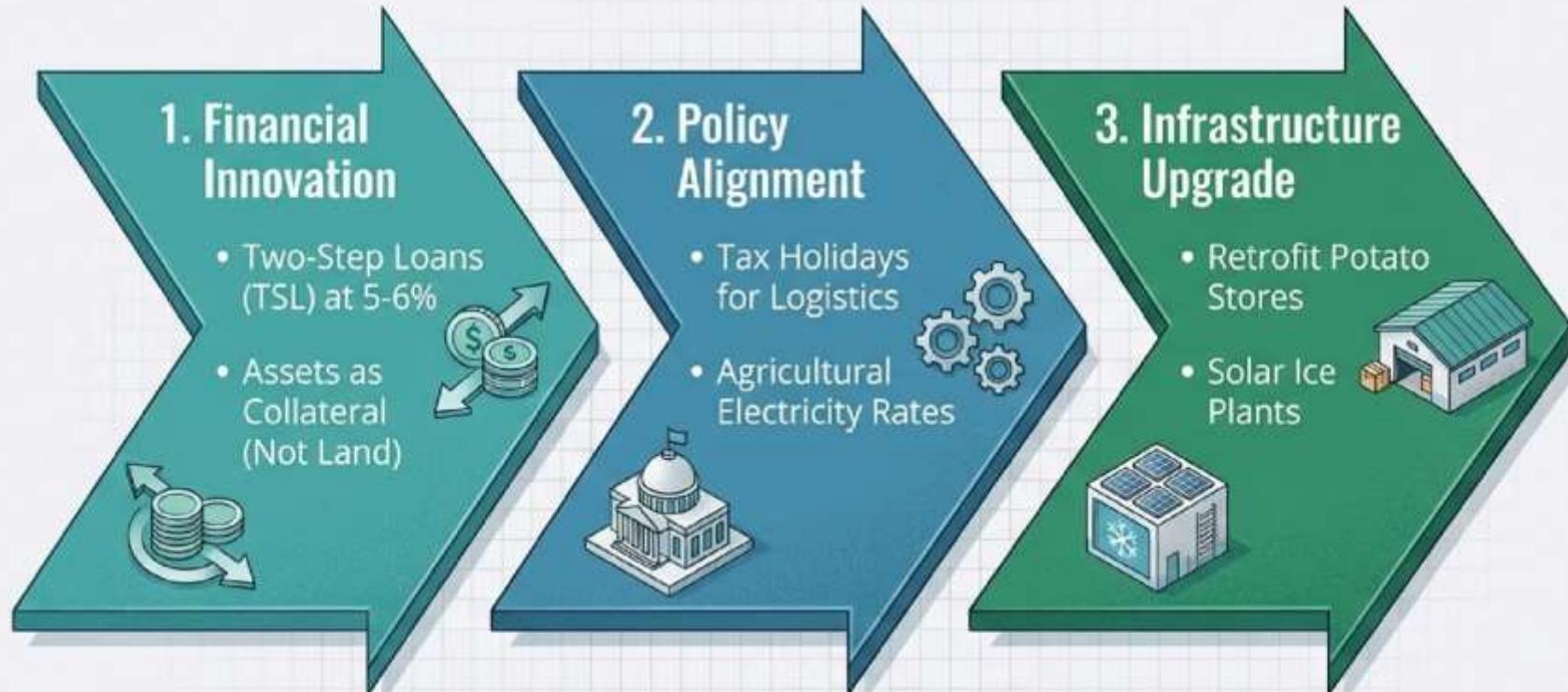
Infrastructure Strategy: Breaking the Monoculture

Modern Multi-Modal Hub



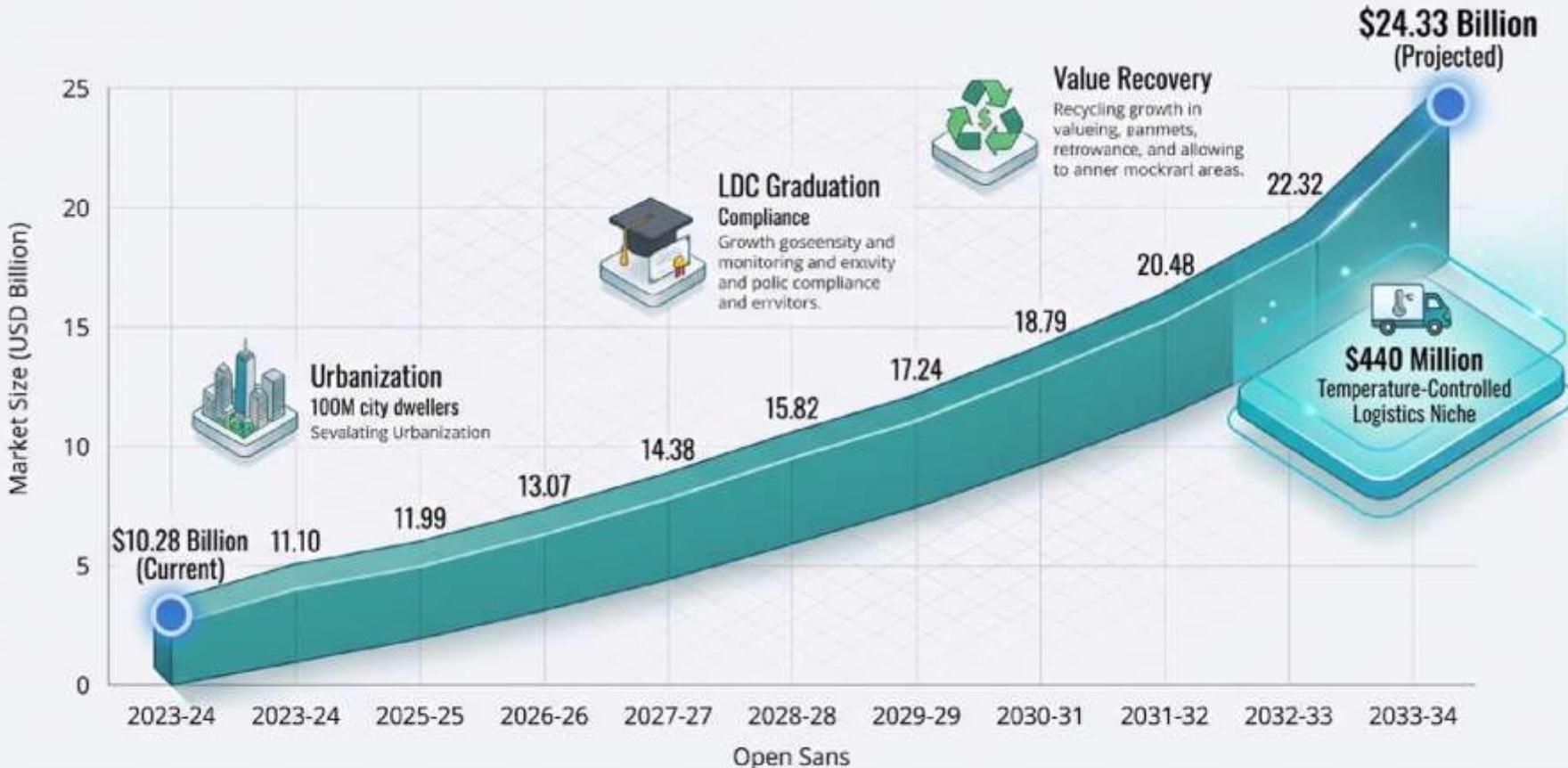
- Shift from Potato-Only to Multi-Commodity Hubs
- Incentivize 3PL Reefer Fleets
- Establish Tech-Enabled Village Collection Centers

Strategic Roadmap: Bridging the Gap



Goal: Transforming the \$2.4B loss into national value.

The Opportunity: From Stagnation to a \$24 Billion Market





THANK YOU

Questions & Answers



Agro-Logistics Market Estimation & Investment Potential

