Feed & Feed Ingredients Conclave - 2017

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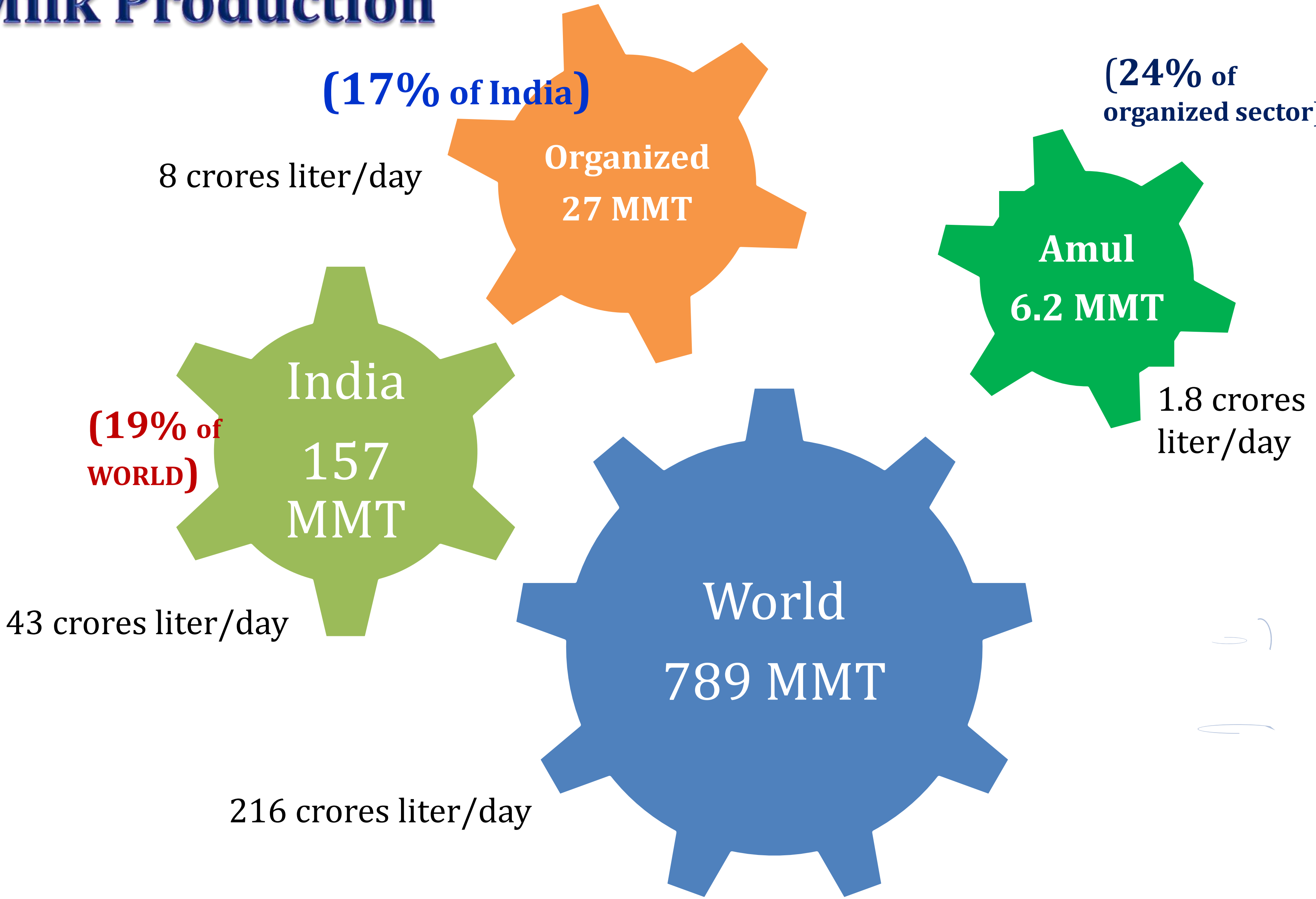
- Cattle production status of India and Gujarat
- Challenges and Opportunities

World dairy scenario

Milk Production



MMT: Million Metric Tone

Global Dairy Industry

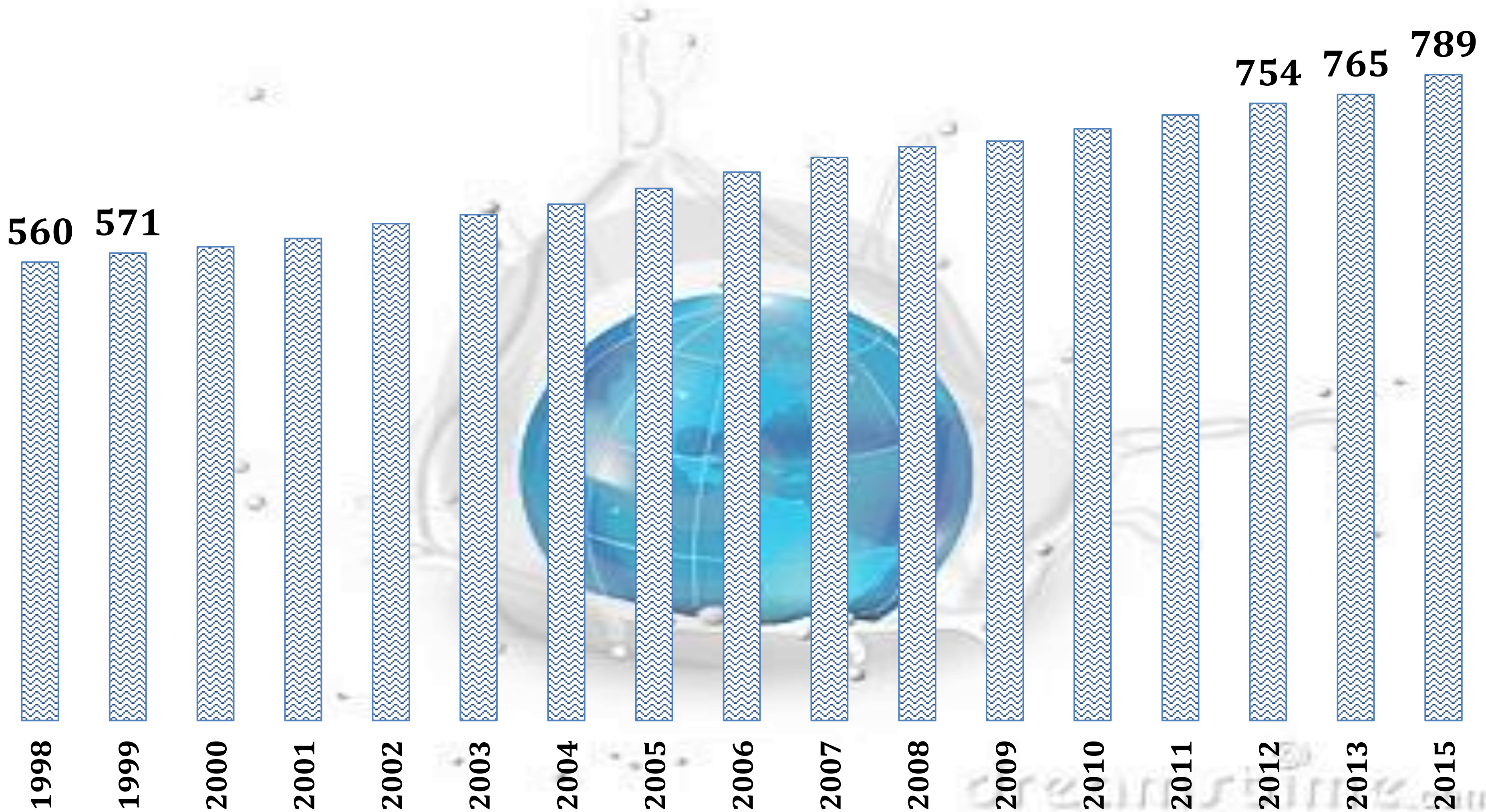
7 billion consumers

Provides livelihood to 1 billion through Dairy Farming

Projected Milk Production in Current Yr: 789 MMT

378 billion ltrs of milk is processed across the globe

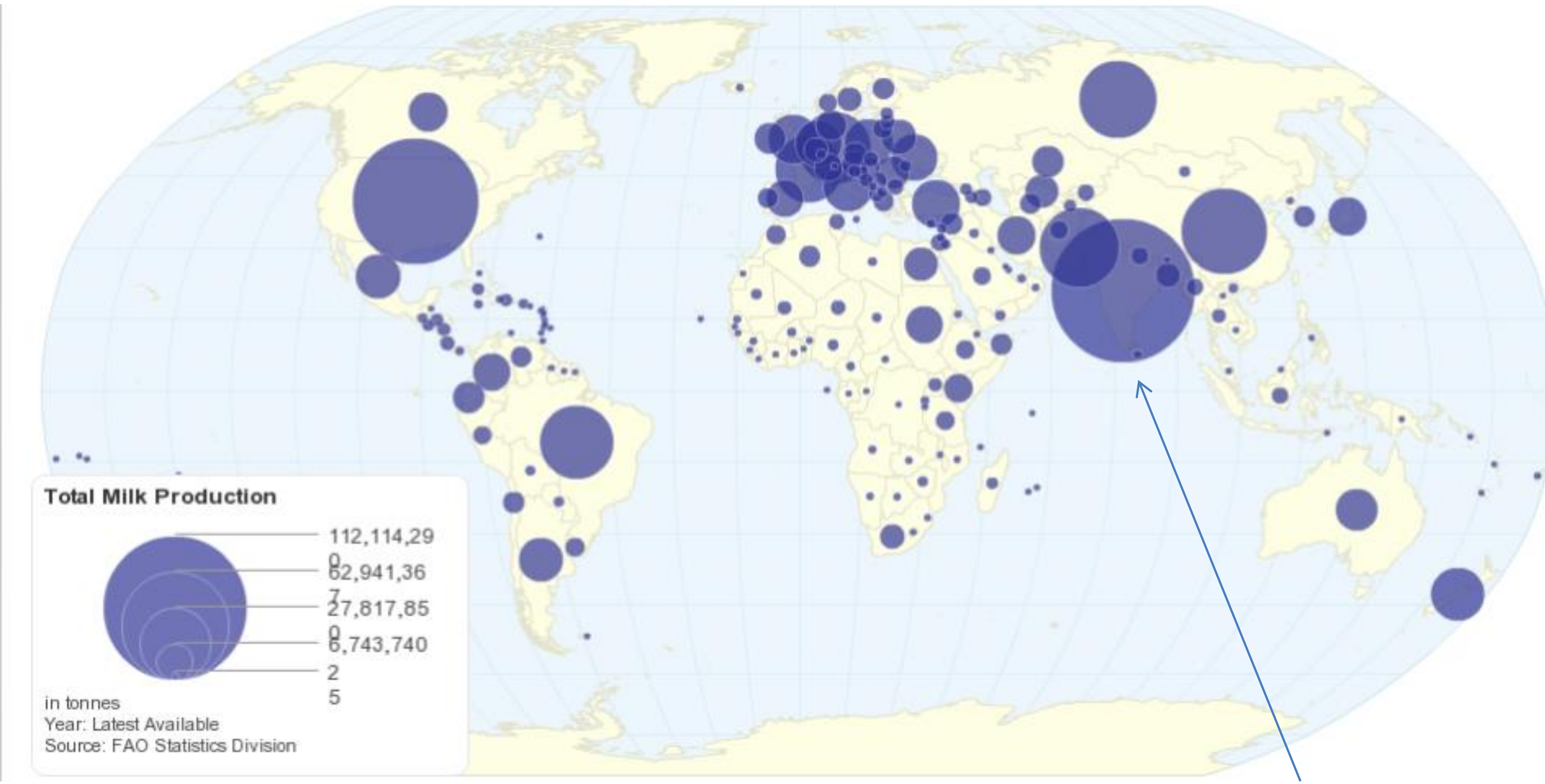
World Milk Production



CAGR: 2%

Milk Production in MMT (Million Metric Tone) per Annum

World-wide Milk Production



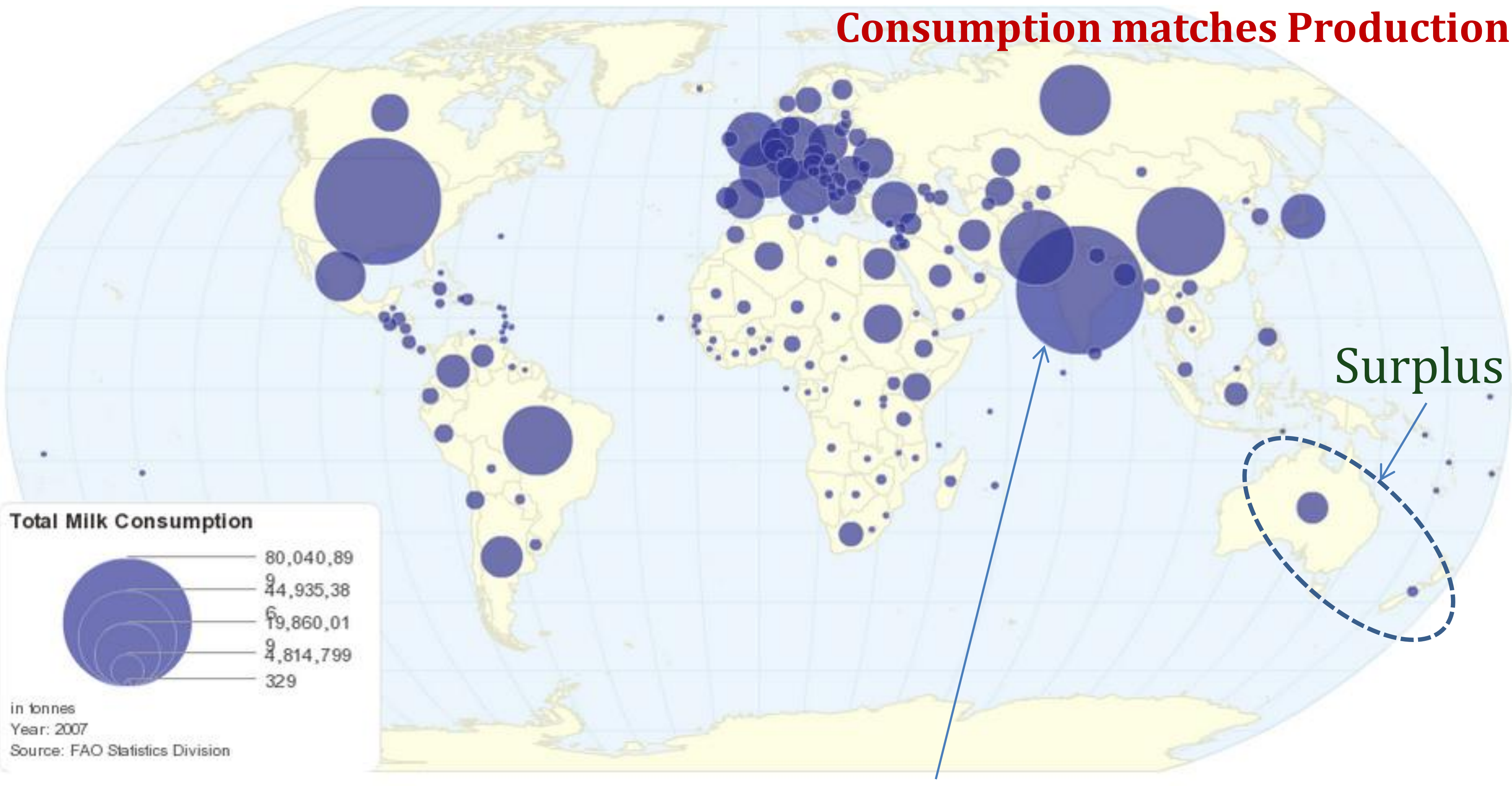
India: Largest Milk Producing Country

157 MMT - 19% of Global Milk Production

Source : FAO / Chartsbin

World-wide Milk Consumption

Consumption matches Production

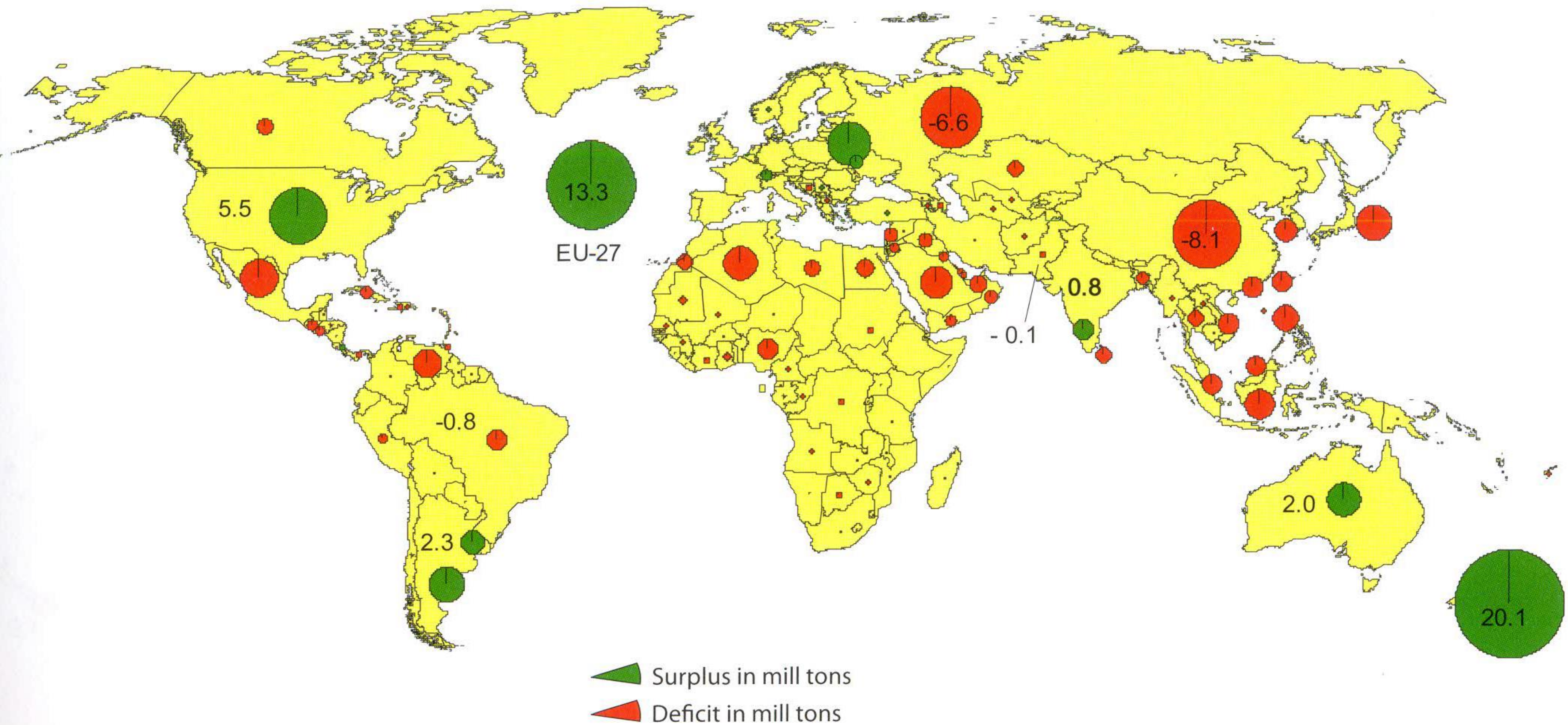


Surplus

India is the largest Producer & Consumer of Milk in the world

Source : FAO / Chartsbin / IFCN

Milk Surplus & Deficit Countries

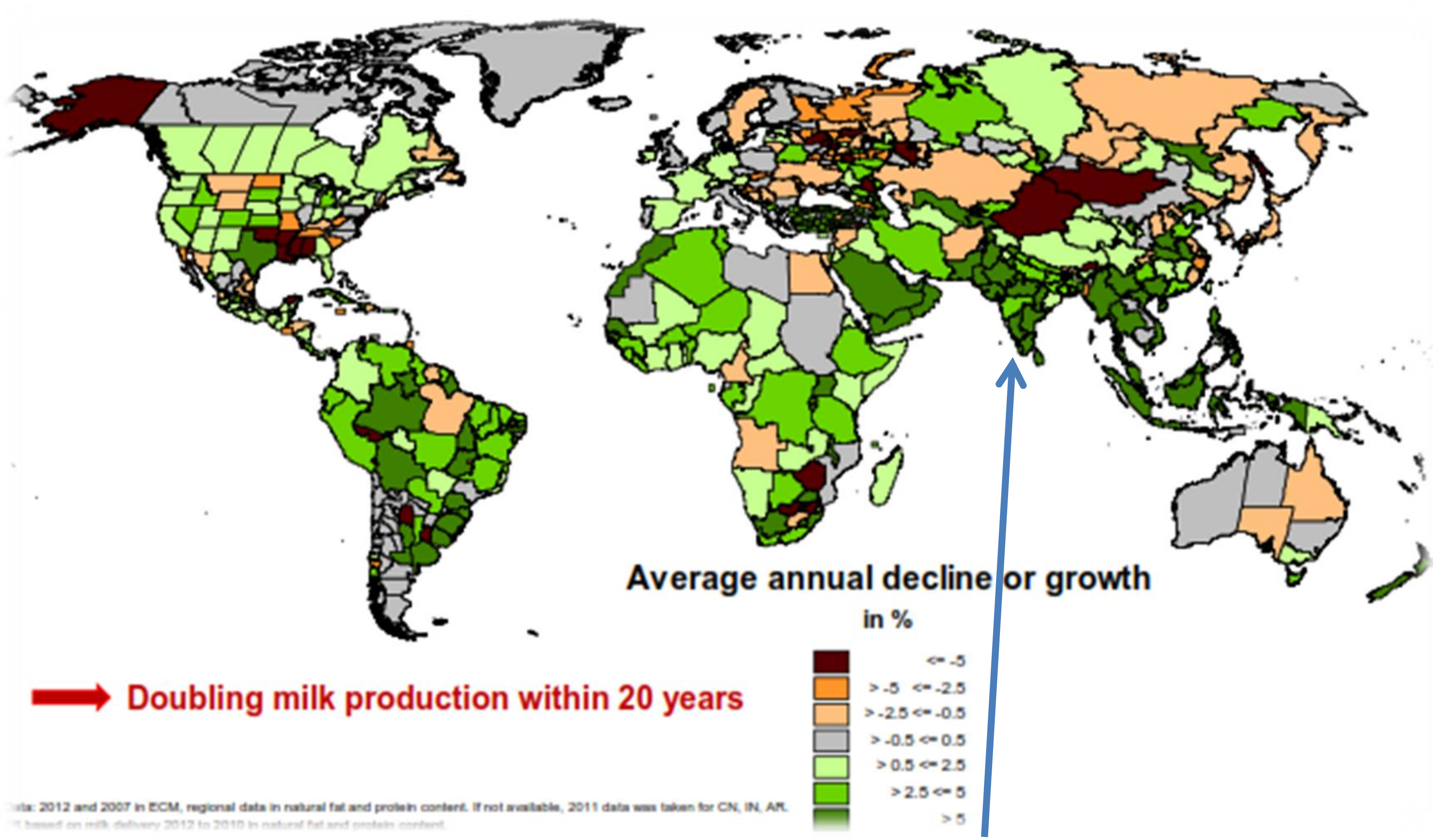


India is self-sufficient but surrounded by Milk deficient regions

Source : IFCN

Growth in Milk Production : Last 5 years

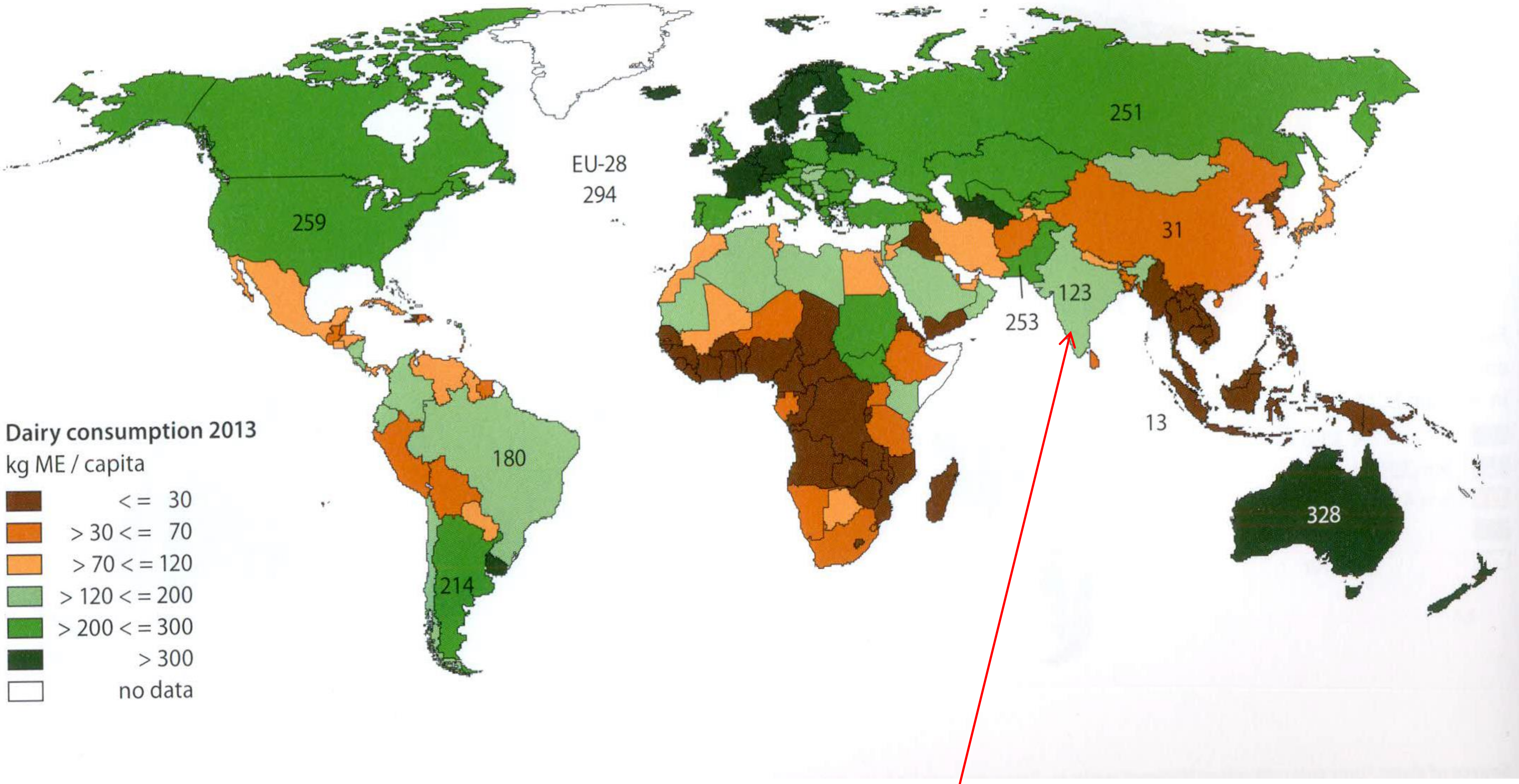
CAGR in %age per annum



India: Among highest growth in Milk Production

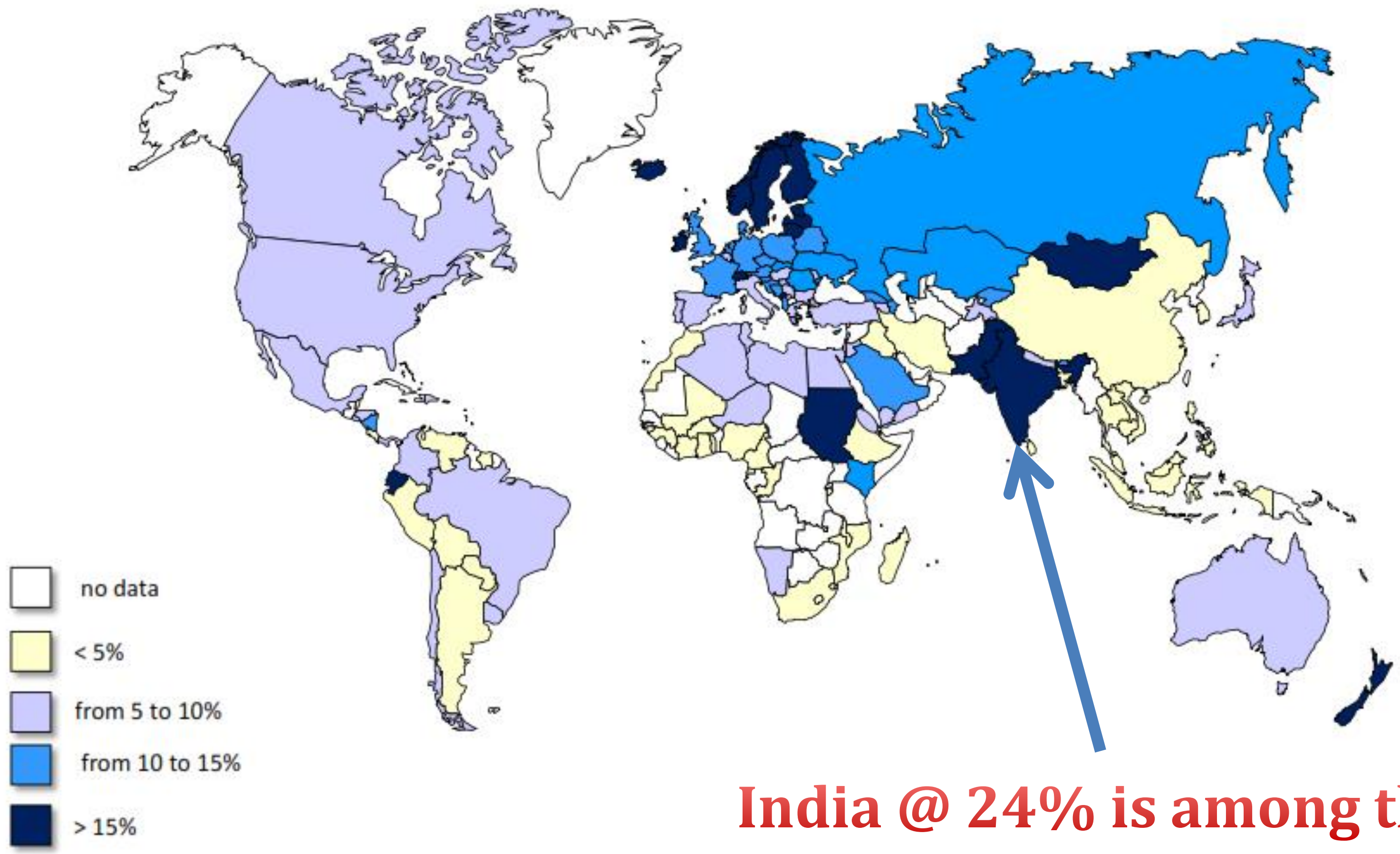
Source : IFCN

World Milk Consumption per Capita



India: Low Per Capita Consumption - But increasing rapidly due to rising income levels & better availability

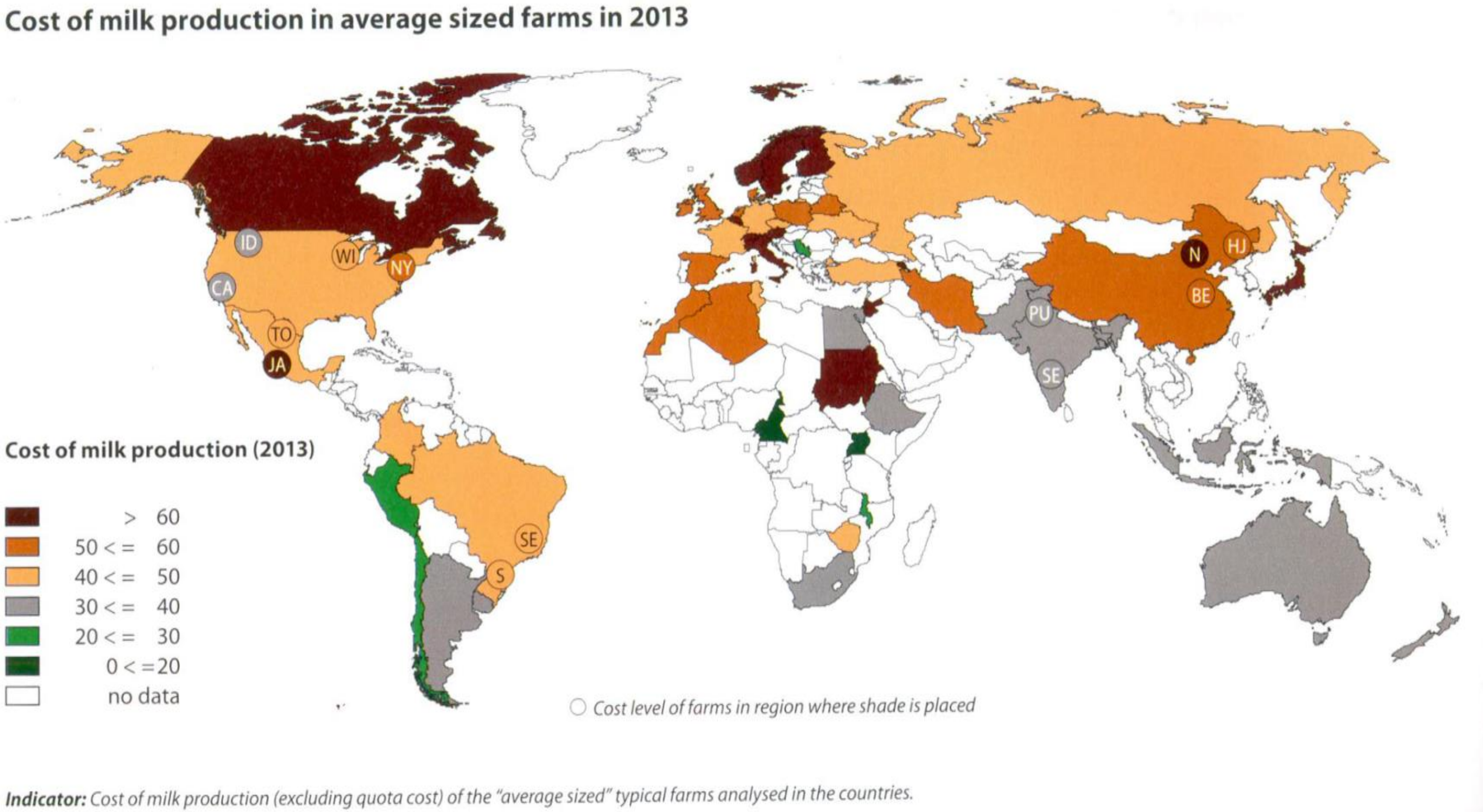
% share of Dairy sector in total Agricultural Production



India @ 24% is among the highest in the world

Source :FAO

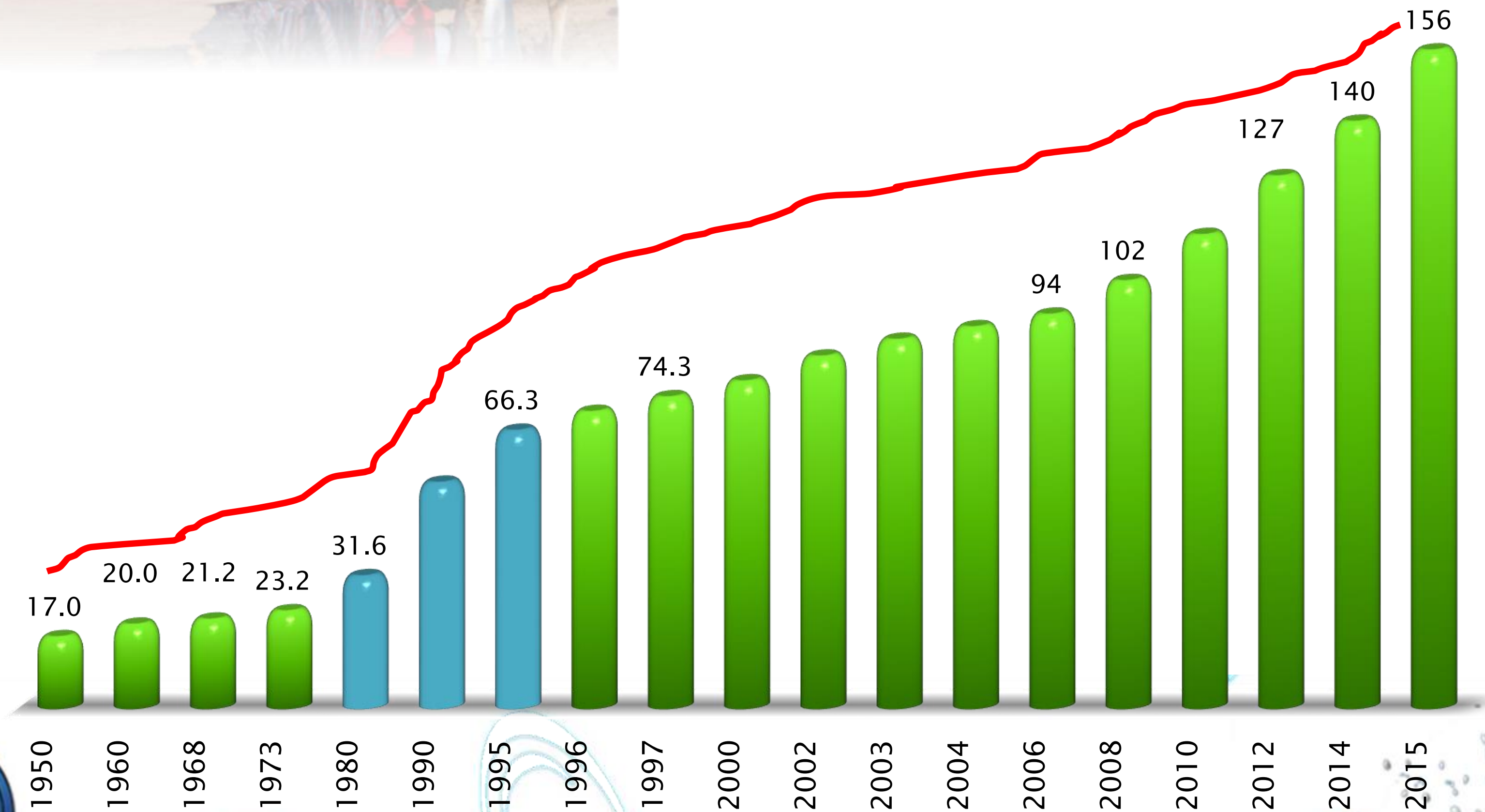
Competitiveness of Indian dairy products



In terms of Cost of Milk Production, India is competitive as compared to EU & US and is at par with Oceania


Indian Dairy Sector

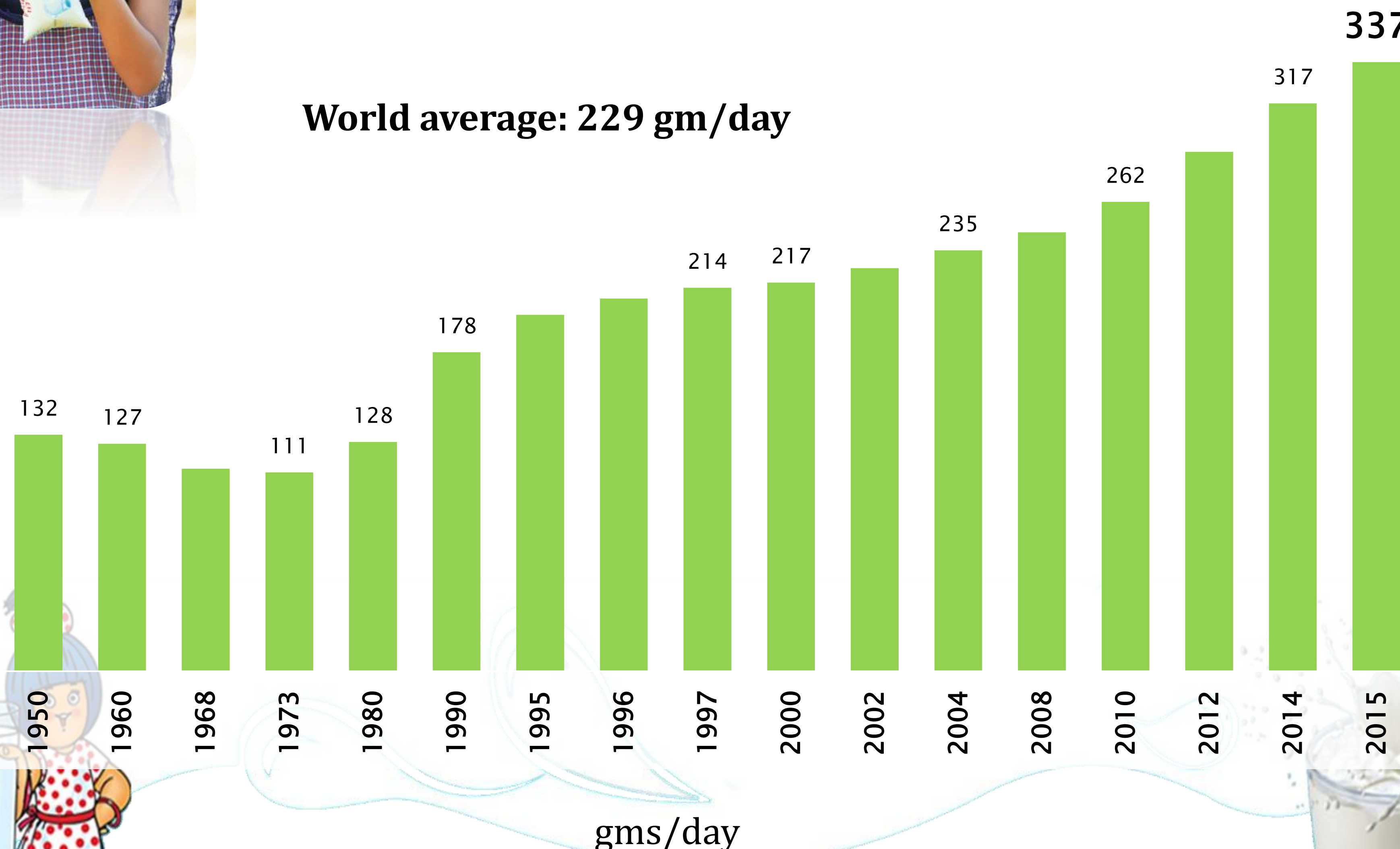
Milk Production: India (MMT)



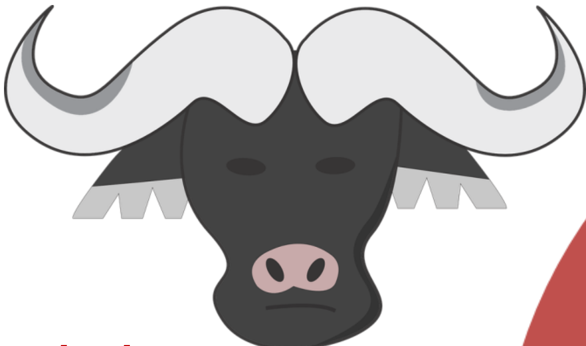
Operation Flood (1970-1996)

CAGR: 4%

Per Capita Availability India (Gms. Per Day)

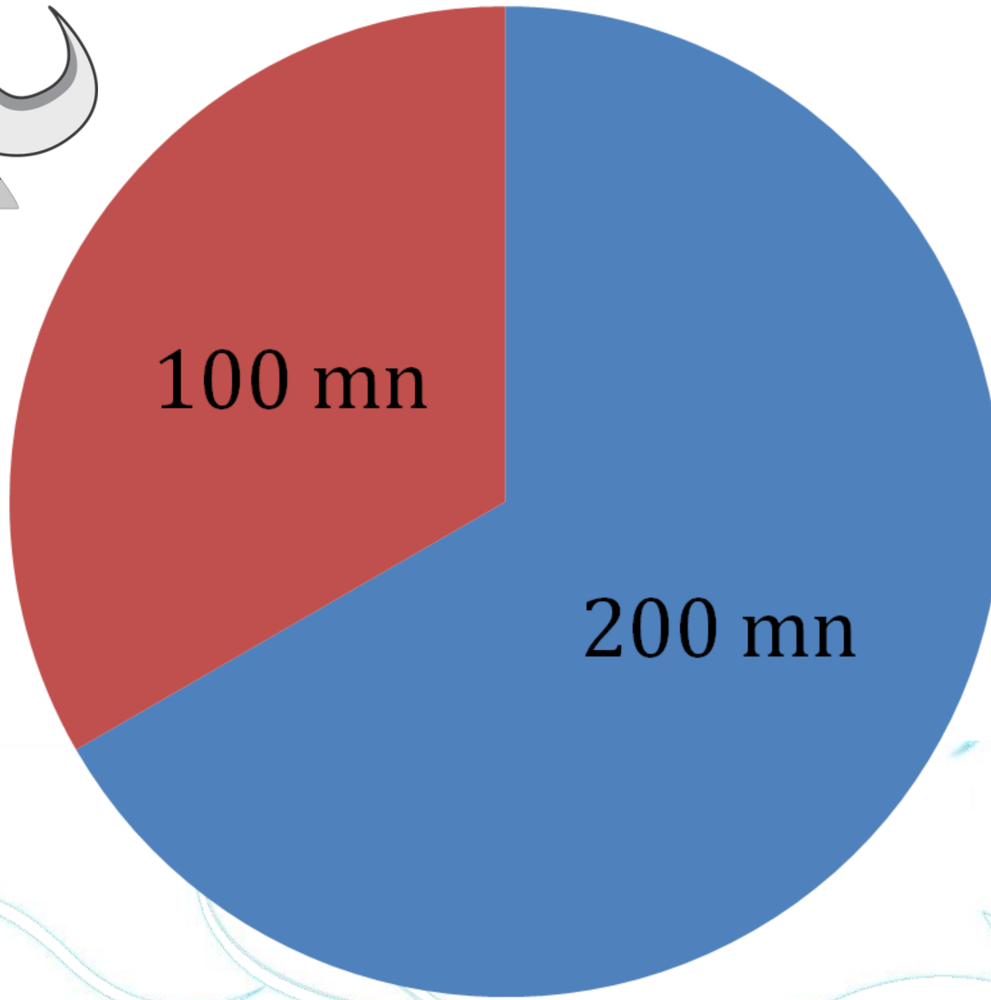


Largest Bovine Population in the world : 300 Million



55%

of total milk production

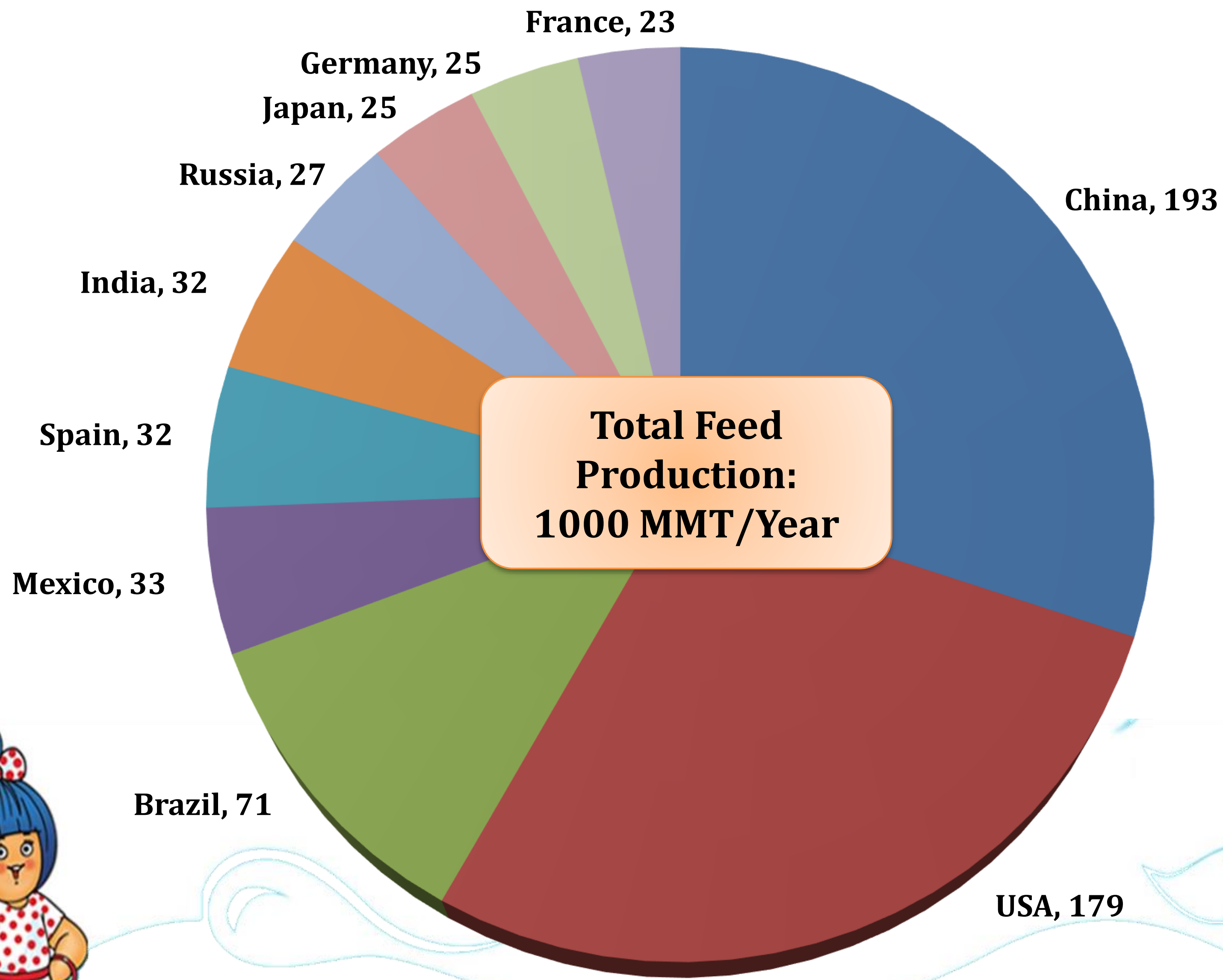


45%

of total milk production

World & Indian feed scenario

World: Feed production (Million Metric Tonne /Year)



World: Feed production

- Total production: 1 billion tones/year
  - Poultry:45%
  - Pig: 25%
  - Cow and buffalo: 22%
  - Aqua: 4%
  - Pet:3%
  - Equine: 1%
- Total valuation of feed: > US $400 billion
- Estimated number of feed mills: 31, 500

India: Feed production

- Total feed production: 32 million tones (3.2% of world production)
- Estimated value: US $ 15 billion
  - Poultry:70%
  - Cow and buffalo: 27%
  - Aqua: 3%

Feed requirement on Basis of Different Physiological Status

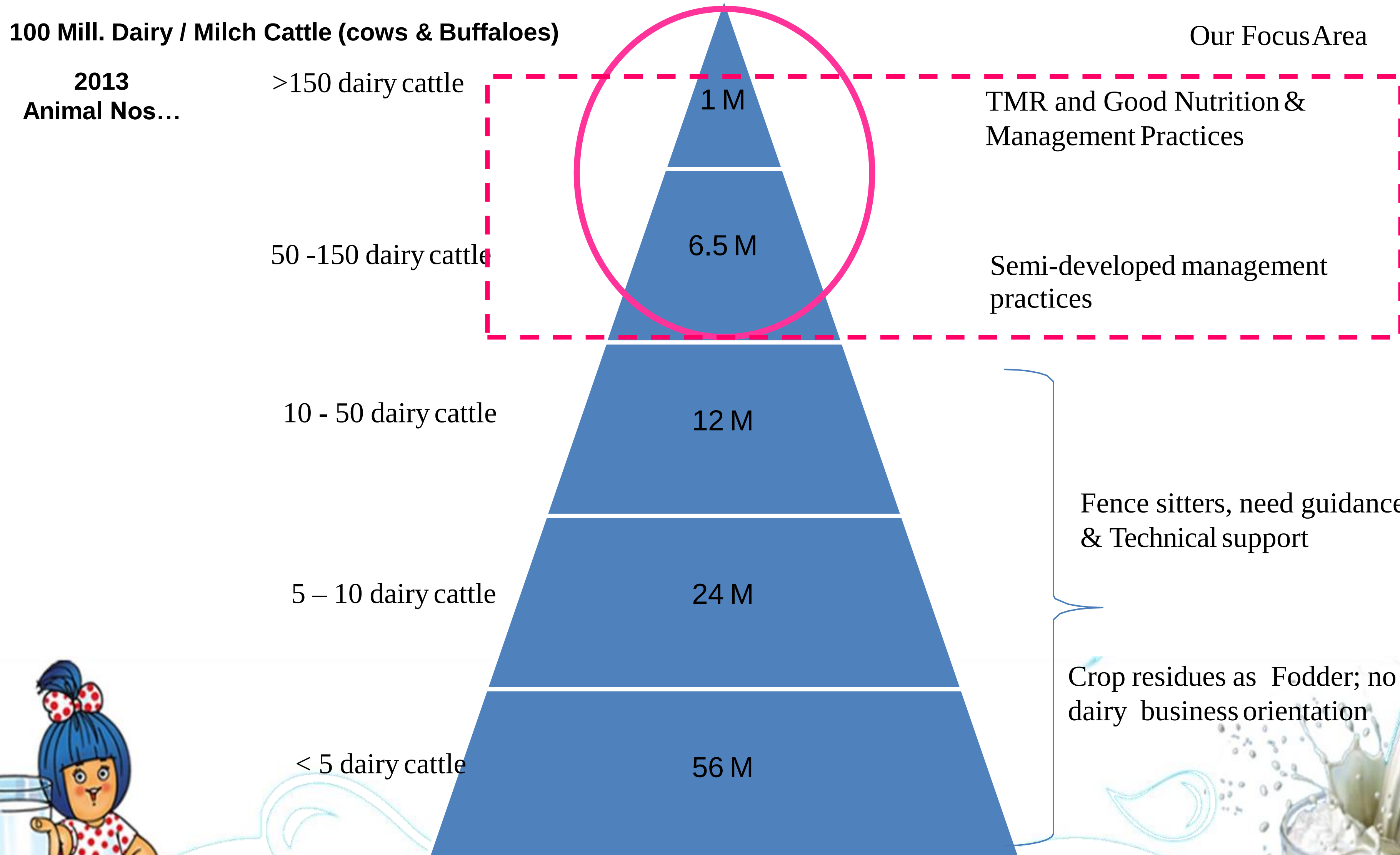
Feed/Fodder	Types of Fodder	Maintenance	For Milk Production	Pregnancy
Cattle Feed		1.0 -1.5 Kg	500 gm For 1 Liter of Buffalo Milk 400 gm for 1 Liter of Cow Milk	1.0-1.5 kg + Maintenance
Green Fodder	Leguminous	5-6 Kg.		
	Cereal	14-15 kg.		
Dry Fodder		5-6 Kg		

Feeding contributes around 70% of milk production cost.

Feeding practices: India

- India is currently self-sufficient in livestock feeds and does not depend on imports.
- Instead, the country exports large quantities of solvent extracted meals.
- Low input and low output dairy model
- Milk producers mainly feeding roughages and home made concentrate.
- Concentrate feeding to only milking and pregnant animals

Feeding practices: India

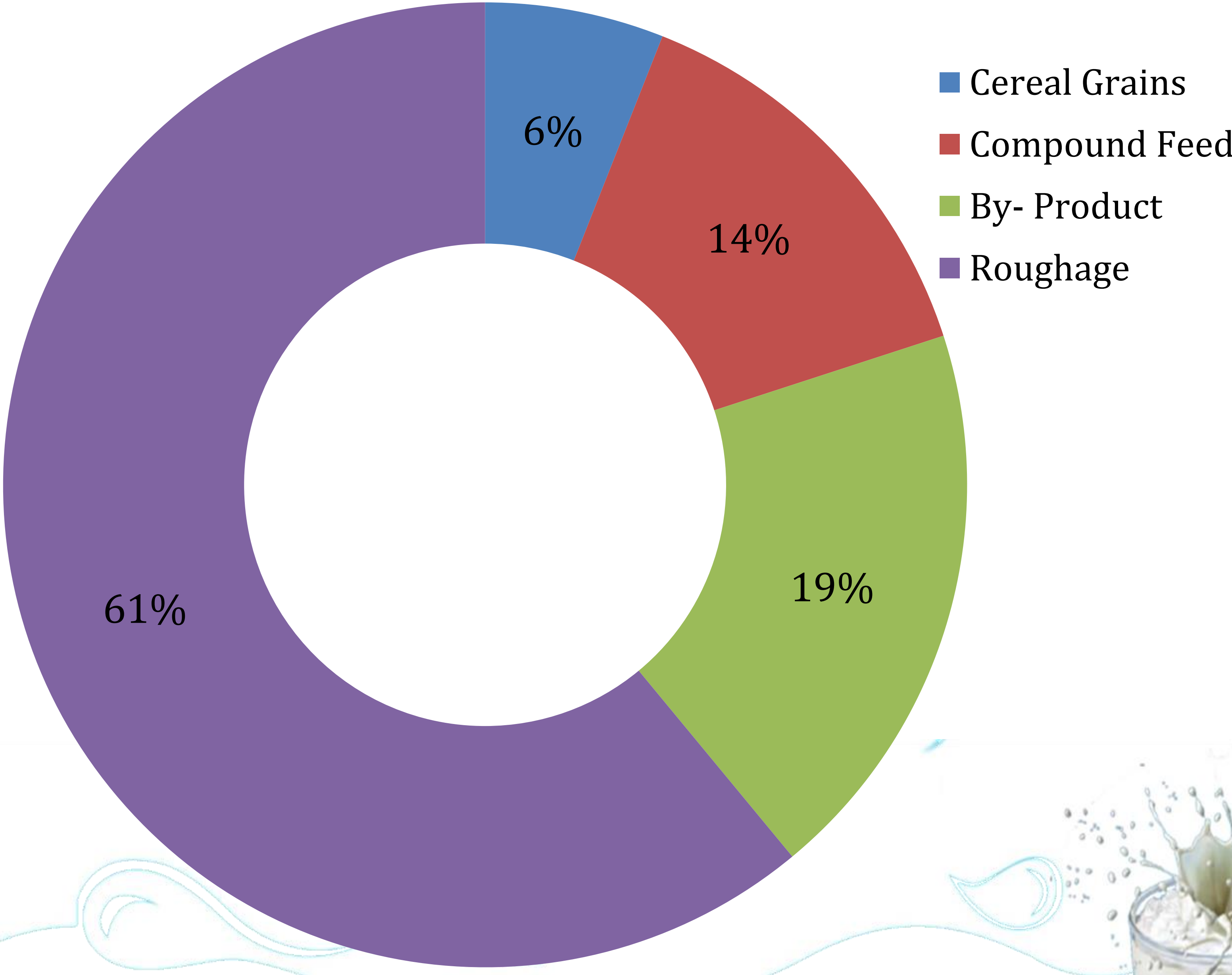


Feeding practices: India

Particulars	Dry Fodder + Cattle Feed + Concentrate	Dry Fodder + Green Fodder + Cattle Feed + Concentrate	Green Fodder + Cattle Feed + Concentrate	Silage + Dry Fodder + Concentrate	Silage + Cattle Feed + Concentrate
Contribution to National Milk Production	60%	25%	13%	1%	1%
% Dairy Farms in a particular Feeding System	74%	20%	5%	0.50%	0.50%
Total Feed Intake (Kg DM/Cow/Year)	4,203	3,807	3,773	5,325	5,223
Annual Feed Efficiency (Kg Milk/ Kg DM)	0.63	0.52	0.5	0.87	0.85

Source: IDF, IFCN Report 2013

Feeding practices: India

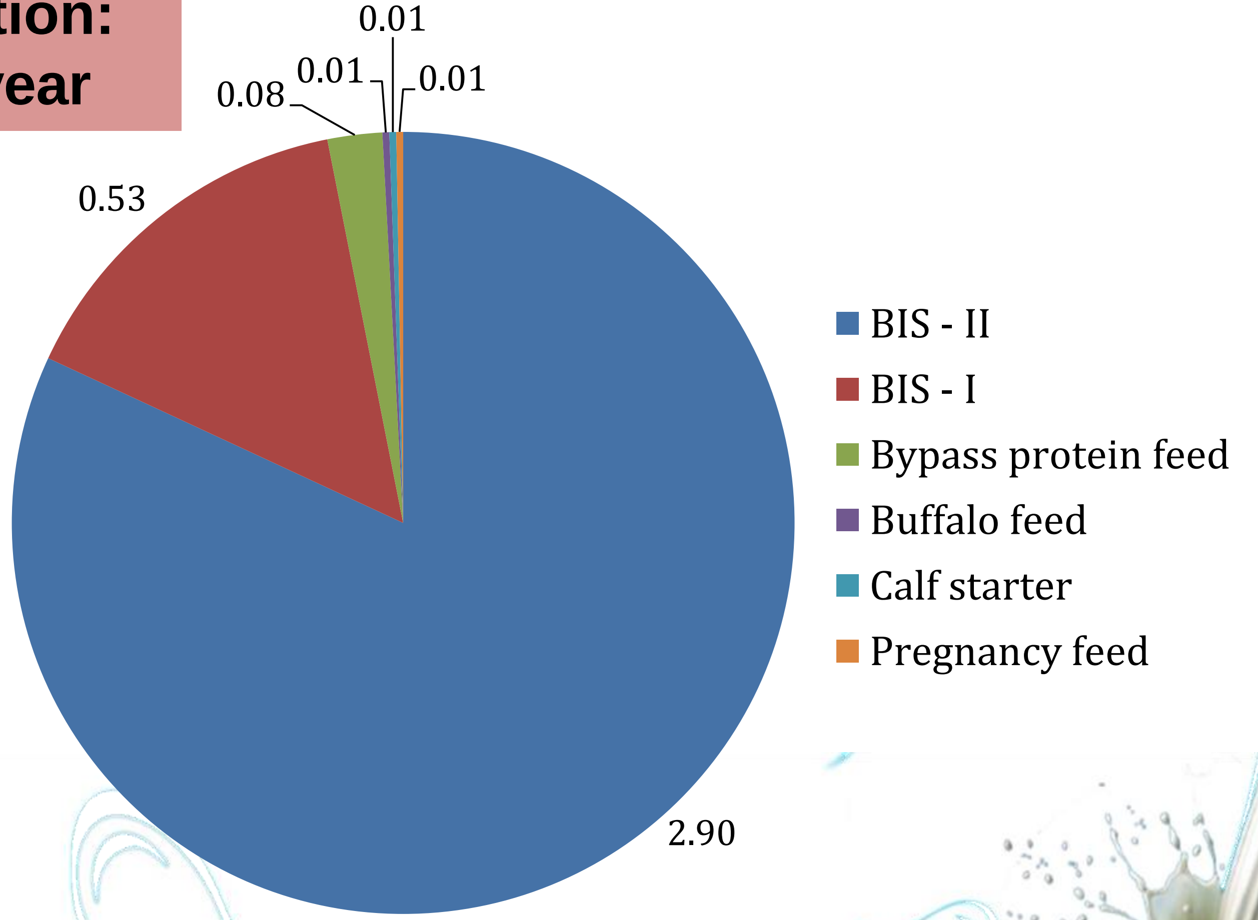


India: Trends in cattle feed production

- Cattle feed industry is still at nascent stage.
- Indian cattle feed industry grown at 6% CAGR during last decade – fastest in the world.
- Total production: 8.0 million tones/year against requirement of around 70 million tones/year.
  - Cooperatives: 3.54 million tones/year
  - Private: 4.46 million tones/year

Cattle feed production in dairy cooperatives

Total feed production: 3.54 million ton/year



82% of total produced feed is of BIS – II.

India: Trends in cattle feed production

- Demand of cattle feed is increasing @ 8% CAGR during last decade.
- Expected to produce around 12 million tones of cattle feed during 2020.
- Demand of cattle feed increase in future
  - Production of milk is increasing @ 4% CAGR during last decade.
  - Procurement in organized sector increasing.
  - Investment by cooperatives and private players in setting of cattle feed plant.
  - Demand of package milk and milk product increasing.
  - Awareness programme

Cattle feed production at Amul

- Total cattle feed plant: 13
- Total cattle feed production capacity: 7800 MT/day
- Total production: 1.8 million tonne/year
  - 50% of total Indian dairy cooperative's production
  - 24% of total India's cattle feed production
- Established 3000 MT/day capacity during last three years.
- Additional 3500 MT/day capacity will be added in next three years.

Various cattle feed for Amul's farmer

Amul Nutri Rich Cattle feed (BIS Type-I) 50 Kg Bag

Sr. No.	Parameter	Nutritive Value
1	Moisture % (Max.)	11.0
2	Crude Protein (CP) % (Min.)	22.0
3	Crude Fat % (Min.)	4.0
4	Crude Fiber % (Max.)	10.0
5	Silica % (Max.)	3.0
6	Total Digestible Nutrients (%)	>70.0

Sr. No.	Parameter	Nutritive Value
1	Moisture (%), Max.	11.0
2	Crude Protein (%), Min.	20.0
3	Crude Fat (%), Min.	2.5
4	Crude Fibre (%), Max.	12.0
5	Silica (%), Max.	4.0
6	TDN Value, Min.	>65.0

AMUL POWER DAN 50 Kg Bag. (BIS TYPE-II)

AMUL ANIMAL FEED AND FEED SUPPLEMENTS

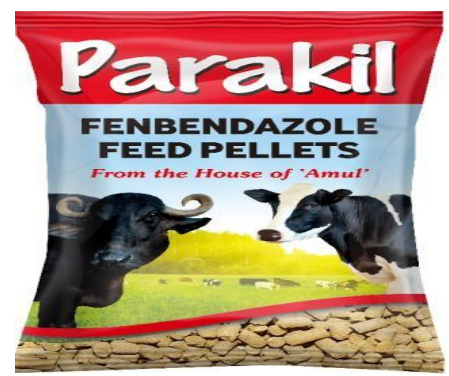
Buffalo Feed (Pellet Form) 50 Kg Bag

Nutri Power Mixture (Mash Form) 50 Kg Bag

Jeevan Milk Replacer Powder Type 5 Kg Bag

VARDAN Calf Feed Mash Type 20 Kg Bag

Bovi Plus Vitaminised Min.Mix. 40 X 1 Kg



PARAKIL MEDICATED FEED 25 X 200 Gm

Cattle feed and raw material rate comparison

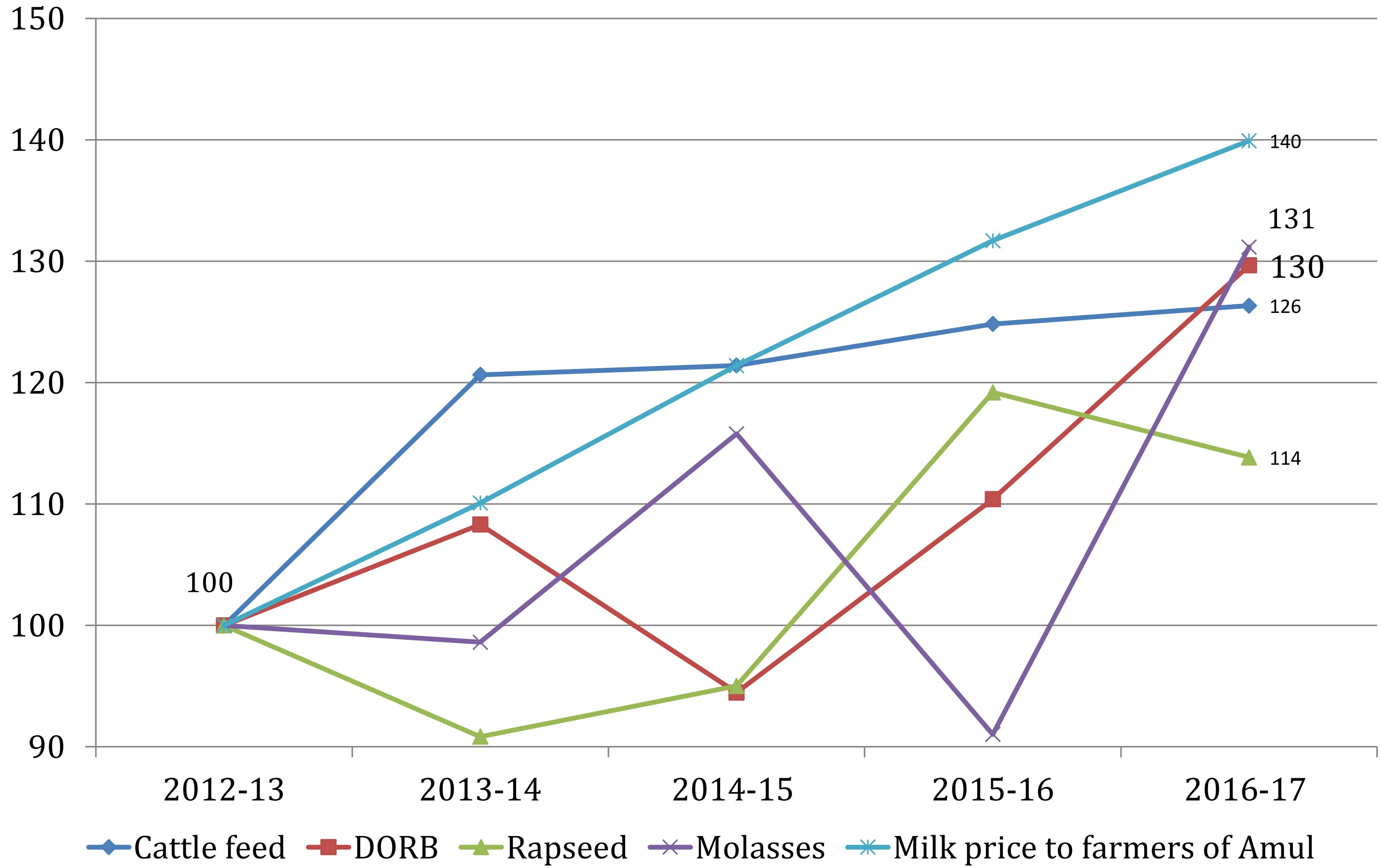
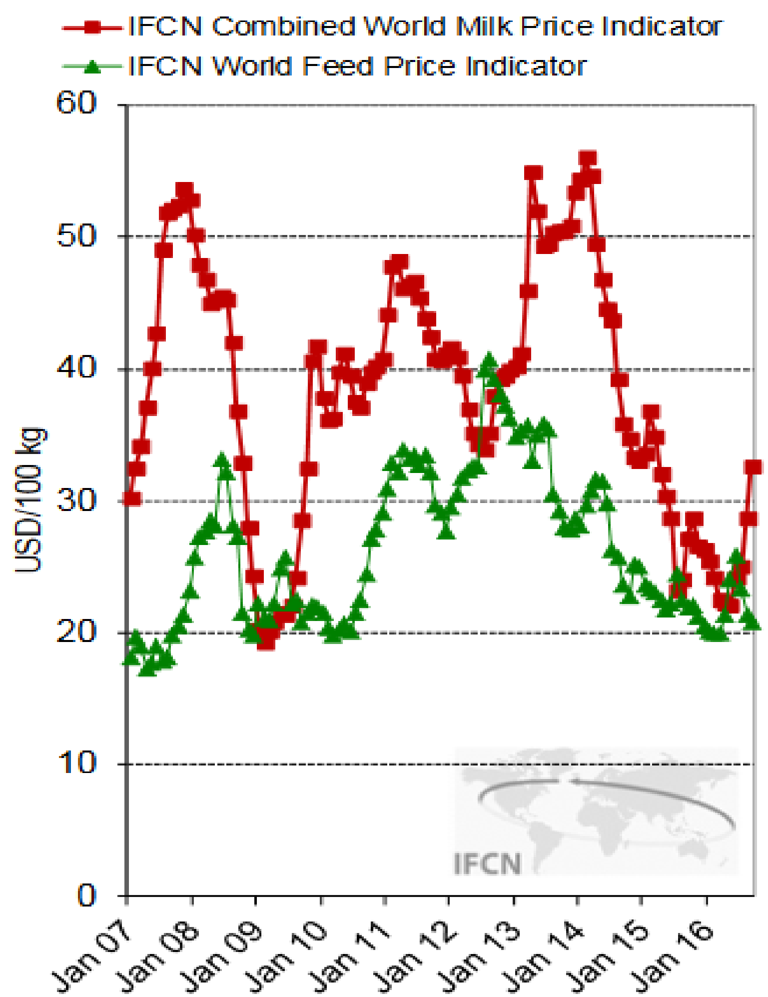
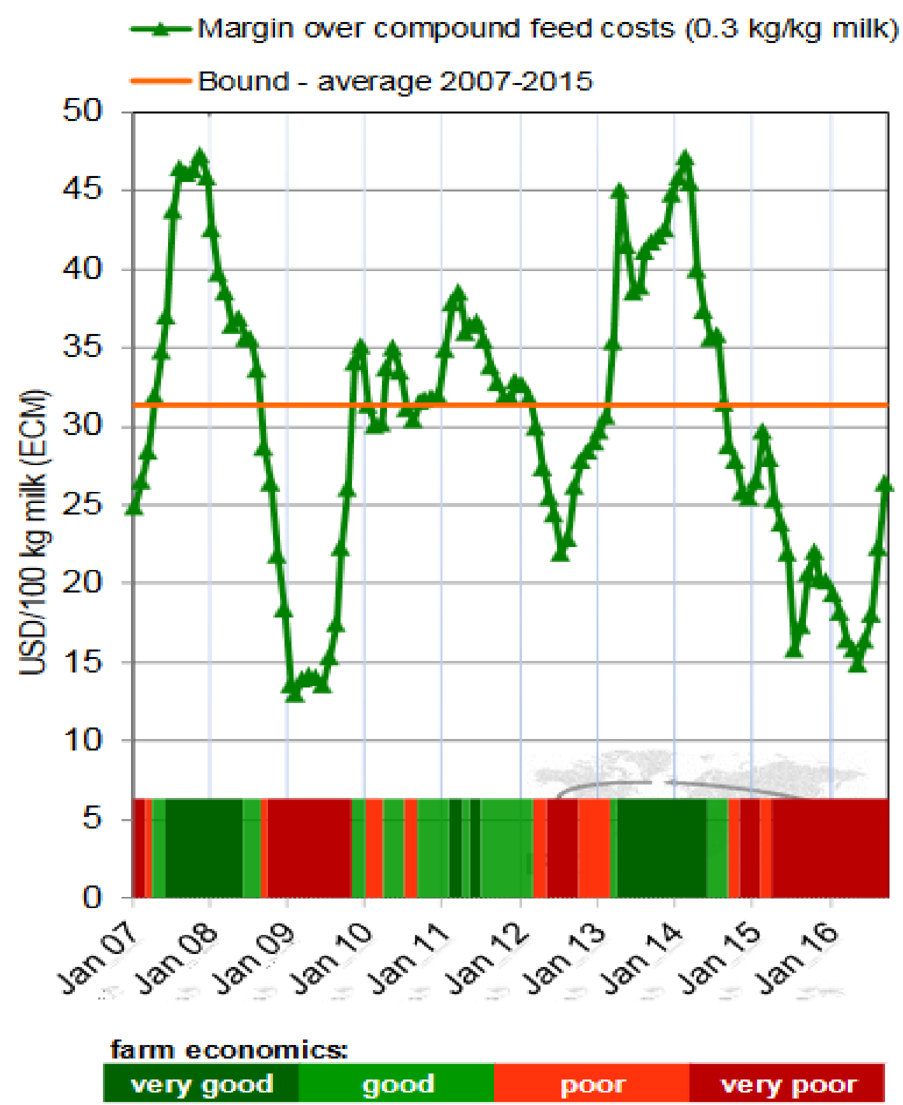


Chart 1. World milk prices for milk and feed 2006 – September 2016

Milk and feed price developments

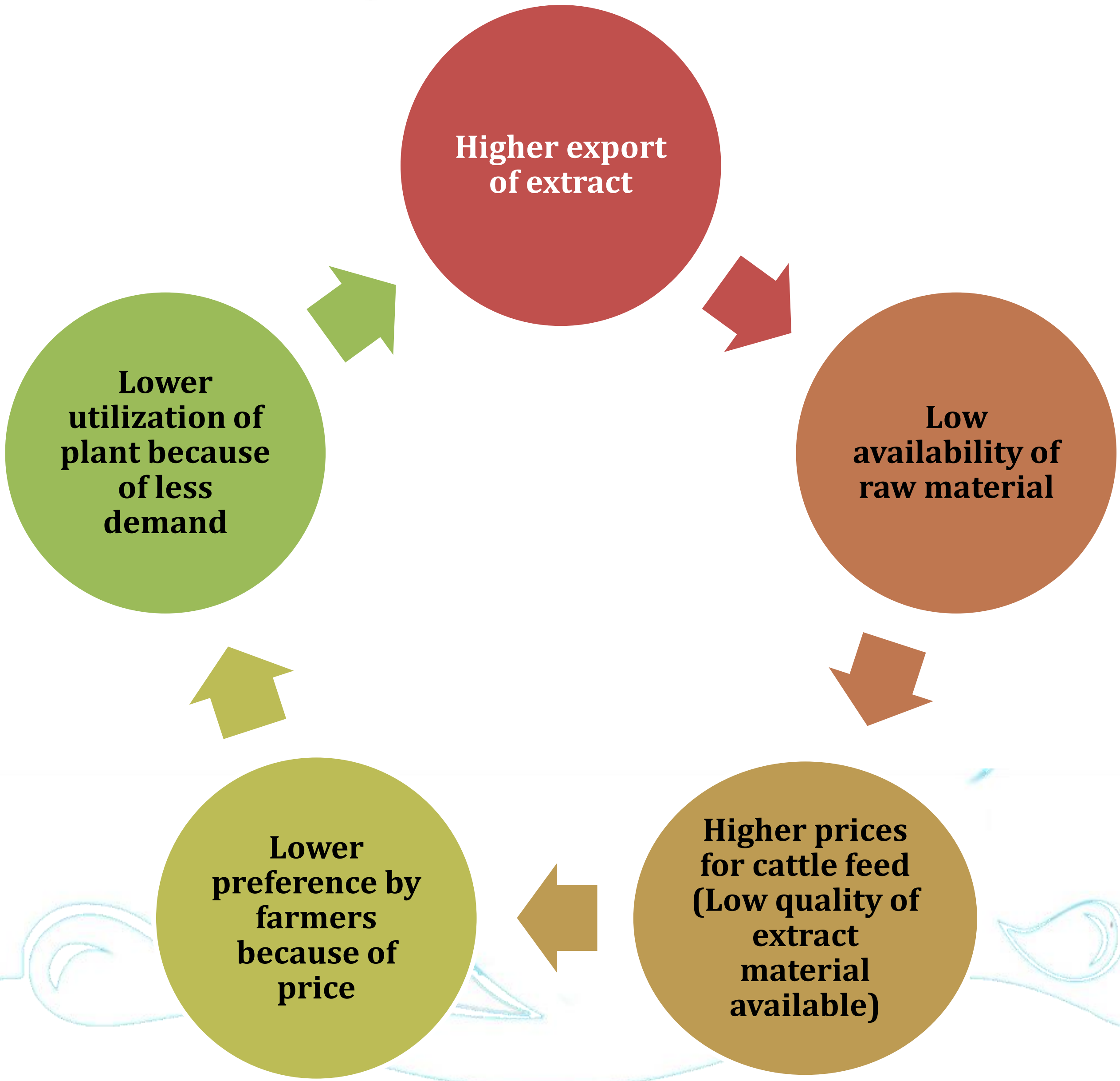


Margin over compound feed costs



Challenges

Challenges: Farmer side



Challenges: Farmers side

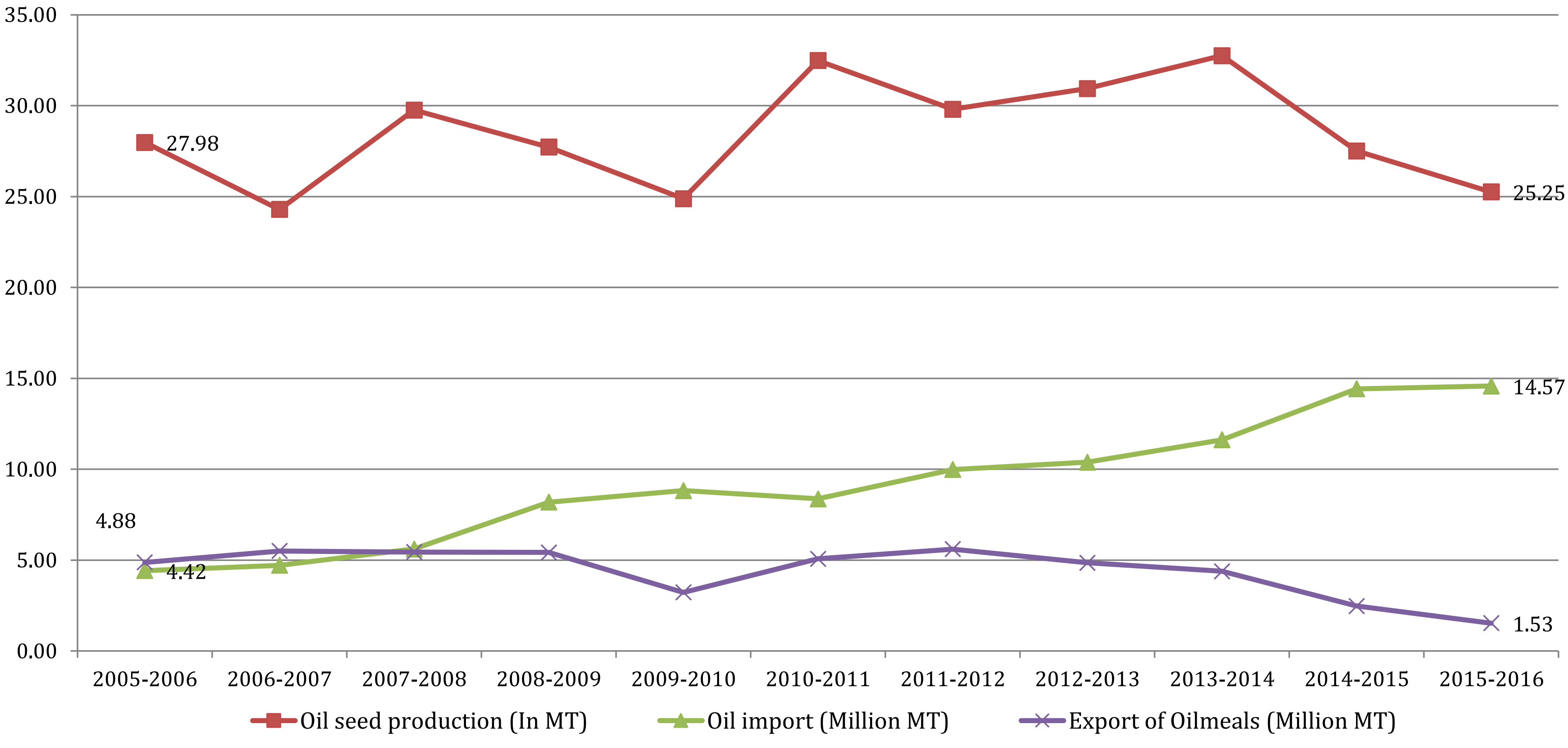
- India is largest producers and consumer of milk (milk protein)
- Demand of cattle feed is also increasing at faster rate.
- Amul believe in “make in India” and our philosophy “Value for money and value for many”
- Inspite of largest food organization of India and 13^{th} largest milk processer of world, our dependence on export is negligible.

Challenges: Farmer side

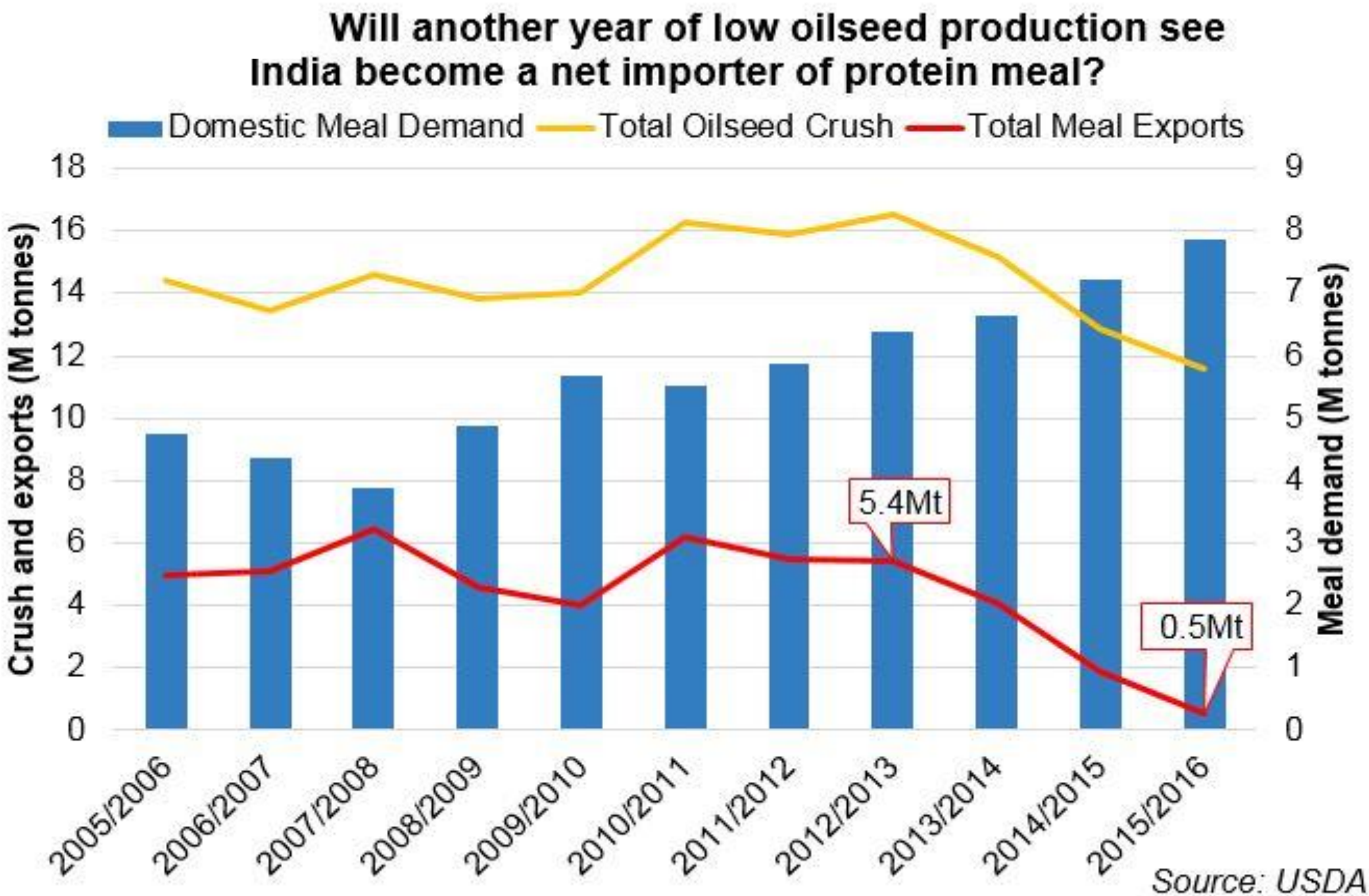
- Huge quantity of extract export by India
  - Less availability of extract for cattle feed manufactures.
  - Inferior quality of extract to Indian market.
  - Prices of available extract is always higher which leads to:
    - High price of cattle feed
    - Low preference by farmers because higher price

Challenges: Industrial side

- Industry depends on oil seed production
- Domestic oil demand is increasing but crushing of oil is decreasing.



Challenges: Industrial side



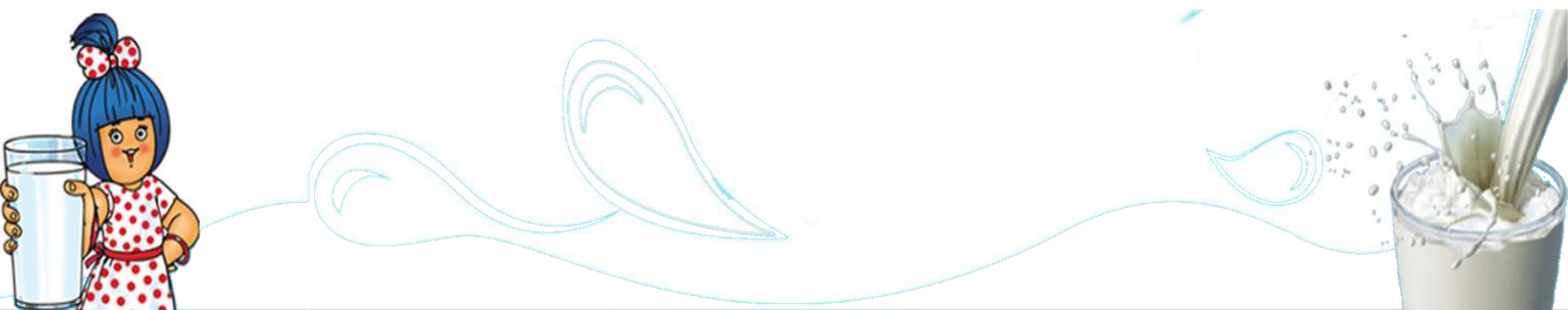
Opportunity

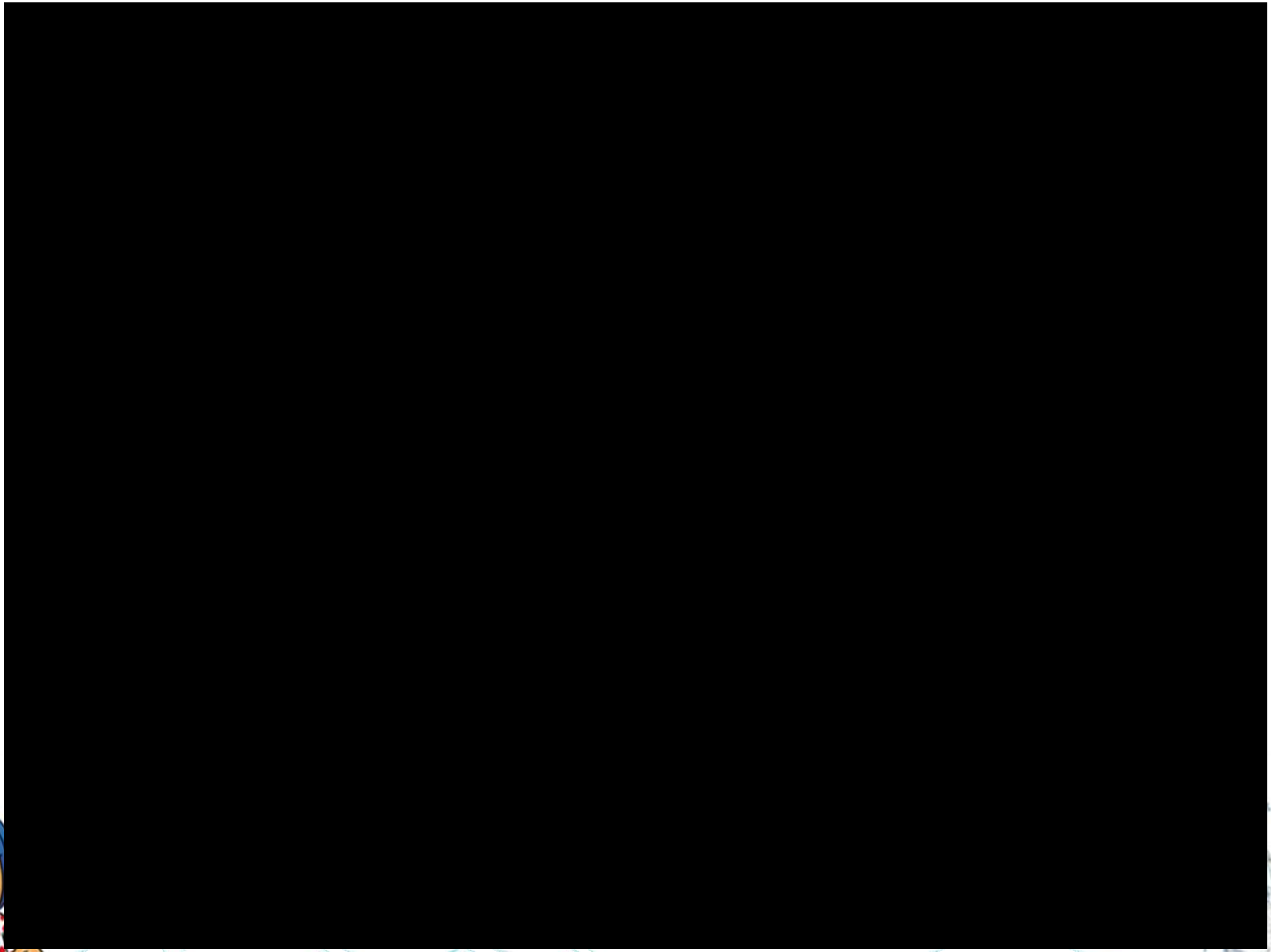
- Huge untapped market (Cattle feed forms only 14% of feed requirement)
- New varieties of cattle feed introduced by cooperatives and private players.
- Milk procurement by organized player is increasing at rapid pace.
- Various awareness programme.

Way Ahead

- Need to provide best quality of extract at reasonable rate to manufacture cattle feed.

- Need to concentrate more in Indian market.





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