

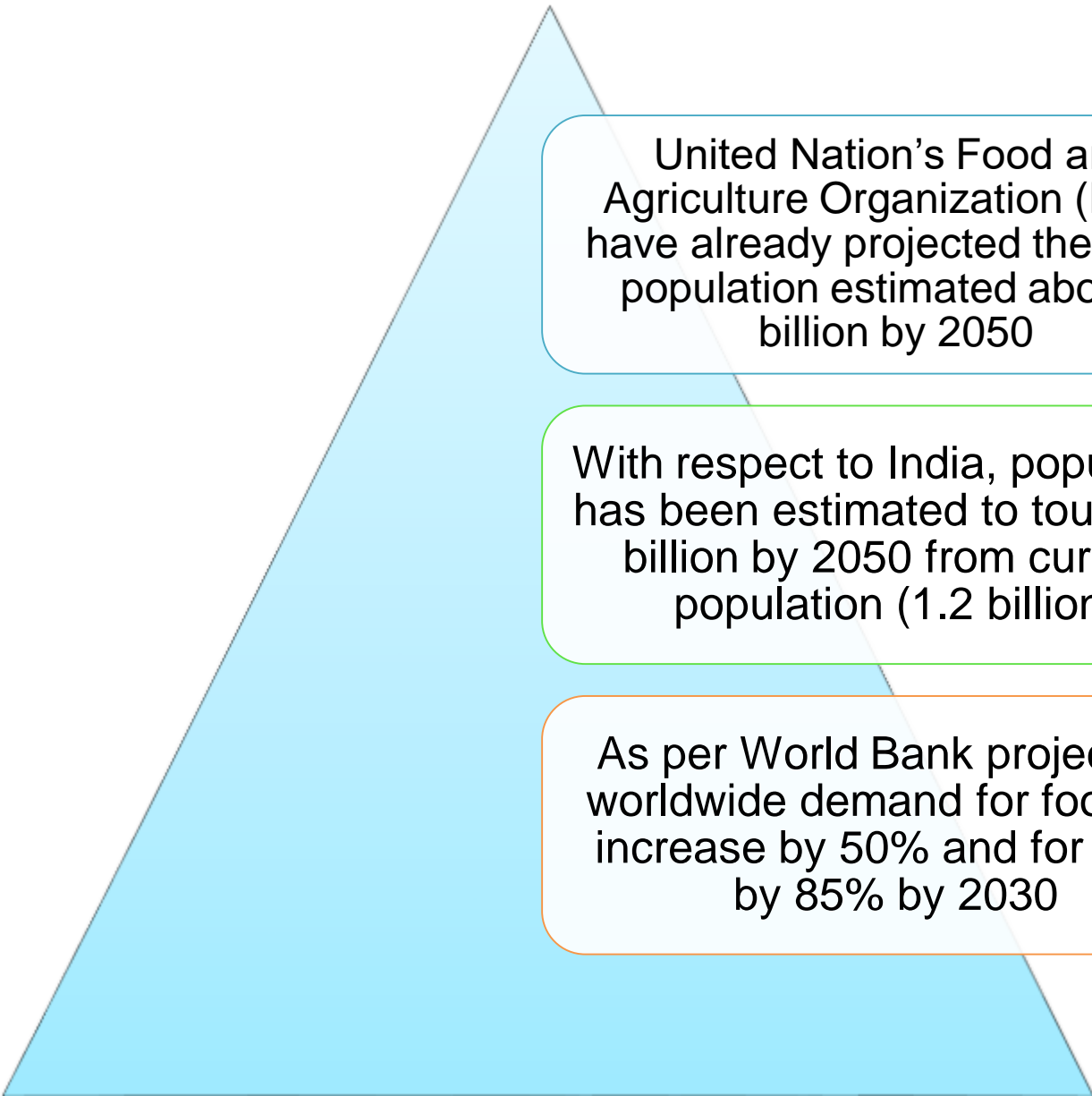
# Livestock Products: Role in Nutritional security and food safety concerns

(IVA N.Delhi 2019)



**Dr. N.K Mahajan**  
Ex Dean Codst,LUVAS

# Increasing myriad of demands



United Nation's Food and Agriculture Organization (FAO) have already projected the world population estimated about 9 billion by 2050

(WFP, 2018)

With respect to India, population has been estimated to touch 1.8 billion by 2050 from current population (1.2 billion)

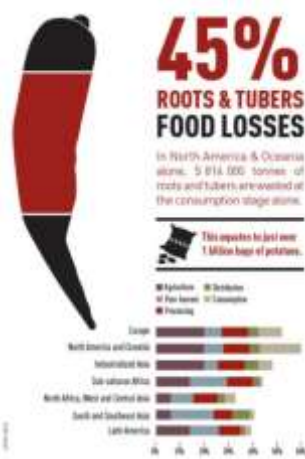
(Swaminathan and Bhavani, 2013)

As per World Bank projection, worldwide demand for food will increase by 50% and for meat by 85% by 2030

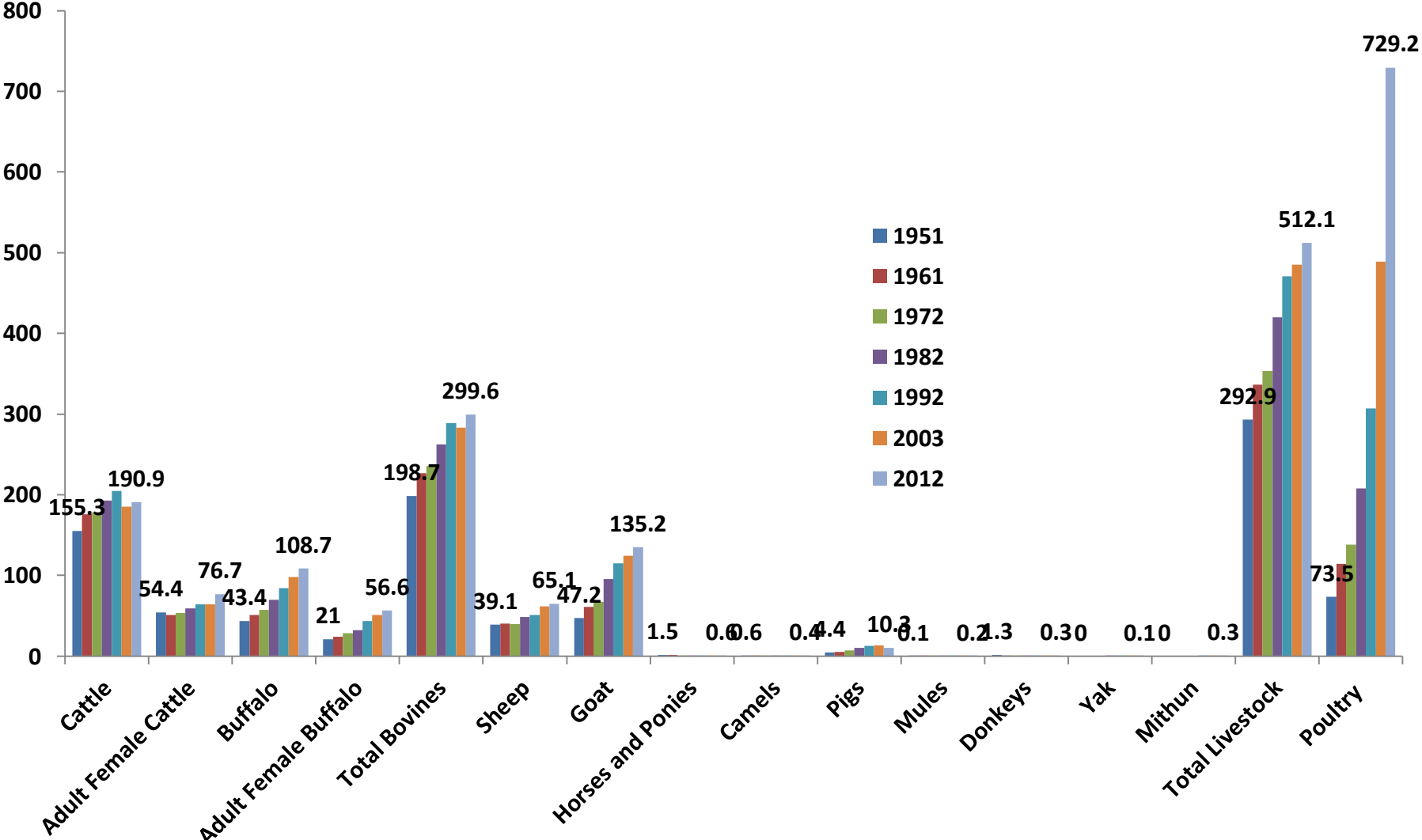
(Kumar *et al.*, 2018)

# Food losses and waste amounts

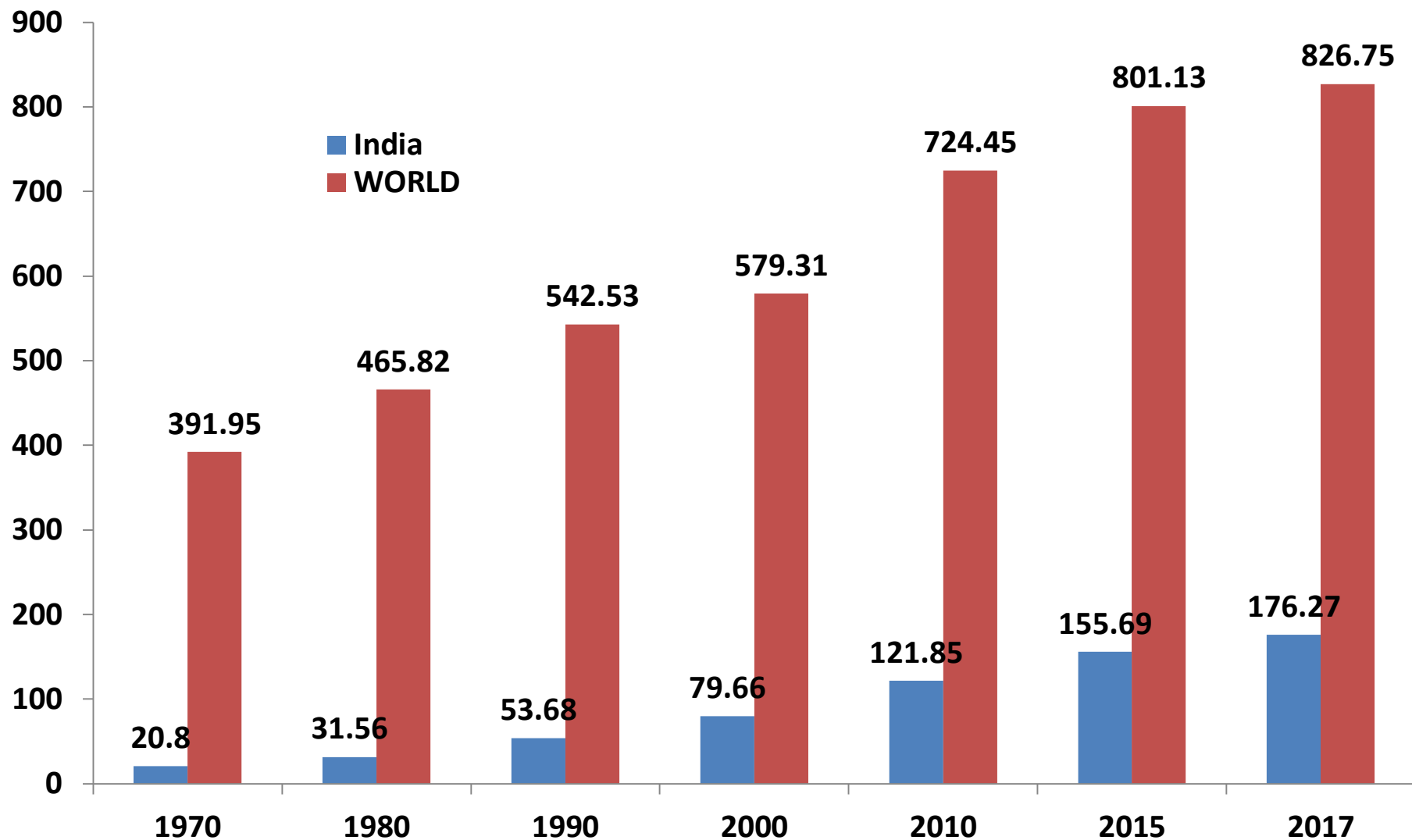
Roughly one-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons per year



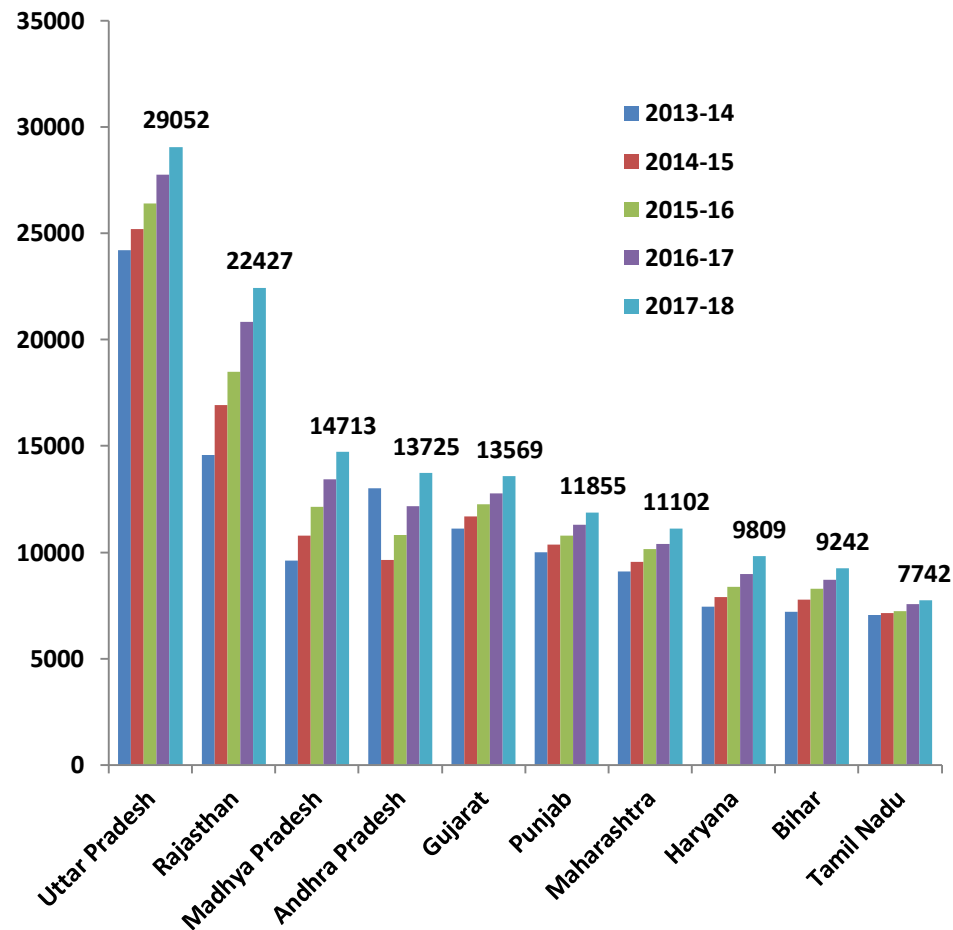
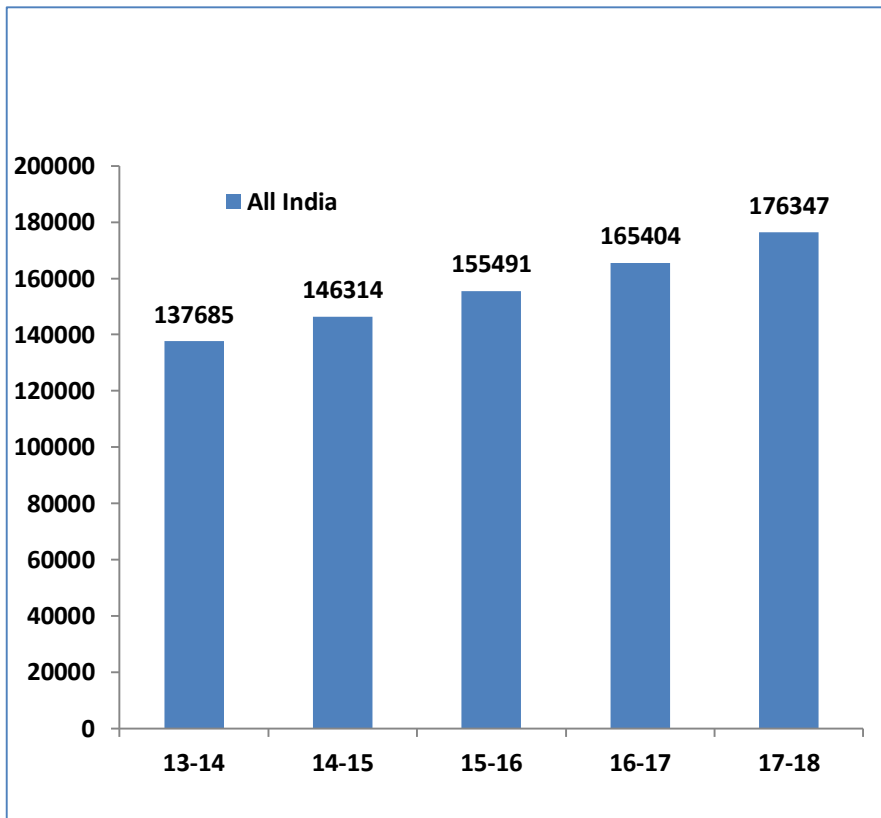
# LIVESTOCK POPULATION IN INDIA BY SPECIES (MILLIONS)



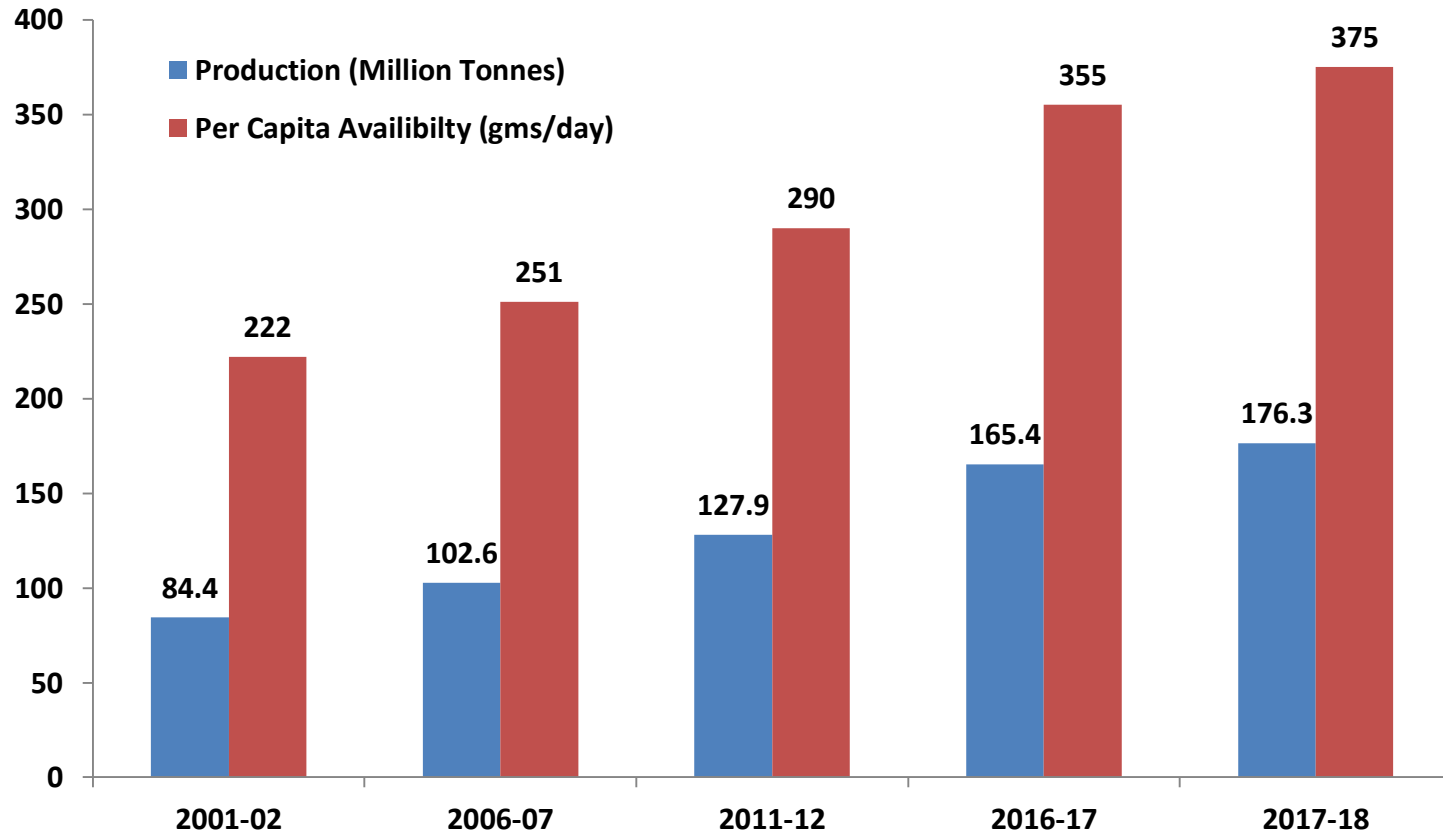
# Milk Production across countries (Million tonnes)



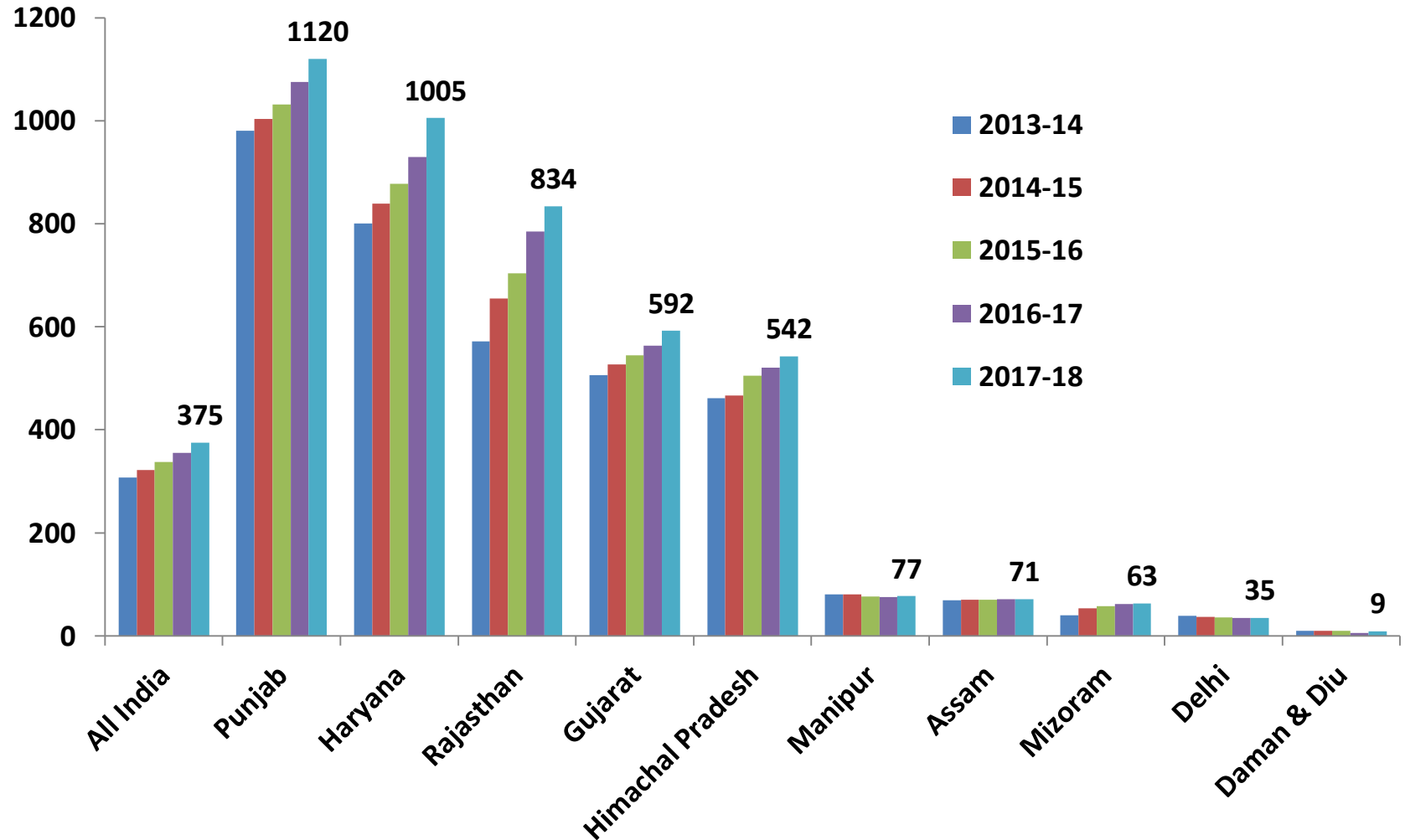
# Estimates of Milk Production ('000 tonnes)



# Milk production and per capita availability of milk in India

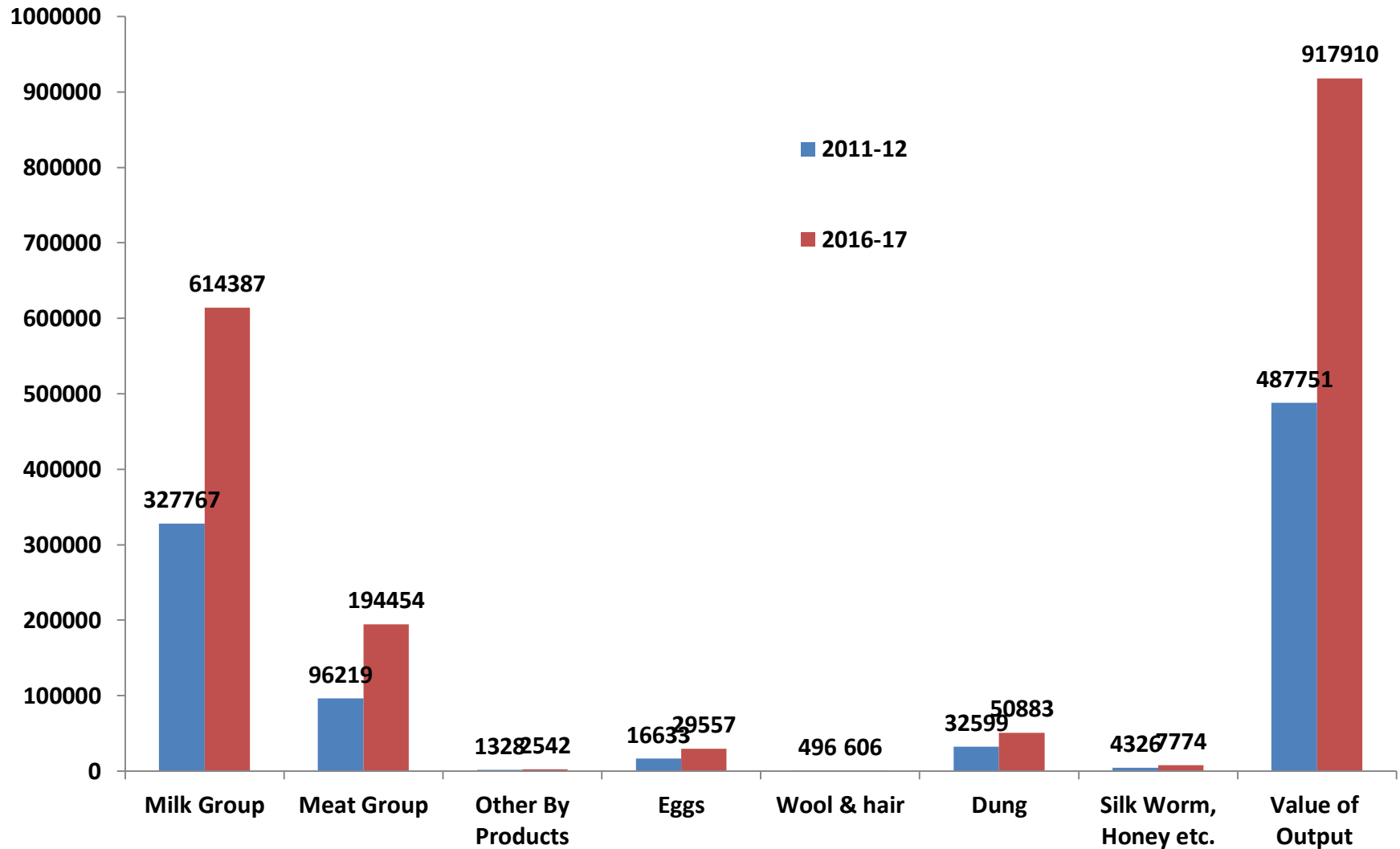


# Per Capita Availability of Milk by States (gms/day)

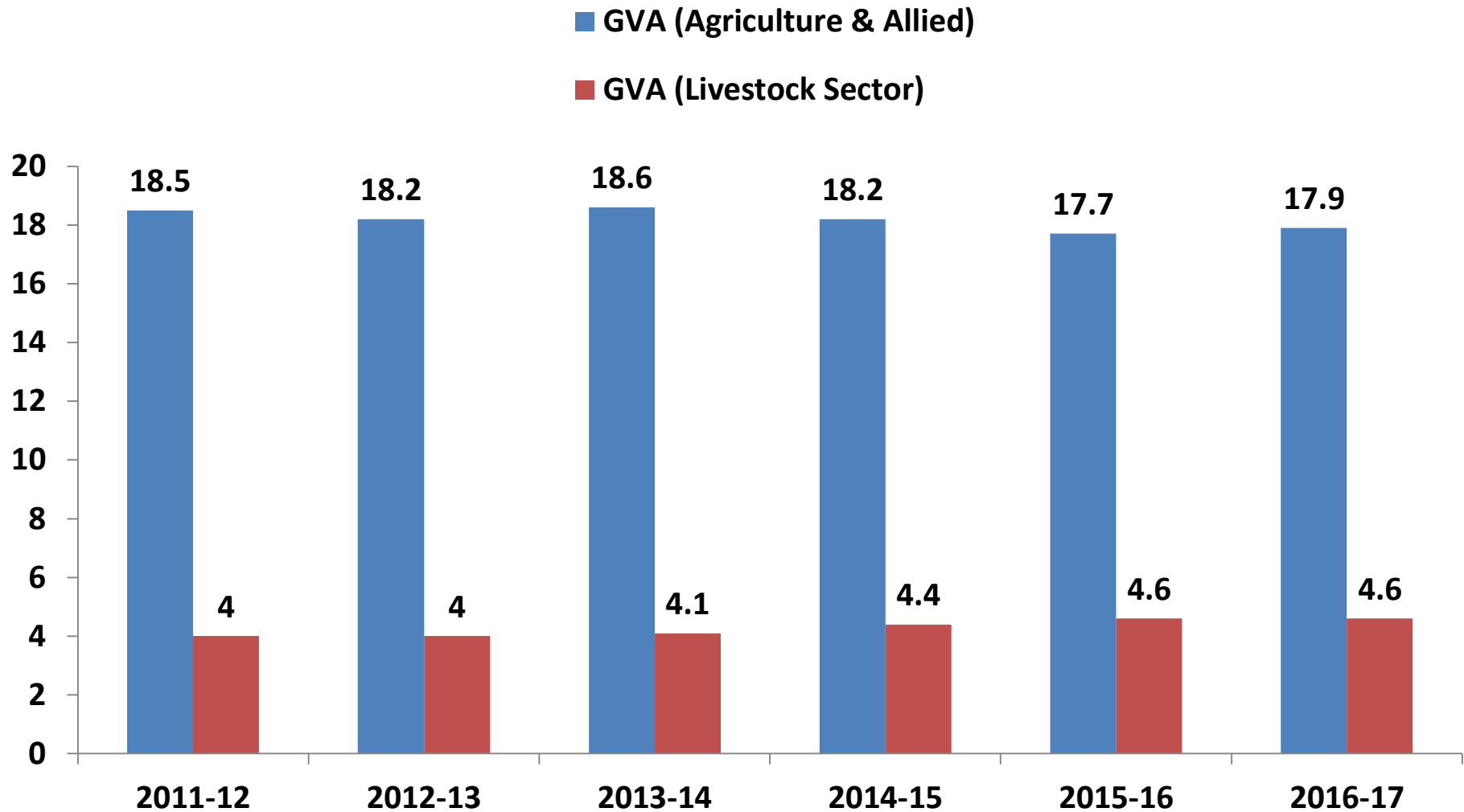




# Value of Output from Livestock sector - At current prices in Rs. Crore



# Share of Agriculture & Allied Livestock Sector in GVA (%)



# Food Security ~ Four Pillars

*“...Food Security exists when **all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food** to meet their dietary needs and food preferences for an active and healthy life.” (FAO)*

1

## AVAILABILITY

Physical presence  
/proximity of  
food through  
domestic  
production or  
imports

2

## ACCESS

Physical, social,  
and economic  
access to  
enough food to  
meet needs

3

## SAFETY

Use of safe and  
nutritious food  
to reach  
nutritional well-  
being

4

## STABILITY

Consistency and  
reliability in  
food supply

# Food Safety

Food safety refers to the potential hazardous agents or contaminants present in food that can cause food borne illness

They may occur during all stages of food production, from farm to fork

## Food borne hazard

“a biological, chemical or physical agent in, or condition of, food, with the potential to cause an adverse health effect”

**Biological hazard**

**Chemical hazard**

**Physical hazard**

# Food Safety: Why??????

- Changing food habits
- Increased processing and handling
- Changing processes, products
- Globalization of food trade



# Stake Holders





# Livestock ~ Source of Food Security

## World Consumption of Livestock Products

| Commodity | Per capita annual consumption |
|-----------|-------------------------------|
| Milk      | 113 ltr*                      |
| Meat      | 42 Kg                         |
| Egg       | 355                           |

\*Per capita consumption in Western Europe is in excess of 300 kg of milk/ year compared with less than 30 kg (and even sometimes as little as 10 kg) in some African and Asian countries.

***Issue is not availability but adequate distribution  
(FAO)***



# Food safety in livestock product markets

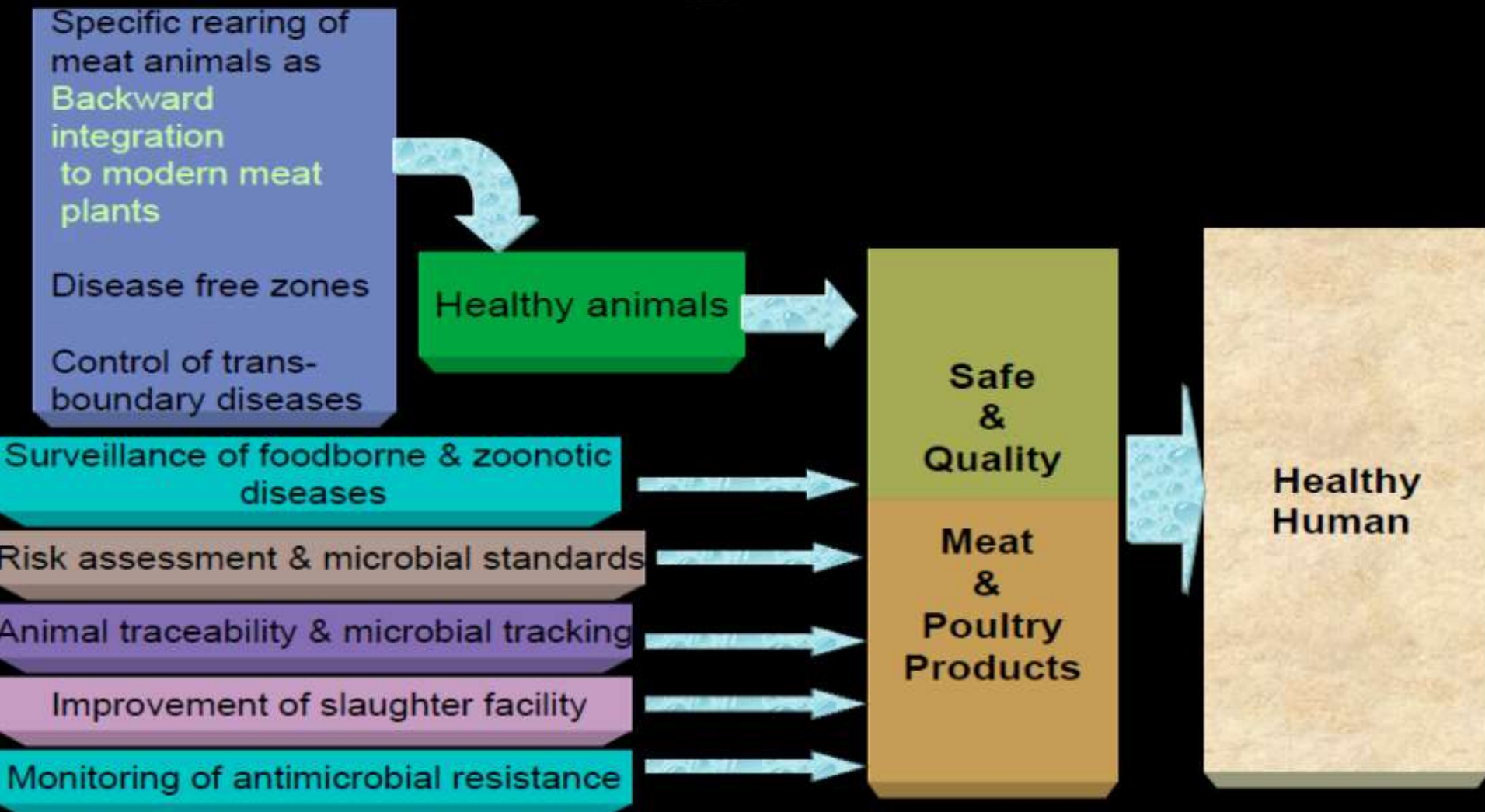
- India has been identified as a **hot spot for threats from zoonotic diseases** for people.
- **India emerged as the country at greatest risk globally** (based on analysis conducted of the interface of the three key factors of (a) poverty, (b) rapidly changing livestock systems and (c) the prevalence of zoonotic disease)
- **Disease transmission through livestock products** — salmonella and parasitic diseases in meat, Brucellosis and TB in milk, pathogens causing diarrhea in children from food
- In India, *E.coli* and *Campylobacter* contamination in some meat products at up to 50% among other pathogens. (It is difficult to obtain systematic data on livestock product related threats to food safety in India)
- **Aflatoxins may occur in milk from animals fed contaminated feed** (potentially carcinogenic effects in people )



**New Ministry of AHDF is a very  
welcome development : our  
gratitude to Honourable Prime  
Minister.**

**Responsibilities of all vets have increased.**

# Challenges Ahead



# Challenges Ahead

- Improved regulatory structure
  - New enforcement structure
  - Multi level, multi departmental control shift to a single line of control
  - Large network of laboratories
  - Regulation of food imported in the country

# Challenges Ahead

- Improved justice delivery
  - Different procedure to deal with Civil and criminal penalties
  - Provision for Adjudication and fast track disposal of cases
  - Constitution of Tribunals

# Is the milk you are having safe? Here's what you need to know

*Two out of every three Indians drink milk adulterated with detergent, caustic soda, urea and paint.*

ET Online | Oct 08, 2018, 03:07 PM IST



A+

BCCL



*Two out of every three Indians drink milk adulterated with detergent, caustic soda, urea and paint.*

Before you plan to gorge on mithai this festival season, consider a shocking fact. Two out of every three Indians drink milk adulterated with detergent, caustic soda, urea and paint. That's what Union Minister for Science and Technology Harsh Vardhan had told the Lok Sabha in 2016. He was quoting a nationwide survey conducted by FSSAI, India's food regulator. Recently, an Animal Welfare Board report revealed that 68.7 per cent of the milk production in the country, along with milk byproducts, was



Salome Phelamei

Updated Jul 23, 2019 | 18:49 IST



**BANNED**


The Health Ministry has issued an order banning the use of antibiotic colistin in food-producing animals. The move has been hailed by experts as a massive victory in the fight against antimicrobial resistance.



### KEY HIGHLIGHTS

- As per the WHO, colistin is a 'reserve' antibiotic that should be considered a 'last-resort' option in treatment
- This potent drug is highly misused in the livestock industry to prevent diseases and as a growth promoter
- Misuse of antibiotics in humans and animals has been blamed for accelerating antimicrobial resistance

# FSSAI accredited food laboratories (as on 10.07.2019)

|   |   |
|---|---|
| <br><b>Primary food laboratories</b> | <b>Carrying out analysis of samples by the Food Analysts.</b><br><b>Presently there are 179 notified food testing laboratories.</b> |
| <b>Referral food laboratories</b>   | <b>Carrying out analysis of appeal samples.</b><br><b>Presently there are 18 referral food laboratories.</b>                        |
| <b>National Reference Laboratories</b>  | <b>Food laboratories with special reference to the risks or food categories.</b><br><b>Presently there are 13 NRLs.</b>             |



# Role of Veterinarians in Food Safety

❖ Veterinarians have a major responsibility of epidemiological surveillance of animal diseases and ensuring the safety and suitability of meat and eggs.

❖ Milk Quality testing ?

❖ To provide livestock producers with information, advice and training on how to avoid, eliminate or control food safety hazards. Judicious use of antibiotics.

❖ Control and / or reduction of biological hazards of animal and public health importance by screening , ante and post mortem meat inspection is a core responsibility of the vets.

# Roles of veterinarians in meeting the challenges of welfare of livestock and global food security

- Contemporary roles of veterinarians go far beyond these more visible tasks.
- Veterinary professionals have played significant and contributory roles in animal and human health and welfare.
- to advise farmers and owners of livestock production systems according to their specific agro-ecological contexts.
- Healthy and productive livestock make important contributions to food production, income generation, job creation, economic growth and poverty alleviation.
- veterinarians make sure that only healthy farm animals are exported, imported, and distributed, preventing the risk of introducing detrimental, high-impact diseases into regions or countries.
- Veterinary professionals also share responsibilities for bio-security.
- The veterinarian is, in fact, the first line of defense that society counts on against agroterrorism and bioterrorism. In sum, veterinary professionals are key players on bio-defense, and thus for national security and welfare.

thank  
you!

