

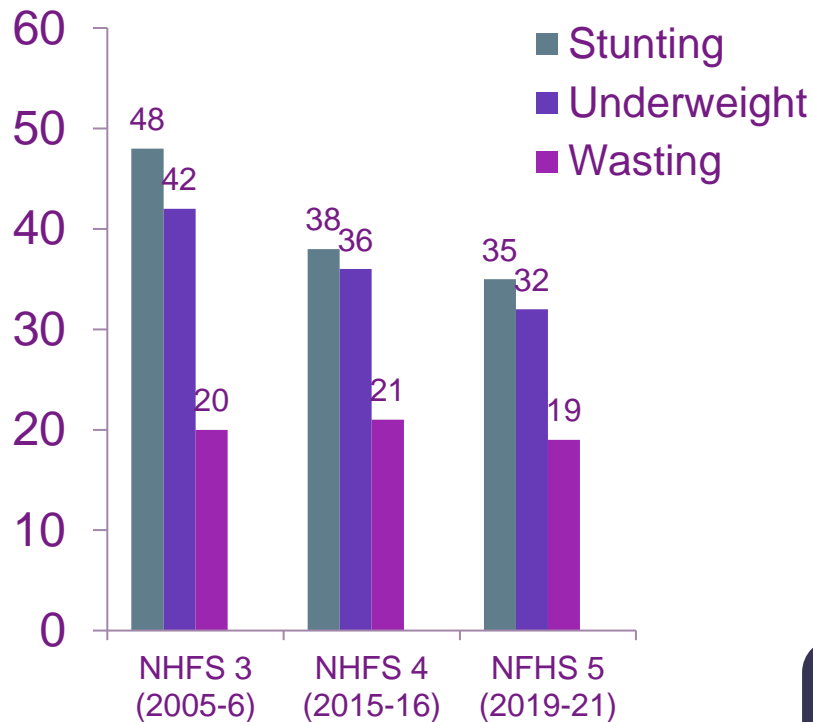
# Addressing double burden of malnutrition & enhancing nutrition security



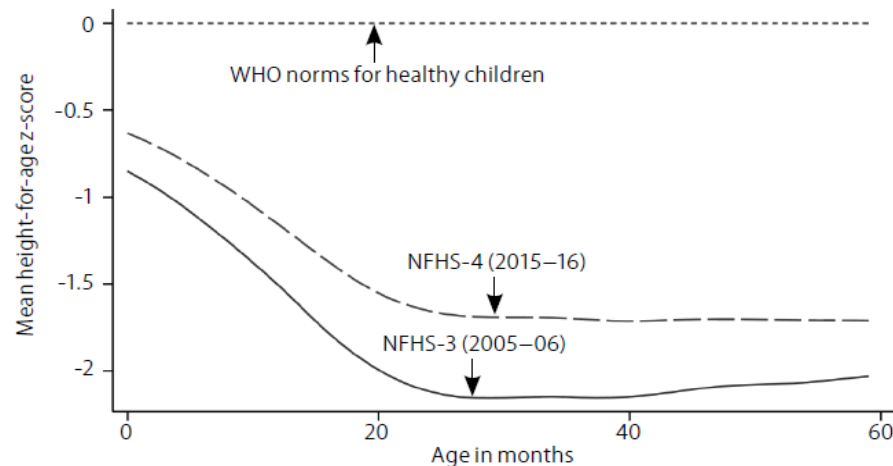
Dr. Bharati Kulkarni  
**Indian Council of Medical Research**

# Undernutrition in U-5 children

## Anthropometric indicators



**Figure 1: Height-for-age of Indian Children by Age, Relative to Healthy Children**



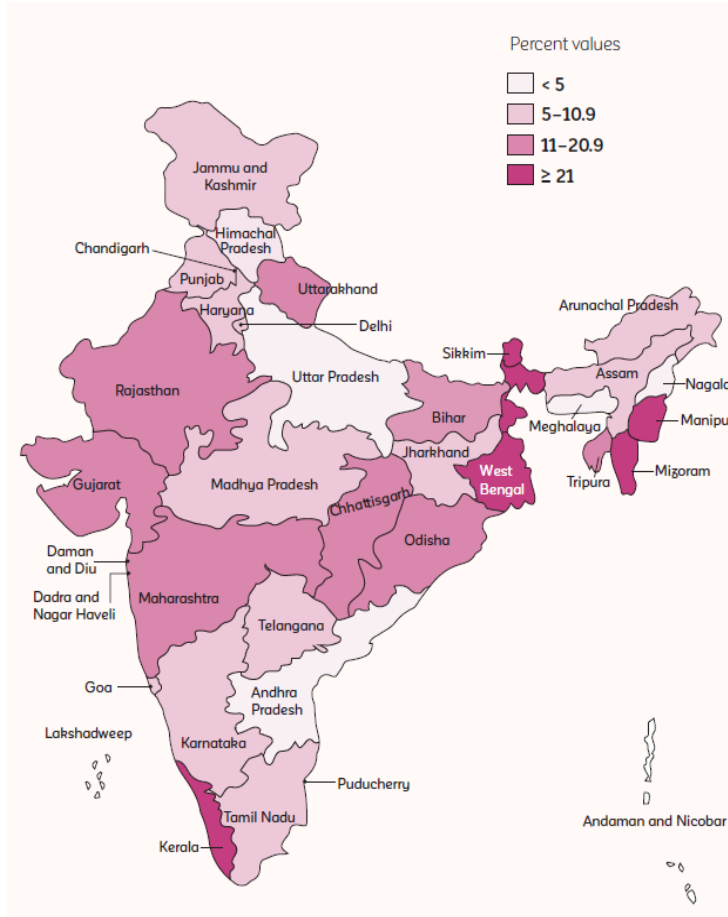
Source: NFHS-3 and NFHS-4 (IIPS and Macro International 2007; IIPS and ICF 2017).

(Coffey & Spears, EPW, 2018)

**2005-2015**  
**Mean HAZ score improved by 0.4 SD**  
**World Bank estimate: Real per capita GDP doubled**

# Prevalence of pre-diabetic status in adolescents (10-19 y)

(Fasting plasma glucose:  $>100$  &  $\leq 126$  mg/dl)

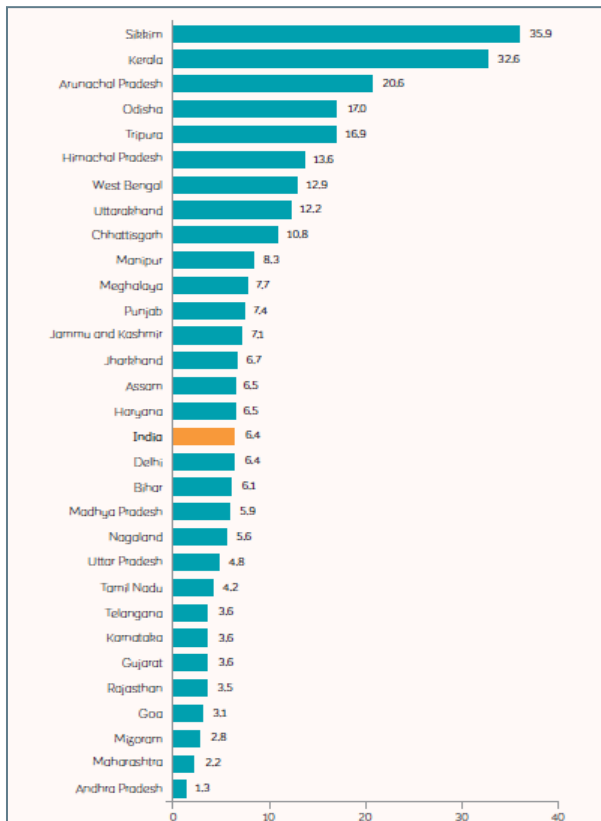


(CNNS 2016-18)

## 6-23 mo children receiving minimum acceptable diet (%)

(CNNS 2016-18)

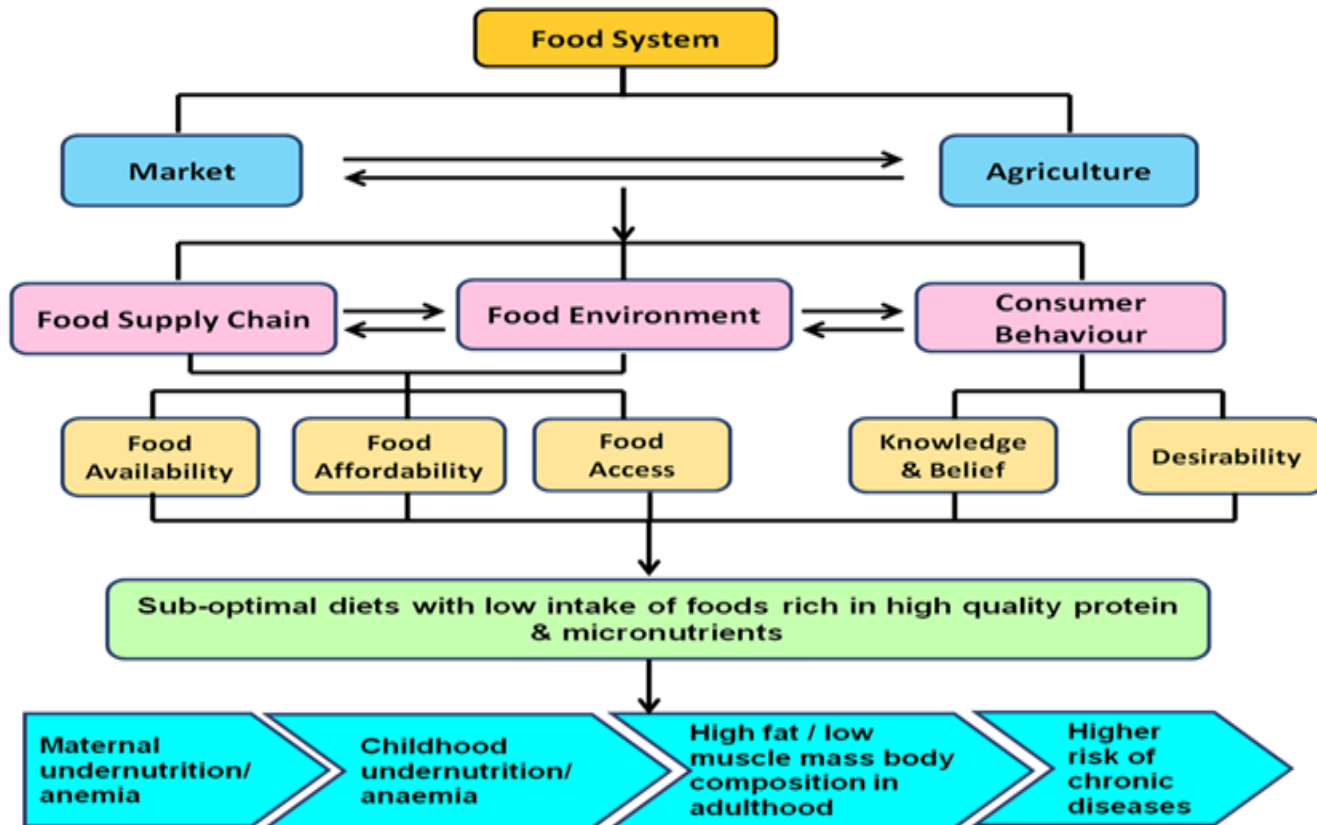
Minimum Acceptable Diet – Minimum meal frequency + minimum diet diversity



**Children (6-23 mo) receiving MAD (NFHS 4)**

Breastfeeding children : 9%

Non- Breastfeeding children : 14%



## Food environment

↑ Availability of highly processed, easily transportable & storable convenience foods



## Nutrient dense foods:

- Require infrastructure investments (e.g. cold chains) & confined to fresh markets
- Highly seasonal



### Integrated survey on agriculture & nutrition in 4000 HHs from Bihar & Odisha

ICMR-NIN & IGIDR, Mumbai

	Bihar	Odisha
Food insecurity (% HH)	4.7%	4.4%
Underweight	35%	32%
Stunting	39%	31%
Anemia	89%	75%

	Bihar		Odisha	
Food Groups	Expenses (Rs)	%	Expenses (Rs)	%
Cereals & Millets	230	18	173	16
Pulses	77	6	75	7
GLVs	30	2	53	5
Roots & Tubers	116	9	111	10
Other Vegetables	97	8	155	14
Spices/Nuts/ Oil Seeds	50	4	42	4
Fruits	127	10	105	10
Oils	75	6	44	4
Fish	70	6	66	6
Poultry & Meat	76	6	74	7
Milk & products	153	12	68	6
Outside foods & Beverages	151	12	123	11
Total	1252		1088	

# ICMR TASK FORCE STUDY

## Consumption pattern of HFSS foods among urban & rural population of India

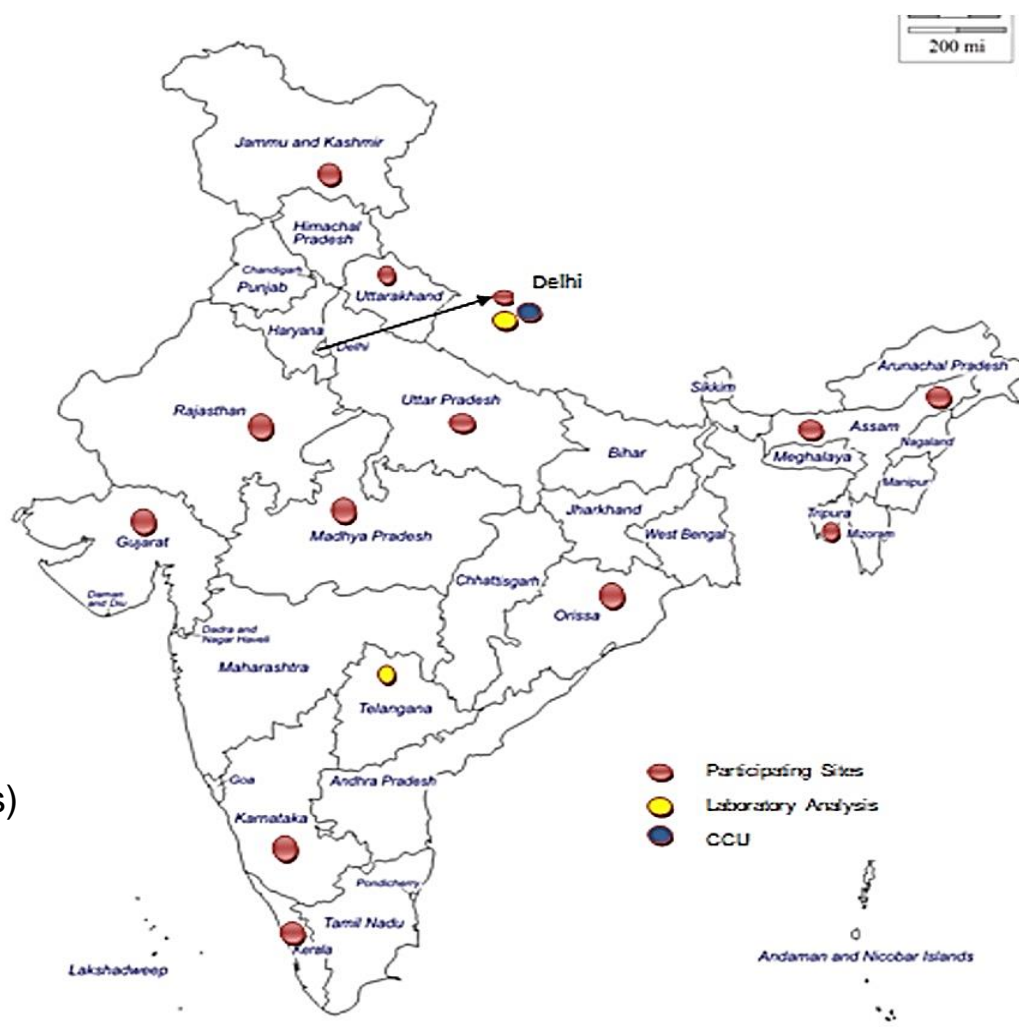
**Main objective:** To assess the consumption pattern of food & food products/items high in fat, salt and sugar, from organized and unorganized sectors



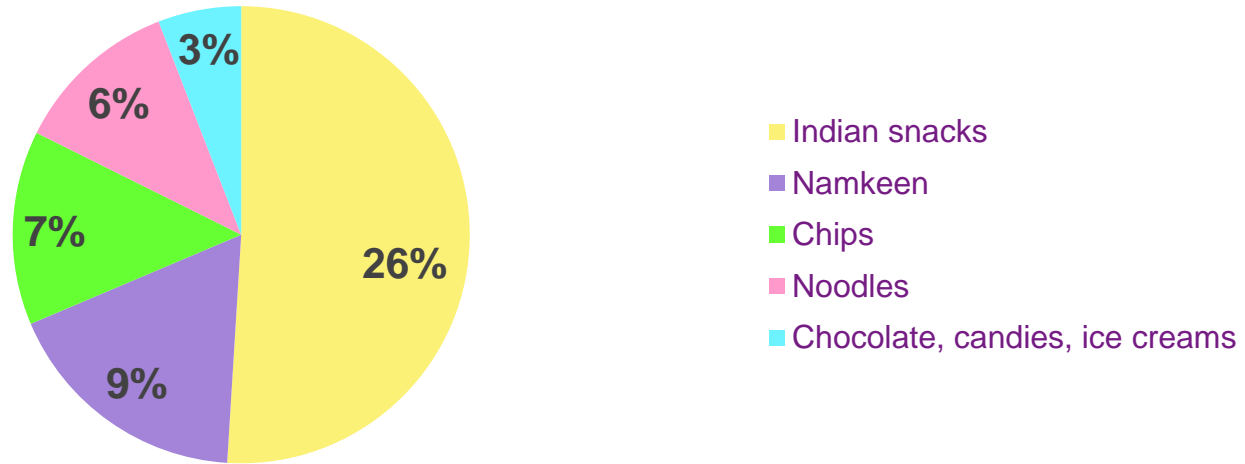


# STUDY SITES

- Data collection: 2019-21
- 16 study sites
- 4000 HHs per site
- 4,00,000 individuals (> 6 years)



# CONSUMPTION OF HFSS FOODS (PAST ONE WEEK)



Indian Snacks included items like samosa, kachori, tikki, chaat, pakora, etc

# Samosa: India's Beloved Snack

Consumption highest in Kanpur followed by Bhubaneswar, Bhopal & Rishikesh

## Nutritive value of Samosa (g/100g) collected from various study sites

State	Total fat	Salt
Kanpur	15.18	2.18
Bhubaneswar	20.25	1.74
Assam	22.82	1.95
New Delhi	19.27	1.70
Nagpur	11.61	2.92

# ANALYSIS OF NUTRITIVE VALUES OF COMMONLY CONSUMED HFSS FOODS

Food Item	Total free sugars (g/100g)	Total fat (g/100g)	Salt (g/100g)
BUNDI	36.81	13.32	0.17
SEV BESAN	0.97	47.84	1.73
PICKLE	0.01	9.76	20.92

**#Highest for total free sugars, total fat and salt content among 302 foods collected and analyzed**

# Initiatives taken by the government to prevent consumption of HFSS food

- Eat Right Movement by FSSAI to create mass awareness about healthy diets
- **Aaj Se Thoda Kam** campaign initiated by FSSAI to create mass awareness on the need for less sugar, salt and fat intake.
- ICMR conducts community awareness programmes and exhibitions in which these topics are dealt with
- ICMR POSHAN Abhiyaan e-modules have dedicated sessions on healthy diets and NCDs



# Initiatives taken by the government to prevent consumption of HFSS food

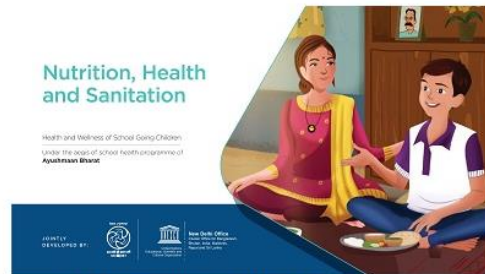
- Food Safety and Standards (Safe food and balanced diets for children in school) Regulations, 2020:

**‘No person shall advertise or market or sell or offer for sale including free sale, or permit sale of, food products high in saturated fat or trans-fat or added sugar or sodium in school campus or to school children in an area within fifty meters from the school gate in any direction’.**

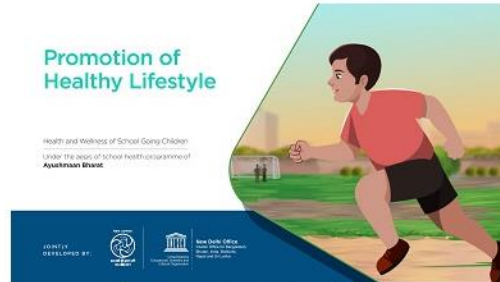
- FSSAI: Front of Pack labelling System (**Indian Nutrition Rating based on health star rating system**) to indicate the healthiness of the pre-packaged foods.
- FSSAI’s steps to limit industrial trans fatty acids in edible oils and fats, and food products with edible oils and fats as ingredients to a maximum of 2% by weight

# Behaviour Change Communication for reducing consumption of HFSS food

- NCERT, in partnership with UNESCO New Delhi, has produced 11 animated videos that focus on the 11 themes of the School Health program under Ayushman Bharat.



Module 6 Nutrition, Health and Sanitation



Module 8 Promotion of Healthy Lifestyle

## Diets and eating behaviours are influenced by many factors

### INDIVIDUAL

- Food preferences and enjoyment
- Beliefs, attitudes, values, perceptions
- Knowledge, skills
- Empowerment

### FAMILY/GROUP

- Cultural and social practices
- Social support
- Networks
- Peer influence

### COMMUNITY/ INSTITUTIONAL

- Rules, informal structures
- Childcare organisations
- Workplaces, schools
- Neighbourhoods, shops, restaurants
- Community organisations
- Information available
- Recreational facilities, parks

### NATIONAL

- Health care system
- Food assistance programmes
- Food and agricultural systems
- Political and social structures
- Media
- Social and cultural norms

**Food and Nutrition Education  
works at all these levels**

(FAO 2016)



# Healthy nutritious snacks: product development sector

- High demand for convenience foods
- Vacuum in market –healthy nutritious snacks
- Food processing sector needs to address growing needs with **measures to retain nutrients**



## Concerns :

- High Cost
- Fear of replacing fresh foods
- Low consumer awareness : lack of nutrition literacy, food labelling.

**Need to increase market availability of nutrient dense foods:** need for strengthening markets & value chains for perishables nutrient dense foods like meat, milk, vegetables & fruits

THANK YOU