



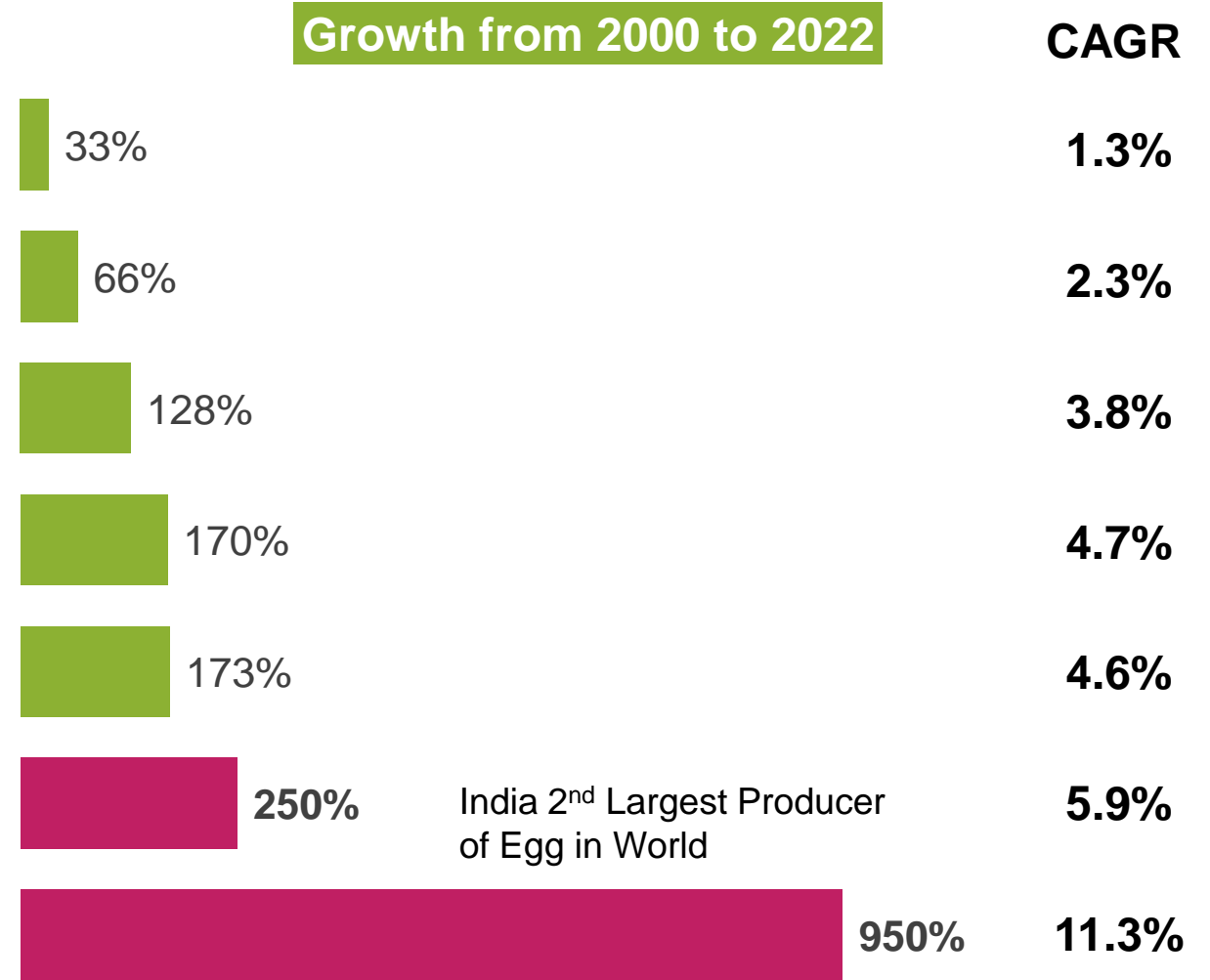
FUTURE OF INDIAN POULTRY INDUSTRY

MR. BALRAM SINGH YADAV- MANAGING DIRECTOR, GODREJ AGROVET

CURRENT STATUS OF INDUSTRY

POULTRY HAS BEEN THE FASTEST GROWING AGRI-BUSINESS FOR LAST TWO DECADES

Production in MN Tons	2000	2022
Population (in no. Bn)	1.06	1.41
Food grains	197	328
Fruits & Vegetables	137	312
Milk	81	221
Fish	6	16
Eggs (in no. Bn)	37	130
Poultry	0.4	4.2

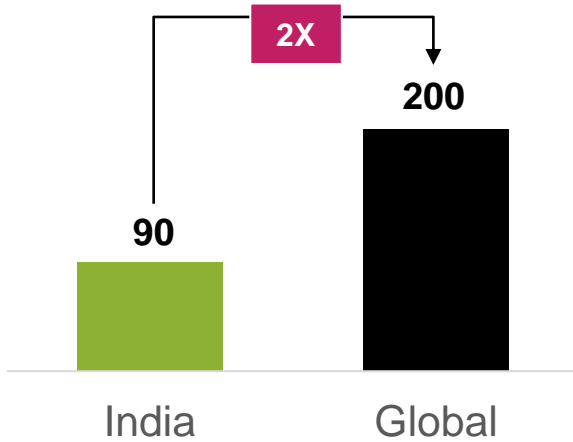


AND THE SECTOR WILL CONTINUE TO GROW

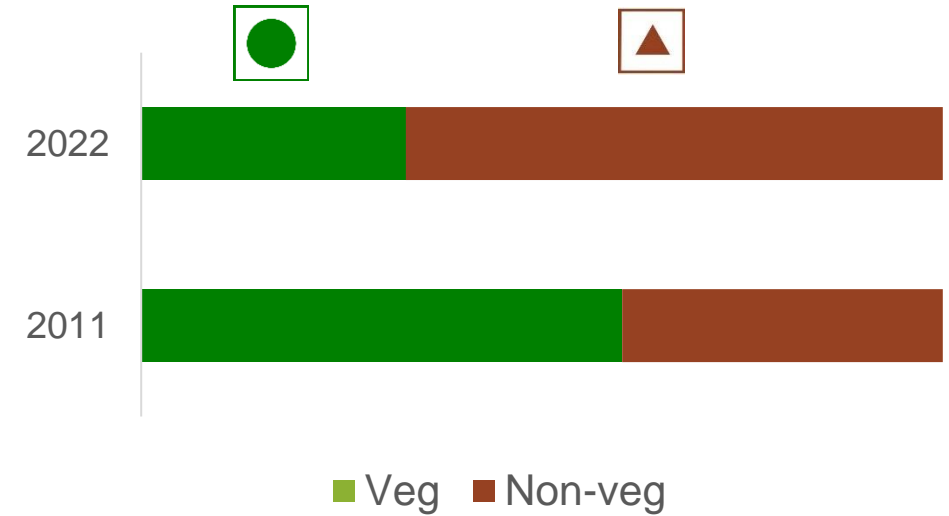
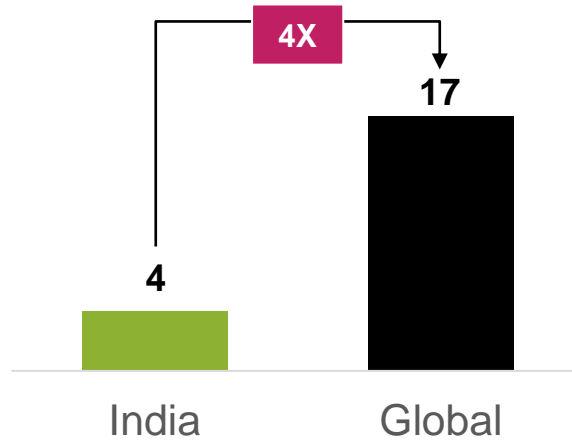
India's per capita consumption is lower than global average

2 of 3 Indians are non-vegetarian with chicken being preferred meat

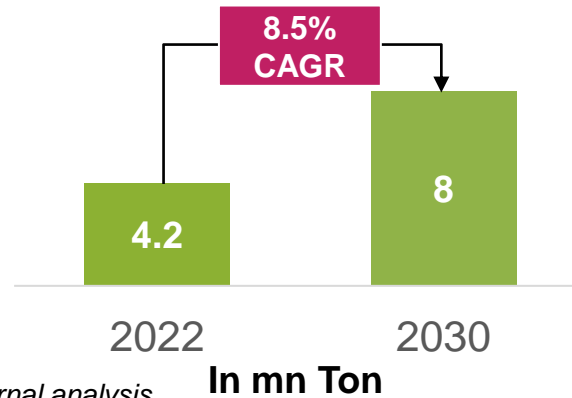
Per Capita Egg consumption (#)



Per Capita Chicken consumption (Kg)



Increasing income and population to drive consumption



Per Capita Chicken consumption (Kg)
~4.5kg (2022) → ~8kg (2030)

FROM BACK-YARD POULTRY TO POULTRY DRIVEN BY INTEGRATION OF FEED-BREED-MANAGEMENT

- Formulation optimization
- Alternate RMs

Feed

Driven by private players



Pre 2000s

2000-2010

Current

2+
FCR

1.8
FCR

1.5
FCR



- GP import → improvement in HHHE
- Body weight reached in 35 days, vs. 8 weeks in 90s
- Improvement in Meat to bone ratio

Management Practices

Breed

Lower mortality rates
(last 10 years)

~8% → ~6%

- EC houses
- Automated feeding systems
- Growing practice of AI

Types of vaccine

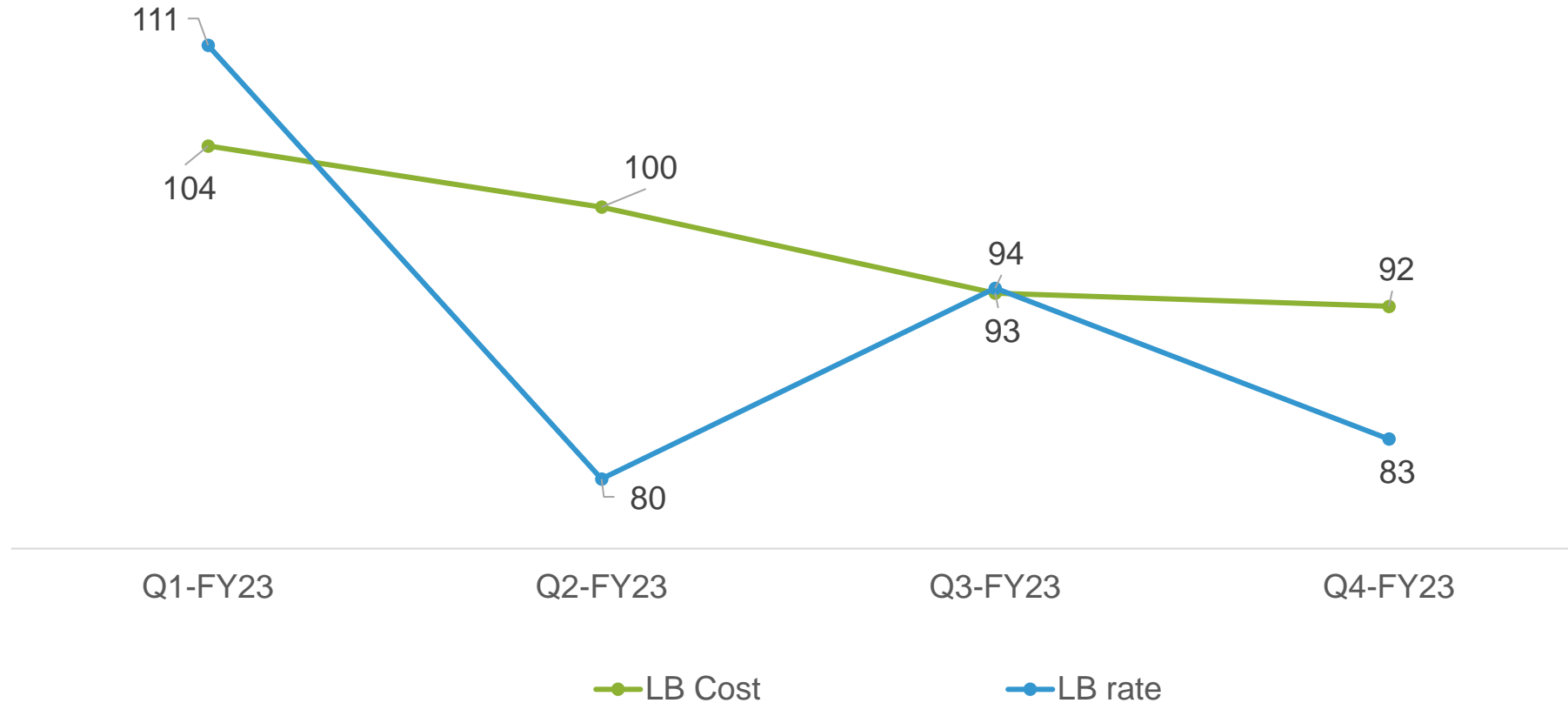
5 → ~16

Vaccine: Approach

1 strain → Evolving vaccine strategy

DUE TO DOMINANCE OF UNORGANISED MARKET, INHERENT VOLATILITY KEPT ANNUAL MARGINS UNDER STRESS

India Live-Bird Cost Vs Price (INR/ kg)



DUE TO EXTREME VOLATILITY IN THE BUSINESS, THE INDUSTRY HAS LIMITATIONS IN ACCESS TO CAPITAL

GOVERNMENT SUPPORT AND POLICIES

CONSTITUTION OF NATIONAL ADVISORY COMMITTEE GIVES POSITIVE FILLIP TO THE SECTOR

- Chair: Hon'ble Union Minister (FAHD)
- Co-chair: Hon'ble MoSs (FAHD)
- Secretary (AHD) will act as esteem member

*Cattle and
Dairy*

Poultry

*Sheep and
Goat*

Piggery

*Feed &
Fodder*

*Livestock
Health*

*Waste to
Wealth*

*Animal
welfare*



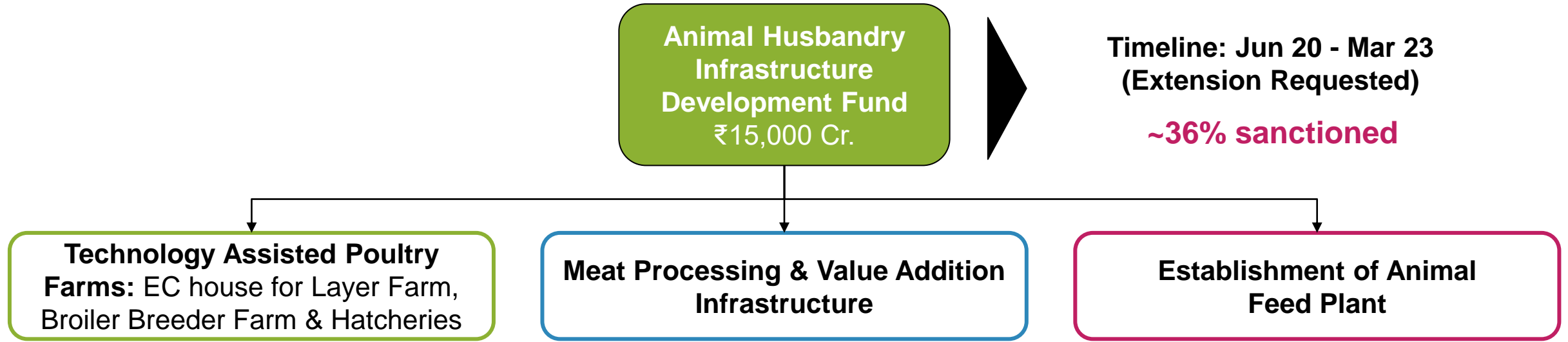
Committee members **represent**

- Cooperative sector
- Private players
- Farmer representatives
- Experts
- Academicians

To enable **close coordination**

QUARTERLY MEETINGS TO RECOMMEND, PRESCRIBE AND ADVISE POLICIES

FAVOURABLE POLICIES IN POULTRY & FOOD PROCESSING SECTOR



Particulars	Loan Sanction Amount in Rs. Cr
Loan amount for eligible applications	~8,650 Cr
Total Sanction Loan Amt	~5,400 Cr
Technologically Assisted Poultry Farm – Sanction Amount	475 Cr
Meat processing – Sanction Amount	435 Cr

FAVOURABLE POLICIES IN POULTRY & FOOD PROCESSING SECTOR

National Livestock Mission

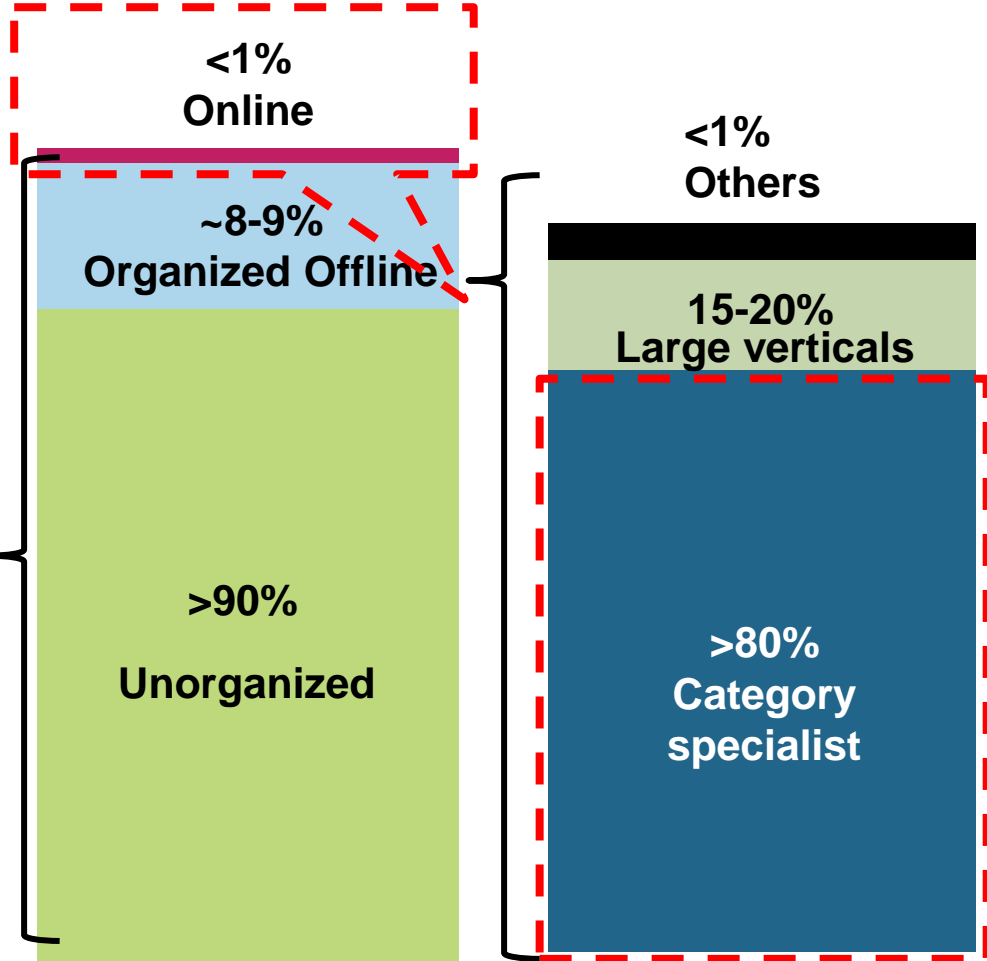
For development of Entrepreneurs in Rural Poultry, the Central Government is providing **50%** subsidy up to **₹25 Lakh** to establish Parent Farm, Rural Hatchery etc.

Other Support for Food Processing Industry

- **100% FDI** is permitted under the **automatic route**
- Concessional rates on **custom duty**
- **Income tax deduction** on capital expenditure allowed up to 100% for cold storage
- **100% tax exemption** for food processing units for first 5 years

THERE HAS BEEN DISRUPTION ON THE CONSUMER END

UNORGANIZED SECTOR CONTINUE TO DOMINATE INDIAN POULTRY INDUSTRY TILL COVID



Zappfresh™

TENDER CUTS™
FARM FRESH MEATS

Licious™
BORN TO MEAT

Nandu's™

Fresh to home

FY20

COVID DISRUPTION GAVE MUCH NEEDED FILLIP TO ONLINE MEAT SELLING COMPANIES

Direct to consumer (D2C)
Disruptors

LiciousTM
BORN TO MEAT
\$480 mn funding

ZappfreshTM
~\$6 mn funding

**Fresh
to home**
\$256 mn funding

QSR/Cloud kitchens

**REBEL
FOODS**



Hyperlocal and omni
channel meat retailing

**TENDER
CUTS**TM
FARM FRESH MEATS

Nandu'sTM

*From 100 Cr. Rev in FY23 plans
to grow 200 cr. in FY24;
Opening 20 new outlets*

Quick Commerce

zepto

blinkit

*Acquired by Zomato in 2022
for ₹4,447 crore*

ONLINE SELLERS DELIVERED A BETTER CONSUMER EXPERIENCE

“CHANGING THE RETAIL EXPERIENCE OF MEAT BUYING AND CONSUMPTION”

TRADITIONAL CHANNEL

Convenience



Long waiting hours

Packaging



Social taboo

Quality



~~FSSAI
Quality checks
Hygiene~~

MODERN CHANNEL

Order from anywhere,
anytime!
Pre-orders



Easy to use



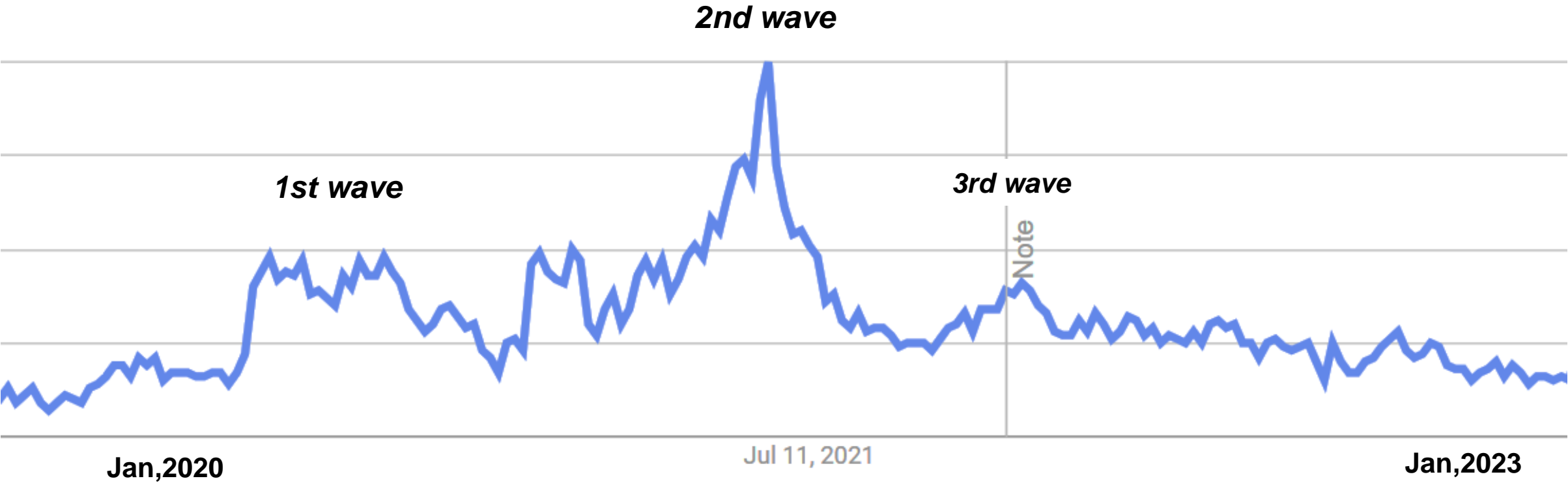
Traceability
Food safety certification
Cleaner facilities
150+ Check-points by Licious



Customers ready to pay a **50%+ premium** for better quality & superior packaged food

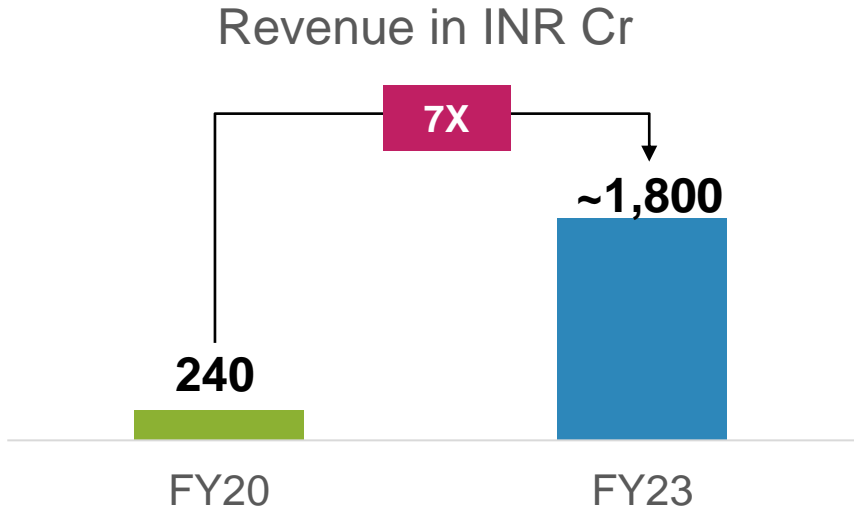
D2C START-UPS HAD A PHENOMENAL GROWTH POST COVID (1/2)...

Google search history pattern of Licious



D2C START-UPS HAD A PHENOMENAL GROWTH POST COVID (2/2)...

Revenue growth at 95% CAGR during and post COVID period



- 150+ # of cities present
- Rs 600 + Average order value
- 3+ Orders per month
- 50%-100% Price premium over wet market

Wide product assortment



Fresh chilled meat



Marinades + Tikka



Plant based

... BACKED BY STRONG INVESTOR INTEREST



- Total funding raised: **\$ 480 mn**
- During **COVID** i.e. FY20-FY23 raised about **Rs. 1,875 Cr**
- Valuation multiple at **7.4X – 12.2 X of Revenue**

TEMASEK

MULTIPLES



- Total funding raised: **\$ 256 mn**
- During **COVID** i.e. FY20-FY23 raised about **Rs. 1,800 Cr**
- Valuation multiple at **5.2X of Revenue**



amazon
smbhav
INFINITE POSSIBILITIES
FOR INDIA

Led a \$ 100 mn round in Feb- 23

“We like to look at the bottom line and we are operationally profitable. That's helped us to gather a fair amount of interest, especially since the markets are quite depressed at this time.” – Shan Kadavil, F2H founder

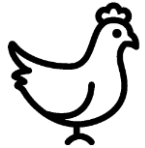
HOWEVER, D2C PLAYERS HAVE STRUGGLED TO BALANCE GROWTH AND PROFITABILITY



Marketing spends **~20%-30%** of revenue
High Tech costs and overheads



Undesirable **dumps and wastages** **~10%**



Inability to complexity of **manage breed, feed and practices** in integration model



High cost of delivery
5%-10% of order value

Business model pivots – Entry and exit into general trade, modern trade, Butcher shop models

DIRECT TO CONSUMER SPACE IS AN OPPORTUNITY FOR INTEGRATORS



zepto

blinkit

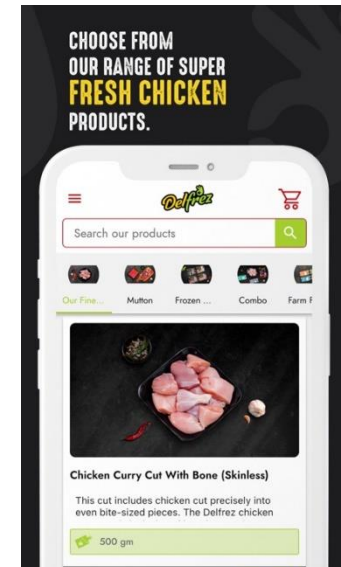
- Quick commerce is **\$5.5 bn** opportunity by FY25 from \$0.3 bn in FY21)
- **Meat category** in Quick commerce is growing **at 100% + Y-o-Y post COVID**
- **Growing acceptance** for online meat deliveries
- Even **D2C players** have listed themselves on E-com



**Integrators with backward integration
+ Partnership with E-com**



Omni-channel model – Suguna's Delfrez



REGULATORY CHALLENGES REMAIN

Farmers, traders demand clarity on new Bill to prevent cruelty against animals

There should be differentiation between pet animals, draught animals, commercial animals for food, animals for performance and entertainment, and zoo animals, says head of Poultry Federation of India

December 12, 2022 09:58 pm | Updated December 13, 2022 09:24 am IST - New Delhi

HC issues notice to state govt on plea over sending poultry to slaughterhouses - June 4th 2023

During a brief hearing, the petitioner through its advocate Nisarg Shah submitted that the poultry birds are being slaughtered at meat shops instead of slaughterhouses, when the bench headed by Chief Justice Aravind Kumar orally remarked, "birds need not be sent to slaughterhouse".

Licence renewal of meat shops violating norms put on hold by PMC - March 27th, 2023

As civic bodies crack down on unlicensed meat shops, traders allege harassment -- Feb 9th, 2023

In Vadodara and Surat, livestock meat remained unavailable for the seventh day in a row on Monday.

Contract Guidelines for Broiler Production

R- 43011/1/2022-Anlm_Dadf
Government of India
Ministry of Fisheries, Animal Husbandry and Dairying
Department of Animal Husbandry and Dairying

Chanderlok Building, Janpath
New Delhi-110001
Dated: 21st December, 2022

OFFICE MEMORANDUM

Subject: Commercial Contract Guideline for Broiler production- regarding.

The undersigned is directed to refer to the Office Memorandum of even number dated 19th September, 2022 circulating the draft Commercial Contract Guidelines for Broiler production inviting comments and suggestions before finalizing the same.

Suggestions/ objections were received by the Department from the individual farmers and poultry integrator companies. The suggestions and objections so received were further considered.

Now with the approval of the Competent Authority, the Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying issues the *Contract Guidelines for Broiler Production Job work between Poultry Farmers and Contracting Companies (this may be called as model poultry integration agreement)*.

All the States/ Union Territories/ Poultry Integration companies/ Farmers should follow the Model of the guidelines while preparing the contract agreement for the broiler production job work.

ALONG WITH ACTIVISM

PETA alleges cruelty towards male chicks at hatcheries - Feb 21st, 2017

PETA termed the practices "criminal" and urged the government to probe the issue.

Hens should be kept in bigger cages, orders High Court

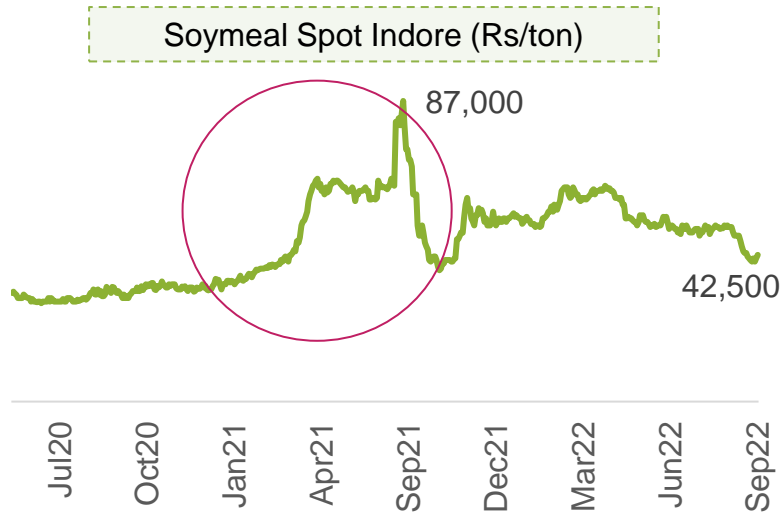
So that the birds can move around comfortably; report to be submitted before the next hearing in Feb

November 06, 2018 01:35 am | Updated 01:36 am IST - New Delhi

Supreme Court asks NGT to fix chicken count in poultry farms - March 1st 2022

IN ADDITION, THE INDUSTRY HAS CHALLENGES TO OVERCOME

Volatility of RM



Climate risk

Erratic monsoon, cyclones impacting production of maize, Soy

Prolonged heat wave days in 2022 are **5X of 2021**

Disease Outbreak

EVERY YEAR POULTRY INDUSTRY LOSES ~ ₹20,000 CR. DUE TO DISEASES



High Capital Intensity

Processing Plant

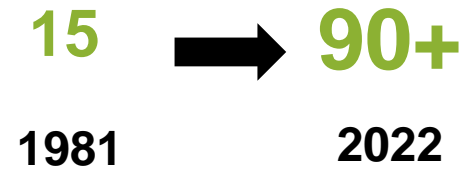
Cold Chain

WAY FORWARD

POULTRY SECTOR NEEDS ANOTHER EFFORT TO CREATE SUSTAINED CHICKEN DEMAND TO BEAT VOLATILITY



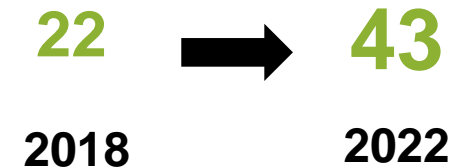
Campaign **started in 1981** to address price manipulation turned fortunes of egg industry



Per capita per annum consumption (#)



Launched in 2017, with an aim to unlock Rs. 100 trillion market



Asset Under management (Rs trillion)

CAMPAIGN TO UNLOCK POTENTIAL OF 2.5 LAC CR POULTRY MARKET

Consumer engagement

Multi-media engagement to educate consumer about the good and the bad about industry



TV



Radio



Print



Social media

Industry-Govt collaboration

Establish an industry body to liaise with the Govt

1. Protect economic interest
2. Regulatory changes
3. Tech transfer

Industry- academia partnership

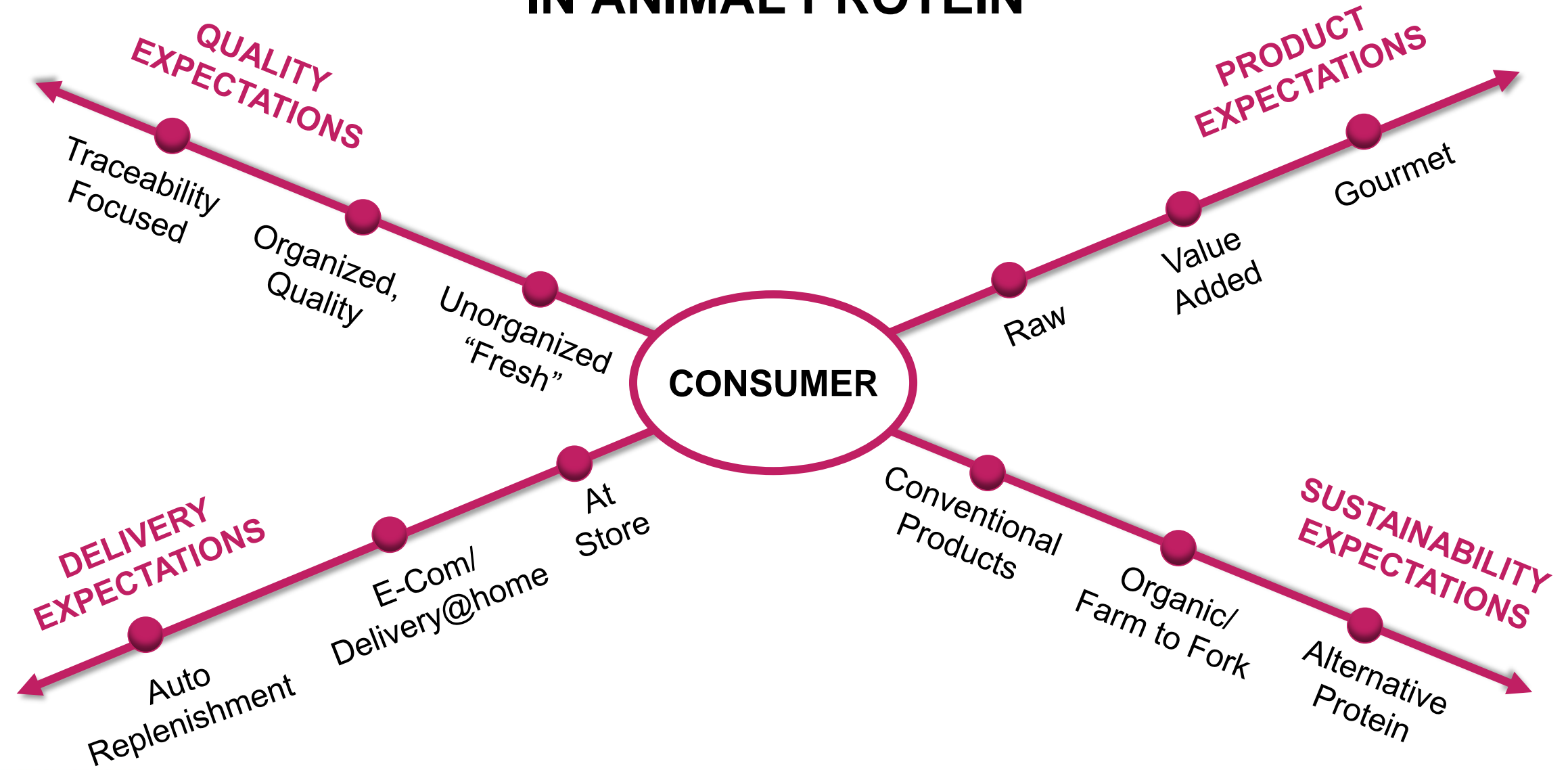
Scientifically assess issues such as

1. Nutrition
2. Animal health
3. Consumer health and safety
4. Environmental impact
5. Sustainability
6. Myths and superstitions

**360°
approach**

Multi-year effort to have a stable demand

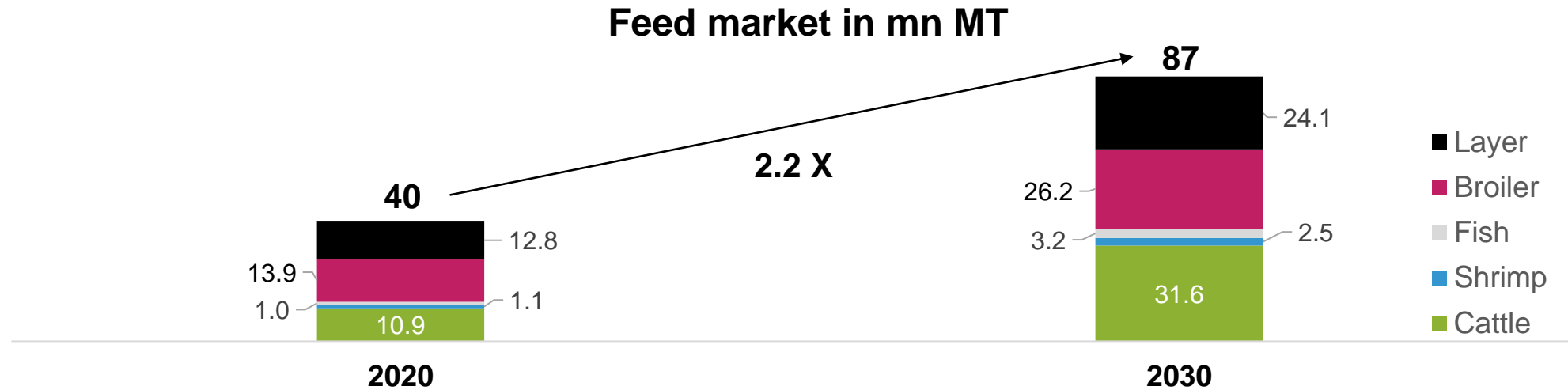
ADDRESS THE CONSUMER BUYING BEHAVIOR PATTERN IN ANIMAL PROTEIN



RM SHORTAGE FOR FEED MFG. LIKELY

ESTIMATED REQUIREMENT OF RAW MATERIAL FOR FEED MANUFACTURING

Feed	CAGR (2020-2030)
Cattle	11.3%
Shrimp	8.0%
Fish	12.0%
Broiler	6.5%
Layer	6.5%
Total	8.2%



In mn MT	Domestic Availability for feed	RM req.	Excess/Shortage
Maize*	19.0	15.8	3.2
Soybean Meal	6.7	5.2	1.3
DoRB	8.0	7.7	0.3

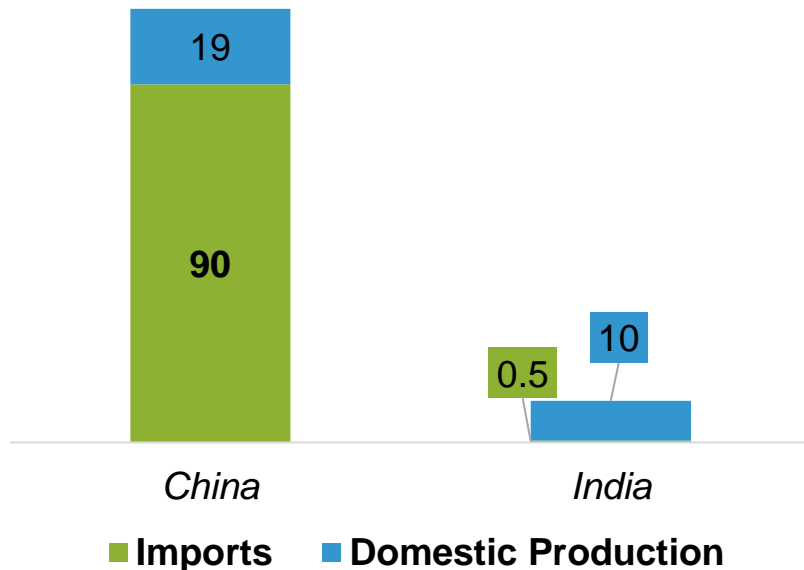
In mn MT	Domestic Availability for feed	RM req.	Excess/Shortage
Maize	24.0	28.0	4.0
Soybean Meal	8.6	9.4	0.8
DoRB	9.2	19.3	10.1

IMPORT IN SHORT TERM, INTRODUCE GM SOYBEAN IN LONG TERM

Case in Point – China

China imports ~95 mn MT of GM Soybean from Brazil and US (India's soy crop size is ~11-12 mn MT)

Soybean (mn MT)



1

SHORT TERM:

- **Allow import** of Soybean
- Industry to set-up port based **crushing capacities** to cater to domestic oil and cake demand

2

LONG TERM:

- **Allow GM** Soybean production
- **Improve Farmer Income** by improving crop yields
 - India current yield: 0.91 – 0.95 MT / Ha
 - Global average yield: 2.7 MT / Ha
 - US current yield: 3.5 MT / Ha

ALTERNATE RAW MATERIAL IMPERATIVE FOR FEED INDUSTRY

Major Advantages of Insect Feed

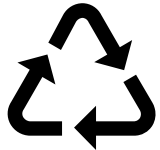
Higher Protein Content

36% in Soy

46% protein in **BSF** &

60% in **Algae**-based feed

Frequent Harvesting Cycle



Could Harvested within 2-3 Weeks

Environment Friendly; Less Land High Output



Soybean – 1.2
BSF – 14,800

Tons Produced / Ha / year



Insects – **Black Soldier Fly**

Loopworm – 2019

Insectika Biotech – 2016



Algae-based feed

Shaivaa Algaetech -

2019



Super Food - **Spirulina**

Prolgae

Spirulina - 2017

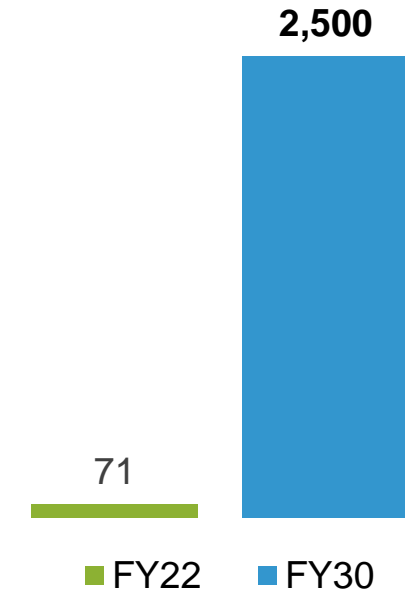
CONTROL AMR; A MAJOR DETERRENT IN EXPORTS

Anti-Microbial Resistance

- India the largest importer of antibiotics in the world **\$1.33 bn p.a.**
- In India, use of **antimicrobials in the livestock** sector is expected to **double by 2030 from 2010** level, which is significantly higher than the global market.
- Misuse & overuse of antimicrobials has led to antimicrobial resistance (AMR) and the outbreak of drug-resistant pathogens
- Post COVID, domestic/global consumers have become more aware of food safety, antimicrobial usage and animal welfare concerns

35X
Scope

India's Poultry Exports (\$ Mn)



EXPORT PENETRATION VERY LOW; BIG OPPORTUNITY

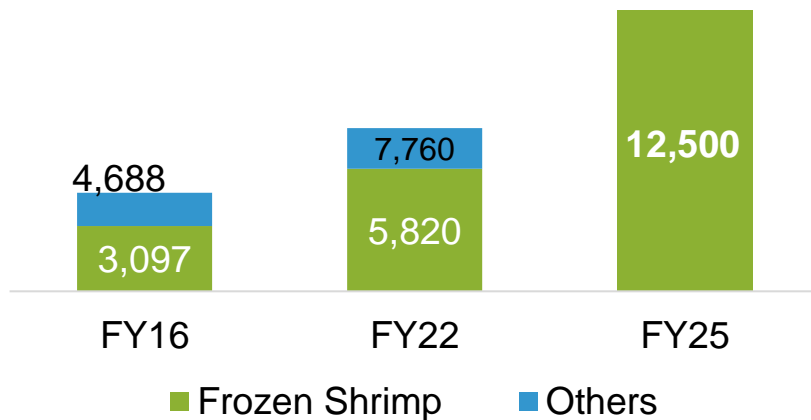
MPEDA like Body Need of The Hour for Poultry Sector



2007

Vannamei introduced

Glory of MPEDA: Aquaculture Exports (mn \$)



India's share in world exports



<1%

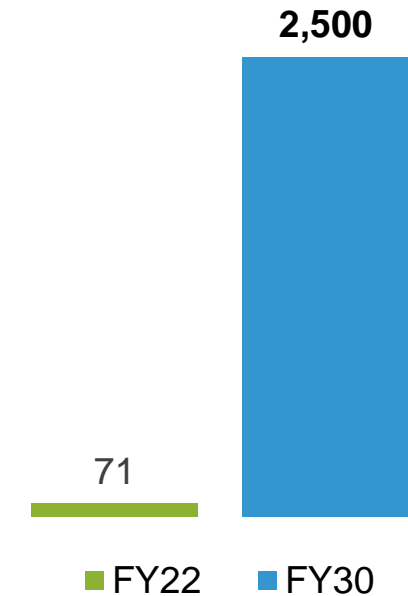


11%



18%

India's Poultry Export Potential (\$ Mn)



TECHNOLOGY ADOPTION IN IMPROVISING KEY FUNCTIONS

Technology deployed in each stage leading to better productivity, cost efficiency & improved traceability



- Robots being used at layer chicken farm to prevent/control wide-spread of diseases
- Automation from feed mixture till final stage of Egg laying.
- Automated remote control with real-time monitoring tool to observe animal health (weight, water & diet).
- Allows transparent traceability across the supply chain and efficient control on use of antibiotics that adds up product credibility

Improved Food Standards

Better Transparency

Enhanced Control over Operations

IOT BASED SENSOR LEADING TO IMPROVED EGG HATCHABILITY

IoT-based remote monitoring with real time alerts & notification to improve Egg Hatchability

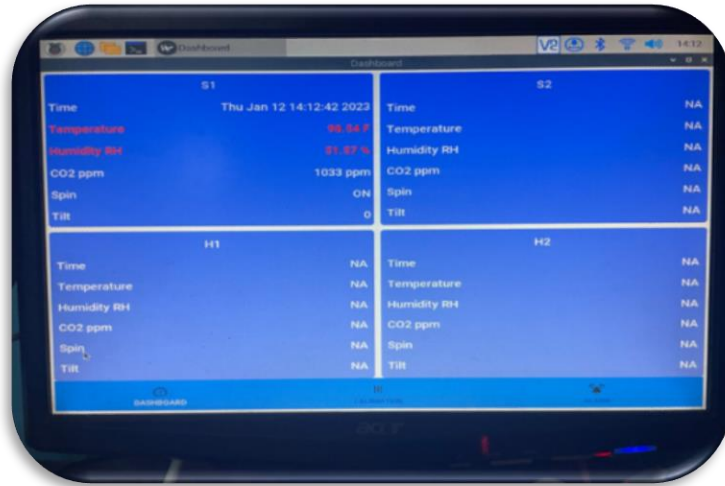


Improved Accuracy

- IoT-based monitoring, can get real-time data about the temperature, humidity, and CO2 levels in the egg incubator.
- This information can help make more accurate adjustments to the incubator settings, leading to better hatching rates.

Automation

- IoT-based system can automate many of the tasks associated with egg incubation.
- For example, the system can adjust the temperature and humidity levels automatically based on the data it collects, thus reduces the need for manual adjustments and save time.



Alerts

- System allows to set up alerts and notifications to know if the critical parameters in the incubator fall outside of the desired range.
- This can help you take action quickly to prevent any problems with the eggs.

LEVERAGING ARTIFICIAL INTELLIGENCE IN POULTRY INDUSTRY

Tracking data from sensors and converting the same into useful information

Feed Optimization

- Real time body weight, feed & water consumption

Health Monitoring

- Identifying stress levels in the bird & bird comfort assessed through body temperatures & air quality

Disease Management

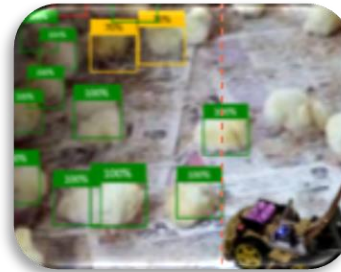
- Ability to spot disease or find morbid birds before the entire flock is affected.

Process Automation

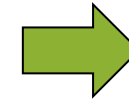
- Can analyze the difference in density & structure of meat versus bone, thereby making the most precise cut
- Griibot by SINTEF is known for deboning a chicken in two to three seconds, replacing up to 30 human operators!



Sensors Collecting the Data



Calibrated by AI & Instruction passed to Robots



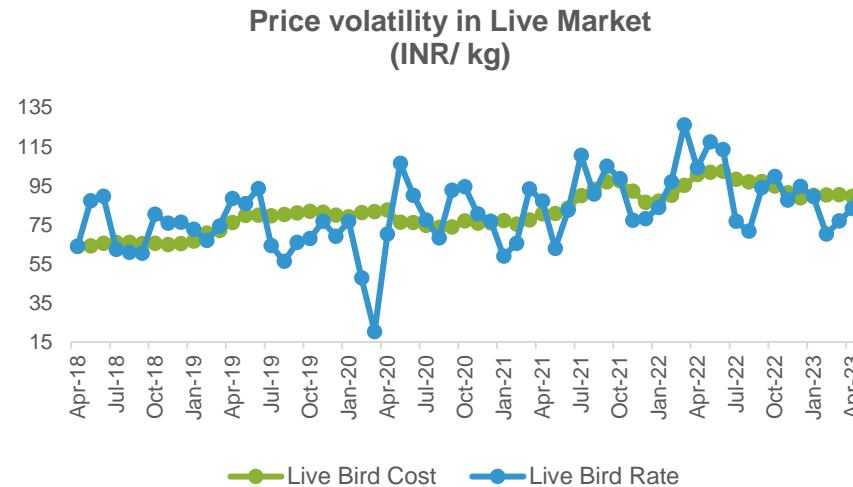
Robot executing the orders with at most precision

CAPITAL REQUIREMENT FOR THE POULTRY SECTOR BY 2030

DUE TO INHERENT VOLATILITY, INDUSTRY HAS LIMITATIONS IN ACCESS TO CAPITAL

Rs. 55-65,000
Crore

Capex required by industry in
next 8 yrs.



Poultry processing capacity addition
CAGR at 12% (2015-22) vs industry
growth at 7%



Implication

- Stay solvent; focus on considered capacity expansion
- Value addition to reduce volatility
- Attract public money

FUTURE OF WORK IN POULTRY: TALENT / SKILLS REQUIRED

Macro Trends

- Digital
- Sustainability
- Changing consumer expectations
- Employee expectations / hybrid work

“Better Poultry” asks

- Real-time body weight, feed
- Bird comfort / stress levels
- Ability to spot diseases
- Increased yield
- Food safety standards

TALENT / SKILLS REQUIRED

Feed

- Nutrition to further improve FCR, downstream yields
- Simulation through a digital twin?



- Veterinary Science
- Digital

Farm

- Managing sophisticated EC farms
- Predictive / preventive disease management



- Engineering
- Veterinary Science
- Digital
- Pathology

Processing

- Automation / productivity improvement
- Food safety requirements (pharma level?)



- Engineering
- Digital
- FSQA

Market

- Catering to category of one / customized tastes
- Brands based on sustainability
- New distribution models
- Social media marketing



- Marketing, Sales
- NPD



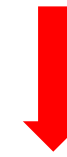
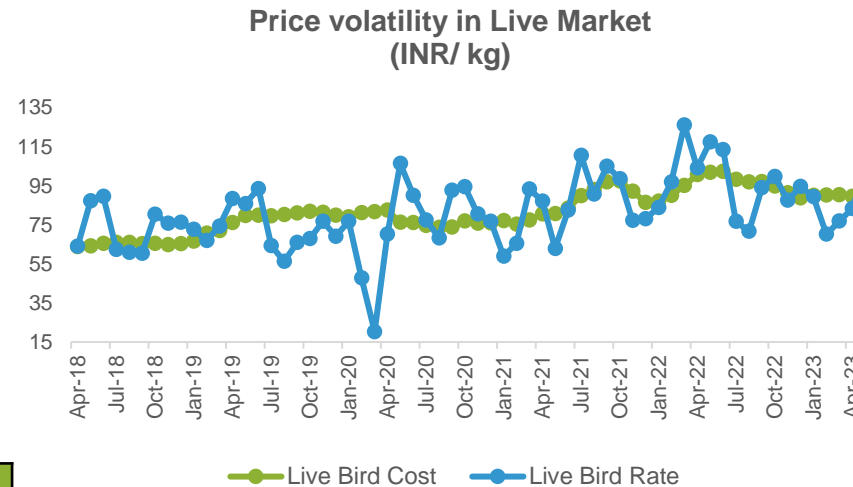
THANK YOU FOR YOUR TIME AND CONSIDERATION

CAPITAL REQUIREMENT FOR THE POULTRY SECTOR BY 2030

DUE TO INHERENT VOLATILITY, INDUSTRY HAS LIMITATIONS IN ACCESS TO CAPITAL

**Rs. 55-65,000
Crore**

**Capex required by industry in
next 8 yrs.**



**Poultry processing capacity addition
CAGR at 12% (2015-22) vs industry
growth at 7%**

Investment required	Rs. Cr.
Broiler / Layer Feed Plants	~22,000
Solvent Extraction	~14,000
Modernizing 30% of breeder and contract farms	~4,000
Chicken processing	~12,000
Frozen Food + Cold Chain	~4,500
Total	~56,000



Implication

- Stay solvent; focus on considered capacity expansion
- Value addition to reduce volatility
- Attract public money