



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-Sustainable
Development

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

COMMODITY-WISE SUPPLY CHAIN COSTS

Subsector	Commodities	Key Surplus Hub to Dhaka Chak Bazar	Weighted Avg. Distance (D_i) km	Avg. Freight Rate (AFRI) BDT/ton-km	Weighted Avg. Institutional Storage Duration ($T_{Duration}$) (month)	Avg. Storage Cost (ASC _i) (BDT ton-month)
Cereals	Rice	Naogaon, Dinajpur, Rangpur (Sadar)	250	9.0 (trucks)	5 (across harvest cycles)	240 (BDT 20 per sq. ft. x assuming 1 ton occupies ~12 sq. ft.)
	Maize					
	Wheat					
Vegetables	Fresh Vegetables	Jessore	194	18.0 (Pickups)	Negligible (direct market access)	Negligible (direct market access)
	Potato	Bogura (Mahasthan/Sadar)	210	12.0 (Standard truck)	9 (cold storage)	8,000 (government/association fixed rate)
Fruits	Fruits (non-mango)	Barishal (Guava/Amra hub)	180	19.0 ("Fruit Specials" trains or fast trucks)	Negligible (direct market access)	Negligible (direct market access)
	Mango	Rajshahi/Chapai Nawabganj	280	20.0 (high demand in mango season and return-empty risk of trucks)	Negligible (direct market access)	Negligible (direct market access)
Fisheries (Marine)	Fish	Coastal/South-East, Cox's Bazar (Marine)	400	30.0 (calculated on the gross weight (fish + water + ice))	Negligible (direct market access)	Negligible (direct market access)
Livestock (Meat)	Red Meat and Poultry Meat	Kushtia/Meherpur	260	20.0 (high volume, low density, Livestock trucks)	9 (On-farm/on-hoof livestock fattening)	200 (cold storage)
Dairy	Milk	Sirajganj (Shahjadpur)	143	25.0 (Tanker rate)	Negligible (direct market access)	Negligible (direct market access)
Poultry Eggs	Chicken Eggs	Mymensingh (Sadar)	125	25.0 (perishable good)	3.0 (temperature room, basket)	18 (per dozen)

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

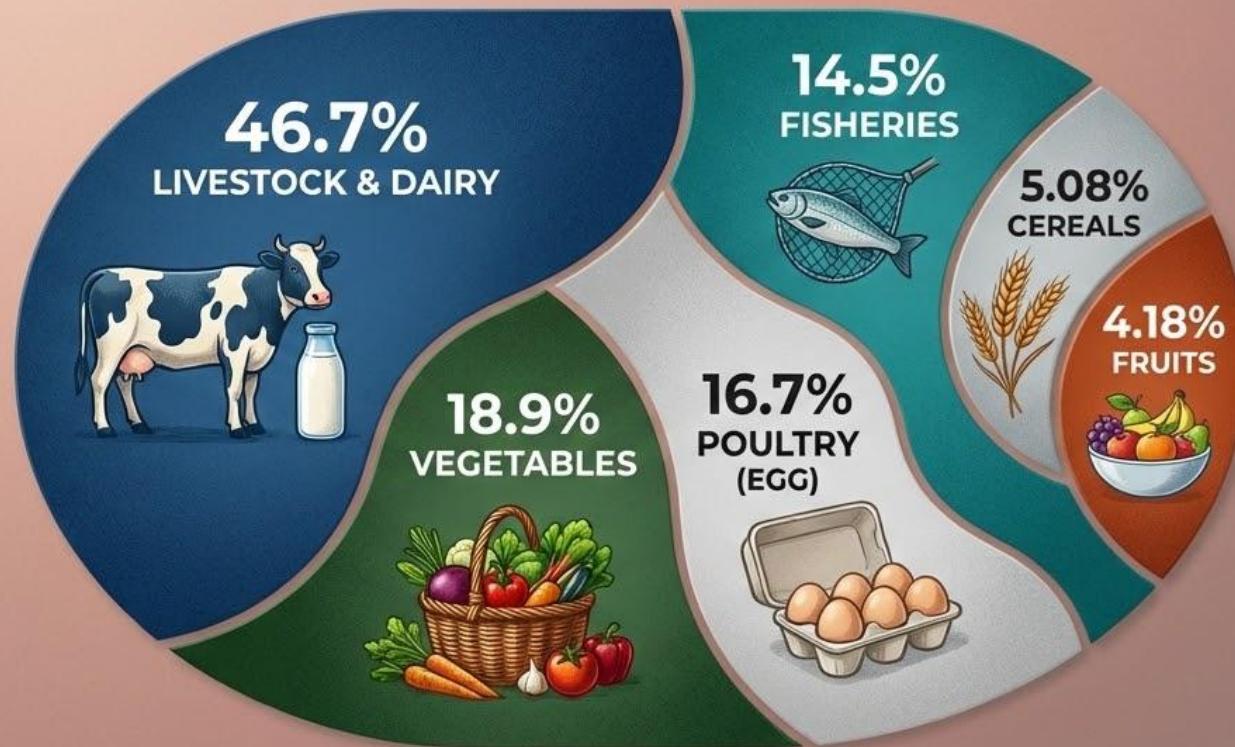
Commodity Category	Transportation Cost (C_{Trans}) (BDT Bn)	Storage Cost (C_{Store}) (BDT Bn)	Cost of Value-Added Services (C_{VAS}) (BDT Bn)	Total Market Size (BDT Billion)	Total Market Size (USD Billion)
Cereals (Rice, Maize, Wheat)	14.96	1.47	47.75	64.18	0.52
Vegetables (General)	22.08	Negligible	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.

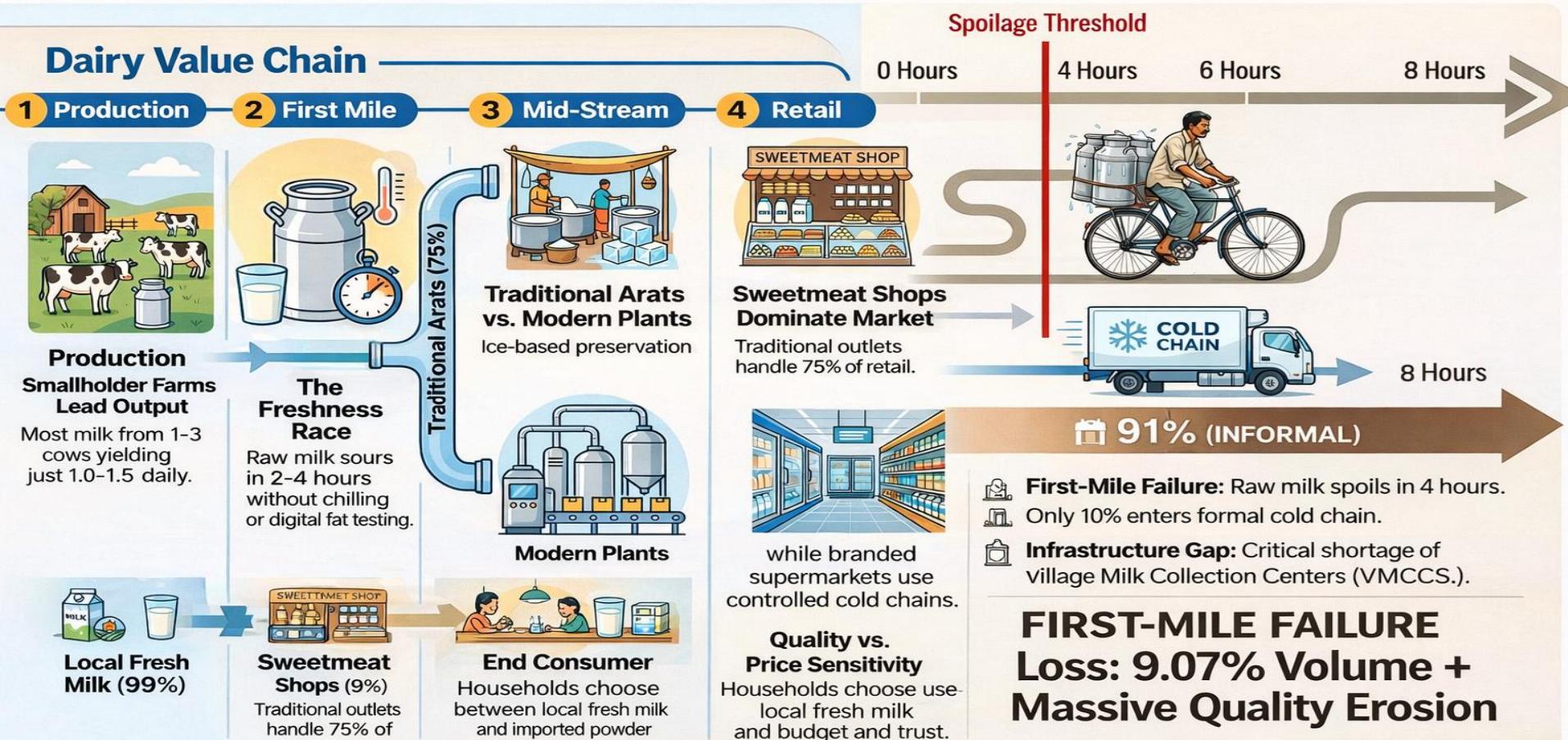




SUB-SECTOR-WISE AGRO-LOGISTIC KEY FINDINGS

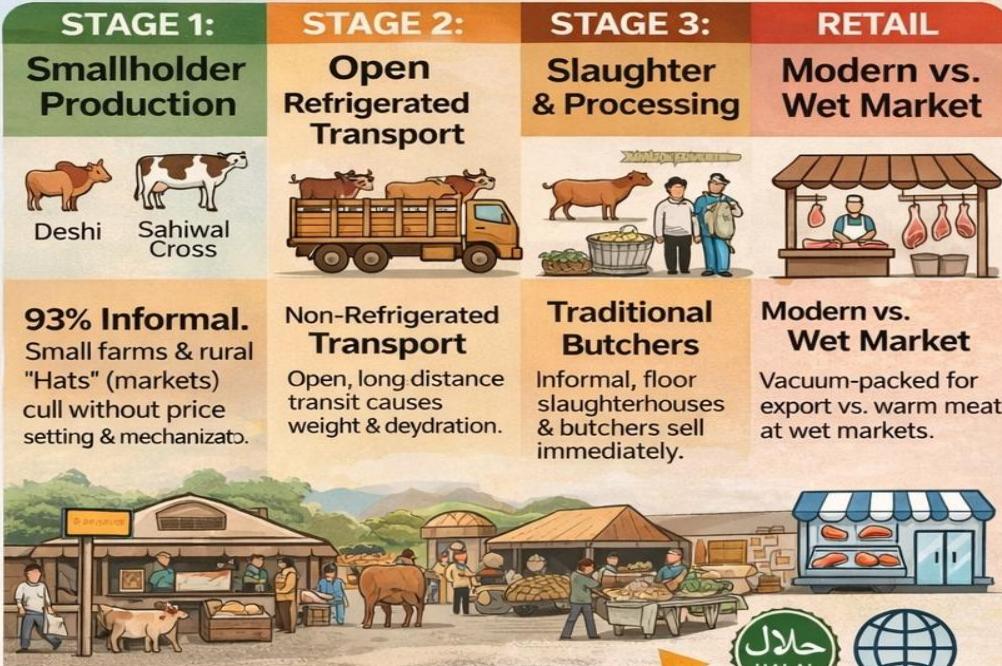


Dairy in Bangladesh: The Value Chain & The '4-Hour' Trap



Livestock in Bangladesh: The Value Chain & 'The Weight of Inefficiency'

Livestock Value Chain



Unmet Opportunity: Modern Cold Chain

Investment to mechanize & refrigerate could unlock a \$350M+ beef export opportunity.



The Weight of Inefficiency

Friction Points:

1 Transport Trauma:

Non-refrigerated, open trucks expose cattle to heat stress and dehydration.



2 "Warm Meat" Culture

Rapid sale of ambient meat in wet markets. Lacks cold chain, Halal certification.



3 Seasonal Slaughter Spikes

60% of slaughter occurs during 3 days of Eid-ul-Azha.

\$350M Lost Due to Inefficiencies

- High-Transit Loss:** 3-5% cattle weight drop, dehydration, bruising.
- Poor Meat Quality:** Rapid sale of ambient meat, short shelf-life.
- Export Ban:** Lack of mechanization & cold chain nixes Halal export potential.

Poultry in Bangladesh: The Value Chain & Stress on Wheels

Poultry Value Chain

1 Hatchery

2 First Mile

3 Logistics & Transit

4 Retail



7.2 Billion ANNUAL CHICKS

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



Local Fresh ANNUAL CHICKS



Contract Models Dominate

50–60% of production relies, contract farming, where dealers provide chicks and feed on



Mitigate High-Stress Ambient Retail

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



Retail Market



Halal Ambition
Interest in price-sensitive markets.



The Stress of Wheels & Wet Market Dominance

Friction Points

1 Live Transport: Open trucks cause heat stress, weight loss, and mortality.

2 Retail Reality: 95% sold in wet markets. Consumer distrust of cold chain.

3 Processing Void: Mechanized slaughterhouses cover only 2-3% of market.



OUTPUT LOSS ~7% PLUS BIOSECURITY RISK

- Economic Impact:** ~7% Loss in Meat Value
- Wet Market Dominance:** Pre-slaughter stress + unhygienic conditions elevate biosecurity risk.
- Input Reliance:** 60-65% of feed ingredients imported.

Poultry Eggs in Bangladesh: The Value Chain & The ‘Egg Paradox’

Poultry Egg Value Chain

1 INPUTS & BREEDING



Imported GP & Layer PS Stock

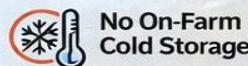
- Feed Mills
(70% of input costs)

2 First Mile

18,000+ PRODUCTION FARMS



Daily Collection



No On-Farm Cold Storage

3 Logistics & Transit

AGGREGATION & WHOLESALE HUBS



Open Pickup • Supply Chain

↳ Manual Auctioning
(Tejgaon, Kaptan Bazar)

4 Retail

The ‘Egg Paradox’

Massive Production BUT High Losses



36% of National Protein Intake comes from eggs. Sector produces 23.35 billion eggs annually



90% of eggs sold ‘loose’ via manual auctions & wet markets vs. Modern Grading & Packing

3 BILLION EGGS LOST ANNUALLY &
\$5M GRADING OPPORTUNITY

CONTRIBUTING FACTORS

- **Cold Chain Void:** <2% refrigerated transport, exposing eggs to heat
- **9 in 10 in manual engine**
- **Fragmented & Ambient Logistics:** Little on-farm cold storage



Production Loss



High Stress Transit

13% Annual Loss in Egg Production

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

3 Billion+ Eggs Lost Annually

Fragmented logistics,
little on-Farm cold storage.



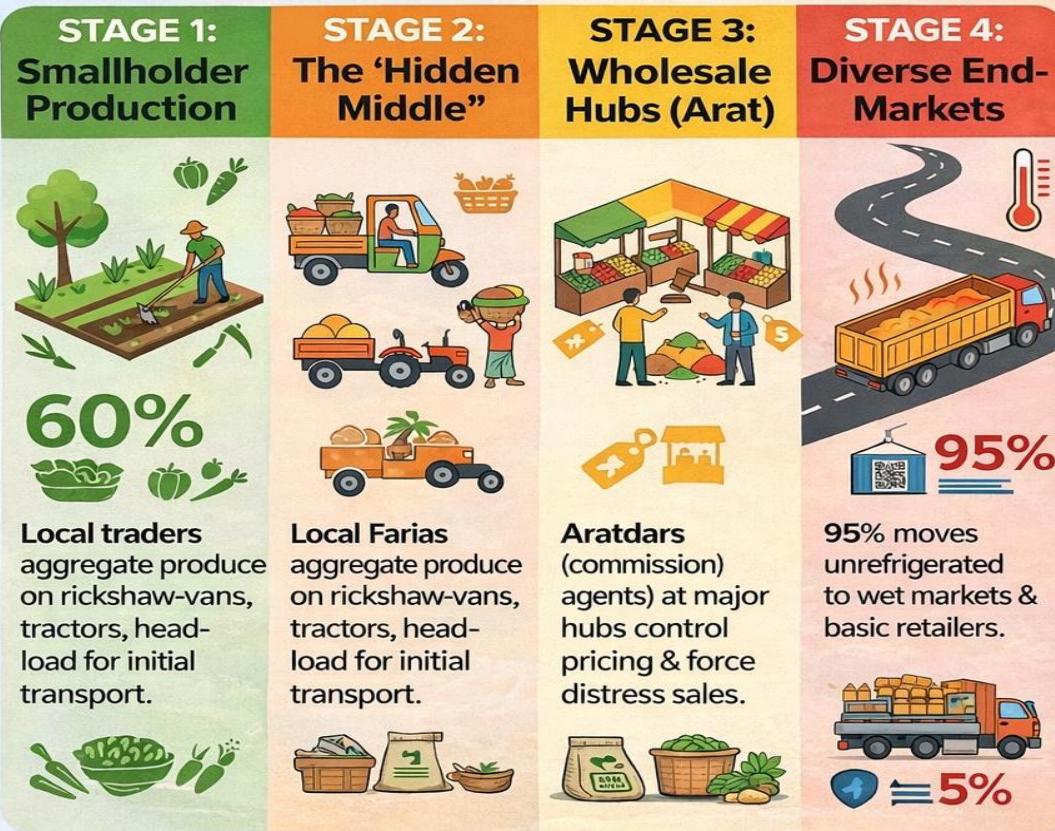
RESULTING : 3 BILLION EGGS LOST ANNUALLY
& \$5M GRADING OPPORTUNITY



Investment in automated egg-grading could reduce spoilage, by 60% in urban markets.

Vegetables in Bangladesh: The Value Chain & 'The Rush to Market'

Vegetable Value Chain



The Rush to Market: Speed, Damage & Compression

Key Factors Result in

1 Weak Packaging

Bamboo baskets & jute sacks cause severe compression



2 Middlemen Impact

Aratdars control pricing/credit, force-distress sales.



3 Fast Transit

95% moves in open trucks; < 1% is refrigerated.



Rapid Market & Transport Issues: Resulting in MASSIVE LOSSES of Bruised, Spoiled Vegetables

- Packaging Failure:** Bamboo & jute sacks cause severe compression damage & bruising.
- Middlemen Pressure:** Control pricing, force distress sales.
- Transport Stress:** >95% moves without refrigeration.

20-44% Post-Harvest Losses

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

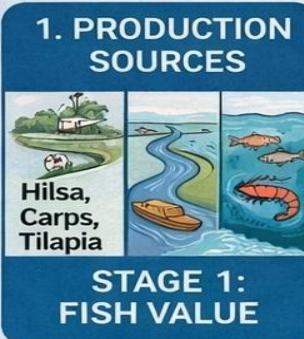


ARATDARS (WHOLESALE AUCTIONS) & WET MARKETS

Local fruit hits wholesale auctions for wet markets.

Fishing in Bangladesh: The Value Chain & ‘The ‘Loose Ice’ Trap

Fish Value Chain



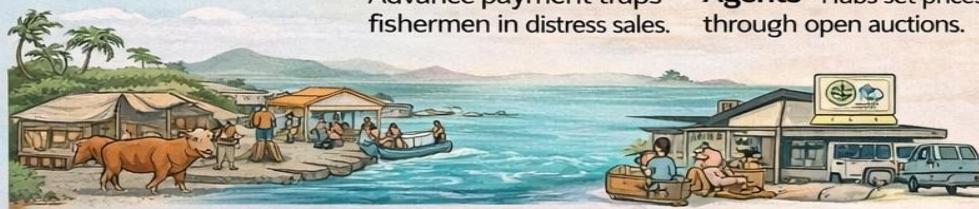
Diverse Origins:
Farms (Inland waters)
to Deep Sea (Shrimp)



The ‘Dadons’ System:
Informal Credit Ties
Advance payment traps
fishermen in distress sales.



Wholesale Hubs (ARAT)
Aratdars: Commission Agents - Hubs set prices through open auctions.



Fishing with Dry: Explore ! → **\$151M/year Lost**

Wet vs. Global Channels
90% served locally;



Global Channels
90% served locally;
3% reaches HACCP-



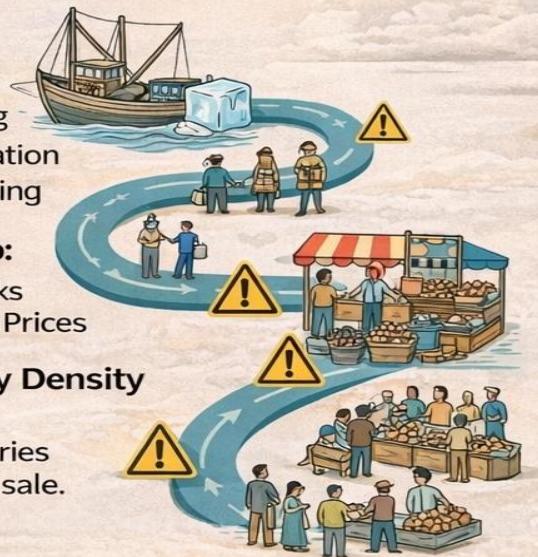
certified export.

The ‘Loose Ice’ Trap & Intermediary Density

Friction Points:

1 Technology Lag:

95% Ship on Melting
Ice Only 5% Penetration
of Mechanical Freezing



2 The ‘Dadons’ Trap:

Informal Credit Locks
Fishermen into Low Prices

3 High Intermediary Density

Chaotic Hand-Offs:
Multiple intermediaries
between catch and sale.

Post-Harvest Loss: 12.5% to 25%

- Technology Lag:** No mechanized freezing; melting ice thrashes fish quality.
- Marine Loss:** Delayed icing, poor landing centers lose \$151M/year.
- The ‘Dadon’s Trap’:** Informal credit keeps prices low, cutting fisher profits.

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, a person in a pink shirt is reaching for a fruit from a large pile of green and yellow apples. To the left, there's a basket overflowing with green mangoes and a stack of purple eggplants. In the bottom left corner, another person is seen from behind, wearing a white cap and a pink shirt, working with some dried goods. The background is filled with more crates of apples, a large pile of carrots, and a stack of green bell peppers. The overall atmosphere is one of a bustling, colorful local market.

INVESTMENT LANDSCAPE, EMERGING TRENDS & BARRIERS

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

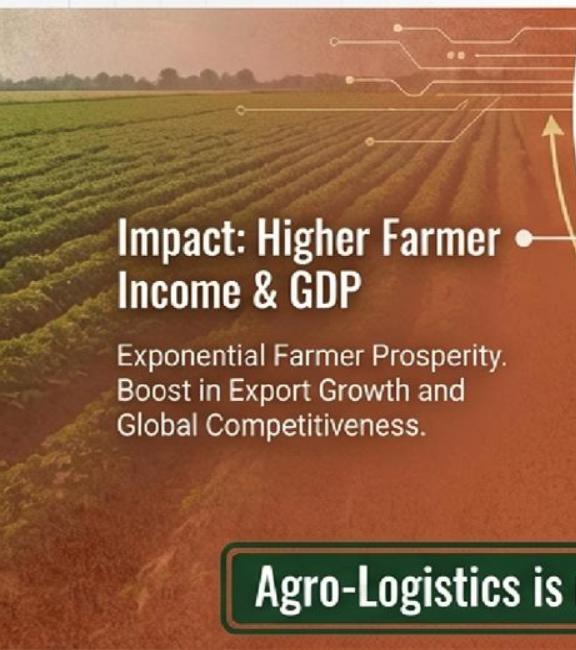
Specialized Facilities, Reefer Fleets, and Digital Tracking. Breaking Monoculture with Multi-Modal Hubs.

Output: \$2.4 Billion Value Reclaimed

Reduced Post-Harvest Wastage. Preserved National Wealth.

\$2.4B

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



Current Investment Plans

Agro-Logistics Investment Landscape · Government · Private Sector · International

USD 1B+

World Bank commitments alone

01 Government

Public & Development Finance

USD 500M

PARTNER Program

World Bank (PforR) — Technology Villages, Growth Centers, multi-chamber storage & testing labs

USD 500M

LDDP — Livestock & Dairy

World Bank credit strengthening slaughterhouses, cooling facilities & market access

196 silos

National Silo Program

New silos across 53 districts for rice, wheat & maize storage capacity

230 units

Onion Storage Pilot (DAE)

Pilot scheme in 6 districts to address post-harvest onion losses

Mega-Projects

Padma Bridge & Karnaphuli Tunnel

Regional connectivity & logistics bottleneck reduction across the supply chain

02 Private Sector

Equity, JVs & Concessional Loans

USD 65M

PRAN Group (IFC Loan)

IFC long-term loans to expand production & integrate smallholder farmers into retail supply chain

USD 15M

PRAN Group (IFC Loan II)

Additional IFC facility for capacity expansion and upstream logistics development

Cold Chain

Golden Harvest (IFC)

IFC-funded loan to expand cold chain network for frozen foods across Bangladesh

Processing

ACI, Primus & Alpha Seafood

Domestic investments in processing plants — Satkhira, Bagerhat & Khulna regions

Innovation

Giant Agro + Dutch Partners

Bangladesh's first onion processing & storage center (400-tonne capacity)

New Entry

Sharika Foods & Lovello Ice Cream

Oct 2024 — New entrants expanding frozen food processing & logistics footprint

03 International

FDI, Technical Assistance & BRI

JP Japan

Nippon Express — CCBL (FDI)

20% equity stake in Cold Chain Bangladesh Ltd; end-to-end cold logistics

JP Japan

JICA — Food Value Chain Project

Two-Step Loan via BIFFL for food processing, cold storage & logistics equipment

NL Netherlands

SaFaL II / Impact Clusters

Solidaridad-implemented project; market linkages in coastal region & onion storage

US USA

USAID/USDA — AVC & BTF

Agricultural Value Chains & Bangladesh Trade Facilitation — mobilizing cold chain investment

CN China

BRI — BCIM Corridor

Belt & Road Initiative infrastructure financing; cross-border agro-logistics connectivity

PPP Model

Agro-Processing Zones & Milk Hubs

Govt provides land/utilities; private sector manages ops with blended finance & matching grants

STRUCTURAL SHIFT: Bangladesh's agro-logistics modernization is driven by a convergence of state-led infrastructure (PARTNER, LDDP, silos), private conglomerate expansion (PRAN, ACI, Golden Harvest), and strategic foreign cooperation (Japan's FDI, Netherlands' technical clusters, US value chain programs) — all pointing toward a formal, integrated cold-chain economy.

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.



PUBLIC SECTOR: THE "DE-RISKING AGENT"

Fisheries

Horticulture



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 SaFa! 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 Catalyst 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

Global Strategic Investments



Nippon Express Enters the Cold Chain

The Japanese giant acquired a 20% stake in Cold Chain Bangladesh Limited (CCBL).

Actor: Nippon Express | Investment Nature: Foreign Direct Investment (Equity) | Primary Impact: Integrated Cold Chain Solutions



\$80M IFC Commitment to PRAN

Direct loans for logistics capacity, working capital, and specialized food safety advisory.

Actor: IFC | Investment Nature: DFI Loans & Advisory
Primary Impact: Processing and Logistics Capacity



Dutch Tech Transfer via "Impact Clusters"

Partnering with companies like Celtic Cooling to supply advanced cooling technology for onions.



Bangladesh's agro-logistics sector is transitioning from informal, ambient-temperature handling to a commercialized cold chain. This shift is being fueled by diverse funding sources, ranging from global logistics giants and development finance institutions to innovative domestic ag-tech startups.

Domestic Growth & Ag-Tech Innovation



Golden Harvest's Frozen Food Network

Developing domestic cold chain infrastructure and frozen food distribution through strategic joint ventures.



iFarmer's \$10M+ Financing Milestone

Facilitating finance and managing first-mile aggregation logistics for over 46,000 smallholder farmers.

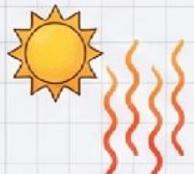
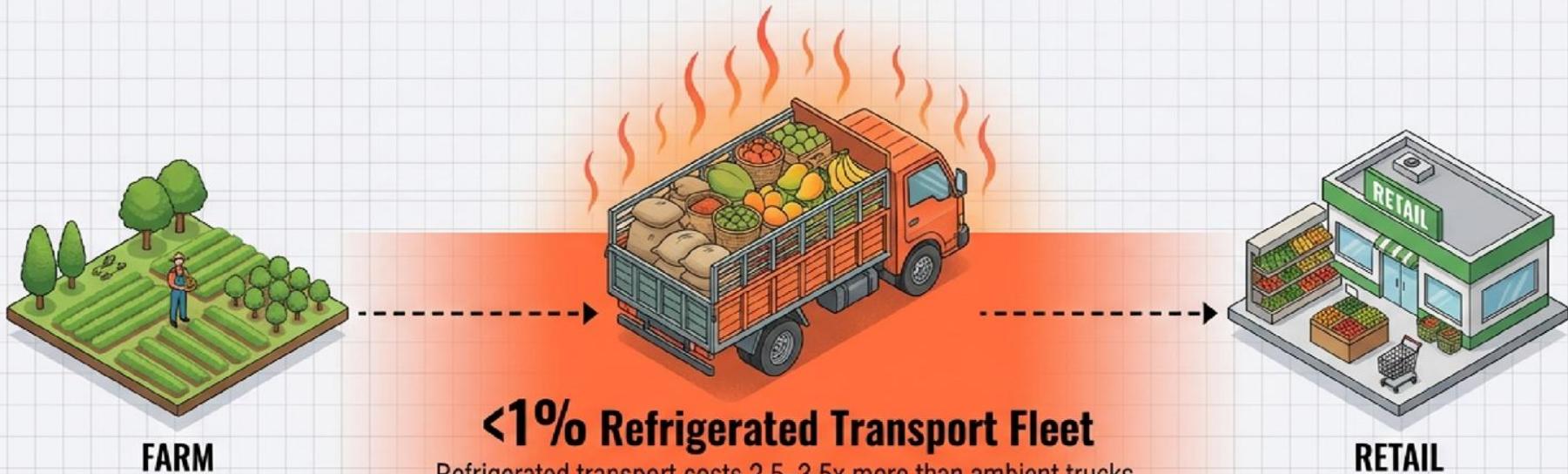
Actor: iFarmer | Investment Nature: Ag-Tech Platform / Startup
Primary Impact: First-Mile Farmer Aggregation



Scaling First-Mile Aggregation

Startups are successfully connecting fragmented smallholder production directly to high-value markets.

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



Heat Stress



Vibration Damage



Compression

The Price of Distortion: Sector-Level Impact



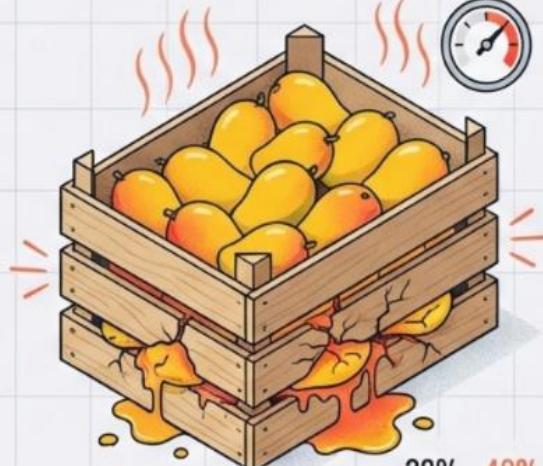
Fisheries



Dairy



Fruits

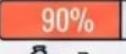


The Ice Trap:

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

The 4-Hour Trap:

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



The Pressure Cooker:

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

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

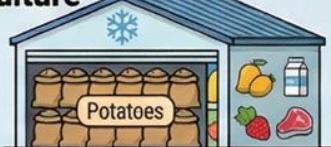
THE \$2.4 BILLION ANNUAL ECONOMIC DRAIN

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



SECURE, CERTIFIED
COLD CHAIN MARKET

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

INVESTMENT OPPORTUNITIES & GAPS for FOREIGN INVESTORS

Bangladesh Agro-Logistics Market · Strategic Analysis & Entry Intelligence

\$10.5B

Market Size

\$2.4B

Annual Loss

9% CAGR

Projected Growth

01 THE INVESTMENT CASE

\$10.5B

Total Market Size (FY 2023-24)

~21% of Bangladesh's national GDP. Livestock & dairy lead at 46.7%, vegetables 18.9%, fisheries 14.5%.

\$2.4B

Annual Economic Loss

Post-harvest losses across the supply chain — recoverable through targeted cold chain & logistics investment.

⚡ Reducing 1/3 of post-harvest leakage = returns comparable to several large infrastructure projects

03 STRATEGIC ENTRY POINTS

Multi-Commodity Cold Storage

USD 440M FDI potential by 2031

Only potatoes are currently served. Tomatoes, mangoes, fish, milk & meat all lack access. First-mover advantage in multi-temp facilities is enormous.

Modern Reefer Fleet Expansion

USD 43.1M immediate investment need

<1% of the transport fleet is refrigerated. Cost per van ~USD 35,000. Export-oriented firms (seafood, frozen food) are ready off-takers for capacity.

Tech-Enabled Packhouses & First-Mile Hubs

Breaks the Dadon cycle for 70M MT annual output

Pre-cooling, grading, and digital aggregation (GPS, app-based) bypass intermediaries and capture the 30–40% post-harvest loss in vegetables & fruits.

Processing & Value-Addition Facilities

Premium halal, frozen seafood & processed fruit exports

LDC graduation in 2026 demands HACCP/GAP compliance. Certified processing plants unlock premium export markets and capture margin currently lost to intermediaries.

02 CRITICAL INVESTMENT GAPS



COLD CHAIN GAP

90–95% storage capacity locked to potatoes only

~2.7M MT cold storage exists but is overwhelmingly potato-centric. High-value perishables — tomatoes, mangoes, milk, meat, fish — have virtually zero access to temperature-controlled storage.



TRANSPORT GAP

<1% of agricultural transport fleet is refrigerated

Most produce travels in open trucks exposed to heat, vibration & dust. A delay of hours can destroy quality for fish and meat. Investment need for refrigerated vans alone is estimated at USD 43.1M.



PROCESSING GAP

20% of retail price reaches farmers (vegetables & fruits)

5–7 intermediaries between farm and consumer. No grading standards, no contractual discipline. Value-addition void means Bangladesh misses premium export pricing for halal meat, frozen seafood & processed fruits.

04 ENABLERS & INCENTIVES

100% Foreign Equity

Allowed in agro-processing & logistics under Bangladesh Investment Development Authority (BIDA)

Tax Holidays

Up to 10-year tax exemptions for agro-processing industries established outside major city areas

LDC Graduation 2026

Forces compliance-driven investment in HACCP/GAP — an accelerant for certified cold chain build-out

Padma Bridge Unlocked

Reduces transit time to southwest Bangladesh — opens 30M+ population catchment to viable cold logistics

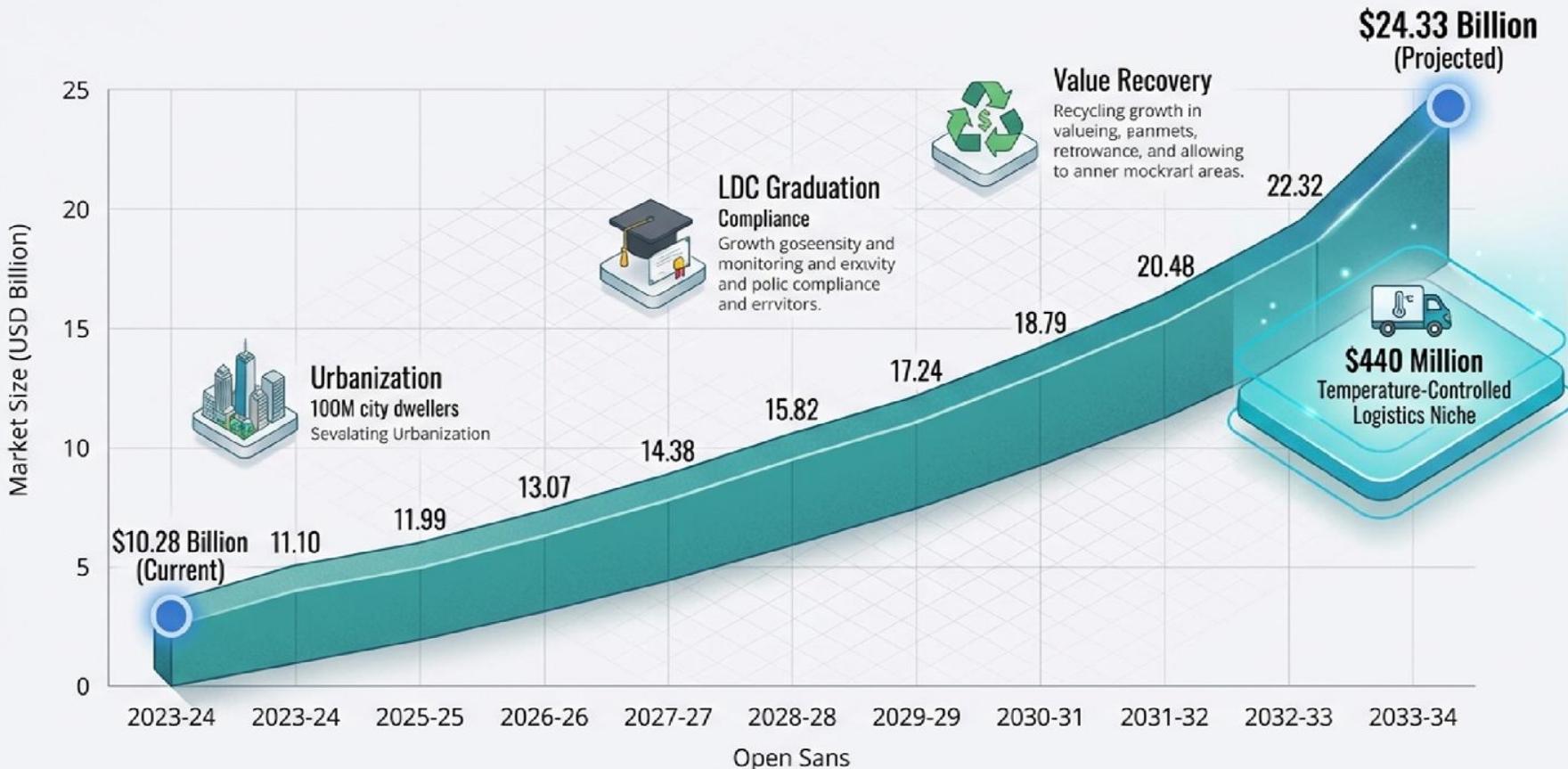
Blended Finance Available

World Bank Pfor, IFC loans, USAID matching grants & JICA Two-Step Loans all active and accessible

Digital Leapfrog Moment

iFarmer, Chaldal & blockchain traceability startups already proving app-based first-mile aggregation at scale

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





FINANCIAL CHANNELS & POLICY RECOMMENDATIONS

Formal Financing Channels

5.2.1 | Structured capital allocation mechanisms for agro-logistics growth

Commercial Banking

& Refinancing Schemes



Bangladesh Bank mandates that private banks allocate a portion of their portfolio to agriculture.

Concessional interest rates of 4%-10% are offered to encourage capital expenditure in machinery and cold chain infrastructure.

Non-Bank Financial

Institutions (NBFI)

IDLC Finance

IPDC Finance

Finance SMEs and corporate agro-processors with focus on:

- Machinery procurement
- Facility expansion

Equity & Grants

Blended Finance Approach

Private Equity

Donor Matching Grants

USAID-backed matching grants fund high-risk cold chain infrastructure. Large investments rely on blended finance to reduce exposure.

KEY CHALLENGE

The Missing Middle: Small logistics providers and rural entrepreneurs face a critical finance gap. Microfinance loans are too small and expensive, while commercial banks demand land collateral that service businesses rarely possess. As a result, modern packhouses, insulated trucks, and milk chilling centers remain scarce.

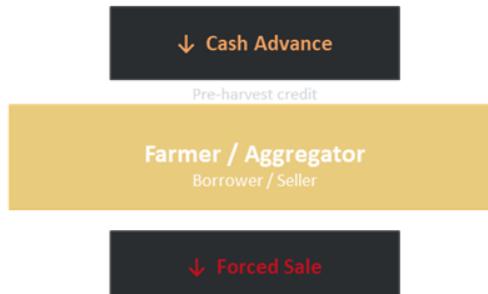
Informal Financing — The "Dadon" System

5.2.2 | Tied-credit arrangements dominating first-mile agricultural logistics finance

WHAT IS THE DADON SYSTEM?

A tied-credit arrangement where traders (Araatdars or Mahajans) provide advance cash to farmers or smaller aggregators. In exchange, the borrower is obligated to sell their produce to the lender — often at a predetermined or suppressed price.

This system finances working capital for harvest and initial transport, but critically restricts the farmer's ability to invest in better logistics or access alternative markets.



FARMER IMPACT

<20%

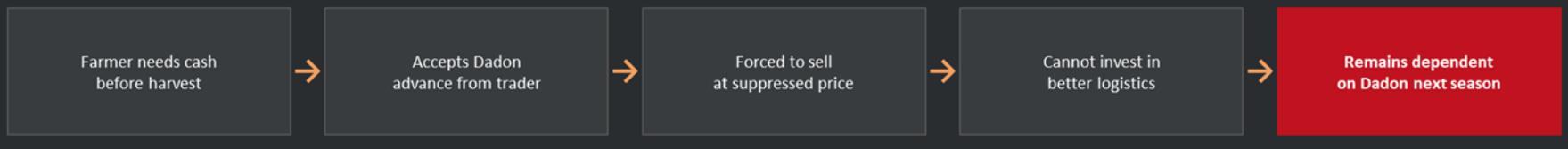
of retail price received by farmers for vegetables & fruits

100%

of production risk borne by farmers

0

THE DADON TRAP



International Sourcing for Agro-Logistics Ecosystem Solutions

5.2.3 | Bangladesh's heavy reliance on imported hardware, technology, and FDI for agro-logistics infrastructure

The agro-logistics ecosystem relies heavily on imports for hardware and technology. While high-end equipment is sourced from Europe, the USA, and Japan, cost-effective solutions predominantly come from China and India.

Refrigerated Transport

Source:	Malaysia (cooling units) India (vehicle chassis)
Buyers:	PRAN, Kazi Farms, large processors
Value:	~USD 35,000/van Investment need: USD 43.1M

Food Processing Machinery

Source:	Germany, Italy, Netherlands, Denmark, USA, Japan, Australia
Buyers:	PRAN, Akij, Square (conglomerates)
Value:	1% statutory import duty on animal feed machinery

Potato Processing Lines

Source:	India & China (low/mid-tech) Europe (high-tech)
Buyers:	Bombay Sweets & local processors
Value:	India/China: BDT 50–70M Europe: BDT 200M/line

Cold Chain Logistics (FDI)

Source:	Japan (Nippon Express, Yusen Logistics)
Buyers:	Cold Chain Bangladesh Ltd (CCBL) — 20% equity stake
Value:	First major cold-chain FDI in Bangladesh

Poultry & Feed Machinery

Source:	China, Taiwan, Netherlands (Almex, Ottenvanger, Van Aarsen)
Buyers:	Paragon, Nourish, Chicks & Feeds Ltd
Value:	50% of aqua feed ingredients imported

Packaging & Genetics

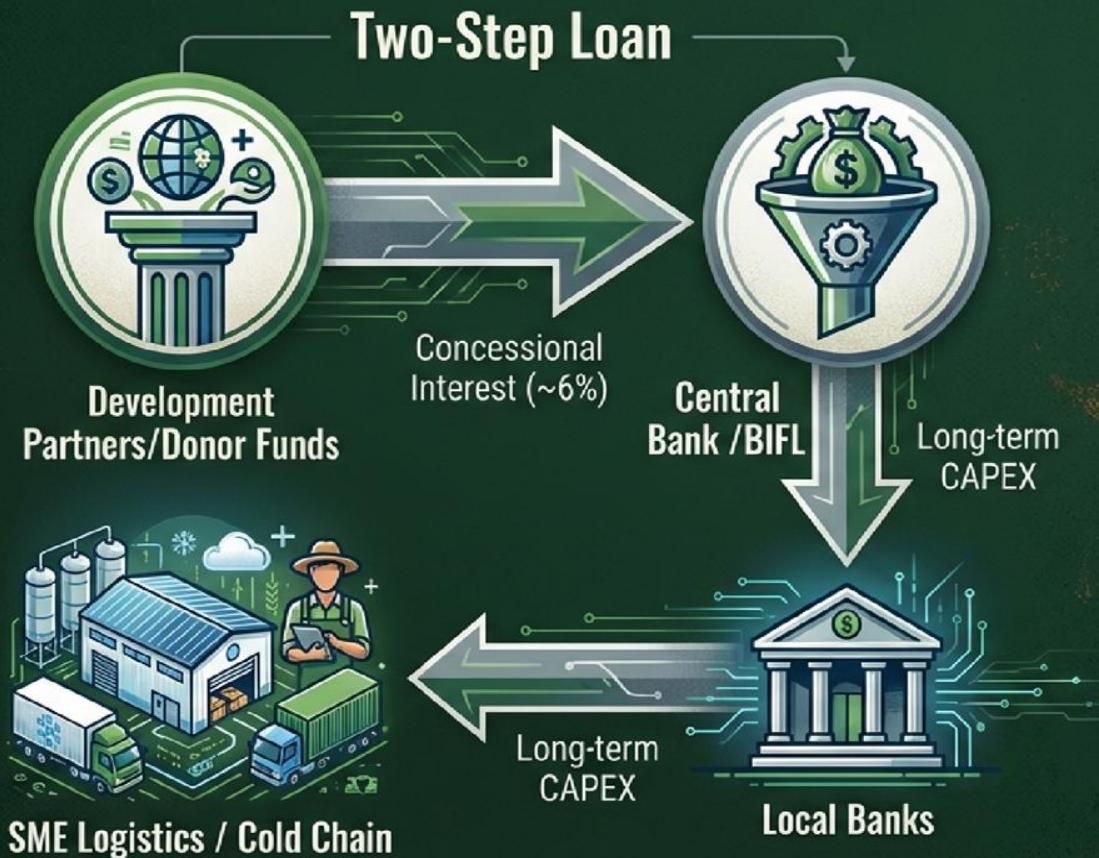
Source:	France, USA, Netherlands, Thailand (poultry/fish genetics)
Buyers:	Kazi Farms, CP, food processors
Value:	~40% of flexible packaging is directly imported

STRATEGIC INSIGHT: Temperature-controlled logistics alone could attract USD 440 million in FDI by 2031. The formal import structure is dominated by large conglomerates (PRAN, Akij, Square) who act as gatekeepers to technology transfer, leaving smaller operators reliant on lower-cost, lower-quality Chinese and Indian alternatives.

COMPARATIVE ANALYSIS OF FINANCIAL INSTRUMENTS

Instrument	Interest Rate	Collateral Need	Suitability for Logistics Infrastructure	Scalability
Informal (Dadon)	0% (nominal) but price cut is high	Verbal/Crop Pledge	Very Low (Consumable/Input only)	Low
Microfinance	20% - 30%+	Social Guarantee	Low (Too expensive/small ticket)	High
Commercial Loan	9% - 13%	High (Land/Building)	Medium (Only for large corporates)	Medium
Two-Step Loan (TSL)	5% - 6%	Moderate	High (Tailored for Capex & SMEs)	Medium
Venture/Equity	N/A (Share profit)	None	High (For Tech/Innovation)	Low (Niche)

Financial Instruments & Policy Actions



Policy Priorities

Warehouse Receipt Systems (Storage as Collateral)

Warehouse Receipt Systems for agricultural, (storage as collateral)

National Logistics Policy Implementation

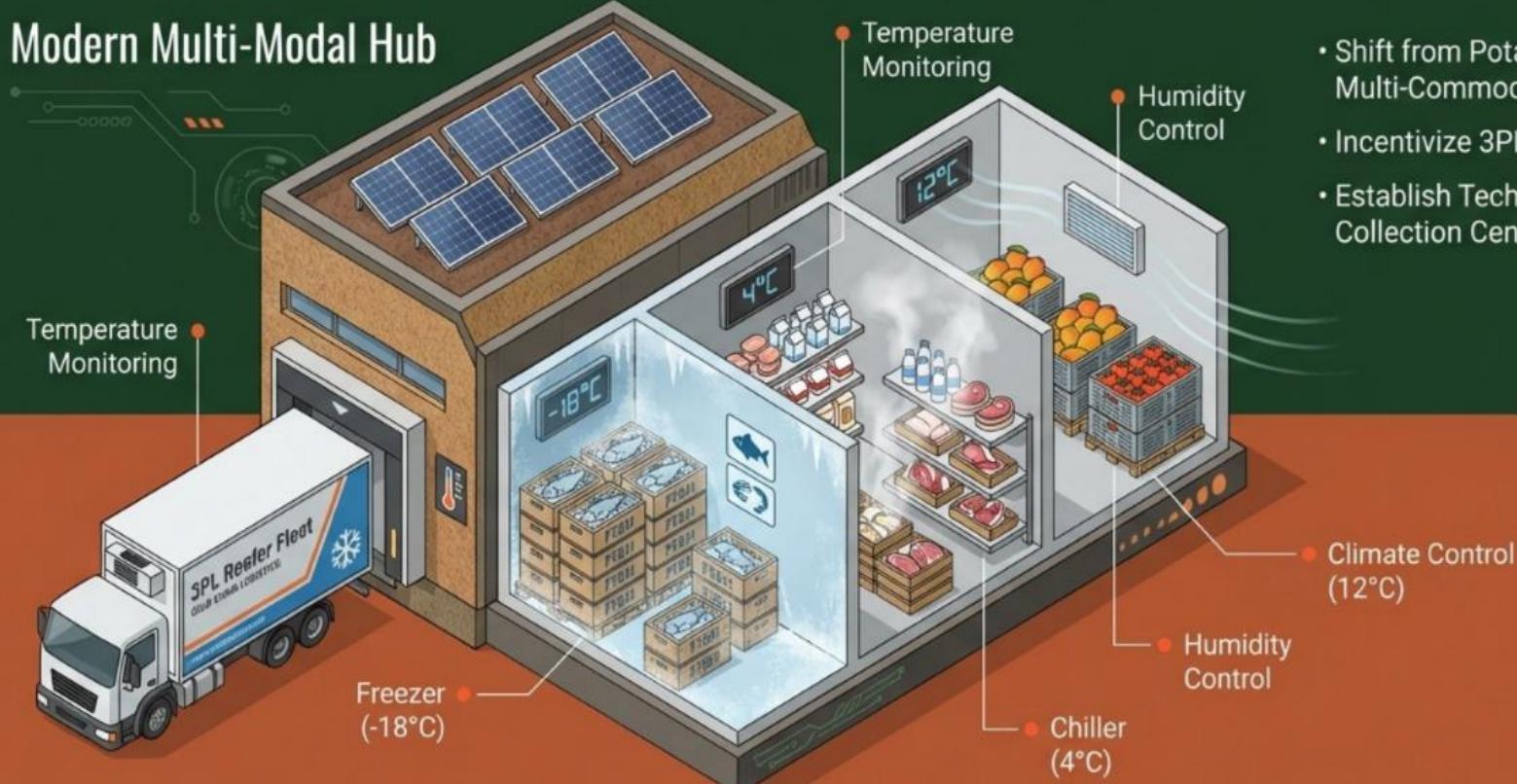
National Logistics Policy and Implementable assessment

Agency Harmonization

Agency Harmonization and tech-enabled farmer

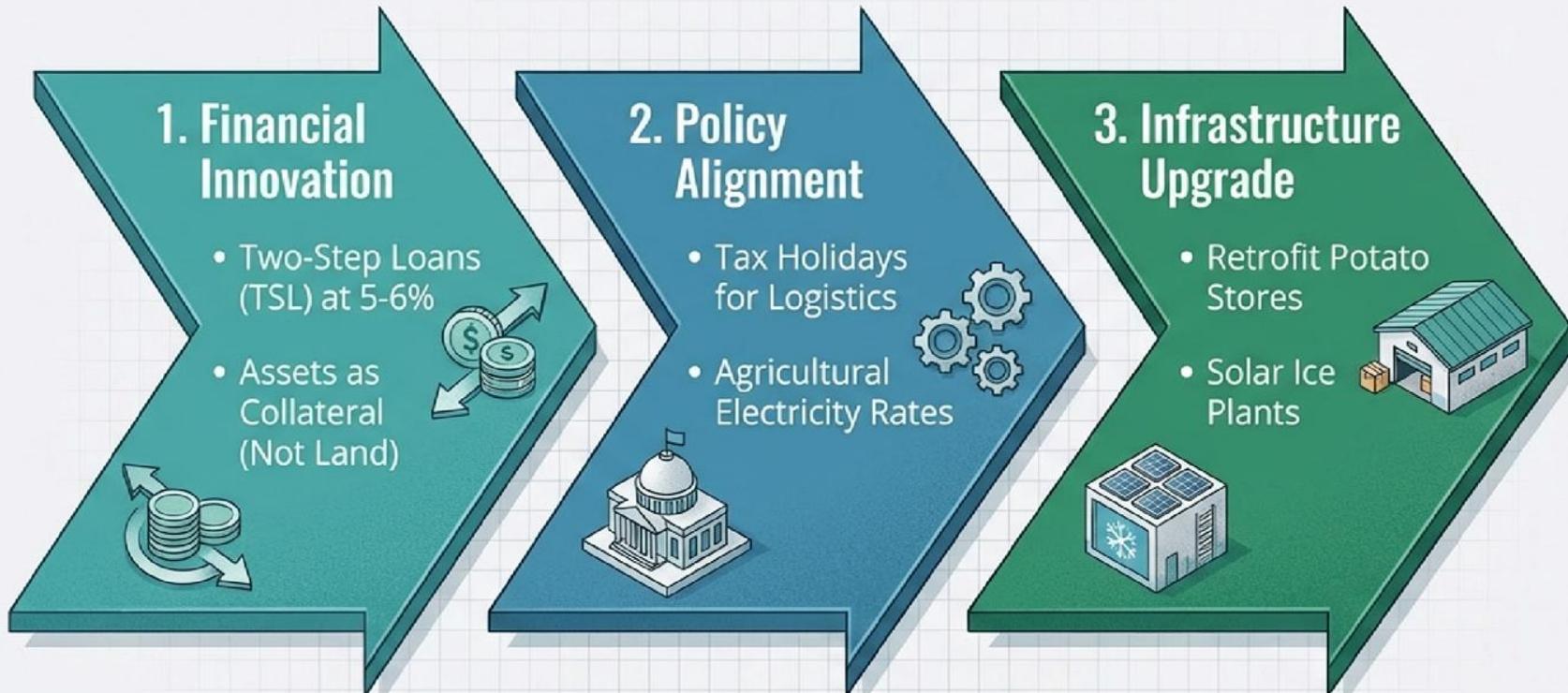
Infrastructure Strategy: Breaking the Monoculture

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.



THANK YOU

Questions & Answers



Agro-Logistics Market Estimation & Investment Potential

