

Promoting consumption of Animal Sourced Foods (ASF) for boosting livestock production towards improving nutrition security: the extension perspectives

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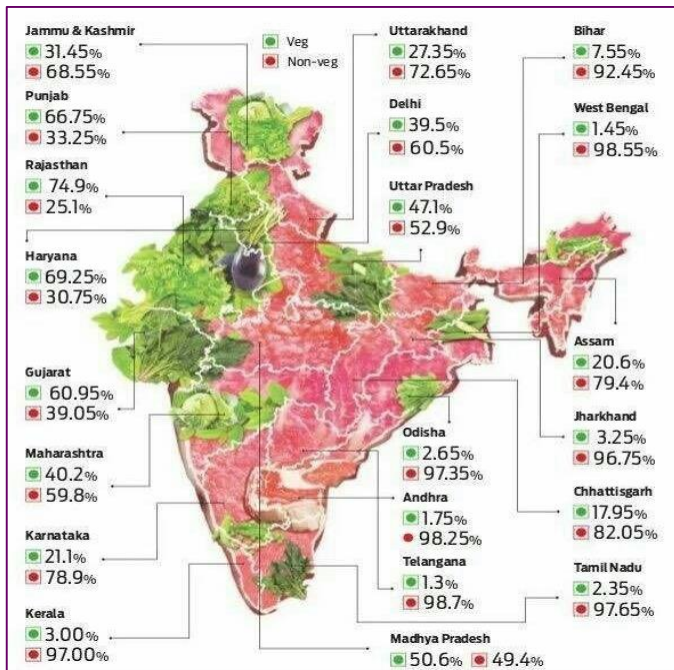


Poor human health linked to Nutrition hunger

- Stunting, wasting, and micronutrient deficiencies like anemia, vitamin A deficiency etc are common in developing countries
- >70% pre-school children in India consume less than 50% of Recommended Dietary Allowance (RDA) of iron, vitamin A, and some B vitamins particularly riboflavin and folic acid
- Many of these nutritional deficiencies can be overcome, if livestock products like milk, meat, pork, fish and eggs are included in required quantities in human diets
- 20 grams of animal protein/person/day or 7.3 kg/ year is required
- Per capita annual consumption of 33 kg lean meat or 45 kg fish or 60 kg eggs or 230 kg milk is required for a balance diet
- Many consumers are ignorant about health benefits of ASF, or can't afford
- Consumer education can boost demand for ASF, improve livestock production

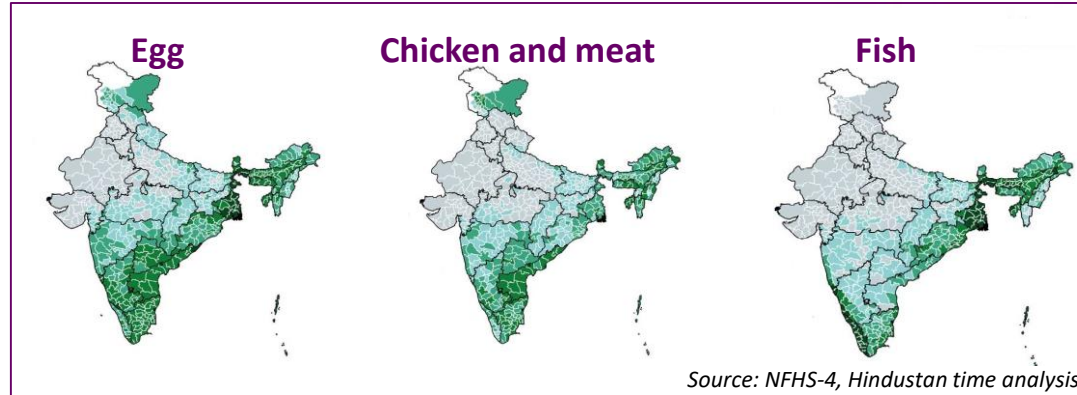
Why livestock to achieve zero hunger (SDG-2)

How India eats, 2014



Source: www.globalnutritionreport.org

Percentage of people who eat at least once a week



ICMR recommendation for Indians

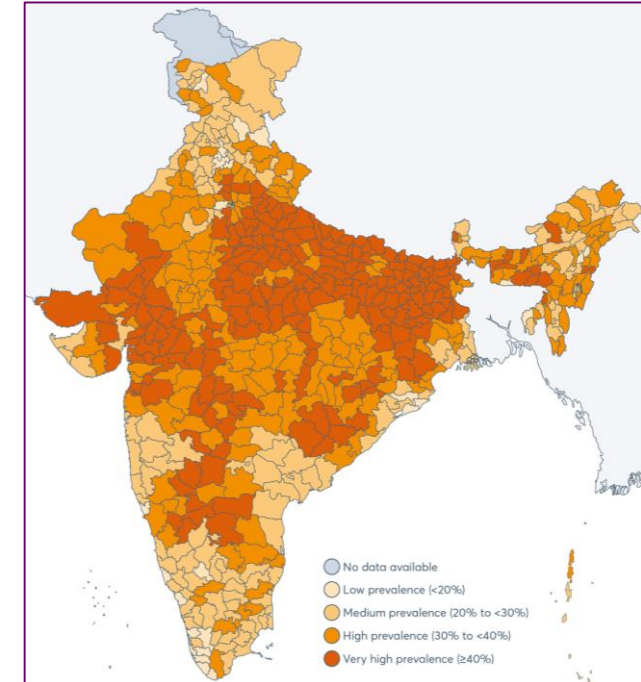
- Milk: 300 ml / day
- Egg: 180 eggs / annum
- Meat: 10.95 kg / annum

Per capita availability in India

- 375 gms/day (2017-18)
- 69 eggs/annum (2016-17)

Variation in ASF consumption - Stunting varies from 12.4% to 65.1% at district level (2018)

Map of stunting prevalence in Indian districts, 2015-16



Global Nutrition Report (2016): India ranks

114th
132

Under-5 stunting

120th
130

Under-5 wasting

170th
185

Prevalence of anaemia

Anaemia continues to affect

- 50% of women including pregnant women
- 60% of children

Global Nutrition Report (2018)

- India - Anemia and stunting

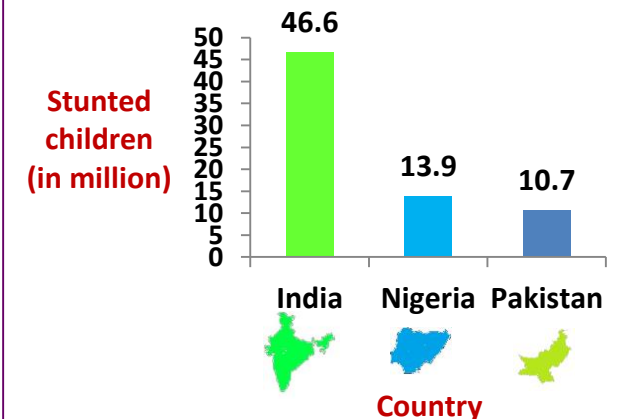
A strong association between reduction in stunting and ASF consumption

Animal protein per person: 20 g per day or 7.3 kg per year = 33 kg lean meat / 45 kg fish / 60 kg eggs / 230 kg milk

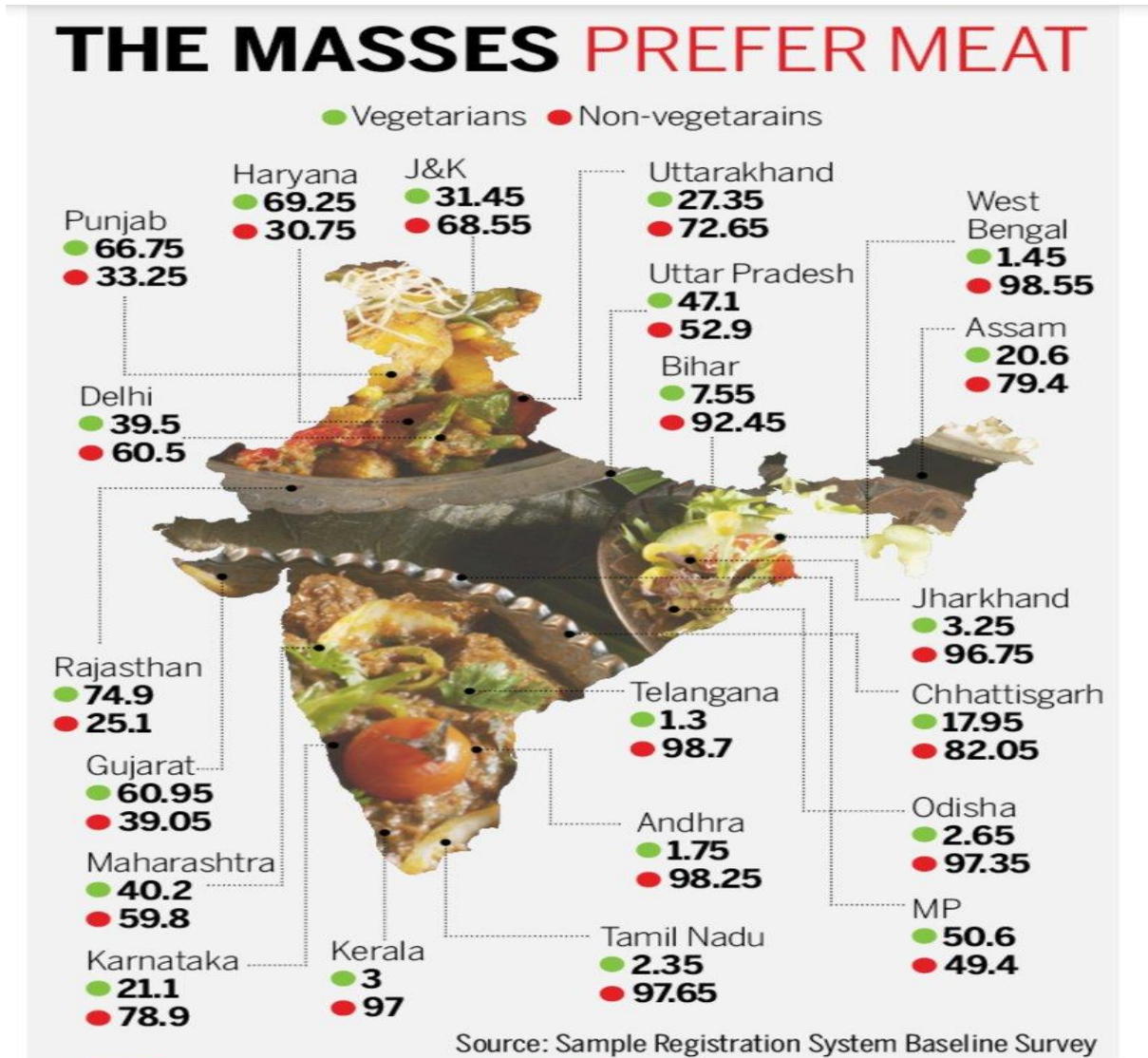
2012

- Livestock - 512.1 million (10.71 % of world population)
- Poultry - 729.2 million
- 1213.37 million (17.22 % of world population)
- ↑ animals with ↓ productivity
- ↑ population with poor nutrition

2018: India, Nigeria and Pakistan - Home to almost half (47.2%) of all stunted children



People are mostly Non-Vegetarian but they don't get required quantities





Transmitting information on livestock production has rarely been a priority for centralised extension services in developing countries

- Morton J and R Matthewman, Natural Resources perspective, ODI, 1996



The extension services in livestock sector are very poor and require strengthening

- NITI Aayog, Govt. of India, 2015



Livestock contribute to all 17 of the SDGs and make significant and direct contributions to eight SDGs, in particular the first three

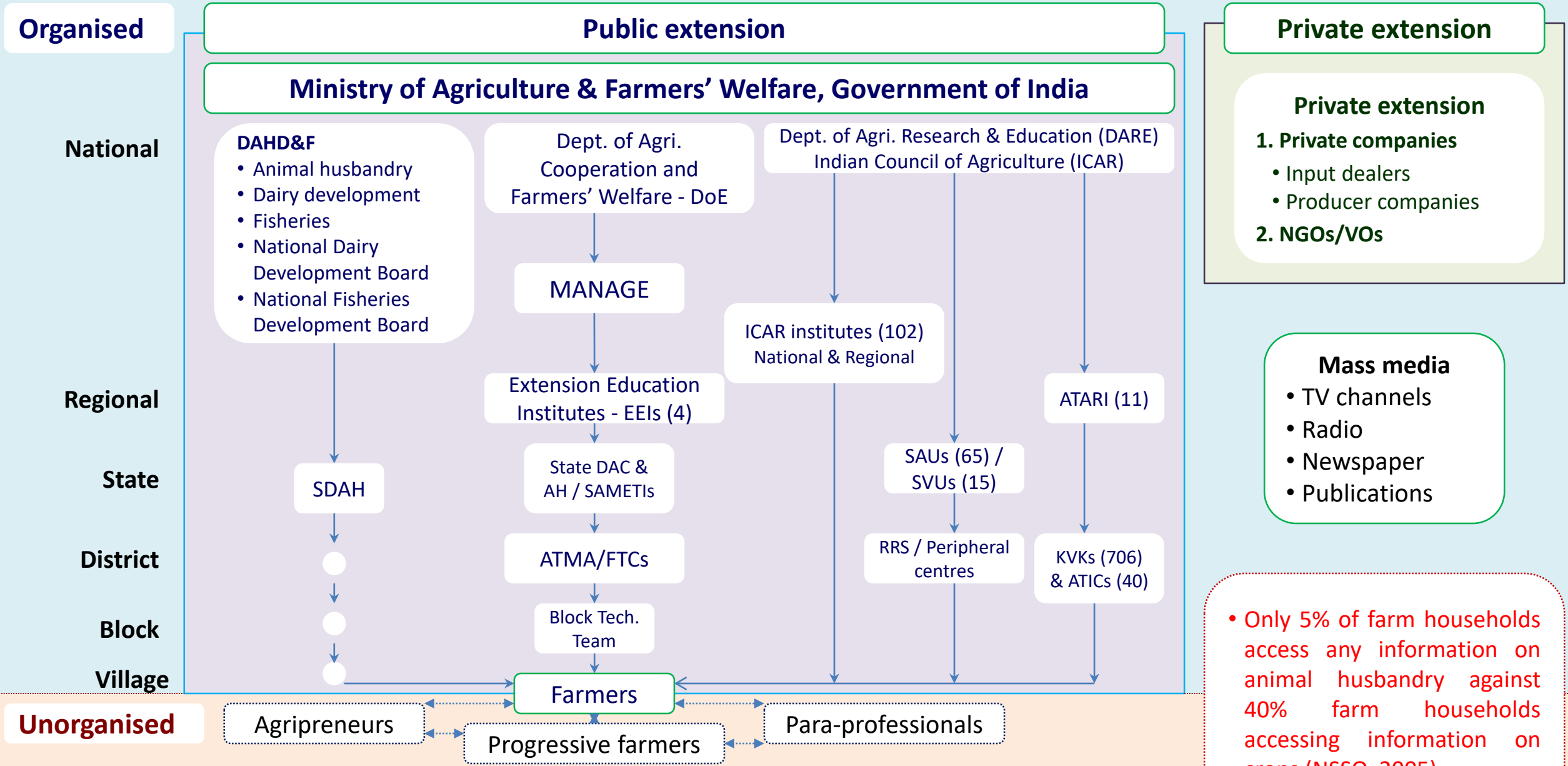
- World Economic Forum, 2019



FAO will focus over the next two years on promoting nutrition-sensitive food systems and innovation in agriculture

- José Graziano da Silva, FAO Director-General, 2019

Multi-agency extension system in India



• Only 5% of farm households access any information on animal husbandry against 40% farm households accessing information on crops (NSSO, 2005)

ATARI - Agricultural technology Application Research Institutes
 ATIC - Agricultural Technology Information Centre
 DAHD & F - Department of Animal Husbandry, Dairying and Fisheries

MANAGE - National Institute of Agricultural Extension Management
 RRS - Regional Research Station
 SAMETI - State Agricultural Management and Extension Training Institute

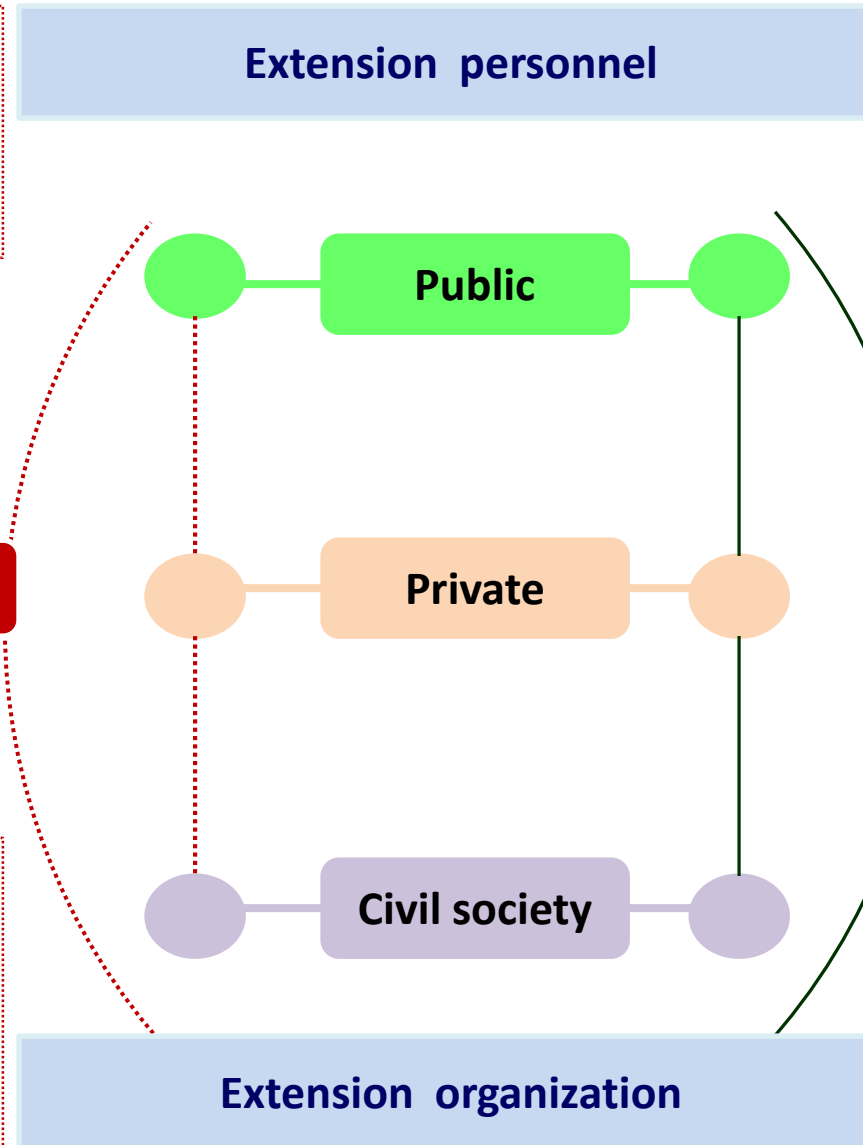
Strengthening extension organization and personnel

Status-quo

- Gap in knowledge and skill
- Gap in technology and adoption
- Multiplicity of duties
- Lack of technical support

Weak

- No single governing body
- No coordination
- Individual mandates / objectives
- Localized schemes/service
- Resource constraints



Extension personnel

Public

Private

Civil society

Extension organization

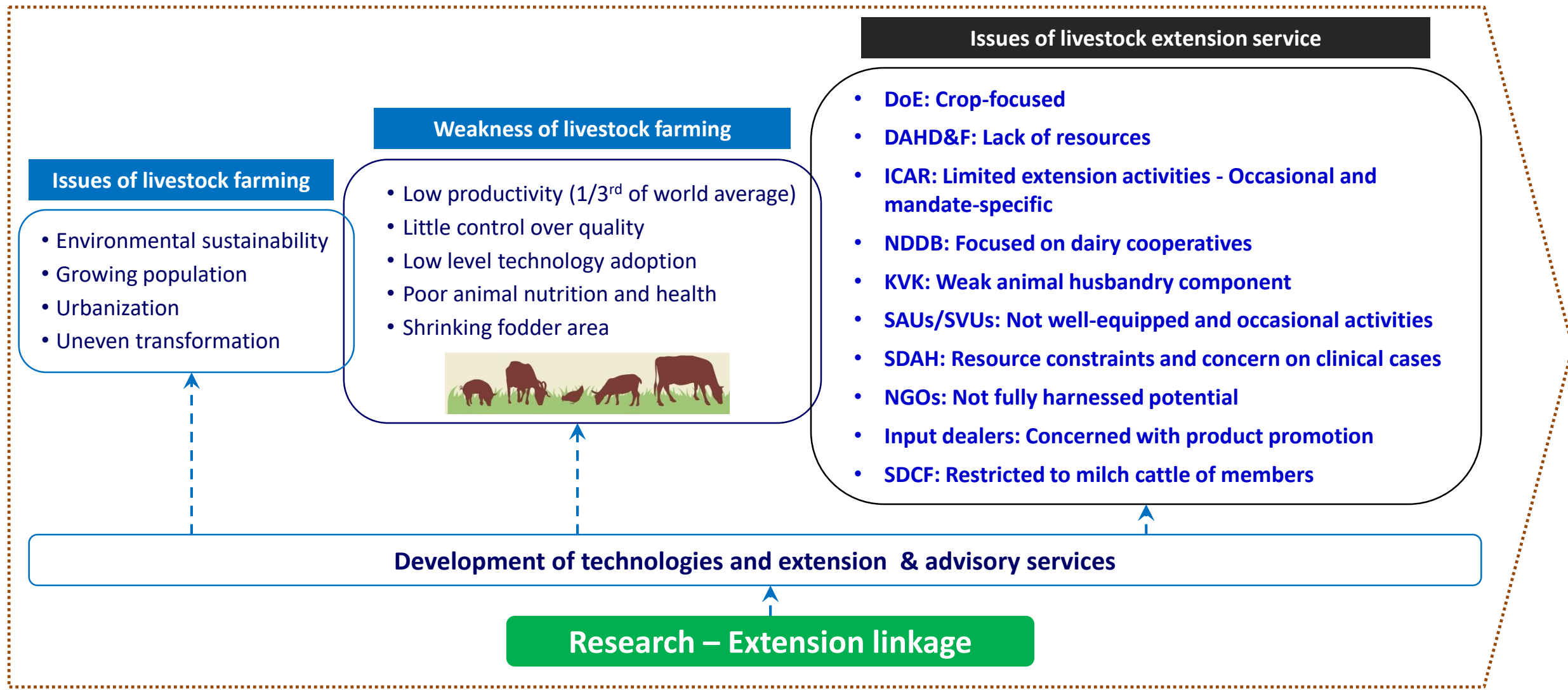
Status ought to be

- Capacity enhancement
- Technology generation and dissemination
- Fixed definite duties
- Technical / SMS network

Strengthened

- National level governing body
- Pluralism
- Shared mandates / objectives
- Convergence of schemes
- Fund raising through CSR

Public extension is unable to reach many farmers, 17% of farmers get their information from other farmers and 13% from input dealers



Budget (Rs.)

- 2017-19: 310 crores
- 2018-19: 380 crores

National Livestock Mission (NLM)

(A sub-scheme of white revolution since 2014-15)

Qualitative and quantitative improvement of livestock productions systems and capacity building of stakeholders

Subsidy channelizing agency (EDEG component)

Last three years achievements

➤ Beneficiaries

- ❖ 32,981 - EDEG
- ❖ 3.68 lakh - Rural Backyard Poultry Devt.
- ❖ 8420 - Exposure visit
- ❖ 35.64 lakh animal insurance

➤ Support

- ❖ Health: 3.00 lakh Goat & 9.80 lakh pig
- ❖ 41 state poultry /sheep/ goat / piggery breeding farms
- ❖ Organization of 519 livestock mela

➤ Distribution

- ❖ 54,930 Chaff cutter
- ❖ 96,321 Quintals fodder seed

➤ Established

- ❖ 3823 Silage units
- ❖ 223 Livestock Farmers Group
- ❖ 121 Farmers Field School (FFS)

- Availability of quality feed and fodder
- Risk coverage and insurance
- Effective extension
- Improved flow of credit
- Organization of livestock farmers

- Fodder and Feed Development
- Livestock Development
- Pig Development in North-Eastern Region
- Skill development, Technology Transfer and Extension

Farmers and other stakeholders of livestock farming

NABARD

(100% centrally sponsored)

- Poultry Venture Capital Fund (PVCF)
- Integrated Development of Small Ruminants and Rabbit (IDSRR)
- Pig Development (PD)
- Salvaging and Rearing of Male Buffalo Calves (SRMBC)

Banks



IVRI - Central building

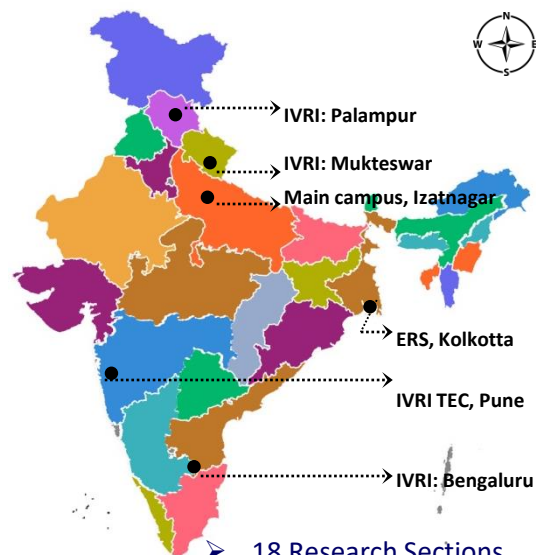
Mandate

- Basic and strategic research for improvement of animal health for enhanced productivity
- Human resource development, imparting UG and PG education
- Dissemination of livestock production and health technologies



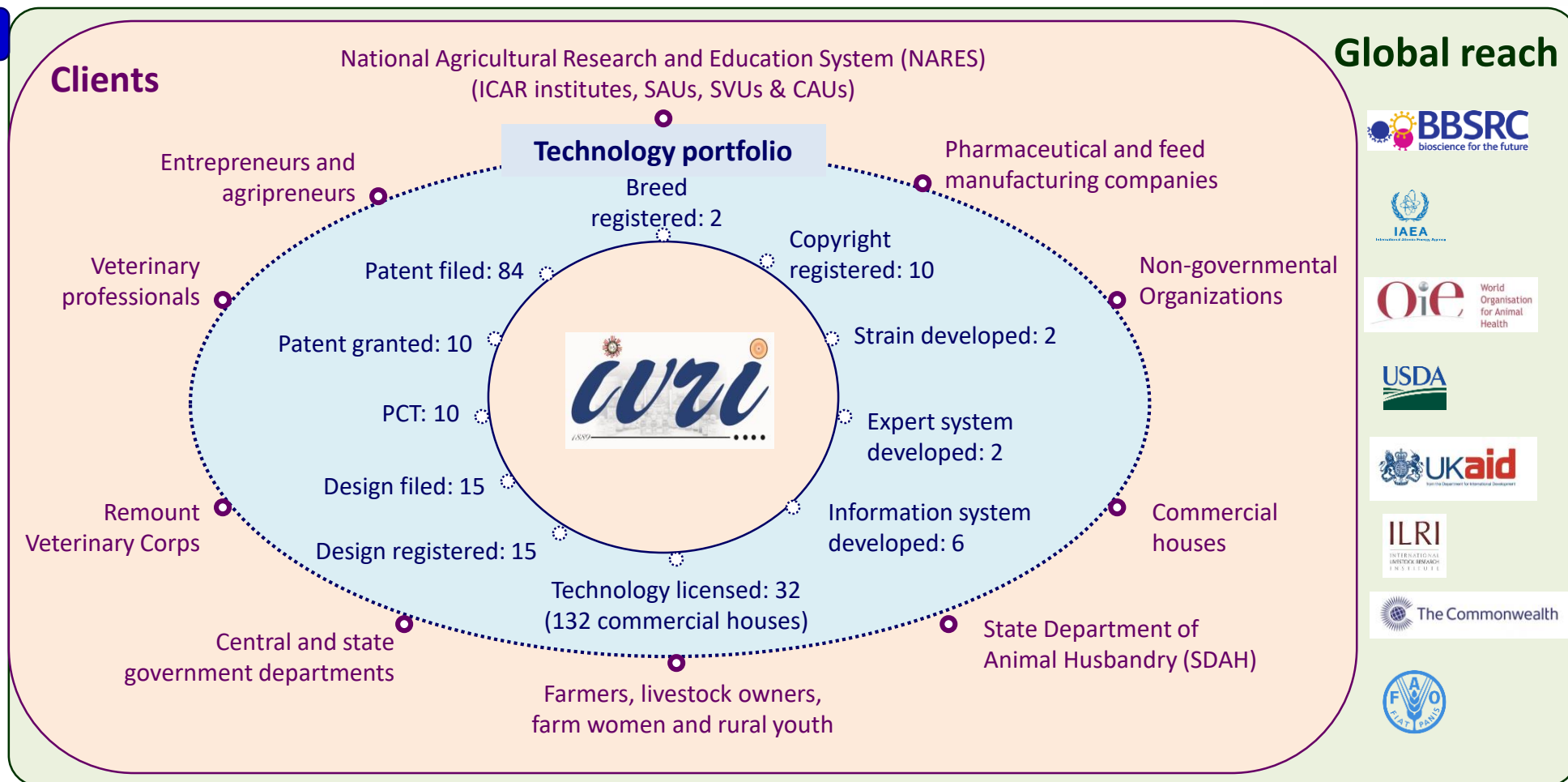
Molecular laboratory building

Constituent institutes

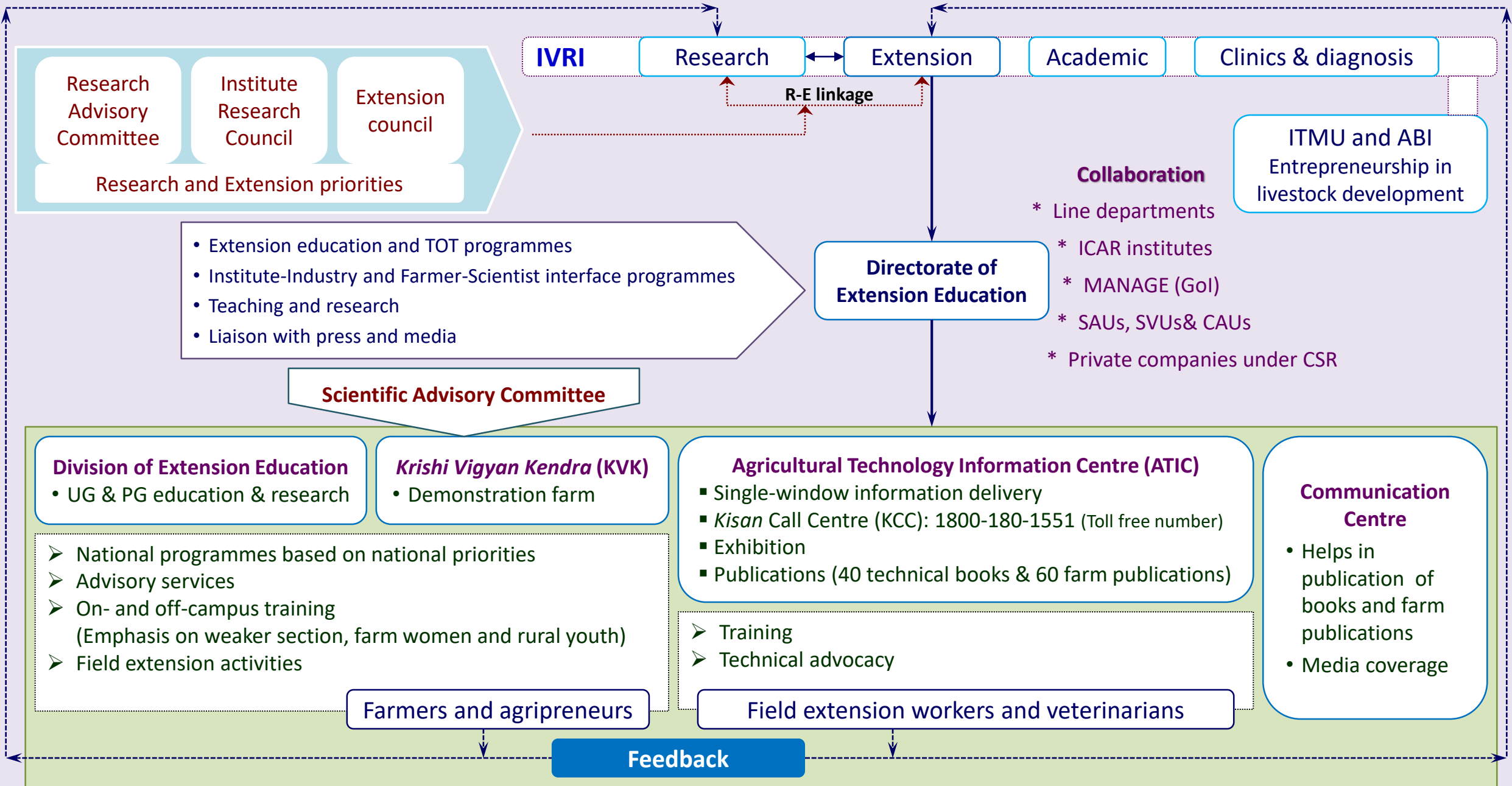


- 18 Research Sections
- 15 Service sections
- 3 Regional stations
- 20 Research divisions
- 236 Scientists
- 222 Technical staffs

ERS - Eastern Regional Station
TEC - Training and Education Centre



Directorate of Extension Education, ICAR-IVRI in betterment of farming community



Strengthening farmer-scientist interface



Farmer FIRST Programme (FFP)

- ICAR initiative to move beyond the production and productivity
- Farmer-centric: Research problem identification, prioritization and conduct of experiments and its management in farmers' conditions
- Focus is on farmer's Farm, Innovations, Resources, Science and Technology (FIRST)
- 'Enriching knowledge' and 'integrating technology'

Augmenting livelihood of Socio-economically weaker sections (Scheduled Tribes Component - Earlier Tribal Sub-Plan)

- To ensure the socio-economic development of the Tribal people of India
- 22 states and 2 union Territories (UTs)
- 177 scheduled tribe priority districts

- Rural backyard poultry scheme
- Integrated Mini Dairy Complexes
- Establishment of New Integrated Livestock Development Centers (JK Trust)
- Fertility Management of animals owned by Scheduled Tribes (STs)
- Feeding support to animals owned by STs

- Govt. of Andhra Pradesh under Society for Elimination of Rural Poverty (SERP):
“*Unnathi*” scheme - Livestock (cow, buffalo, bullock) and small ruminants (goat, sheep)

Augmenting livelihood of tribal people under Scheduled Tribes Component

Sheep population : 65 million
Sheep farmers : 4.55 million

19th livestock census, 2012

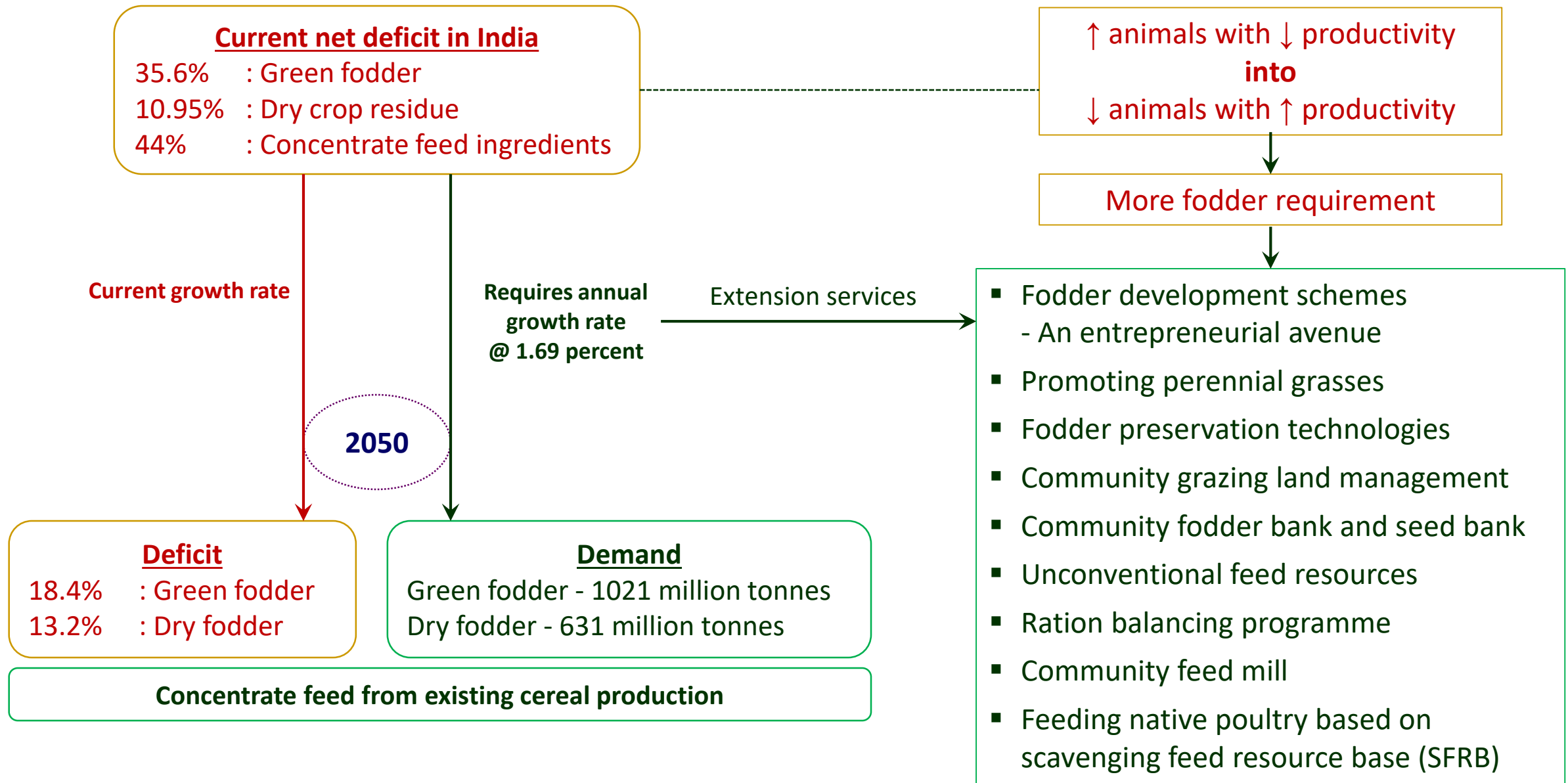
Goat population : 135 million
Goat farmers : 33.01 million



Augmenting livelihood of tribal people under Scheduled Tribes Component



Fodder focused extension approach



Promotion of Bajra-Napier Hybrid to the farmers' field through distribution of cuttings and providing technical know-how



- Area under fodder cultivation: 4 % of the cropping area
- Current net deficit: Green fodder (35.6%), Dry crop residue (10.95%) and Concentrate feed ingredients (44%)



IVRI Napier Group in WhatsApp



Add group description

Media

88 >



Mute notifications



Custom notifications

Media visibility

Encryption

Messages to this group are secured with end-to-end encryption. Tap for more info



Kushwaha Napier



7:18 AM

Kushwaha Napier



Type a message



Jagroop WhatsApp



3:46 PM

Jagroop WhatsApp



CO5 variety.

3:46 PM

Jagroop WhatsApp

Type a message



+91 86303 69311 ~gopindersing...



3:20 PM

Vijendra Yadav Rajpuri Navada's security code changed. Tap for more info.

+91 86303 69311

Photo



इसमें गोबर की खाद की जरूरत है। खेत की मिट्टी को उपजाऊ करना पड़ेगा

3:29 PM

Type a message



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500+

App Name	Developer	Size	Rating
IVRI-Vaccination Guide Ap..	ICAR-IASRI	11 MB	4.5 ★
IVRI-Shukar Palan(Pig Far..	ICAR-IASRI	6.1...	4.7 ★
IVRI-Dairy Manager App	ICAR-IASRI	4.8 MB	4.7 ★
IVRI-Pashu Prajanan (Ani..	ICAR-IASRI	5.5 MB	4.7 ★
IVRI - Artificial Inseminati..	ICAR-IASRI	3.7 MB	5.0 ★
IVRI - Pig Ration App	ICAR-IASRI	8.1 MB	4.7 ★

Downloads

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100+

100+

App Name	Developer	Size	Rating
IVRI - Landlly Pig App	ICAR-IASRI	1.7 MB	5.0 ★
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Parasite Control in Dairy A..	ICAR-Indian Veterinary Resear..	11 MB	5.0 ★
Application for Protozoan..	ICAR-Indian Veterinary Resear..	40 MB	5.0 ★

Extension in Action



Extension in Action



Women in livestock farming



F2F extension



Youth need attention



Training and capacity building for the empowerment of women



Promoting goat farming



Promoting pig farming



Way forward

- Livelihood diversification through various livestock species
- Youth and women-focused entrepreneurship
- Package of regionally best-fit farming practices
- Market participation by farmers (*eg.*: eNAM)
- Region-specific information need analysis and dissemination
- Linking farmers with information sources (*eg.*: KCC, *Kisan suvidha* app, *m-kisan* portal)

- Conserving and supporting smallholder farmer
- Training extension workers on nutritional security and public health aspect
- Location specific extension models to increase ASF consumption

Improving extension through policy interventions

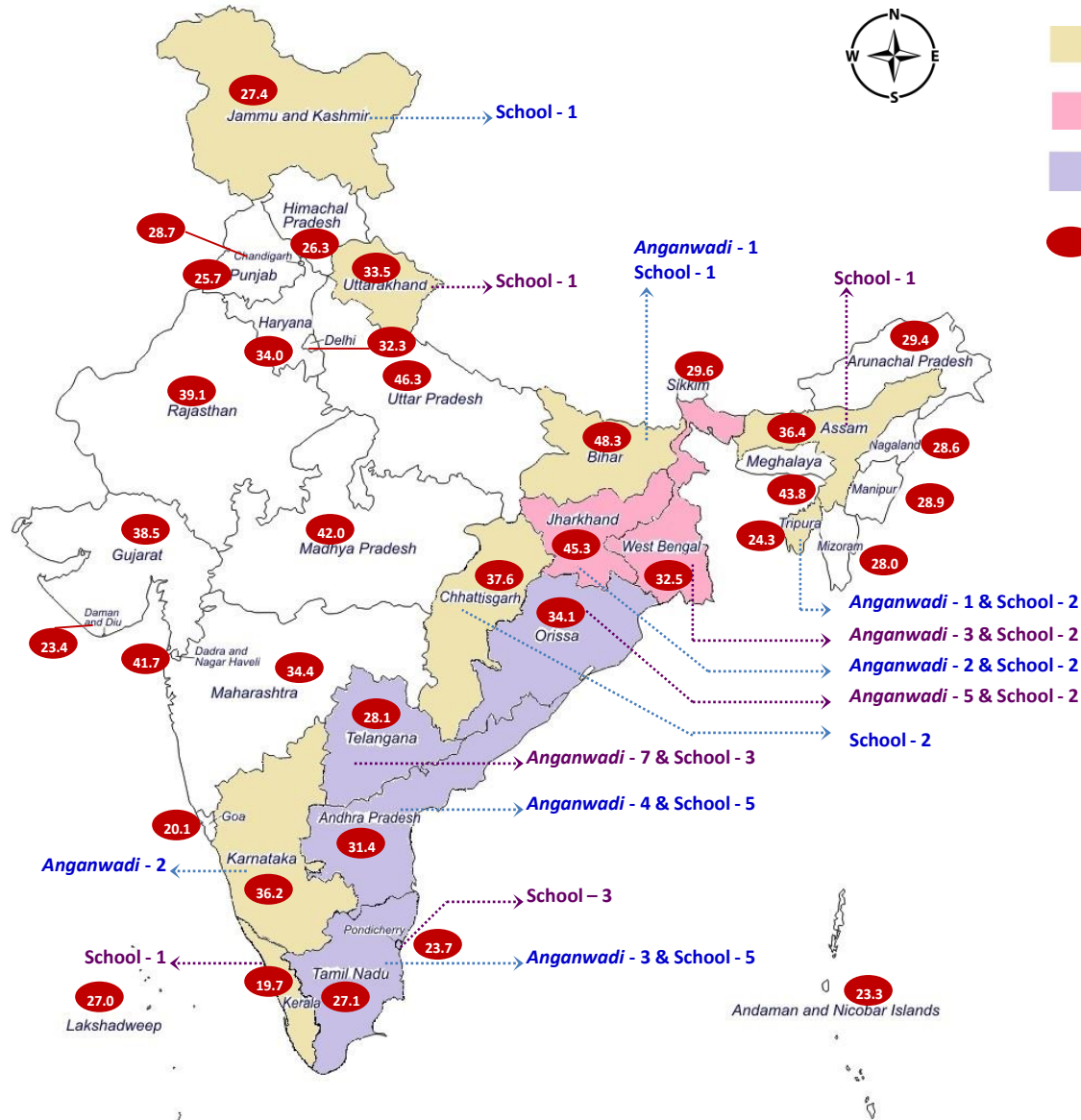
- Separate livestock production and extension service with budget
- Regional policy: Bottom-up and participatory extension approach
- Forward and backward linkages in value chain

- Contract farming
- Private extension services
- Priority in CSR activities

- ASF in mid-day meal programme
- Safe ASF production

Egg map showing egg gap in India

Number of eggs served in schools and Anganwadis each week (2018)



- Sunday or Monday eat eggs everyday
“Sunday ho ya monday, Roz khao anday!”
- Draft National Health Policy 2015: Health as a fundamental right
- National Institute of Nutrition (NIN): Eggs compulsory in mid-day meals
- Regional food diversity
- ASF: Luxury to necessity

Milk in mid day meal

Trice in a week (Haryana, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Puducherry)

5 days a week (Haryana, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Puducherry)

- Hot milk or flavoured milk
- 7 states (Haryana, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka and Puducherry)

ASF in School Mid-day meals improving child nutrition, boosting livestock production

Would you be able to learn if hunger was your classroom companion?



- Not-for-profit organisation, Bengaluru, India
- Began mid-day meal Programme in 2000
- National Programme of Nutritional Support to Primary Education (**NP-NSPE, 1995**) launched as a Centrally Sponsored Scheme in 2001
- Public-Private Partnership (**PPP**) model
- **2000 to now** : 1,500 children in 5 schools in 2000 to serving 1.76 million children from 15,024 schools across 12 states in India
- Odisha finds a way to serve children eggs at mid-day meals catered by International Society for Krishna Consciousness (ISKCON)-linked NGO
- Volunteering opportunity
 - **SAY 'NO' TO HUNGER ON WORLD HUNGER DAY (MAY 28TH)!**
 - Donate Rs. 1100 to feed a child for a complete academic year



Conclusion

- Build stakeholders' capacity and coordination
- Nutrition-sensitive livestock production through extension services
- Farmer- and consumer-centric extension
- Package of practices for new entrants of livestock farming
- Safe ASF production to achieve SDG-2

Consumer awareness on importance of ASF consumption for sound human health through Extension services, media, social media is important for boosting livestock production, farmers' income & well being !

Thank you...



... for being a part in achieving SDG 2 - Zero hunger