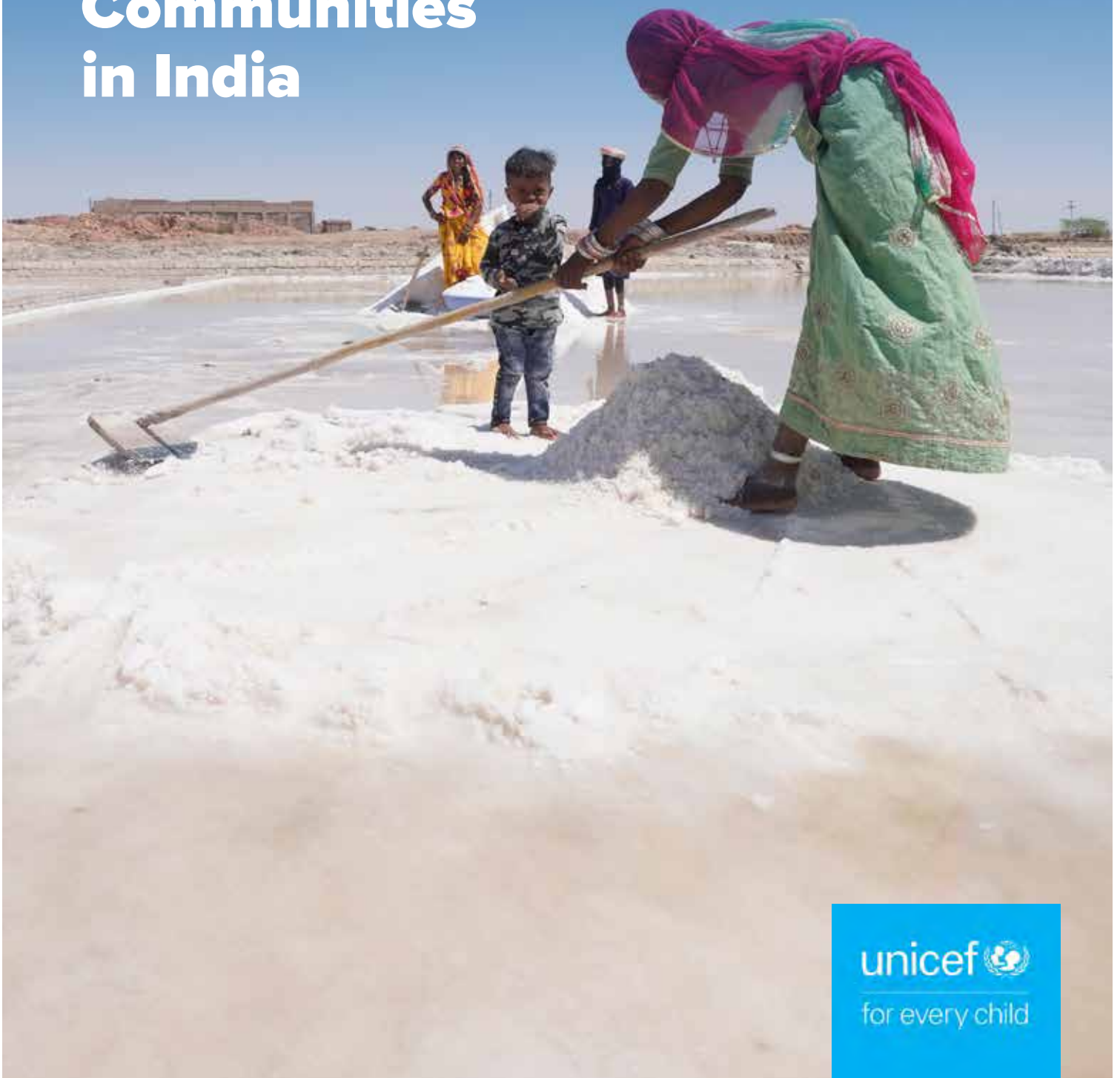




# Understanding Dietary Behaviours Among Primary Sector Worker Communities in India



This document is a summary of a larger research study commissioned by ***Vitamin Angels Association India***, supported by ***UNICEF India***, and conducted by ***Purple Audacity***.

***Photography by Rohit Jain/Vitamin Angels***  
***The individuals photographed were not part of the sample interviewed for the study.***

**Understanding  
Dietary Behaviours  
Among Primary  
Sector Worker  
Communities  
in India**



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# Abbreviations

ASHA: Accredited Social Health Activist  
AWC: Anganwadi Centers  
AWW: Anganwadi Workers  
BPL: Below Poverty Line  
FGD: Focus Group Discussion  
FLW: Frontline Worker  
ICDS: Integrated Child Development Services  
IDI: In-Depth Interview  
PDS: Public Distribution System  
PRI: Panchayati Raj Institutions  
SHG: Self-Help Groups  
THR: Take Home Ration  
U2: Under-two  
U5: Under-five

# Contents

Brief Background of the Study	10
<b>Fishing Community Workers</b>	<b>12</b>
I. Background of the Community	18
II. Participant Context And Cumulative Community Profile	21
III. Deconstructing Nutrition And Its Beliefs In The Community	27
IV. Deep Dive into Food Consumption and its Implications	30
V. Decision Making Related to Food Preparation and Procurement	35
VI. Supply Perspective	40
VII. Conclusion	43
Case Study – Positive Deviance	46
Annexure 1	47
Annexure 2	52
<b>Brick-Kiln Worker Community</b>	<b>58</b>
I. Background of the Community	63
II. Participant Context and Cumulative Community Profile	65
III. Deconstructing Nutrition and its Beliefs in the Community	69
IV. Deep Dive into Food Consumption and its Implications	72
V. Decision Making Related to Food Preparation and Procurement	74
VI. Supply Perspective	77
VII. Conclusion	79
Case Study – Positive Deviance	81
Annexure 1	82
<b>Forestry Community</b>	<b>88</b>
I. Background Of The Community	91

II. Participant Context and Cumulative Community Profile	<b>93</b>
III. Deconstructing Nutrition and its Beliefs in the Community	<b>97</b>
IV. Deep Dive into Food Consumption and its Implications	<b>102</b>
V. Decision Making Related to Food Preparation and Procurement	<b>106</b>
VI. Supply Perspective: Sporadic and Regular Purchases	<b>109</b>
Annexure 1	<b>116</b>
<b>Farming Community</b>	<b>122</b>
I. Background of the Community	<b>127</b>
II. Participant Context and Cumulative Community Profile	<b>131</b>
III. Deconstructing Nutrition and its Beliefs in the Community	<b>135</b>
IV. Deep Dive into Food Consumption and its Implications	<b>141</b>
V. Decision Making Related to Food Preparation and Procurement	<b>146</b>
VI. Supply Perspective: Defining Sporadic and Regular Purchases	<b>149</b>
Conclusion	<b>151</b>
Case Study – Positive Deviance	<b>155</b>
Annexure 1	<b>157</b>
Annexure 2	<b>162</b>
Annexure 3	<b>167</b>
<b>Tea and Coffee Plantation Workers</b>	<b>172</b>
I. Background Of The Community	<b>177</b>
II. Participant Context and Cumulative Community Profile	<b>179</b>
III. Deconstructing Nutrition and its Beliefs in the Community	<b>183</b>
IV. Deep Dive into Food Consumption and its Implications	<b>189</b>
V. Decision Making Related to Food Preparation and Procurement	<b>193</b>
VI. Supply Perspective: Defining Sporadic and Regular Purchases	<b>195</b>
Conclusion	<b>197</b>

Case Study – Positive Deviance	<b>203</b>
Annexure 1	<b>204</b>
Annexure 2	<b>210</b>
<b>Salt Pan Worker Community</b>	<b>216</b>
I. Background Of The Community	<b>221</b>
II. Participant Context and Cumulative Community Profile	<b>223</b>
III. Deconstructing Nutrition and its Beliefs in the Community	<b>229</b>
IV. Deep Dive into Food Consumption and its Implications	<b>231</b>
V. Decision Making Related to Food Preparation and Procurement	<b>235</b>
VI. Supply Perspective	<b>239</b>
VII. Conclusion	<b>241</b>
Case Study – Positive Deviance	<b>243</b>
Annexure 1	<b>244</b>
<b>Key Action Points and Areas for Future Course of Action</b>	<b>250</b>
<b>Comparative Highlights Community-Wise</b>	<b>254</b>





# Brief Background of the Study

*This cross-sectional, qualitative exploratory study explores in-depth the **demand and supply factors that impact the diets and nutrition intake of select communities working in the primary sector.***

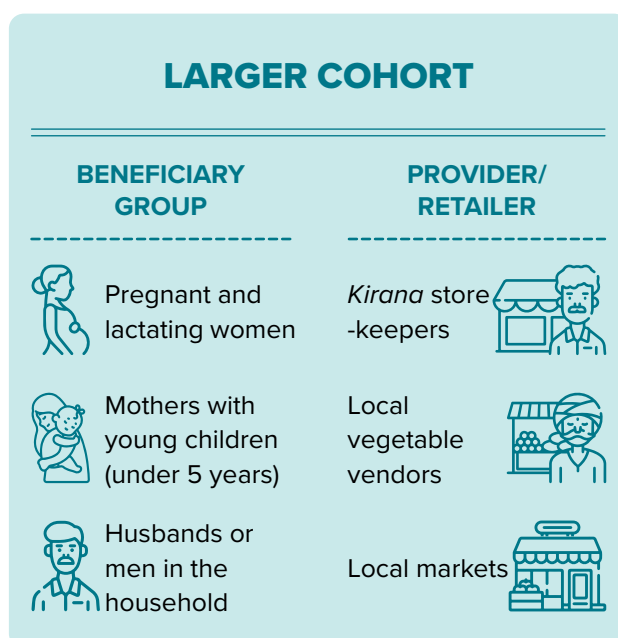
The study provides a comprehensive, in-depth view into collective and individual perspectives on dietary diversity, practices and perceptions related to nutritional value, needs, and supplementation across these communities and locations. Within diet diversity in households, the study emphasizes on the nutrition-related beliefs, perceptions, knowledge, and practices which influence the diets of young children (ages 0-5 years), pregnant and lactating women, and mothers of children ages 0-5 year. It further seeks to understand the perceptions of the husbands of pregnant women and fathers of young children (ages 0-5 years).

## Specific aims

1. To explore factors related to diet patterns and diet diversity among the identified communities on the awareness and depth of knowledge about nutritious foods, while factoring in affordability, accessibility, availability, and acceptability.
2. To understand barriers and facilitating factors affecting uptake of optimal nutrition practices, particularly among pregnant and lactating women and children under the age of five.

3. To generate insights on market-based factors (product, price, promotion, placement) impacting diet patterns.

Based on this, the study puts in focus the following target groups to understand their diet diversity across various geographies:



The target communities and geographies for the study are:





This study covers primary sector worker communities, who have been identified by Vitamin Angels across multiple states, with an aim to introduce nutrition-led interventions among them in the future.

Among the identified communities, the study employed a series of methods taking into account stakeholders in both the demand and supply side. These include:

- Focus group discussions (FGD) with pregnant and lactating women and mothers of young children
- Personal interviews with husbands of pregnant women and fathers of young children
- In-depth interviews (IDI) with FGD participants among whom any unique case/positive deviance related to nutrition is identified
- Home observation and IDI with select FGD participants to document and visualize nutrition-

related practices at the household level

- IDI with local *kirana* (grocery) stores, shopkeepers, and vegetable sellers from whom the community members procure food items
- Direct observation of markets/shop clusters frequented by the community to understand the demand, availability, procurement process, and supply-related gaps of the food items purchased by them.

***The findings from this study are meant to provide a nuanced, contextualized understanding of the key enablers and barriers to diet diversity among these communities.*** The findings will add critical insights when introducing/replicating nutrition interventions among such communities, leverage contextually relevant knowledge, practices, and evidence to improve diet diversity and therefore their state of nutrition.



1

# Fishing Community Workers



அர்னிஸ்  
சன் மேத்யூ  
ஆசன்





## Ganjam, Odisha

Ganjam, located in Odisha, is named after the old township and European fort of Ganjam situated on the northern bank of river Rushikulya.<sup>1</sup> As of 2011, it is the most populous district of Odisha's 30 districts with 3,529,031 people residing here. The district is divided into two divisions, the coastal plain area in the east and hill and tablelands in the west. The Eastern Ghats run along the western side of the district. The climate of Ganjam is characterized by an equable temperature round the year, particularly in the coastal regions. The district's cold season from December to February is followed by a hot season from March to May. *Odia, Telugu, and Kui* are the predominant languages spoken by 91.29%, 7.17%, and 0.44% of the population, respectively.<sup>2</sup> *The state has a literacy rate of approximately 72% (81.59% male and 64.01% female).*<sup>3</sup>

The district is known for its fertile soil and agricultural productivity. A large variety of crops are grown here like paddy, groundnut, sugar cane, oil seeds, *ragi, mung, biri*, with agriculture contributing to both local production and exports. Ganjam district is considered one of the aquaculture resource districts of the state in the form of freshwater, brackish water and marine fisheries. These resources are suitable

## Ganjam District



1 <https://ganjam.nic.in/about-district/>

2 [https://en.wikipedia.org/wiki/Ganjam\\_district](https://en.wikipedia.org/wiki/Ganjam_district)

3 Orissa Population 2022 | Sex Ratio & Literacy rate 2023. (n.d.). <https://www.census2011.co.in/census/state/orissa.html#:~:text=Orissa%20Literacy%20Rate%202023,literacy%20is%20at%2064.01%20percent.>





for pond culture, reservoir fisheries and shrimp culture. Pisciculture meets the growing demand for fish consumption in the state and serves as an employment opportunity to the rural populations.

*Dola Yatra, Tara Tarini Mela, Thakurani Yatra, Durga Puja, Shiv Ratri, Ratha Yatra, Makar Sankranti, Manabasa Gurubara, and Danda Yatra* are the famous festivals in the district.<sup>4</sup>

Surada village, located at the edge of the Surada dam and reservoir, is a Notified Area Council – an intersection between rural and urban living. The water body – locally referred to as *Surada Ghai* - is a center for reservoir fishing.

## Thoothukudi, Tamil Nadu

Thoothukudi, also known as the “Pearl City” in Tamil Nadu, stands out for its pearl fishing industry and coastal climate. The town’s residents are primarily involved in salt pans, sea-borne trading, and fishing. With a population of 237,830, Thoothukudi has a diverse community and is reported to have an average literacy rate of 93.69% (95.78% male and 91.62% female).<sup>5</sup>

Thoothukudi experiences a hot semi-arid climate, characterized by scorching summers, hot winters, and occasional heavy rainfall during the northeast monsoon season. The region’s agricultural landscape thrives with crops such as paddy, millet, pulses, and a variety of fruits like mango, banana, guava, *sapota*, along with vegetables like ladyfinger, tomato, brinjal, onion, tapioca and an array of spices and condiments including chillies, tamarind, and turmeric. Renowned for its fish curry, known as *Meen Kulambu*, Thoothukudi cuisine reflects the region’s profound connection with seafood. The city joyfully celebrates a tapestry of colorful festivals like *Pongal, Deepavali, Dasara, Krishna Jayanti, Vinayaka*

4 <https://ganjam.nic.in/district-fishery/>

5 Thoothukkudi City Population 2023 | Literacy and Hindu Muslim Population. (n.d.). <https://www.census2011.co.in/census/city/488-thoothukkudi.html#:~:text=Thoothukkudi%20Literacy%20Rate%20and%20Sex%20Ratio&text=Average%20literacy%20rate%20of%20Thoothukkudi,is%20968%20per%201000%20boys.>

6 Gomathy, V. (2019). Assessment of chank fishing as livelihood in Therespuram, Tuticorin. *International Journal of Pure and Applied Bioscience*, 7(4), 207–216. <https://doi.org/10.18782/2320-7051.7648>

# Thoothukudi District



*Chaturthi, Milad-un-Nabi, Muharram, Eid ul-Zuha, Good Friday, Easter, and Christmas*, showcasing the rich religious and cultural traditions of the city.

Threspuram village is located in the Thoothukudi block of Tuticorin district in Tamil Nadu. Chank (conch shells) fishing is one of the oldest professions carried out through traditional diving methods in the coastal waters of Tamil Nadu and is still the major source of livelihood for the village.<sup>6</sup>

# I. Background of the Community

## A. A Snapshot of the Community Odisha

Over the last five years, the fisheries sector has grown at an average annual growth rate of about 13% in the state of Odisha.<sup>1</sup> The state government is reportedly prioritizing the fisheries sector with fisheries & aquaculture emerging as one of the growth propellers involving 15.89 lakh fishermen including farmers, women SHGs, youth, and entrepreneurs. The state has a total of 4.18 lakh hectares of brackish water bodies and 6.86 lakh hectares of inland water bodies including rivers, ponds, tanks, and reservoirs.

Mola fish (*Amblypharyngodon mola*), a small indigenous species (SIS), was an integral part of Odia cuisine which, with changing climatic conditions, pollution, excessive use of pesticides, and fertilizers, slowly disappeared. In recent years however, village-level programs with women at the forefront, are working to revive the fish, known as mahurali (in Odia) or chunna maacha (in local parlance), while also adding a source of income.<sup>2</sup> Participants in Surada, Ganjam report fishing for chunna maacha as a part of their fishing work.

## Tamil Nadu

The village of Therespuram is amongst the key fishing villages in the district. Previously famous for housing pearl collectors who would dive deep into the sea to collect pearls from oysters,<sup>3</sup> the village is now home to conch collectors (owing to the depletion of pearl availability in the ocean) and

fishermen who catch a variety of fish, octopus, crab amongst others.

Recently, the community has been in the news for a variety of issues ranging from loss of life,<sup>4</sup> deep sea diving for conch retrieval to the COVID-19 pandemic's impact on restoring fish availability<sup>5</sup> in the water due to limited industrial activity. Further, the involvement of fisherwomen in SHGs has been a key focus of the government in the area, to reduce the indebtedness the community faces because of loans availed for machinery, vessels and other fishing equipment. The positive impact of this emphasis has been researched and reported in 2005,<sup>6</sup> followed by a report in 2015<sup>7</sup> revealing that whilst indebtedness can be managed and can empower women in the fishing community to impact financial outcomes, a lack of motivation for collaboration in the groups leads to limitations in the influence of the SHG members and hampers the improvement of microcredit availability for women in the village.

## B. Status of Household Health & Nutrition Ganjam, Odisha

The NFHS data (Annexure 1) for Ganjam showcases a marked increase in the access that women have to antenatal care through pregnancy, as well as postnatal access to services for infants and new mothers, indicating access to public health services. The data also shows an increased percentage of children receiving complete vaccination doses and supplementation in the district.

1 <https://www.thestatesman.com/cities/bhubaneshwar/odisha-emerges-countrys-4th-largest-fish-producing-state-seafood-exports-climbs-nine-fold-last-two-decades-1503026090.html>

2 <https://india.mongabay.com/2023/02/women-take-the-lead-in-promoting-nutrition-sensitive-aquaculture-in-odisha/>

3 <https://scroll.in/article/912253/were-left-to-fend-for-ourselves-why-thoothukudis-conch-collectors-are-struggling-to-stay-afloat>

4 <https://timesofindia.indiatimes.com/city/chennai/tamil-nadu-fisherman-collecting-sea-shells-dies-after-being-entangled-in-fishing-net/articleshow/69957157.cms>

5 <https://www.thehindu.com/news/national/tamil-nadu/lockdown-improved-coastal-ecosystems-of-gulf-of-mannar-says-study/article31746814.ece>

6 <https://www.findevgateway.org/sites/default/files/publications/files/mfg-en-case-study-performance-analysis-of-fisherwomen-self-help-groups-in-tamil-nadu-2005.pdf>

7 <https://www.fisheriesjournal.com/vol2issue3/Pdf/2-4-1.1.pdf>

**Table 1: Key NFHS Indicators for Ganjam, Odisha**

INDICATORS	NFHS 5	NFHS 4
	(2019-21) %	(2015-16) %
Children under five years who are stunted (height-for-age)	23.9	28.9
Children under five years who are wasted (weight-for-height)	10.2	16.4
Children under five who are underweight (weight-for-age)	18.9	21.3
Total children (6-23 months) receiving an adequate diet	22.3	3.8
Children age 6-59 months who are anaemic (<11.0 g/dl)	61.3	37.4
Mothers who had at least four antenatal care visits	82.7	51.3
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	52.9	NA
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	56.9	41.5
All women age 15-49 years who are anaemic (<11.0 g/dl)	58.4	39.7

**Table 2: Key NFHS Indicators for Thoothukudi , Tamil Nadu**

INDICATORS	NFHS 5	NFHS 4
	(2019-21)	(2015-16)
Children under five years who are stunted (height-for-age)	20.3	21.2
Children under five years who are wasted (weight-for-height)	18.4	12.4
Children under five who are underweight (weight-for-age)	21	17.6
Total children (6-23 months) receiving an adequate diet	19.9	31.7
Children age 6-59 months who are anaemic (<11.0 g/dl)	55.6	56.3
Mothers who had at least four antenatal care visits	80.7	64.8
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	NA	NA
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	56.3	59
All women age 15-49 years who are anaemic (<11.0 g/dl)	44.3	54



However, when it comes to nutritional status, though there is a growth in percentage of children receiving complementary nutrition under 24 months, and adequacy of diet under five years of age, the overall percentage still remains in the lower double digits (20-25%). There also seems to be a marginal decrease in stunting and wasting in children under five years, but this is only a minor shift. An alarming increase is seen in children under 60 months of age who are anemic, (37.4% to over 61%) indicating lack of adequate diversity and nutritional value in diets for young children. This merits an exploration into the quality of diet being given to children, even as improvement is anticipated in emphasis on introduction of meals, as demonstrated by improvement in other nutritional indicators.

### **Thoothukudi, Tamil Nadu**

The NFHS 5 data (Annexure 2) for Thoothukudi showcases significant increase in access to maternal care especially antenatal care through pregnancy – indicating access to public health for antenatal care, as well as access to postnatal care for infants.

However, when it comes to child health, it can be noted that there is a drop in vitamin A supplementation, a substantial decrease in children aged three to 24 months receiving adequate diet, as well as an increase seen in the percentage of children under the age of five years who are stunted,

wasted, or underweight, indicating inadequate nutrition as a possible contributor. There is also little change in children and women of reproductive age who are anemic.

### **C. Food and Nutrition Security Challenges Faced by Fishing Households**

Fishing households face the dual threat of direct and trading entitlement failures, as their food and nutritional security relies heavily on the consumption of the fish they catch and sell to acquire other essential foods. Unfortunately, the consumption of nutritious foods, especially those rich in protein and heme iron, remains inadequate, with nearly half of the households consuming vitamin A-rich foods on fewer than three days. This deficiency in dietary diversity and nutrient intake leads to high levels of food insecurity, which intensifies during the wet season.

Furthermore, the infrequent consumption of nutrient-dense fruits and vegetables leaves fishing households susceptible to micronutrient deficiencies, raising concerns about the well-being of children in these communities. The lack of access to a variety of nutritious foods compounds the challenges faced by fishing households, highlighting the urgent need for interventions and support to improve their food and nutrition security.

# II. Participant Context And Cumulative Community Profile

## KEY HIGHLIGHTS

- The villages exhibit a multi-caste and religious composition, with differing social dynamics.
- In Thoothukudi, nuclear family setups are more prevalent while in Ganjam, joint family setups are more common, both influencing daily routines and experiences related to pregnancy and child-rearing practices.
- The level of literacy within the fisherman community in both regions is relatively low.
- Fishing serves as the main and often the sole source of income for traditional fishermen.
- Fishery-related activities, such as marketing, trading and gear maintenance provide additional income but leave little time for other jobs.
- While the fishing sector is more male-dominated, a few women often engage in ad-hoc, informal low paying jobs.
- In Ganjam, essential amenities like bus stands, markets, healthcare centers, educational institutes and police stations are conveniently located within a 10-minute walk. However, in Thoothukudi, these facilities are located further away (eight km), posing challenges.
- Transportation limitations likely pose a significant obstacle for the fisherman community in Tamil Nadu, with a particular impact on women and their ability to make independent decisions.
- Traditional gender roles strongly influence livelihood strategies and daily routines.
- It is customary for elders and males to be served first, followed by children, and then women.

## A. Social Structure

### i. Family Structure

The villages exhibit a multi-caste and religious composition, with differing social dynamics. In

Thoothukudi, nuclear family setups are more prevalent, resulting in smaller household sizes of around four to five members, primarily comprising younger individuals. Conversely, in Ganjam, joint family setups are more common, with larger family sizes ranging from five to 11 members spanning multiple generations. This variation in family types influences daily routines and experiences related to pregnancy and child-rearing practices, showcasing the persistence of traditional familial ties and extended family support systems within specific segments of the community.

### ii. Marriage and Childbearing Age

Marriage among girls is encouraged after reaching the age of 17 or 18, and it is common to have an age gap of 6-10 years between spouses, particularly in Ganjam. The birth of the first child is generally encouraged within 1-1.5 years of marriage, following established norms and practices within the community.

### iii. Educational Landscape

The level of literacy within the fisherman community in both regions is relatively low. In Ganjam, there exists a notable educational disparity among men, with only a few having completed their schooling. Men often have not passed the matriculation level (class 10), while women typically have studied up to class five to 10. College graduates are rare within this region. There exists an understanding of the significance of education within the community, as children are sent to schools and often attend tuitions, especially in Ganjam. This reflects the community's recognition of education providing better opportunities for future generations and breaking the cycle of poverty.

However, as per reports, Thoothukudi has an average literacy rate of 93.69% (95.78% male and 91.62% female) and Ganjam has an average literacy rate of 85.30% (93.95% male and 76.12% female).<sup>1</sup>

<sup>1</sup> Census 2011 India. (n.d.). <https://www.census2011.co.in/>



## B. Modes of Livelihood

### i. Fishing is the Primary Source of Income

Fishing serves as the main and often the sole source of income for traditional fishermen. However, they occasionally engage in supplementary activities to augment their earnings. These opportunities are limited and self-employed fishermen who own their nets and boats tend to earn more than hired fishermen.

### ii. Time-intensive Occupation

Fishery-related activities, such as marketing, trading, and gear maintenance, provide additional income but leave little time for other jobs.

*“I wake up at 4a.m.and leave for the dock. We have our tiffin and sometimes lunch on the boat itself. I come back around 3 or 4 p.m., wash off, relax, maybe go out with friends, eat and sleep around 9 p.m.”*

- (FATHER, IDI - THOOTHUKUDI)

*“Money is a big issue. On good days, I may earn up to INR 1500 but generally I only make between INR 500-800 a day. We spend at least INR 200-300 on daily food expenses, so there is not a lot to save.”*

- (FATHER, IDI - GANJAM)

### iii. The Desire for Personal Fishing Assets

Many fishermen express the desire to own their boats, emphasizing that having personal fishing assets leads to better livelihoods and increased support for their families. Currently, some fishermen work for others, receiving only a small portion of the catch for personal use or having to purchase fish from the town market. Ownership of fishing assets is seen as a pathway to financial stability and improved living conditions. In sum, the ownership of fishing and non-fishing assets among the fishermen is very limited.

*“I am a fisherman but I work for someone. If it's a good day they give us 1-2 fish for our own use. Otherwise we have to buy it from the town market.”*

- (HUSBAND, IDI - GANJAM)

*“If I have a boat of my own, I will be able to earn a better living and support my family more.”*

- (HUSBAND, IDI - THOOTHUKUDI)

While the fishing sector is male-dominated, a few women often engage in ad-hoc, informal low paying jobs to secure a minimum income for their families. They often take on menial tasks or daily wage labor,

earning minimal amounts ranging from INR 500 to 1000 per day. These women undertake this work to meet basic needs, such as providing food for their children and ensuring access to education.

*“I sometimes stitch clothes at noon. I can earn anything between INR 500-1000 a day.”*

- (WOMEN, FGD - GANJAM)

## C. Social Fabric, Roles, and Expectations

### i. Traditional Gender Roles Strongly Influence Livelihood Strategies and Daily Routines

Women are primarily responsible for domestic tasks such as cooking, taking care of children, managing household chores and engaging in activities related to religious practices. Men (18-50 years), on the other hand, engage in income-generating activities such as fishing or business. This division of labor reinforces the traditional gender roles prevalent in the community.

*“My only contribution to the family is money earned from fishing. Everything else is done by the family.”*

- (FATHER, IDI - GANJAM)

### ii. Unseen Female Involvement in Fishing

Women are not involved directly in fishing but indirectly support in fishing activities by preparing and repairing nets and act as a supply chain of fish to market.

**M:** Do you also work?

**R:** No

**M:** What all do you do apart from house work?

**R:** I help in cleaning and repairing the net. Sometimes I sit at the shop.

**M:** Do you also sell fish?

**R:** Yes, we sit there almost daily.

*“Men go in the morning and pull in the net they fixed there on the previous day. That net becomes too dirty. They bring that home and it takes two to three hours for us to clean the net.”*

- (WOMEN, FGD - THOOTHUKUDI)

These conversations reveal that female involvement in fishing may be higher than traditionally understood. While they may not actively participate in catching fish, women contribute by cleaning and maintaining the nets. This often takes several hours and goes unnoticed as their work is primarily aimed at providing for the household. Even though their contribution to the fishing livelihoods is not readily apparent it is crucial for fishing activities.

## D. Access to Facilities and Services

### i. Varied Access to Facilities and Services

While both communities have similar fabric of facilities and services, there are differences in access. In Ganjam, essential amenities like bus stands, markets, healthcare centers, educational institutes, and police stations are conveniently located within a 10 minute walk.

However, in Thoothukudi, these facilities are located further away (8km), posing challenges, especially for women who rely on their husbands' two-wheelers for transportation. The *Balwadi* (AWC/childcare center) being situated in a different village also hampers regular attendance. Women have limited access to rickshaws and mostly travel on a need-basis. Further, private practitioners are preferred over public health facilities in both villages.

This limited access to market leads to a decentralized economic landscape, dependent on scattered retail outlets. This potentially impacts economic opportunities, nutrition (inadequate access to markets leads to reliance on nearby *kiranas* with limited supply) and the vibrancy of commercial activities within the community.

### ii. Access and Engagement with Frontline Workers

The community actively interacts with Frontline Workers (FLWs) such as ASHAs, ANMs and AWWs. Pregnant and lactating mothers regularly participate in the monthly VHNDs. ASHAs visit the village two to three times a week to monitor the health of pregnant women, lactating mothers and children. This is in line with the statistics seen in the NFHS report for both districts which indicate an increase in access to antenatal and post pregnancy care for mothers and children.

### iii. Transportation Limitations Pose a Significant Obstacle

This holds true for the fisherman community in Tamil Nadu, with a particular impact on women and their ability to make independent decisions. Most households own a two-wheeler operated by men. This, clubbed with the distance from the bus stand and access to public transport, severely limits the access and mobility of women, restricting their participation in economic and social activities beyond the village. As a result, women have limited opportunities to visit markets regularly and they often rely on men to fulfill household needs. This lack of mobility can affect their decision-making power and choices regarding household items, nutrition, quality and brands, as they are dependent on what others bring to the village.

## E. Life of Fishing Community Members

### i. Routines

The daily routines of the fishing community are deeply influenced by traditional gender roles, shaping the activities of both men and women.

*“I wake up by 3:30a.m. I have a young baby and I wake up when the baby wakes up. My husband goes fishing and I take care of the baby.”*

- (WOMEN, IDI - THOOTHUKUDI)

*“My husband wakes up at 4 a.m. and goes fishing. I also wake up with him. I do dusting, pluck flowers for the puja, take a bath, perform puja, make tea for my parents in law and then start cooking.”*

- (WOMEN, IDI - GANJAM)

The day begins early, around 3:30 or 4a.m. for the fishermen, as they prepare to leave for work at the fishing dock. After a light breakfast or snack near the dock, they spend hours on the boat, fishing a variety of fish, crabs, prawn, and shells for sale. Some fishermen carry lunch with them and return home in the evening, while others come home earlier to have lunch and rest. After a long day at sea, the evenings are typically spent in leisure activities, either relaxing at home, watching television, or socializing with male friends, which may sometimes involve the consumption of alcohol, cigarettes or chewing tobacco. This connection between their occupation and the market allows them to monetize their catch and contribute to the local economy. The tea shop at the dock also serves as a social hub, where men gather in the morning for informal conversations and community interactions.

Women’s routines revolve around the continuous cycle of housework, childcare and meeting the needs of their families. In the morning, they engage in various tasks such as morning walks (in case of pregnant women), preparing meals and getting







children ready for school. In joint families, especially observed in Ganjam, women take on the primary caregiver role for children and the elderly, often under the scrutiny of in-laws or extended family members. They have little personal time for rest during the day. In some cases, women engage in home-based work, such as tailoring, which allows them to contribute to the household income.

## ii. Activities

Cooking three meals a day is common in Ganjam, while in Thoothukudi, living in nuclear families allows women more flexibility with the morning routine, cooking once or twice a day and having time for rest as children are served mid-day meals in school. Additionally, women in Thoothukudi are involved in activities such as cleaning the nets brought back by their husbands and selling fish and other produce.

## iii. Relationships Gendered Roles, Restrictions, and Power Dynamics

### Limited Mobility: Public and Private Spaces

In Ganjam, women and children are often excluded from participating in *Palli Sabha* (committee meetings) and visiting the graveyard (*masaan*), suggesting a gendered segregation of public spaces and decision-making processes and the patriarchal nature of the community. Additionally, women, particularly in joint families, have limited movement beyond the vicinity of their houses, with men usually

taking on the role of going to the market, clinics, etc. The following extract from an FGD supports this:

***“In Surada we have 11 wards. They are called Palli/ Gram Sabha and women aren’t allowed there. Only males can speak up.”***

- (WOMEN, IDI - GANJAM)

### ***Why aren’t women allowed to the Gram Sabha?***

***“Because males are given importance in our society.”***

- (WOMEN, IDI - GANJAM)

***“Because we have our husbands who discuss, and plan.”***

- (WOMEN, IDI - GANJAM)

***“This is our Odia culture. Women aren’t allowed to meetings.”***

- (WOMEN, IDI - GANJAM)

***“Women are going out but avoid going to crowded places.”***

- (WOMEN, IDI - GANJAM)

### **Food Distribution and Household Leadership:**

In Ganjam, the distribution of food within households reflects a hierarchical structure that reinforces power dynamics and social norms. In this community, it is

customary for elders and men to be served first, followed by children and then women.

***“Who is served food first?”***

***My father-in-law. If my husband is there, he also eats. If children are hungry, they eat first. Then the women in the family.”***

- (WOMEN, IDI - GANJAM)

This practice highlights the prioritization of males in resource allocation and decision-making processes. These cultural norms are particularly prominent in joint family setups, where the size of the household and the presence of in-laws greatly influence relationship dynamics.

***“Who is the head of the household?”***

***My father-in-law and then my mother-in-law. If not my in-laws, then my husband.”***

- (WOMEN, IDI - GANJAM)

The identification of the father-in-law or mother-in-law as the head of the household and subsequently the husband, suggests a multi-generational and hierarchical structure of authority within the family. This indicates the significance of lineage and kinship ties in shaping family dynamics and decision-making processes.

In contrast, the dynamics in Thoothukudi, where nuclear families are more prevalent, exhibit a relatively dynamic hierarchy in the household due to the domestic context of men being away from home. This is more circumstantial than a voluntary sharing of decision-making or control in the household.

***Who eats first?***

***“Whoever is hungry and in the house. We don’t have any restrictions like that.”***

- (WOMAN, FGD - THOOTHUKUDI)

***“We eat together, whatever is cooked and then retire for the night.”***

- (FATHER, IDI - THOOTHUKUDI)

With men often away at work and children attending school and engaging in playtime, decision-making regarding food purchasing and the daily menu

tends to fall under the responsibility of women. This is mostly a function of the unavailability of the man who is considered to be the primary decision maker. Moreover, in Thoothukudi, the prevalence of alcoholism in the society may contribute to women taking on a more significant role in these decisions. However, it must also be noted that households where substance consumption is high also see higher reported incidents of physical/emotional abuse.

***“I drink a lot, I leave the decisions to my wife.”***

- (IDI, FATHER - THOOTHUKUDI)

**Familial Roles and Responsibilities**

Mothers are considered caregivers and nurturers within the family unit, responsible for providing food for their children, while fathers’ involvement is seen as occasional or secondary, aligning with traditional gender roles and societal expectations.

***Who is responsible for cooking food?***

***“Their mother.”***

- (FATHER, IDI - GANJAM)

***Who’s responsible for taking care of the children and their nutrition?***

***“Their mother; I don’t know, my family takes care of these things.”***

- (FATHER, IDI - GANJAM)

***Who decides what needs to be cooked or what needs to be purchased?***

***“My mother or my father.”***

- (FATHER, IDI - GANJAM)

***Whose opinion doesn’t matter immediately while making family decisions?***

***“My wife.”***

- (FATHER, IDI - GANJAM)

***What is your role?***

***“I bring fish and the money I earn from selling it.”***

- (FATHER, IDI - GANJAM)

# III. Deconstructing Nutrition And Its Beliefs In The Community

## KEY HIGHLIGHTS

- The community reflects a holistic approach to health, emphasizing the importance of being free from ailments, sour mood and maintaining average body weight and height.
- Community members and healthcare professionals like ASHAs, ANMs, AWW (during household visits, VHNDs) as well as local doctors are sources of information, shaping perception of health.
- Healthy and nutritious food includes a focus on foods that provide strength and energy, such as fish, prawns, chicken, eggs, and mutton. Rice, ragi (*mandia* in Odia), barley (*chhatua* in Odia), and wheat are also valued as energy sources.
- Store-bought, ready-to-eat, street food, sweets and restaurant-made food are seen as unhealthy and unfit for daily consumption.
- There's special emphasis on a balanced diet for pregnant women, along with avoidance of packaged, fried and heat producing food.
- Infants are provided with only breast milk for the first six months, influence by MCH.
- Dairy products like curd and paneer are avoided to prevent indigestion for children below 2 years of age.

## A. Perception of Health

The community members perceive health as the absence of sickness. Not falling sick or not having to see a health professional is seen as an indicator of being healthy. Their understanding of health also aligns with their everyday experiences and cultural context, emphasizing the absence of sickness, physical appearance, eating habits, emotional states and engagement in activities as markers of

well-being. It reflects a holistic approach to health, emphasizing the importance of being free from ailments, sour mood and maintaining average body weight and height.

However, personification of a healthy body takes on both a metaphysical and pragmatic approach. A person's physical appearance, behaviors and emotions are personified as indicators of a healthy body.

Community members associate an active and playful nature with the concept of a healthy child, contrasting it with the dull appearance of unhealthy children, unable to participate in everyday activities.

***"... And how do you understand if the second child is healthy?"***

***"He goes to tuition and if he is not going and complaining of some health issues then we understand. Then I bring medicine for him."***

- (WOMEN, FGD - GANJAM)

***"He would be playing, laughing, jumping, running around here and there [when healthy]."***

- (WOMEN, FGD - THOOTHUKUDI)

There is an expectation for children to follow and maintain "general flow of growth in height and weight" as their parents.

***"The son will grow in the same manner as his father. He should have similar height. Should not be too slim or overweight."***

- (FATHER, IDI - GANJAM)

Eating habits play a significant role, with healthy children depicted as having hearty appetites, while unhealthy ones consume less food.

***“If they are eating, it means they are healthy. Unhealthy children won’t eat much.”***

- (WOMEN, FGD - GANJAM)

***“If the child keeps crying and refusing to eat anything, it means they are not well.”***

- (WOMEN, FGD - THOOTHUKUDI)

Emotional well-being is also linked, as parents of unhealthy children are believed to have a sad mood, while healthy individuals are perceived as more pleasant in their interactions

***“The parents of the unhealthy child will be sad.”***

- (FATHER, IDI - GANJAM)

***“The person will be weak. When he talks he will be irritable. ..”***

- (WOMEN, FGD - THOOTHUKUDI)

## **B. Sources of Information Shaping Perception of Health**

The word “vitamin” is expected to be synonymous with nutrients in common parlance. This terminology emerges from regular interactions between community members and healthcare professionals like ASHAs, ANMs, AWW (during household visits, VHNDs) as well as local doctors. These interactions expose community members, particularly young mothers, to the vocabulary surrounding nutrition, including terms like “protein.”

Interestingly, community members tend to prefer seeking healthcare from private local doctors rather than public health centers (seen in both communities). This preference is rooted in the perception that private doctors are more accessible and provide quicker relief. The community’s choice to rely on private healthcare providers may arise from factors such as proximity, perceived quality of care, familiarity, and convenience.



## C. Perceived Dietary Knowledge and Attitudes

Stakeholder	What is Perceived to be Healthy and Nutritious
Men Women Elders	<p><b>Perception of good food:</b></p> <ul style="list-style-type: none"> <li>The perception of healthy and nutritious food includes a focus on foods that provide strength and energy, such as fish, prawns, chicken, eggs, and mutton.</li> <li>They also value rice, ragi (<i>mandia</i> in Odia), barley (<i>chhatua</i> in Odia), and wheat as energy sources.</li> <li>Pulses, vegetables, fruits and non-creamy biscuits are considered important for overall wellness.</li> </ul> <p><b>Perception of bad food:</b></p> <ul style="list-style-type: none"> <li>Store-bought, ready-to-eat, street food, and restaurant-made food are seen as unhealthy due to concerns about the quality of oil, salt and spices used.</li> <li>Excessive consumption of sweets is associated with tooth decay, diabetes and other health issues.</li> </ul>
Pregnant and Lactating Women	<p><b>Perception of good food/health habits:</b></p> <ul style="list-style-type: none"> <li>Conscious inclusion of fruits, juices and vegetables.</li> <li>Focus on increasing protein-rich foods such as eggs, fish, supplements and milk.</li> <li>Control in body weight and regular exercise, like daily walks.</li> <li>Emphasis on a balanced and nutritious diet.</li> </ul> <p><b>Perception of bad food that needs to be avoided (traditional belief system):</b></p> <ul style="list-style-type: none"> <li>Conscious exclusion of “heat-producing” fruits, vegetables and meats.</li> <li>Reduction in fried items, spices and “rich and hard fruits”.</li> <li>Decrease in packaged food consumption to avoid gas/ gastric-related problems.</li> </ul> <p><b>Pregnant women:</b></p> <ul style="list-style-type: none"> <li>“Whatever food the mother is consuming could impact gestation, childbirth and appearance of the baby. The health of the baby depends on the mother”. (FGD, Women – Ganjam)</li> </ul> <p><b>Lactating women:</b></p> <ul style="list-style-type: none"> <li>“When a woman is breastfeeding then the benefit of the food is divided into two parts. Half is going to our body and the rest is going to the child’s body. So, the mother should also focus on nutrition.” (FGD, Women – Ganjam)</li> </ul>
Infants (till 6 months)	<p><b>Perception of good food:</b></p> <p>Only breast milk/ mother’s milk (Observed in both communities – influence of MCH counseling)</p>
Children below 2	<p><b>Perception of good food:</b></p> <ul style="list-style-type: none"> <li>Breast Milk: Along with breastfeeding, complementary feeding is suggested by healthcare professionals and through indigenous knowledge.</li> <li>Introduction of Vegetables and Grains: Boiled mash, water, soup and porridge are introduced, emphasizing the importance of vegetables and grains.</li> <li>Store-Bought Health Foods: Commercial products like cerelac and lactogen are considered suitable for children in this age group.</li> </ul> <p><b>Perception of bad food:</b></p> <ul style="list-style-type: none"> <li>Jackfruit is to be avoided as an ingredient in the child’s diet.</li> <li>Dairy products like curd and paneer are avoided to prevent indigestion.</li> </ul>
Children between 2-5 years	<p><b>Perception of good food:</b></p> <ul style="list-style-type: none"> <li>Same as adults</li> <li>“They eat everything. They eat whatever we eat. We start from the age of three.” . (FGD, Women – Toothukudi)</li> </ul> <p><b>Perception of bad food:</b></p> <ul style="list-style-type: none"> <li>Same as adults, with an emphasis on the avoidance of junk food like processed snacks</li> <li>“They should especially avoid eating extreme amounts of sweets and sugary foods to avoid tooth decay due to worms or “kirmi.” (IDI, Father – Ganjam)</li> </ul>

# IV. Deep Dive into Food Consumption and its Implications

## KEY HIGHLIGHTS

- Protein and heme-iron rich diet due to occupational serendipity.
- Carbohydrates as a base component for most meals compensates for irregular meal consumption.
- Micronutrients, though included in diet, may be limited due to limited consumption of fruits and vegetables by design, cost implication or market access.
- In Ganjam, the families have two main meals a day. In Thoothukudi, they have two or three meals a day. Both have the first meal around 4a.m. and the last meal around 8p.m.
- In Ganjam, a hierarchical order of eating is followed. No order of eating is followed in Thoothukudi.
- In Ganjam, the preference for firewood and traditional *chulha* stoves stands out. In Thoothukudi, gas and firewood are preferred.
- In Ganjam, storage is done in refrigerators and in Thoothukudi due to lack of refrigerators in most households, families prioritize minimizing waste and leftovers, particularly for perishable items.
- Substance consumption in the form of alcohol and tobacco (cigarettes, *bidis*, powder) is prevalent, starting out at an early age, with 8 year old boys experimenting with cigarettes and bidi, while alcohol intake begins around the age of 12.

## A. Overview of Food Consumed

The dietary patterns observed within the fisherman community reflect the intersection of cultural, economic and environmental factors. The consumption of fish, rice, vegetables and other locally available food items represents the community's adaptation to their coastal environment

and dependence on fishing as a livelihood. Their diet includes a variety of food groups that provide essential nutrients.

### Items Consumed in the Household

The fisherman community predominantly relies on fish, rice and seasonal vegetables as their staple foods. Varieties of fish are prepared in different ways, highlighting the emphasis on fish as a staple food. This is aligned to their occupation as fishermen, highlighting the close relationship between their livelihood and dietary practices. The connection between occupation and diet is a significant aspect of their cultural identity and social cohesion.

In Tamil Nadu, the daily consumption of *idlis* and *dosas*, often purchased from local shops, is common in the morning. In Odisha, the frequent consumption of *chhatua* or sattu and *mandia* or ragi-based dishes like *mandia jaau*, *mandia idli* and *chakuli* (fermented rice *dosas*) is also observed.

Multiple varieties of pulses like *urad*, *arhar*, *kolitha* and *moong* are consumed approximately three or four times a week. Additionally, eggs, milk and curd are included in the diet thrice a week or more. Leafy vegetables like spinach in Thoothukudi or *saag* in Ganjam are consumed daily, often paired with rice and fish curry. Other common ingredients include onions, potatoes, tomatoes and carrots.

Sweets are consumed in limited quantities, particularly in Thoothukudi, possibly influenced by factors such as distance from the market, cost and the prevalence of diabetes. However, processed sweets from local shops are commonly enjoyed. Children in the community frequently consume processed or junk food such as instant noodles (e.g. Maggi), chips, and biscuits on a daily basis. Other common types of snacks consumed with daily tea include fritters (*bondas*, *pakorras* and fried fish).

Prawns and crabs are consumed on a weekly basis, adding variety to their diet. Either chicken or mutton is typically eaten once a week, with popular choices being chicken/ mutton *biryani*, chicken/ mutton curry with *parotta*, often enjoyed on Sundays when most family members are at home. *Chapati* or *roti* is more common in Odisha, where use of wheat is also prevalent.

Consumption of nuts and fruits is limited and varies based on availability and financial conditions. During lean periods, such as the wet season when fishing is restricted, the consumption of fruits is diminished due to their high cost. Otherwise, fruits like apple, mango, banana, papaya and oranges are bought at least once a week.

Religious beliefs influence dietary restrictions in the community. Non-vegetarian food consumption is restricted on specific days considered auspicious. In Odisha, Thursdays, Mondays, and Saturdays are observed as non-veg restricted days, while in Tamil Nadu, it is Tuesdays and Fridays. These dietary choices and restrictions, influenced by religious beliefs, demonstrate the cultural and symbolic significance of food within the community. The observance of specific days for vegetarian or non-vegetarian consumption reflects the interplay between religious norms and dietary practices, further reinforcing social cohesion and shared values.



## B. Routine of Food Consumption

	Ganjam, Odisha	Thoothukudi, Tamil Nadu
No. of Meals	The community generally follows a routine of two main meals per day, with some households opting for a third meal on holidays or in joint family setups.	The community typically cooks once or twice a day, depending on the family size and the number of members in the household. However, they consume 2-3 meals a day.
Meal Timings	Typically, the day begins at 4a.m. and adults have tea and some biscuits or leftovers before the fishermen leave for work. For the remaining household members, women cook the first meal in the morning around 8-9a.m. for all, followed by another full meal at night (dinner) around 8p.m. In some families, lunch is around 2-3p.m.	The day starts early at around 4/4:30a.m. with tea and a light snack before heading to work. The remaining household members have a light breakfast around 8/9a.m.. The first meal/ brunch is usually prepared and consumed between 11a.m. - 1p.m., followed by dinner around 8p.m.
Meal-wise Dishes/Items	<ul style="list-style-type: none"> <li>• Snack (4/4:30a.m.): Leftovers or “tiffin” (light snacks like fritters) with tea</li> <li>• Breakfast: <i>Vada</i> or <i>idli</i>, <i>biri chakuli</i> (dosas), <i>mandia idli</i> (<i>ragi</i>).</li> <li>• Lunch: <i>Dal</i> (<i>kolatha</i>, <i>urad</i>, <i>arhar</i>, <i>moong</i>) or <i>saag</i> and rice or double cooked rice with <i>dal</i> and vegetables. <i>Santula</i> (multiple parboiled seasonal vegetables like papaya, potato, and carrot with light tempering of mustard seeds, curry leaves, and spices). This is especially made for aged members and children under two since it’s easy to chew and swallow.</li> </ul> <p>Children over five often do not prefer boiled food and they prefer eating fish fry or egg fry.</p> <ul style="list-style-type: none"> <li>• Dinner: A full fresh meal including rice, fish, prawn curry, and vegetables are cooked. In vegetarian households, <i>dal</i>, rice, and seasonal vegetables are cooked. Elders in the household sometimes prefer <i>rotis</i> over rice. Children (over 2/3 years) eat the same as the rest of the family.</li> </ul>	<ul style="list-style-type: none"> <li>• Snack (4/4:30a.m.)/Breakfast: Leftovers or <i>bondis</i> with tea, or <i>idlis</i> bought from outside. Children often have biscuits and milk mixed with Horlicks or Bournvita before leaving for school.</li> <li>• Lunch is optional and may include <i>dal</i>, rice, and egg fry, while children usually receive mid-day meals at school.</li> </ul> <p>Children usually consume mid-day meals at school and husbands are out at work, leaving women alone who tend to skip lunch.</p> <ul style="list-style-type: none"> <li>• For dinner – the only well-rounded, planned meal - fish curry, rice, and vegetables like spinach are commonly prepared and consumed.</li> </ul>
Snacks/Food Consumed	Beyond the main meals, snacking plays a significant role in the daily diet of Odisha’s fishing communities, particularly during the evening hours. Children frequently indulge in popular processed snacks like Maggi noodles, chips and biscuits. Meanwhile, adults often have biscuits with their tea or occasionally purchase <i>pakodas</i> (fritters) from local shops.	Snacks, including processed items like Maggi noodles, chips, and biscuits are a significant part of the community’s diet, especially in the evening.
Order of Eating	In a joint family setup, the serving order follows a hierarchical structure, with the father-in-law served first, followed by other male members (brothers-in-law) and children. Women usually eat last.	There is no specific order of eating. Whoever is hungry eats first. Some couples eat together, while in households where drinking is common, men might come home and eat separately from other family members.





	Ganjam, Odisha	Thoothukudi, Tamil Nadu
Cooking Fuel/ Culinary Practices	<ul style="list-style-type: none"> <li>• Preference for firewood and traditional <i>chula</i> stoves stands out. The community believes that food cooked on firewood imparts a distinct taste, resulting in a culinary tradition that values flavour over the cost-efficiency of modern gas stoves.</li> <li>• Women often go 8-10 km into the forests to collect firewood.</li> <li>• Gas cylinder is costly (INR 800/month) and used during times of emergencies only (wet seasons).</li> </ul>	<ul style="list-style-type: none"> <li>• The community has a preference for both gas and firewood as cooking fuel.</li> <li>• Additionally, during the wet season when wood availability is limited and electricity outages occur, they use heaters for cooking.</li> </ul>
Storage	<p>Access to home refrigerators, due to joint family setups or affordability from multiple income sources enables effective food storage, reducing waste and allowing for a wider range of perishable items, greater flexibility in meal planning and dietary choices, along with maintaining a diverse and nutritious diet.</p>	<p>Due to lack of refrigerators in most households, families prioritize minimizing waste and leftovers, particularly for perishable items. Non-perishable items such as rice, barley, ragi mix, and sugar are conveniently stored in containers for longer periods. This resourcefulness helps them manage their food supply effectively, reduce the risk of food spoilage and consume fresh produce everyday.</p>

## C. Substance Consumption (Alcohol and Tobacco)

Substance consumption in the form of alcohol and tobacco (cigarettes, *bidis*, powder) is prevalent amongst the fisherman community, starting out at an early age, with children as young as eight years old boys experimenting with cigarettes and bidi, while alcohol intake begins around the age of 12. Such early initiation raises concerns about the lack of effective preventive measures and the potential long-term health consequences.

**At what age do men start the habit of drinking in this village?**

***From age 12, even at the age of 8.***

- (WOMEN, FGD - THOOTHUKUDI)

Substance use is prevalent amongst male members of the community, who attribute consumption to various factors, including low education levels, free evenings and limited supplementary income-generating jobs. As a result, alcohol becomes a means of leisure, escapism and relaxation for the fishermen, providing temporary relief from their physically demanding work and daily hardships.

***“They come back from work, drink, and sleep. They feel tired so they drink to remove tiredness.”***

***“My husband drinks once every 2-3 days. When they meet up with friends then they drink and they also drink at weddings or functions.”***

***“They say they feel tension free after drinking.”***

- (WOMEN, FGD - THOOTHUKUDI)

**What do you think about drinking?**

***“I have made my husband join a center five times but he is still drinking.”***

***“Even if they do not get food, they need drinks.”***

- (WOMEN, FGD - THOOTHUKUDI)

Consequently, this practice leads to reduced appetite and inadequate food consumption, contributing to potentially weak health and nutritional deficiencies within the community.

***“After drinking they ask for non-veg foods, chips etc. but they don’t eat the food properly. This is why they are getting weaker.”***

- (WOMEN, FGD - THOOTHUKUDI)

***“When he drinks, he loses his appetite. He comes home and then sleeps.”***

- (WOMEN, FGD - THOOTHUKUDI)

### Detrimental Effects on Social Dynamics and Familial Relationships:

Domestic violence is an unfortunate consequence, with wives often becoming victims of mistreatment and abuse. This perpetuates a cycle of violence and disrupts the overall harmony and well-being of the households.

***“We trying telling male members not to drink but they don’t listen to us. They drink and fight with family members. They torture their wives also.”***

- (WOMEN, FGD - THOOTHUKUDI)

The early onset of substance use among children further highlights the urgent need for targeted interventions and preventive measures.

***“College students who drink lose their focus from studies.”***

- (WOMEN, FGD - THOOTHUKUDI)

Additionally, the prevalence of smoking and tobacco consumption, including the use of marijuana and “gutkha” (consumed by both men and aged women), adds to the overall burden of health issues faced by the community.

# V. Decision Making Related to Food Preparation and Procurement

## KEY HIGHLIGHTS

- In Thoothukudi, decisions regarding purchase and consumption are carried out by the mother/ wife/ women of the household, while in Ganjam they are carried out by the mother-in-law (MIL) or father-in-law (FIL).
- Nearby vendors and *kirana* stores serve as sources for procurement.
- Typically, the procedure of buying is carried out by the men of the family. The women might accompany them occasionally.
- Affordability, regularity, shelf life, budgeting and environment influence decision making.



## A. Decision Making and its Makers Meal on a Plate (Daily)

Item	Source/Frequency/Quantity	Stakeholder	Nuances/Implications/Insights
Perishables (leafy vegetables, bananas, eggs, milk)	Nearby vendors/daily/need basis.	Mostly women (mothers and mothers-in-law)	Women prioritize fresh and perishable items for daily meal preparation. Their proximity to vendors enables frequent purchases based on immediate needs.
Other Vegetables and Fruits (potatoes, carrots, oranges, apples)	Known and cheap vendors/shops/twice or thrice a week/demand-basis	Both men and women, fathers-in-law	Regular purchases of vegetables and fruits ensure dietary variety and nutritional intake. The involvement of both men and women in the procurement process reflects shared responsibility.
Whole Grains (staples) (rice, wheat ragi, barley)	Known local <i>kirana</i> stores/bi-weekly or monthly basis/bought in bulk. Rice and wheat are also procured through PDS.	Men	Men often take charge of procuring staple grains in bulk, ensuring a continuous supply and potential cost savings.

Item	Source/Frequency/Quantity	Stakeholder	Nuances/Implications/Insights
Pulses, sugar and salt	Known local <i>kirana</i> stores/bi-weekly or monthly basis/bought in bulk. Sugar is also procured through PDS.	Men	The purchase of pulses in bulk allows for easy storage and ensures a steady supply of protein-rich ingredients for meals.
Fish	Sourced by men/ bought from local fish markets/ daily or thrice a week on a demand-basis	Women/men	The reliance on locally sourced fish reflects the community's connection to their livelihood. Regular fish consumption provides a vital source of protein and essential nutrients.
Crabs and prawns	Sourced by men/bought from local fish markets/ daily or thrice a week on a demand-basis	Women/ men	The inclusion of crabs and prawns in the diet adds variety to seafood choices and may be influenced by availability and seasonal factors.
Chicken/mutton	Bought from nearby meat shops/weekly/need basis	Women and men	Consumption of chicken and mutton is less frequent due to perceived higher costs. Weekly purchases reflect a special meal or occasion.
<i>Masala</i> , tea, oil, sugar	Any known shop/ demand-basis	Women and men	Small quantities of <i>masala</i> , tea, oil and sugar are purchased based on specific needs, ensuring a constant supply for daily cooking and flavoring.
Snacks (packaged)	Nearby shops/daily/ demand-basis	Men and children	Purchasing packaged snacks serves as convenient, ready-to-eat options for quick snacks or to meet specific cravings. Children's preferences often influence snack choices.
Snacks (cooked outside/ street food)	Nearby shops/twice or thrice a week on demand-basis	Women and children	Occasional indulgence in cooked street food reflects a break from regular meal preparation and adds a sense of enjoyment and variety to their diet.

## B. Meal Preparation

In Thoothukudi, where nuclear families are common, the decision-making regarding food purchases and consumption is primarily carried out by the mother/ wife/women of the household. They are responsible

for determining what to eat, what to buy and the quantity needed. The men, on the other hand, often work outside the home or engage in leisure activities and have minimal involvement in these decisions.

**“Who decides what to buy or how much?”**

**“My wife tells me what to get. I sometimes buy things on my way back home. Sometimes she gets it from the shop near the house for small things.”**

- (HUSBAND, THOOTHUKUDI)

The women usually buy fresh vegetables from local vendors, based on demand. Meanwhile, the men take the responsibility of purchasing other essentials such as oil, sugar, tea, or grains from their preferred shops or central markets on their way back from work.

**“Who decides what to buy, how much, from where?”**

**“My mother, sometimes my father. It is usually my father who goes out to buy groceries in the market. Women in our house generally don’t go out.”**

- (HUSBAND INTERVIEW)

**“What is your role?”**

**“I am just a paying member.”**

- (HUSBAND INTERVIEW)

In Ganjam, the decision-making process regarding purchases and quantities is typically undertaken by the mother-in-law and father-in-law, with the daughters-in-law/mothers serving reminders of what items are needed and being responsible for cooking. It is usually the fathers-in-law who go grocery shopping, occasionally accompanied by other men returning from work. Women, on the other hand, have limited involvement in these shopping trips and typically do not go out to purchase groceries.

### **C. Decision-Making Process: Influencing Factors (inc. storage)**

The purchasing and procurement decisions of the community are influenced by various factors that consider the type of items, their shelf life, regularity of consumption, accessibility, weather conditions and specific occasions. This comprehensive evaluation helps them make informed choices.

#### **i. Budgeting Based on Daily Wage Earnings and Value: They conduct their version of a cost-benefit analysis**

The community budgets their lives based on the daily wage they earn. Their purchasing patterns are closely tied to their daily wage earnings i.e., a significant part of daily wage, typically around INR 200-300 per day, is allocated to food expenses.





Fish and rice are considered staple foods within the community. Fish is consumed on a daily basis, with a variety of fish readily available in local fish markets. It holds significant importance as a staple food within the community, not only due to its nutritional value but also because of its association with their livelihood. Members often receive a few pieces of fish as part of their work agreement. During periods when the economy is not booming, they may need to buy fish, while in other times they purchase it in bulk even if there is no immediate demand within the household. The community members also incorporate other seafood varieties like prawns and crabs into their meals.

Millets like mandia (*ragi*) or *chhatua* (barley) serve as an alternative to rice and are widely consumed within the community. These millets are often ground into powder, mixed with water and salt, boiled and eaten as a nutritious substitute for rice. The consumption of millets is not limited to specific individuals or personal choices but is enjoyed by all members of the family

## ii. Affordability and Needs-based Purchases: They strive to optimize resource management

Based on their perceived needs and affordability, they tend to purchase items such as milk or milk

powder, loose leafy vegetables, loose pulses and fruits. The quantities of these items are often adjusted according to specific requirements. For example, according to a *kirana* store keeper in Thoothukudi, “they may ask for 50 gm of vegetables to prepare curry or other dishes.”

Control over quantities demonstrates the resourcefulness in aligning purchases with financial capabilities and dietary need. For instance, when it comes to daily essentials like salt, oil, spices, and *masalas* (such as rasam powder and curry *masala*), the community generally purchases small packets that can last for two or three days or a week at most. Milk is consumed on a daily basis, with the quantity depending on the number of family members. Children and adults consume a small packet of Amul milk (half a litre), with adults often adding it to their tea, while children prefer to mix it with flavour supplements like Bournvita or Horlicks, which are also available in sachets.

The community’s perception of fruits and meat being relatively expensive influences their consumption patterns. Chicken is bought on a weekly basis, while mutton is considered more of a luxury and consumed only once a month due to its high cost. Similarly, certain fruits like apples and pomegranates are considered costly and not affordable for the

community members. They tend to prioritize locally grown fruits, like mangoes and bananas, which are more affordable.

Regularity of consumption also plays a role, as some items may need to be purchased more frequently than others. Additionally, the community considers the availability of items at nearby stores and the convenience of accessing them. They prefer to buy from stores located within a convenient distance to minimize travel time and effort.

**Physical and Social Environment:**

The communities adapt and adjust to seasonal variations. For instance, during the summer season, they may prioritize purchasing barley over rice. This suggests that they make adjustments to their food choices based on seasonal availability and preferences. On festive occasions, they tend to buy a variety of items, although in reduced quantities compared to regular days. Conversely, if the household is experiencing financial constraints, they may choose to drop certain items from their shopping list or reduce the quantity purchased.

**Shelf Life, Perishability and Demand for Storage:**

They buy what they can cook and consume. Vegetable consumption is not as frequent in the community, mainly because children are not big fans of vegetables. They are bought in loose and small quantities to minimize waste due to the absence of refrigeration. Same is the case with other perishables

like milk, eggs and pre-cooked items that need to be consumed quickly. They carefully evaluate the cost of the items and maximum utility and assess whether they fit within their rule of resource management. The community also takes into account whether the item is suitable for consumption by most family members, ensuring that it meets the dietary requirements and preferences of the household.

**iii. Bulk Purchases and Credit Options for Staples: Communities prioritize food security and financial management.**

Staples like rice, flour, and pulses are purchased in bulk from wholesale shops that offer credit options during times of need or when cash is low. This approach helps them save money and ensures a steady supply of these long-lasting and storable items.

Additionally, the community members who hold ration cards receive some grains and millets through the PWS scheme. They are entitled to 20 kgs of rice and wheat, which can be adjusted according to their preference (e.g., 18 kgs of rice and 2 kgs of wheat, or 5 kgs of wheat and 15 kgs of rice). They also receive 1.5 kgs of sugar. However, not everyone is eligible for this scheme, and some individuals, including small children, pregnant women, and lactating mothers, do not receive nutritious meals or any additional benefits. This affects their ability to access subsidized food grains.

# VI. Supply Perspective

## A. Defining Sporadic and Regular Purchases

The multi-ethnic communities exhibit both sporadic and regular purchasing behavior, aligning their purchases with specific daily needs and desires. Women and children visit the nearby shops for precise needs like snacks in case of children and specific quantities and type of item for women, while men often make purchases during their commute. This approach could be seen as a way of minimizing waste and optimizing resource utilization. It reflects a mindful approach to consumption and a desire to manage budgets effectively.

## B. Available Items at Kirana Store

To keep up with these diverse range of needs and expectations, these *kirana* stores offer a range of products, including vegetables, spices, rice and pulses, catering to the requirements of the local community. These stores are strategically located in close proximity to residents, providing easy accessibility.

*“We have vegetables like onion, brinjal, tomato, carrot, beans, broad beans, and other types of vegetables, including drumsticks. We also have rice, spices and fish making masala. Apart from this we also stock head hair pins and pins for clothes. Pulses like toor dal, chickpeas, almonds, are also available.”*

- (KIRANA STORE-OWNER, IDI - THOOTHUKUDI)

## C. Items Purchased from Markets

The central market serves as a comprehensive shopping destination, offering a wide array of goods and services. The vibrancy and bustling energy of these markets contribute to a sense of community and shared experiences.

*“We do go to the main market but mostly to buy cosmetics, clothes and stationery for children. Sometimes my children come with me because they like eating some snacks in the shops there.”*

- (WOMEN, FGD - THOOTHUKUDI)

## D. Ration or Food Items Received Via Public Distribution System or Take-Home-Rations or Supplementary Nutrition at Anganwadi Centers:

The community members who hold ration cards receive some grains and millet through the PWS scheme. In Ganjam, they are entitled to 20 kgs of rice and wheat, which can be adjusted according to their preference (e.g., 18 kgs of rice and 2 kgs of wheat, or 5 kgs of wheat and 15 kgs of rice). They also receive 1.5 kgs of sugar. However, not everyone is eligible for this scheme, and some individuals, including small children, pregnant women and lactating mothers, do not receive nutritious meals or any additional benefits. This affects their ability to access subsidized food grains.







### E. Livestock Ownership

It is not a prevalent practice in the community.

### F. Status Quo of Kirana Store: Perspective on most sold items

Certain items witness higher demand and frequent sales in *kirana* stores. Staple foods like rice, flour and pulses hold significant importance in the community's dietary regimes. Additionally, curated collections such as milk powder, fish *masala* and hair accessories cater to specific preferences, showcasing the stores' ability to adapt to local demands. The availability of these items enhances the culinary traditions and cultural practices of the community.

*“Yes, for some products we get the supply in the shop and the product is delivered when we call them. Sometimes we go to the market to purchase that product.”*

- (KIRANA STORE-OWNER, IDI - ODISHA)

*“Fine, what will people do after buying 50 grams?”*

- (KIRANA STORE OWNER, IDI - THOOTHUKUDI)

*“It is enough for them although I ask them to take more than 50 gm. They say that kids don't eat vegetables and throw them away. If we force them to buy more then they will ask us if we are forcing them just because we want to sell it?”*

- (KIRANA STORE OWNER, IDI - THOOTHUKUDI)

*“Vegetables are sold during Purattasi month when everyone wears mala and all. Then they will ask for vegetables but before that we don't have a strong sale of vegetables over fish and curry or rice.”*

- (KIRANA STORE OWNER, IDI - THOOTHUKUDI)



# VII. Conclusion

## A. Com-B Lens

Stakeholder	Behavioral Trait (Challenges)	Capability	Opportunity	Motivation	Way Forward
Men	Irregular intake of nutritious foods majorly due to consumption of alcohol (loss of appetite for the one full meal they have access to)	Engaging in demanding work, such as fishing, may leave men physically exhausted, limiting their capability to prioritize nutritious food choices.	Access to pronounced leisure time/ ample free time in the evenings. Alcohol however, might present alternative choices and distractions.	Limited physical strength after pulling long hours of shift: The physical strain of their work may contribute to fatigue.	Opportunity for community-based initiatives that: a) offer recreational activities or hobbies, resources and motivation to alleviate alcohol consumption/substance abuse b) target the prevention of domestic violence. c) engage men to improve household nutrition outcomes.
Everyone (especially pregnant and lactating women, and children)	Consumption of overcooked vegetables and carbohydrates (double cooked rice, <i>dal/ma</i> ) (in Odisha)	Lack of knowledge about the impact of overcooking on nutrient loss can lead to the preparation of overcooked vegetables with reduced nutritional value	Ease of cooking and digestion: Overcooked vegetables and carbohydrates might be perceived as easier to cook and digest, leading to a preference for this preparation method.  Limited access to ingredients and resources – cooking one pot meals.	Lack of awareness about nutrient loss  Taste preferences  Certain cultural practices or traditional recipes may involve prolonged cooking times	Nutrition counseling on food preparation wrt household resources, - promoting sustainable eating habits. (can leverage VHNDs for this) targeted health campaigns, community workshops, and IEC.  Demonstration on preparation of cooking food without losing its nutrient value among the community through a fixed-day camp approach.

Stakeholder	Behavioral Trait (Challenges)	Capability	Opportunity	Motivation	Way Forward
Everyone (especially parents/ caregivers) for Children (3 years and above)	Poor eating habits and food preferences (disposition to junk/ processed foods)  Limited consumption of fruits and vegetables	Mothers consider children capable of dictating their own preferences, and quantity of food consumption.  Lack of knowledge around nutrient values of junk/ processed foods and it's mid to long-term impact on health.	Widespread access to junk food. Products prominently displayed in shops and marketed in an appealing way make it more attractive to children  Parental influence and time constraints: Parents, often occupied or busy, may resort to providing junk food to satisfy their children's demands quickly or to manage tantrums.  Preparation (cooking) of healthy snacks at home, especially evening snack for children.	Taste preferences and instant gratification: Children tend to prefer the taste and sensory appeal of junk food, which provides instant pleasure.	Supply-led focus on promoting affordable 'healthy' snack alternatives for children: recommendation impacts choices of purchase eg: biscuits or snacks that are not made with refined flour  Create a daily activity at Anganwadi centres to report on "snacks consumed yesterday" to encourage attention and supervision by the mother on food consumption  Anganwadi and schools to have activities on differentiating healthy and non-healthy snacks among students and their parents at regular intervals.

## B. Key Implications & Actions Recommended

Implications	Actions
The demonstration of awareness/knowledge of varied sources of nutrition, as evidenced by their perceived nutritional benefits of Horlicks, Bournvita and eggs. The women of Ganjam possess significant knowledge regarding the nutritional values of different products, and the responsibility of ensuring their family's nutrition is often entrusted to women . The three main sources of information identified include word of mouth/public information, Facebook/YouTube for some individuals, and Aanganwadis/Public Distribution System.	Implementation of comprehensive nutrition educational programs targeting women in Ganjam, also to leverage their existing knowledge and focusing on promotion of healthy food choices, utilizing trusted information sources like word of mouth, Aanganwadis, and social media platforms like Facebook and YouTube, while strengthening the role of women in ensuring their family's nutrition.

<p>Thoothukudi: The excessive alcohol consumption and physical abuse by men negatively impact the nutritional decisions made by wives. Men's intoxication affects their own eating patterns and overall health, while the consumption of tobacco and cigarettes by both men and young children has adverse social implications for the community's lifestyle.</p>	<ul style="list-style-type: none"> <li>• Introduction of educational programs for the community regarding consumption of alcohol and its demerits, sensitization on promotion of food choices and the benefits that nutritional foods hold.</li> <li>• To understand the behavioural, motivational, and socio-cultural traits of men for increased consumption of alcohol/tobacco to develop a model/program for their behaviour change.</li> <li>• The Anganwadis may be utilized as safe spaces where support may be provided to women by setting up closed spaces/forums to discuss and address struggles due to substance-abuse by family members.</li> </ul>
<p>Rice and wheat are commonly obtained from the Public Distribution System (PDS), while other grocery items are purchased from local <i>kirana</i> shops. Some households also cultivate their own vegetables, but livestock raising is not prevalent. Despite the availability of gas cylinders, cooking on traditional <i>chulhas</i> using wood is preferred as it is believed to enhance the taste of food. Wood for <i>chulhas</i> is collected from the nearby forest area, and during the rainy season, meal preparation may be limited due to the unavailability of wood.</p>	<p>Strengthening local food systems: Support and promote local agriculture and food production initiatives to increase the availability of fresh and nutritious food items within the community, reducing dependence on external sources and ensuring food security.</p>
<p>Women, specifically housewives, have the primary role as decision-makers in nutrition-related matters, including grocery shopping and food choices, without requiring permission from men. Men in Thoothukudi tend to leave it to their wives to manage the responsibility of purchasing groceries, providing money in order to contribute to children's nutrition. Women take the initiative to visit <i>Kirana</i> stores and local markets to procure food items, making significant decisions about what and how much to buy.</p>	<ul style="list-style-type: none"> <li>• More women to be empowered with the help of setting up role models/nutrition champions within the community itself – by showcasing positive cases identified by FLWs/future programs to demonstrate positive outcomes for children's and women's health.</li> <li>• Taking the initiative to educate women about the nutritional food choices that prevail in society.</li> </ul>

# Case Study – Positive Deviance

The participant from Thoothukudi is 29 years old, with three daughters (aged between 1-8 yrs old). She is not educated and lives in a nuclear family set-up with her mother. While her own health and condition is not the best- owing to family dynamics- she has big aspirations for her children to study well and live a better life. Her primary source of information is advice given by her colleagues. The community knows the woman's family dynamics but has offered no support. The participant's attitude towards her daughters and her desire to provide a better, healthier life for them makes her stand out. Additionally, unlike the rest of the community, she purchases fruits twice a week.

## Knowledge and Attitude with respect to Nutrition and Nutritional Practices

- Little to no interaction with ASHAs or interaction with the Anganwadi facility.
- Colleagues informed her that fruits and vegetables such as beetroot, cucumbers, greens, eggs, etc, are beneficial.
- Cerelac has benefits ( as told by colleagues ).

- Shopkeepers provide information about “good food”, not “nutritional” food.
- She is aware that pregnant women need to consume Horlicks, spinach, eggs.

## Positive Deviations in Practice:

- Choosing to live with her mother, the participant spends her earnings on her children.
- The children are fed all fruits (pomegranate, strawberries, mangoes, apples, oranges), vegetables, and nuts regularly.
- Deviating from the rest of the community, fruits are purchased twice a week based on the children's desires.
- Daughters are given milk with Cerelac and Complan, and eggs are given everyday.
- The participant herself drinks Boost.

The positive deviation in this woman's case is purely attitudinal. Despite living in dire circumstances, she talks about how she has managed to carry on due to the motivation to provide a good life to her daughters. The participant spends all her earnings on making sure her children eat healthy things.

# Annexure 1

## Status of Household Health & Nutrition in Ganjam

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
Population and Household Profile	Total	Total
1. Female population age 6 years and above who ever attended school (%)	68.6	64.5
2. Population below age 15 years (%)	24.6	25.7
3. Sex ratio of the total population (females per 1,000 males)	1,165	1,111
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	855	801
5. Children under age 5 years whose birth was registered with the civil authority (%)	97.0	93.1
6. Deaths in the last 3 years registered with the civil authority (%)	72.8	na
7. Population living in households with electricity (%)	99.3	90.6
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	89.6	90.4
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	72.9	41.9
10. Households using clean fuel for cooking <sup>3</sup> (%)	63.7	34.5
11. Households using iodized salt (%)	98.9	91.3
12. Households with any usual member covered under a health insurance/financing scheme (%)	51.9	42.0
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	11.5	na
Characteristics of Women (age 15-49 years)		
14. Women who are literate <sup>4</sup> (%)	69.5	na
15. Women with 10 or more years of schooling (%)	32.6	22.2
Marriage and Fertility		
16. Women age 20-24 years married before age 18 years (%)	22.3	29.8
17. Births in the 5 years preceding the survey that are third or higher order (%)	0.7	2.5
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	11.4	10.0
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	83.1	35.2
Current Use of Family Planning Methods (currently married women age 15-49 years)		
20. Any method <sup>6</sup> (%)	59.2	59.1
21. Any modern method <sup>6</sup> (%)	46.7	50.7
22. Female sterilization (%)	33.9	34.4
23. Male sterilization (%)	0.0	0.0
24. IUD/PPIUD (%)	1.1	0.2
25. Pill (%)	3.9	9.5
26. Condom (%)	6.4	6.5
27. Injectables (%)	0.1	0.0
Unmet Need for Family Planning (currently married women age 15-49 years)		
28. Total unmet need <sup>7</sup> (%)	16.9	17.4
29. Unmet need for spacing <sup>7</sup> (%)	5.8	4.6
Quality of Family Planning Services		
30. Health worker ever talked to female non-users about family planning (%)	32.3	14.7
31. Current users ever told about side effects of current method <sup>8</sup> (%)	80.1	59.1

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
7. Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception.

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	77.6	53.1
33. Mothers who had at least 4 antenatal care visits (%)	82.7	51.3
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	96.8	95.9
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	67.0	23.0
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	42.2	2.4
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	99.1	97.4
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/ other health personnel within 2 days of delivery (%)	89.3	76.6
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	3,823	5,051
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	*	*



Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/ other health personnel within 2 days of delivery (%)	91.1	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	93.0	91.5
43. Institutional births in public facility (%)	72.3	78.6
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	1.9	2.9
45. Births attended by skilled health personnel <sup>10</sup> (%)	92.4	91.8
46. Births delivered by caesarean section (%)	22.6	13.7
47. Births in a private health facility that were delivered by caesarean section (%)	63.3	(41.1)
48. Births in a public health facility that were delivered by caesarean section (%)	13.1	10.7
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	88.5	54.2
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	(92.3)	(86.9)
51. Children age 12-23 months who have received BCG (%)	96.0	90.9
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	88.5	58.2
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	90.6	77.3
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	92.3	71.2
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	58.4	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	81.8	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	90.6	58.2
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	88.4	57.5
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	(96.1)	(100.0)
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	(1.9)	0.0
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	10.6	5.0
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	(66.7)	*
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	(43.5)	*
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(57.0)	*
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	0.4	2.0
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(66.6)	(71.3)

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*

10. Doctor/nurse/LHV/ANM/midwife/other health personnel.
11. Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.
12. Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.
13. Not including polio vaccination given at birth.
14. Since rotavirus is not being provided across all states and districts, the levels should not be compared.

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>		
Total		
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	71.9	71.5
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	(64.5)	(60.2)
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	20.3	4.7
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	*
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	22.3	3.8
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	23.9	28.9
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	10.2	16.4
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	1.5	6.3
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	18.9	21.3
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	4.9	2.9
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	11.2	21.5
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	36.9	20.9
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	68.3	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	61.3	37.4
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	56.9	41.5
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	(52.9)	*
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	56.7	41.3
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	58.4	39.7
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
Women		
86. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	6.6	na
87. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	8.3	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	15.3	na
Men		
89. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	9.1	na
90. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	11.4	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	21.8	na

Hypertension among Adults (age 15 years and above)		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	12.4	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	7.1	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	23.4	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	16.6	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	9.1	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	29.7	na
Screening for Cancer among Women (age 30-49 years)		
98. Ever undergone a screening test for cervical cancer (%)	0.3	na
99. Ever undergone a breast examination for breast cancer (%)	0.3	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.7	na
Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)		
101. Women age 15 years and above who use any kind of tobacco (%)	17.9	na
102. Men age 15 years and above who use any kind of tobacco (%)	45.1	na
103. Women age 15 years and above who consume alcohol (%)	0.2	na
104. Men age 15 years and above who consume alcohol (%)	23.5	na

15. Based on the last child born in the 3 years before the survey.
16. Based on the youngest child living with the mother.
17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).
18. Below -2 standard deviations, based on the WHO standard.
19. Below -3 standard deviations, based on the WHO standard.
20. Above +2 standard deviations, based on the WHO standard.
21. Excludes pregnant women and women with a birth in the preceding 2 months.
22. Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.
23. Random blood sugar measurement.

# Annexure 2

## Status of Household Health & Nutrition in Thoothukudi District

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>	<b>Total</b>	<b>Total</b>
1. Female population age 6 years and above who ever attended school (%)	86.6	79.8
2. Population below age 15 years (%)	20.9	24.3
3. Sex ratio of the total population (females per 1,000 males)	1,111	1,135
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	734	1,087
5. Children under age 5 years whose birth was registered with the civil authority (%)	99.5	95.1
6. Deaths in the last 3 years registered with the civil authority (%)	91.9	na
7. Population living in households with electricity (%)	100.0	98.7
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	97.0	99.2
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	79.4	52.5
10. Households using clean fuel for cooking <sup>3</sup> (%)	90.7	68.2
11. Households using iodized salt (%)	89.0	67.7
12. Households with any usual member covered under a health insurance/financing scheme (%)	57.8	48.3
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	(17.5)	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	88.5	na
15. Women with 10 or more years of schooling (%)	59.5	46.8
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	8.9	12.4
17. Births in the 5 years preceding the survey that are third or higher order (%)	0.0	2.0
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	0.9	1.8
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	99.4	87.1
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	67.6	30.1
21. Any modern method <sup>6</sup> (%)	63.8	29.7
22. Female sterilization (%)	52.4	27.2
23. Male sterilization (%)	0.0	0.0
24. IUD/PPIUD (%)	6.6	1.6
25. Pill (%)	0.3	0.0
26. Condom (%)	3.9	0.8
27. Injectables (%)	0.4	0.1
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	8.1	13.7
29. Unmet need for spacing <sup>7</sup> (%)	3.0	6.7
<b>Quality of Family Planning Services</b>		
30. Health worker ever talked to female non-users about family planning (%)	28.8	22.0
31. Current users ever told about side effects of current method <sup>8</sup> (%)	90.8	69.4

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
7. Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception.

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	59.2	49.3
33. Mothers who had at least 4 antenatal care visits (%)	80.7	64.8
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	89.1	61.7
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	86.1	51.6
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	70.4	31.1
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	100.0	89.7
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/ other health personnel within 2 days of delivery (%)	94.8	70.5
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	3,180	2,687
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	*	*

41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	97.2	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	100.0	99.1
43. Institutional births in public facility (%)	59.1	56.7
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	0.0	0.9
45. Births attended by skilled health personnel <sup>10</sup> (%)	100.0	96.9
46. Births delivered by caesarean section (%)	52.0	37.1
47. Births in a private health facility that were delivered by caesarean section (%)	70.9	42.0
48. Births in a public health facility that were delivered by caesarean section (%)	38.9	34.0
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	(100.0)	(47.7)
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	(100.0)	*
51. Children age 12-23 months who have received BCG (%)	(100.0)	(86.5)
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	(100.0)	(56.0)
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	(100.0)	(64.7)
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	(100.0)	(78.1)
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	(59.1)	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	(85.2)	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	(100.0)	(42.5)
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	63.0	66.3
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	(93.2)	(82.7)
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	(6.8)	(17.3)
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	4.8	7.7
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	*	*
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	*	*
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	*	*
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	0.7	2.2
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	*	(85.5)

9. Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.

10. Doctor/nurse/LHV/ANM/midwife/other health personnel.

11. Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.
12. Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.
13. Not including polio vaccination given at birth.
14. Since rotavirus is not being provided across all states and districts, the levels should not be compared.

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>		
	Total	Total
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	53.0	53.7
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	*	*
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	(16.3)	(23.3)
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	(40.3)
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	19.9	31.7
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	20.3	21.2
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	18.4	12.4
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	7.7	5.0
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	21.0	17.6
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	6.7	2.7
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	11.9	17.9
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	43.4	36.0
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	57.9	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	55.6	56.3
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	56.3	59.0
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	*	*
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	55.9	59.0
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	44.3	54.0
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
Women		
86. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	8.4	na
87. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	11.5	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	22.0	na
Men		
89. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	9.8	na
90. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	13.8	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	25.4	na
<b>Hypertension among Adults (age 15 years and above)</b>		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	15.5	na





93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	5.2	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	24.5	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	17.3	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	7.5	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	28.2	na
<b>Screening for Cancer among Women (age 30-49 years)</b>		
98. Ever undergone a screening test for cervical cancer (%)	3.9	na
99. Ever undergone a breast examination for breast cancer (%)	1.7	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.4	na
<b>Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)</b>		
101. Women age 15 years and above who use any kind of tobacco (%)	1.4	na
102. Men age 15 years and above who use any kind of tobacco (%)	18.5	na
103. Women age 15 years and above who consume alcohol (%)	0.3	na
104. Men age 15 years and above who consume alcohol (%)	21.6	na

15. *Based on the last child born in the 3 years before the survey.*
16. *Based on the youngest child living with the mother.*
17. *Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).*
18. *Below -2 standard deviations, based on the WHO standard.*
19. *Below -3 standard deviations, based on the WHO standard.*
20. *Above +2 standard deviations, based on the WHO standard.*
21. *Excludes pregnant women and women with a birth in the preceding 2 months.*
22. *Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.*
23. *Random blood sugar measurement.*



**2**

**Brick-Kiln Worker  
Community**





**Location: Ramchandrapur village**

Howrah district is positioned at the western bank of Hooghly river, in West Bengal. It is a small town located in the Howrah Sadar division. The population in 2023 is 6,741,541<sup>1</sup> with an average literacy rate of 83.31%.<sup>2</sup>

Howrah has a tropical wet-and-dry climate. The summers here have a good deal of rainfall, while the winters have very little. The average temperature is around 26.3°C. The soil of this sub-region has a high nutrient content and mineral resources with potential for a large variety of agricultural and horticultural crops. Paddy (*Aus, Aman, and Boro*), jute and potato are the major crops while pulses like gram, lentil, oilseeds like mustard, sesame, groundnut etc. and various kinds of vegetables are grown across the district. Water chestnut, *madur kathi*, water lily and lotus are also cultivated in some low-lying marshy land areas of the district. Besides different agricultural enterprises there is ample presence of different industrial enterprises along with some homestead small scale industries scattered over different parts of this district.<sup>3</sup> Durga Puja is the biggest festival of the region.

The village of **Ramchandrapur** is situated in the Bagnan 1 subdivision under Howrah district.. The village, made up of roughly 760 homes, has a population of 3,473 people, with 1,785 male and 1,688 female members. The literacy rate in the hamlet of Ramchandrapur is 69.57%, with 73.05% of men and 65.88% of women being literate.<sup>4</sup> Bengali is the local language.



1 [https://www.indiagrowing.com/West\\_Bengal/Howrah](https://www.indiagrowing.com/West_Bengal/Howrah)

2 <https://www.census2011.co.in/census/district/15-haora.html>

3 Howrah Krishi Vigyan Kendra. (n.d.). [http://www.howrahkvk.org/#:~:text=Paddy%20\(Aus%2C%20Aman%20and%20Boro,physiographic%20situations%20of%20the%20district.](http://www.howrahkvk.org/#:~:text=Paddy%20(Aus%2C%20Aman%20and%20Boro,physiographic%20situations%20of%20the%20district.)

4 <https://villageinfo.in/west-bengal/haora/bagnan-i/ramchandrapur.html>



# I. Background of the Community

## A. A Snapshot of the Brick Kiln Community

Brick kilns or *bhattas* are invariably near riverbanks because the soft earth there is used to make bricks. West Bengal has around 12,000 brick kilns, which employ an estimated 6 lakh people. According to the 2011 census, there were 550,092 child workers in West Bengal, a figure which is likely to have increased since. Brick kiln workers camp and live mostly near their kiln site and work 24 hours until the kiln furnace is lit. The furnace is put out when it rains, after which, they take their money and return home. Kiln owners are tasked with providing basic amenities like space for accommodation and access to drinking water, accommodation etc.

The nature of seasonal employment demands continuous movement for the community. Being migrant laborers, the brick kiln workers live here for 6-8 months, before they return to their villages only to move again, either back here or to a new location for the same work. Migrant laborers come here from several places such as Bihar, districts within West Bengal, Jharkhand, Odisha, etc. Due to the seasonal nature of their work, members move frequently and have previously lived at other locations to do similar work. The locations are generally chosen by the supervisor, who also provides the accommodation for the labour they employ.

Accommodation provided by kiln owners/supervisors implies that the community has little contribution or agency when it comes to the type of home, amenities, space availability, regardless of their family size and requirements.

Though the brick kiln workers do not share their thoughts on this it is important to highlight the consequences such frequent movement can have on their lives and lifestyle choices. It creates a lack of stability that comes with being grounded in one location. Being settled in one location allows people

to plan their livelihoods, resources etc. However, such continuous movement destabilizes their access to services and resources.

## Physical burden of labor associated with brick-kiln work

In addition to having to live in temporary settlements with limited amenities, brick workers are also exposed to strenuous and hazardous working conditions due to the physically intensive nature of the work in terms of lifting heavy loads, as well as the heat and pollution exposure they face in the kilns – depending on the task assigned to workers (i.e. mud collection, brick molding, brick carrying or baking). Given the strict system in place, of receiving tokens for payments on each working day as a method of ensuring attendance, brick workers tend to work through intense heat and peak sunlight hours, amplifying their exposure to strenuous conditions.

Studies have demonstrated that the nature of work specifically causes intense physiological stress amongst these workers in the form of chronic pain in their lower backs, neck, hands, wrists, knees and shoulders. After musculo-skeletal issues, the next most reported issues amongst brick workers tend to be respiratory distress and issues related to skin and eyes (i.e. epithelial issues caused as a consequence of exposure to heat and irritants).

## B. Status of Household Health & Nutrition

Migrant populations tend to be located at peripheries of communities, and so are less likely to be accounted for when measuring critical indicators of health and nutrition.<sup>1</sup> The snapshot of NFHS-5 data for Howrah reveals substantial scope to improve maternal and child health and nutrition. A drop in antenatal care is seen for pregnant women between NFHS 4 to NFHS 5. Though it does demonstrate growth in access to supplementation like IFA, the overall figures for adherence (over 150 days) still

<sup>1</sup> However, it must be noted that primary research revealed that migrant communities tend to have limited access to government services like public health and ICDS, so it is possible that the data represented below does not account for the community we have visited.

**Table 1: Key NFHS indicators for Howrah, West Bengal**

INDICATORS	NFHS 5 (2019-21) %	NFHS 4 (2015-16) %
Children under five years who are stunted (height-for-age)	27.5	34.6
Children under five years who are wasted (weight-for-height)	21.3	14.6
Children under five who are underweight (weight-for-age)	27.3	28.4
Total children (6-23 months) receiving an adequate diet	20.6	20.0
Children age 6-59 months who are anaemic (<11.0 g/dl)	67.7	56.8
Mothers who had at least four antenatal care visits	82.7	86.6
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	NA	40.2
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	65.6	58.6
All women age 15-49 years who are anaemic (<11.0 g/dl)	65.3	58.1

show a pressing need to improve access and adherence to care and supplementation for pregnant women.

The snapshot of NFHS-5 data for Howrah reveals substantial scope to improve maternal and child health and nutrition. A drop in antenatal care is seen for pregnant women between NFHS 4 to NFHS 5. Though it does demonstrate growth in access to supplementation like IFA, the overall figures for adherence (over 150 days) still show a pressing need to improve access and adherence to care and supplementation for pregnant women.

For young child and infant nutrition, complementary feeding appears to be drastically low at 20%, indicating the possibility of high nutrition deficiency among infants ages 6-23 months. The lack of adequate and diverse diet appears to extend to children-under-5, with 67.7% of children aged 6-59 months being anemic.

### **C. Food and Nutrition Security Challenges Faced by Brick Kiln Worker Households**

Due to the paucity of resources and the constant movement for work, the focus is on sustenance rather than nutrition. A lack of access to essential documentation like ration cards and voter cards, as well as limited access to public services like the Public Distribution System (PDS) and Anganwadi Centers, due to their migrant status, hinders the community's ability to receive necessary support, including vaccinations, health services and nutritional assistance. The prevalence of child labour further compromises the education and well-being of children, although efforts are made by civil society organizations to provide educational support and meals for younger children. For adults, the primary focus lies on sustenance and occasional indulgences, rather than nourishment. There is a very high prevalence of substance consumption.



# II. Participant Context and Cumulative Community Profile

## KEY HIGHLIGHTS

- The nature of work requires the workers to move from their hometown to other areas, months at a stretch, and live in temporary accommodation provided by their employers.
- Workers have to be adaptable to changing physical environments due to the nature of their work.
- Most migrant laborers move with their wife and children, leaving their older parents back in the village.
- A difference observed between the schedules of men and women is that the husbands balance work along with their routine which includes rest, personal hygiene rituals, food consumption and household responsibilities (buying groceries, etc.) whereas the women's work routines demand them to balance work alongside household and childcare responsibility.
- Families are deprived of proper infrastructure, sanitation, medical facilities, etc.
- It is difficult to keep a track on the childrens' education and this often creates a roadblock for the children as families move a lot.

## A. Social Structure

### i. Family Structure

Most migrant laborers move with their wife and children, leaving their parents back in the village. There are a few families wherein elderly parents also move with them, but this is rare. Most families in the community reside in nuclear family setups and therefore the husband and wife have higher agency in making choices for themselves and their kids.

### ii. Marriage and Childbearing Age

According to the NFHS data, 30.4% women aged 20-24 years were married before the age of 18 years and 9.4% women aged 15-19 years were already mothers or pregnant at the time of the survey.

### iii. Educational Landscape

The adults in the community have little formal education but acknowledge the value of education and aspire for their children to be more educated. However, although several children are enrolled at the local NGO that provides education, the moving nature of the community does not allow regularity or continuity. Thus, it is difficult to keep track of the children's education and this often creates a roadblock. Currently, the NGO in the area surveyed has created groups of kids based on the ones who are coming here for the first time and those who are returning.

*"I only want children to get good education, so they do something in their life."*

- (WOMEN, FGD - HOWRAH)

## B. Modes of Livelihood

As brick kiln workers, community members could be doing different tasks such as supplying coal, carrying bricks, making bricks etc. Different tasks in the brick kilns are assigned to men and women. Prior to working at these brick kilns, the men in the community used to work as farmers, drivers or in similar roles.

Pay is strictly regulated and most laborers were unclear about what they were entitled to. Although the calculation of their pay is not clear, it is partly determined by the number of bricks they have kilned for the week. The women are responsible for washing the bricks. For every pile of bricks they wash, they receive a token and at the end of the week, these tokens are calculated and they are paid accordingly. Their reported actual pay is INR 7000-10000 per month, based on the work they undertake, with pay cuts for any day missed.

## C. Social Fabric, Roles, and Expectations

### i. Oscillating Between Permanent Homes and Temporary Structures

Most temporary homes are made of mud, and almost all of them are as small as a single room,



closely located to one another in densely populated community spaces. Since these are temporary settlements, water sources are available at commonly accessed sites, where water is provided in tanks by the brick kiln owner. This also means there is limited access to facilities like drainage and sanitation, with community members bathing and defecating at common locations close to the water source, or at the nearest water body. Seasonal migrant labour demands high adaptability to new geographical environments every 6-8 months.

## ii. Seeking a Better Livelihood and Future for Children

With minimal formal education for themselves, parents hope that ensuring education for their children would lead to a better future.

*“By working I can feed my children and can save money to take it back to my village.”*

- (MAN, IDI - HOWRAH)

*“We have to save money for our daughter’s marriage.”*

- (WOMAN, IDI - HOWRAH)

*“I want my kids to study. After finishing their studies, what they will do depends on them and destiny.”*

- (MAN, IDI - HOWRAH)

## D. Access to Facilities and Services

### i. No Infrastructure for Personal Hygiene

It is observed that the community did not have access to private sanitation facilities, leading to unhygienic conditions as individuals resort to open defecation by the river located nearby. The lack of safe and hygienic sanitation facilities poses health risks, especially for women and young children, leaving them vulnerable to diseases.

### ii. Use of Technology

A few participants owned mobile phones – mostly male – with many owning keypad phones. None of the women had their own phones, but a few of them reported using their husbands’ smartphones to watch content on Youtube.

### iii. Access to Markets

There is a haat that is set up every evening at the nearby railway station from where all items for the household can be procured. Pulses, vegetables and

saag (green leafy vegetables), considered regular meal components, are all purchased from this local market.

There are no kirana stores located in the vicinity of the houses, as they are all single rooms in a single file, with no space for other construction. The closest *kirana* store is located in an adjacent built-up neighborhood.

## iv. Community Access to Resources

Given that these settlements are largely mud homes constructed by brick kiln owners, the houses in the community are tightly packed next to one another and amenities like water supply, electricity supply and household resources like stoves are not accessible to the community. These are mostly arranged ad-hoc, with the community members accessing large tanks at common access points for water and sharing common wood-fired stoves between households, which are typically located at intersections between multiple homes.

## E. Life of Community Members

### i. Routines

The routines of individuals and families are designed around their work schedules. In most cases, both men and women work as laborers and have set work routines. Their work runs through the day and is structured in a way that they incorporate other activities such as personal hygiene, cooking, eating, resting etc. during the intervals designed as short breaks.

Women in the community wake up around 3-4a.m. to prepare meals for the family, following which they go to the brick fields. Brief breaks are taken for breakfast, lunch and afternoon rest, following which they return to the brickfields until 5p.m. Once they return they are tasked with the responsibility of preparing dinner and completing household chores. For men, work on the brick-fields can extend until much later in the evening. During these breaks, they usually rest, catch up with friends and undertake household responsibilities like purchasing weekly groceries.

*“I wake up at 3a.m. and go to work till 6a.m. I then return, eat and take some rest. I go back to work at 3p.m. and get done by 9p.m.”*

- (MAN, IDI - HOWRAH)



The long extensive work hours demands high energy from the workers. Working in the brickfields is a physically laborious job, associated with high occupational risks and morbidities due to high heat, humidity and exposure to dust. These often unsafe and unhygienic conditions leave workers vulnerable to injuries, respiratory illnesses and communicable diseases.

For both men and women, the day starts as early as 3-4a.m. and continues till late evening. The women's day is entwined with taking care of both the labour and household chores. Pregnant women continue to work till advanced stages of their pregnancy while lactating mothers take their newborns along with them to their site of work.

## ii. Activities

There is a difference observed between the schedules of men and women in that the husbands balance work along with their routine which includes rest, personal hygiene rituals, food consumption and household responsibilities (buying groceries, etc.) whereas the women's work routines demand them to balance work alongside household and childcare responsibility.

Pay-outs are on a weekly basis. Members of the community are given a token as a marker of attendance for every day that they work and at the end of the week can turn these in to get a weekly wage. Generally, the wages are collected every Monday. If they miss a workday, wages are not paid for that day since they are not given any token. Wages are used to buy resources for their immediate requirements and any leftover income is saved.

## iii. Relationships Gendered Roles, Restrictions and Power Dynamics

Due to the prevalence of nuclear-family setups, mothers are compelled to take their infants to the brickfields. All the young children are kept together at the work site where they play and nap. The elder kids are seen taking care of the younger siblings while the parents work.

### Husband-Wife Dynamics

Responsibilities are divided between the husband and wife and are generally fluid as women also contribute to livelihood activities. Women report that there is some division of labour when it comes to managing the household – purchases for the household are undertaken interchangeably between men and women, whilst certain responsibilities like feeding the child and cleaning the home tend to rest with women. Given the nuclear family setup, with no elders present, it is reported that during pregnancy the husband makes efforts to cater to their pregnant wife's cravings and increased nutritional needs, with some men report taking on additional household responsibilities like cooking during the pregnancy.

***“When my wife is pregnant, I would give her cashew nuts with boiled milk.”***

- (MAN, IDI - HOWRAH)

***“Wife is currently pregnant, so I help in cooking since it would be difficult for her.”***

- (MAN, IDI - HOWRAH)

***“Wife and I drink hariya together (rice beer).”***

- (MAN, IDI - HOWRAH)

***“Generally, it's the men who come to purchase groceries here. But, if they are late from work then sometimes the women and children also just come to buy.”***

- (KIRANA STORE OWNER, IDI - HOWRAH)

# III. Deconstructing Nutrition and its Beliefs in the Community

## KEY HIGHLIGHTS

- There is a lack of facilities such as medical infrastructure.
- Absence of any interaction with frontline workers – ASHA, Anganwadi Workers – limits access to knowledge and services related to food and nutrition.
- The focus on nutrition is with respect to their children’s health only.
- People consider branded items to have higher nutritional levels.
- There is an awareness and acknowledgement of different needs at different life stages such as for children, pregnant and lactating women at a basic level.

## A. Perception of Health

Distinctly visible illness is a marker for unhealthiness. The community believes that if the child is inactive or feverish, or if the child complains of pain or discomfort, only then is the child unhealthy. The lack of awareness around the markers of ill-health can be ascribed to low education levels, coupled with their inaccessibility to health services and medical infrastructure. The closest government hospital is a two hour distance from the community in Uttarpara while there are no government hospitals nearby.

### i. Awareness and Understanding Regarding Nutrition

There is a basic understanding of the role food can play in maintaining health. Food is described as a source of strength to meet their hunger and provide energy for continuous physical labour. For these communities food provides sustenance, allowing them to function at work.

*“We work in the heat every day, we need (food for) energy.”*

- (MAN, IDI - HOWRAH)

The community enlists some food items to highlight their advantages or disadvantages, but this knowledge is limited to whether it is good or not, with limited attribution. There seems to be basic awareness around age-appropriate nutrition. Community members share that children, pregnant and lactating women have additional nutritional needs, over and above other adults/members of the community.

- For instance, children from 6-8 months to 2 years are given a spoon of Horlicks to help with growth.
- Certain additions are made to a pregnant woman’s diet such as grapes, milk, Horlicks, white rice (no other type of rice), green vegetables, cereal, *khichuri* because it will make the foetus strong.
- Similarly, there is an understanding that a lactating mother needs energy and is thus given additional foods to supplement her nutrition, based on traditional knowledge.

*“She should have rice, grains and khichuri because this will also give the child nutrition.”*

- (MAN, IDI - HOWRAH)

*“Milk will help both the child as well as mother to stay healthy.”*

- (MAN, IDI - HOWRAH)

*“I give my wife cow’s milk and Horlicks to make her healthy.”*

- (MAN, IDI - HOWRAH)

When it comes to understanding nutrition, there appears to be a surface-level understanding of the concept of nutrition. Food is consumed for sustenance as opposed to providing nourishment. Only one woman spoke about Cerelac, information of which came from her mother-in-law. This woman has four children, three of whom were fed Cerelac. The fourth child, who is now 1 year old, has not



been given Cerelac due to financial limitations. The mother believes that this child is not as healthy as her other children, though she is not clear on the nutritional value of Cerelac, other than it being a way to supplement meals cooked at home.

Branded products are considered to have higher nutritional components. According to the *kirana* store owner, only educated customers i.e. customers from communities other than brick kiln workers who come to his shop, are aware of the various nutritional benefits of different products. However, they do not consult him regarding the same. They also make sure to check the expiration date on the packaging before purchasing it. This is not true for members of the brick kiln worker community, who report great hesitation in visiting a *kirana* store surrounded by more affluent homes and tend to keep visits to the store minimal with very little verbal interaction.

## B. Sources of Information Shaping Perception of Health

The rationale for deciding what makes many of these items good or bad is acquired from the older members of the family, people around them and cultural perceptions. Elders in the community are a key source of food related knowledge and their advice is usually adhered to with little propensity to question. It is believed that parents know best and their advice is followed when it comes to providing

nutrition for pregnant women or children. Most of the members we interacted with were unable to explain the relevance or rationale behind their food-related beliefs, except that they have been hearing it for generations and hence follow the same rules.

Many are connected with the local doctor at a hospital located 45 minutes away from whom they seek advice. Other than that, the nearest government hospital is 2 hours away in Uttarpara. Only one person from the community highlighted connections with ASHA workers who informed and advised them on their food choices.

*“Asha workers have suggested that having green vegetables, fish and fruits will make the child healthy.”*

- (MAN, IDI - HOWRAH)

## C. Perceived Dietary Knowledge and Attitudes

Overall, most individuals hold some perceptions or have a general understanding of food that is good and food that can be bad for the person consuming it. It is important to note that there is some attribution to the impact these foods have on the physical and mental well-being aspects like digestion, heat in the body and mental development for children.



**Perceived Good and Bad Food**

Adults	<p><b>Good Food:</b> Overall, fruits, nuts, and Horlicks are considered to be ‘good food.’ They are perceived to be sources of energy and ‘growth.’</p>
	<p><b>Bad Food</b> Tea, though consumed (black) is considered to be ‘bad food’ but a necessary requirement for stimulation in the middle of a hectic workday.</p> <p>Eggs are considered to ‘create heat’, which is bad for the body in the hot and humid weather in the district and considered difficult to digest. “Since we work under the sun the whole day, we don’t eat eggs.” (IDI, Man - Howrah)</p>
Pregnant and lactating women	<p><b>Good Food:</b> During pregnancy, drinking milk and eating green vegetables, as well as grapes are considered good practices to nourish the foetus.</p> <p>Post delivery – rice halwa is considered to help with recovery and pain relief. “Green vegetables are good for pregnant women.” (IDI, Man - Howrah)</p> <p><b>Bad Food:</b> During pregnancy, brinjal is avoided. Along with this, oily, sour and spicy foods are considered to be bad and avoided for pregnant women. White rice is consumed by pregnant women, but they avoid consuming any spicy variants like <i>biryani</i>, as it could adversely impact the pregnancy.</p> <p>During lactation, mother are expected to avoid <i>khisari ka dal</i> (chana dal) because they believe that it dries up the milk available for the child. “Pregnant women only have white rice. They don’t consume biryani or any other form of rice preparation. I have seen it, it’s like a rule.” (IDI, Man - Howrah)</p>
Children	<p><b>Good Food:</b> Eggs as they “give them strength”</p> <p><b>Bad Food:</b> Packaged food like <i>Kurkure</i> is considered to be bad for the health of children, especially as it impacts their liver.</p> <p>Too many sweets are considered to be bad for health. <i>Rasgulla</i> which is commonly purchased from the local market is considered to be bad in large quantities, and so should be consumed occasionally.</p>

# IV. Deep Dive into Food Consumption and its Implications

## KEY HIGHLIGHTS

- Babies are exclusively breastfed for the first 6 months and almost up to 1 year.
- Non-vegetarian food is consumed once or twice a week.
- Several items are occasionally consumed such as puffed rice, biscuits, Maggi, chips, fruits etc.
- No separate meals are cooked for children, but mothers appear to be cognizant of the need to serve less spicy food to children.
- Children upwards 2 years start to consume the same food as everyone else. Additionally, some of them are also given eggs and a glass of Horlicks.
- Rice and vegetables are the most consumed food. Everyday staple consumption is generally *dal*, rice, potato fry and bitter gourd.
- The community generally follows a routine of three meals per day.
- Within the household, the same food is prepared for all members.
- Liquor is generally consumed once a week and in a variety of settings such as with wife, friends, alone, etc.

are consumed twice a week. Festive occasions also call for the preparation and consumption of meat, in addition to sweets and fruits.

*"I bring fish once a week."*

- (MAN, IDI - HOWRAH)

### iii. Occasional Consumption

Several items are occasionally consumed by most of the members of the household including puffed rice, biscuits, Maggi noodles, chips, fruits, etc. Due to access to a variety of stores and markets, there are also opportunities for occasional indulgences such as chowmein, *kulfi*, chips, *chaat*, etc.



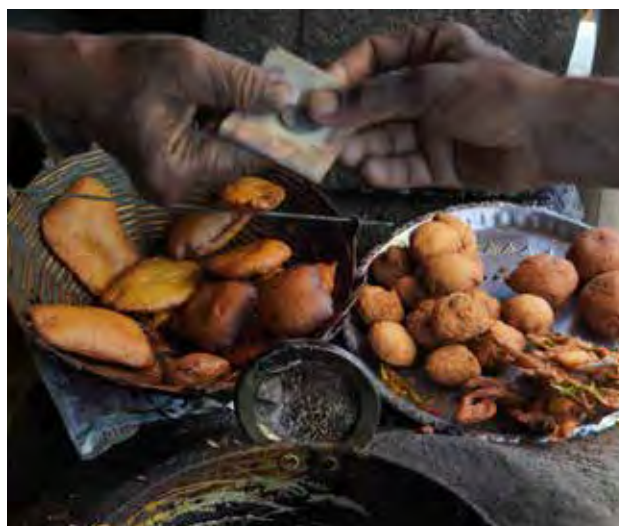
## A Overview of Food Consumed

### i. Infant and Young Child Nutrition

Infants are exclusively breastfed for the first 6 months with prolonged breastfeeding up to 1 year and potentially until the next pregnancy. There are two dominant criteria that influence the mother's decision to initiate food intake and wean the child off breast milk: when the child starts to walk and when they start teething.

### ii. Meat and Egg Consumption

Every week, mostly on Mondays, non-vegetarian items like eggs, chicken or fish are prepared which are consumed over two days. In some houses, eggs





## B. Routine of Food Consumption

Headers	Description
No. of Meals	The community generally follows a routine of three meals per day.
Meal Timings	Food is cooked once or maximum twice a day.
	The woman or the mother cooks food for the entire family at 4a.m. before leaving for work. However, on some days, if she does not cook in the morning, she cooks during her break from work around 11 a.m.
	The members of the family drink tea (without milk) and leave for work in the morning around 5-6a.m.
Meal-wise Dishes/Items	In the afternoon they come back home and eat lunch. However, this is not a fixed practice and depends on work responsibilities.
	Both men and women carry food to the brick-fields usually consisting of rice with onion and chili paste, consumed during their break.
Snacks/Food Consumed	Dinner usually consists of rice with <i>saag</i> (green leafy vegetables) or a vegetable and leftovers, if available. Leftovers like rice are immersed in water for consumption on the following day.
	In the evening, drinking tea (without milk) is a ritual.
Cooking Fuel/ Culinary Practices	<i>Chulhas</i> for cooking are outside the homes and often shared between multiple households. For instance, if two brothers have moved with their respective families, then they might share the <i>chulhas</i> or people living in adjacent houses might also share a <i>chulha</i> .
Storage	There are no storage options available.

## C. Substance Consumption (Alcohol and Tobacco)

A variety of substances are consumed by the members of the brick kiln community such as rice beer, alcohol, *bidi*, cigarette and *gutka*. There is high demand for these as validated by the *kirana* shopkeeper who shared that *bidi*, *gutka* and cigarettes are the highest selling items.

***“Bidi and gutka are sold every day. The younger generation (boys) use gutka and cigarettes.”***

- (KIRANA SHOPKEEPER, IDI - HOWRAH)

Liquor is generally consumed once a week and in a variety of settings such as with wives, friends, or alone. Some consumers also mentioned the benefits

they thought the consuming such products had. For instance, consuming rice beer helps cool down the stomach, tobacco keeps the teeth healthy and consuming alcohol helps a man be fit and not feel weak. One participant expressed awareness about being an addict but also indicated helplessness.

***“I consume alcohol on Monday nights with my labourer friends.”***

- (MALE, HUSBAND OF LACTATING WOMAN)

***“My wife and I drink hariya (rice beer) at home in the evening as it cools down my stomach.”***

- (MAN, IDI - HOWRAH)

***“Tobacco and cigarettes are not good. Your food should be proper. But I have an addiction.”***

- (MAN, IDI - HOWRAH)

# V. Decision Making Related to Food Preparation and Procurement

## KEY HIGHLIGHTS

- Wives predominantly handle decisions within the realm of the household and the husband assumes the responsibility of providing the wife with adequate resources.
- The *kirana* store, *hafta bazaar* and Bally market are usual sources of food procurement.
- Due to the paucity of resources, the core expectation from food is to provide sustenance and meet hunger demands. It's a linear relationship with food wherein consumption of food will ensure that their stomachs feel full which in turn ensures sustenance to carry out their everyday lives.



## A Decision Making and its Makers

### Meal on a Plate (Daily)

Item	Source/Frequency/Quantity	Stakeholder	Nuances/Implications/Insights
Perishables (leafy vegetables, banana, eggs, milk)	<i>Hafta bazaar</i> and <i>haats</i> , weekly, as per requirement	Men	Vegetables and rice are the most consumed foods. Eggs are consumed twice a week by children. Among vegetables, they prefer buying <i>pui saag</i> because it is cheaper than other vegetables. However, they are unaware if there is any special benefit of consuming the same.
Other Vegetables and Fruits (potatoes, carrots, oranges, apples)	Bally bazaar and <i>hafta bazaar</i> as per need	Men	There are about 25-30 shops selling a variety of vegetables such as potato, lemon, brinjal, jackfruit etc in the <i>hafta bazaar</i>
Whole Grains (staples rice, wheat ragi, barley)	<i>Kirana</i> store and <i>haats</i> Once in two weeks, men buy around 10-15 kgs of rice, which suffice for two weeks.	Men	Rice is consumed multiple times a day
Fish/ Chicken/ Mutton	Once a week	Men	Every week mostly on a Monday, they generally cook an egg, chicken or fish dish which is consumed over two days
Snacks (packaged)	Bally <i>bazaar</i> as per requirement	Women and children	Children like to consume packaged foods like Maggi, chips, biscuits etc
Snacks (cooked outside/street food)	Market in Howrah and Howrah Bally <i>bazaar</i> ; weekly	Women and children	Further inside, a few small stalls sell street food such as chaat, pakoras and sweets such as <i>kulfi</i> etc.

## B. Meal Preparation

Meals are cooked by women twice a day and are consumed by everyone three times a day. In most houses, food is cooked in the morning and consumed through the day. Fresh food is usually prepared for dinner. In some households, cooking is done keeping in mind the child's school routine. Most houses have their *chulha* set up outside the home, and in some cases are shared by two or three families. There is a common *sil patta* (grinding stone) kept in the courtyard used by around 8-10 families. There are no storage options available for leftover foods and perishable items.

## C. Decision-making Process: Influencing Factors (inc. storage)

There is not much variation in the food that the people of this community eat on a day-to-day basis. Meal components for daily consumption are dictated by their affordability and often restricted to low-cost vegetables and pulses, with limited scope diet diversity. The standard combination of rice-

*dal*-vegetables is prepared each day. However, on most days, it is the woman or the mother-in-law who decides what and how much, or how many meals to cook in the household.

It is observed in one household the woman cooks a little over 1 kg rice at one time. This is to be eaten for three meals by four members of the family. Compared to rice, the quantity of vegetable or sabzi made is limited and is meant to suffice for two meals for four people – indicating a heavy dependency on carbohydrates which is more filling but lacking in essential micronutrients. These communities are at a high-risk of micronutrient deficiencies, more commonly known as hidden hunger.

While husbands and wives have divided roles and responsibilities, these divisions are often characterized by a degree of flexibility, reversibility and susceptibility to change. The arrangements are not bound by rigid structures and instead are heavily influenced by a myriad range of factors and



circumstances. Thus, predominantly the wife handles the decisions within the realm of household and the husband assumes the responsibility of providing the wife with adequate resources.

The wife is the decision maker and decides on what should be purchased and cooked on an everyday basis. She communicates the requirements to the husband, who then purchases it from the market. However, in situations when the husband is not available, the wife also purchases groceries from the market. On some occasions, the husband and wife visit the market together to purchase their weekly groceries.

Almost everyone mentioned purchasing groceries from Bally Bazaar market once a week. Everyday requirements such as rice, *dal*, potato, oil, and spices

are purchased. Sometimes, indulgent purchases are also made such as biscuits, chowmein, *samosa*, chips etc. for kids.

***“I spend about INR 1200 every week on groceries.”***

- (IDI, MAN - HOWRAH)

***“I buy Maggi once or twice a week.”***

- (IDI, MAN - HOWRAH)

***“I buy groceries for INR 500-600.”***

- (IDI, WOMAN - HOWRAH)

Within a household the same food is cooked for everyone at the same time. A weekly budget (varies across households) is set aside at the household level and ingredients are accordingly purchased.

# VI. Supply Perspective

## A. Defining Sporadic and Regular Purchases and Available Items at Kirana Stores

A *kirana* store is a 5 minute drive or a 15 minute walk away from the community residences. The store, open every day, sells groceries including spices, snack items, etc. A store adjacent to it sells vegetables and is usually closed in the afternoons. Though there are other *kirana* stores in the area, there is no clarity on their proximity from the community. The owner of the store purchases products from the *Hafta bazaar*, Sheoraphuli or goes to Kolkata to buy candy and chocolate.

## B. Items Purchased from Markets

Accessibility does not appear to be a concern, with the nearby market providing access to a variety of food options, as well as pre-prepared/ processed food items like chaat.

The market in Howrah, located in narrow lanes, has clothing shops, small stalls selling street food such as *chaat*, *pakor*as and sweets such as *kulfi* etc., and vendors selling biscuits and tobacco products.

The *Hafta bazaar*, a permanent market, has houses on one side of the road and shops on the other side. One can observe fruit and vegetable sellers on both sides. There are about 25-30 shops selling a variety of vegetables such as potato, lemon, brinjal, jackfruit

etc. There is also a biscuit shop selling a variety of branded biscuits along with bakery biscuits.

The *Howrah Bally bazar* is almost 1 km from the brickfield community. There are roughly around 50-60 shops, mostly *kirana* stores, two or three fast food or sweet shops selling local snacks like puffed rice, *bundi*, *kachoris*, etc. and a line of vegetable vendors extending till Bally station. This is a weekly market frequented by most of the brick kiln workers to purchase household groceries from. This market is mostly frequented by women, some accompanied by children as well.

## C. Ration or Food Items Received via Public Distribution System or Take-Home-Rations or Supplementary Nutrition at Anganwadi Centers

The members of the community do not have access to these services because of limited knowledge and lack of adequate documents. Due to lack of PDS/THR, most of their income is spent on procuring staples like rice, etc, leaving little disposable income for purchase of other nutritious foods/groceries.

## D. Livestock Ownership

The members of the community do not own any livestock because of the mobile nature of their job and paucity of resources.



## E. Status Quo of Kirana Store: Perspective on Most Sold Items

Products are only stocked according to demand and not in bulk. Vendors are well versed with the evolving needs and demands of the locality since they cater to the people living in the vicinity on a regular basis. They have good knowledge of the consumption and purchasing patterns of their customers. Based on their analysis of the local demand and available capital they purchase commodities such as rice, oil, biscuits, dairy products etc. For instance, if the vendor sees a certain brand of biscuits selling more than the other, stocking of these products will be prioritized.

***“Milk, cold drink, cigarette, bidi, gutka- these four or five items are fast selling.”***

- (IDI, KIRANA SHOPKEEPER - HOWRAH)

There is a preference for cheaper and smaller variations and customers make a purchase for immediate consumption needs and not in bulk. The closest *kirana* store is smaller sized and stores lower-priced items such as *manjan* (a kind of toothbrush), oil, biscuits etc., as compared to other shops close-by. Thus, the general rationale to purchase is to satisfy immediate needs rather than purchase in bulk, due to resource constraints. For some commodities, when locals showcase increased experimentation and openness to variety, these products are then sourced locally by the shopkeeper wherever they get it at a cheaper rate.

***“Earlier there were one or two biscuit items and now we keep three or four items. Earlier we used to just sell milk and then we started selling curd andlassi. So that’s how it changes. We didn’t keep laddus before but now we do and that’s how items in the shop keep increasing.”***

- (IDI, KIRANA SHOPKEEPER - HOWRAH)

***“We keep bigger packs of Britannia biscuits which is INR 40 and nothing else. We keep small packets of cashews and raisins at INR 10 and 20 but don’t sell it loose.”***

- (IDI, KIRANA SHOPKEEPER - HOWRAH)

***“They buy rice for a week but oil is purchased once in two days. Things which don’t get spoiled are bought for a week and perishable item are bought for one or two days since they don’t store items.”***

- (IDI, KIRANA SHOPKEEPER - HOWRAH)

While there is an openness to new varieties, shifts in consumption patterns of snacks and soft drinks have occurred over the last few years, as reported by *kirana* store owners. Though there is a lack of clarity on the exact reasons for this shift, it could be driven by rising inflation, diminishing purchasing power, or increased awareness of the negative effects of these products.

***“Sales have gone down. Earlier cold drinks and biscuits had more sales, but that has now reduced.”***

- (IDI, KIRANA SHOPKEEPER - HOWRAH)



# VII. Conclusion

## A. COM-B Lens

Stakeholder	Capability	Opportunity	Motivation	Behavioral Trait (challenges)
Mother-in-law (MIL)	Rewrite: Most family units we met do not live with the in-laws. Any impact or influence that the MIL has only comes into play when they visit the MIL/ in-laws seasonally.			
Women (Pregnant / Lactating)	<p>Women are also earning members and therefore are financially capable of making decisions especially for their children.</p> <p>Since women are working too, they do not have time and ability to cook many meals every day.</p>	<p>Because of living in a nuclear family set-up, women have the opportunity to make decisions on the nutritional aspect of children and having the purchasing power plays a role.</p> <p>There is an absence of opportunity of interaction with ASHA workers. Therefore no external support is provided to the women to easily avail the services.</p> <p>Living in temporary shelters created by brick kiln owners leads to limited access to fuel source/ stove, water source, adequate storage within the house.</p>	<p>There is a focus on providing meal sufficiency rather than focussing on diet diversity due to limited resources. The focus on providing meals shows intention but there is no motivation to modify meals for younger children.</p>	<p>Children as young as infants tend to accompany mothers to the place of work in the absence of any ICDS or public health support. Alternatively children-under-5 are often left in the care of their elder/teenage siblings. There is a need to provide structural support for dietary needs through government systems like Take Home Ration from Anganwadi Centers etc. (Currently, being fulfilled by the NGO's at the selected locations but may not be consistent across all the areas of brick kiln communities.)</p>



Stakeholder	Capability	Opportunity	Motivation	Behavioral Trait (challenges)
Children	NA	NGO presence provides access to daycare and mid-day meals – even in the absence of Anganwadi Centers.	Motivation is linked to only having tasty food and it doesn't overlap with health.	Behavioural-led challenges are linked to sporadic access to day care and no means of being screened for stunting, wasting, malnourishment, etc.
Men	<p>They tend to earn more money than women and therefore have greater capacity to influence and participate in decision making.</p> <p>Nutrition-related knowledge is very limited.</p> <p>Weekly payouts lead to limited cash in hand at any given point and time. Weekly payouts impact the daily purchases due to dependency on the frequency of payouts to purchase perishables. Weekly payouts also ensure that there is always an upper limit of currency in hand.</p>	There is limited access to healthcare and Anganwadi services, little access to knowledge, resources about nutrition for household, women, and children.	<p>There is great motivation to fulfill the child's desire and fulfilling their nutritional needs.</p> <p>When women are pregnant, there is a great motivation to make the women rest and take a break from work.</p>	<p>There is an increased need for knowledge on nutrition</p> <p>Support is required to help plan and manage expenses for nutrition, since the the plan for purchases are purely contingent on the frequency of payouts.</p>

### VII.B. Key Implications & Recommended Action

Implications	Actions
Lack of access to essential documents like ration cards and voter's cards, as well as limited access to public services like the Public Distribution System (PDS) and Anganwadi Centers, due to their migrant status, hinders the community's ability to receive necessary support, including vaccinations, health services, and nutritional assistance.	Collaborate with the local NGOs and community leaders who have a vivid presence in the area to establish support for the migrant families, ensuring access to basic healthcare, awareness on nutrition, and education.
The prevalence of child labour further compromises the education and well-being of children, although efforts are made by NGOs to provide some educational support and meals for younger children.	Establish temporary Anganwadis for provision of meals for children.
For adults, the primary focus lies on sustenance and occasional indulgence rather than nourishment. While some women are aware of certain food items like Cerelac as a means of supplementing meals for their children, affordability becomes a barrier.	Enhance knowledge on balanced nutritional diet through outreach programs. Build availability of affordable alternatives for food items.



# Case Study – Positive Deviance

The participant is 29, with four children (aged between 1-6 years including three girls and one boy). She is currently pregnant with her fifth child. She is not educated and lives in a nuclear family set-up with her husband. The community is aware of the health benefits of various fruits and vegetables, but their purchase depends on the money available. This participant is the only one who gave Cerelac to her children while the rest of the community was neither aware nor able to acquire it.

## Knowledge and Attitude with respect to Nutrition and Nutritional Practices

- No ASHA interaction.
- Children go to a school run by the NGO and receive lunch there.
- Cerelac has benefits (as told by MIL) but not given to fourth child due to financial issues
- Kids eat the same spicy food as others
- Lactating mothers should eat pomegranate, Horlicks, dates
- Kurkure is oily and not good for kids.

## Positive Deviations in Practice:

- The woman has most of the control when it comes to food preparation- an outcome of living in a nuclear set-up.
- Deviating from the rest of the community, the participant fed Cerelac to three of the four children. The family faces financial issues because of which the fourth child was not given Cerelac.
- Overall, the children are given *chhuara*, chicken, fish, and nuts whenever possible because these things are known to be healthy.
- In cases where affordability is not a barrier, there is an inclination to acquire complementary foods for babies. There is a need to create access via subsidies so that people can fulfill their wishes.
- The deviation is knowledge based, due to legacy knowledge



# Annexure 1

## Status of Household Health & Nutrition in Howrah

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>	Total	Total
1. Female population age 6 years and above who ever attended school (%)	82.0	81.8
2. Population below age 15 years (%)	21.2	23.0
3. Sex ratio of the total population (females per 1,000 males)	1,011	1,001
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	1,062	974
5. Children under age 5 years whose birth was registered with the civil authority (%)	97.8	96.0
6. Deaths in the last 3 years registered with the civil authority (%)	85.4	na
7. Population living in households with electricity (%)	99.0	98.0
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	99.5	99.5
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	72.9	61.3
10. Households using clean fuel for cooking <sup>3</sup> (%)	61.9	47.2
11. Households using iodized salt (%)	97.4	97.5
12. Households with any usual member covered under a health insurance/ financing scheme (%)	20.1	21.1
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	19.0	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	80.5	na
15. Women with 10 or more years of schooling (%)	40.1	33.1
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	30.4	25.6
17. Births in the 5 years preceding the survey that are third or higher order (%)	0.0	0.3
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	9.4	7.2
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	94.1	63.8
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	84.5	67.5
21. Any modern method <sup>6</sup> (%)	68.4	50.7
22. Female sterilization (%)	31.6	20.7
23. Male sterilization (%)	0.0	0.0
24. IUD/PPIUD (%)	1.9	3.7
25. Pill (%)	23.8	18.2
26. Condom (%)	9.5	7.5
27. Injectables (%)	0.4	0.5
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	3.2	9.3
29. Unmet need for spacing <sup>7</sup> (%)	1.6	2.2
<b>Quality of Family Planning Services</b>		

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
30. Health worker ever talked to female non-users about family planning (%)	20.5	14.2
31. Current users ever told about side effects of current method <sup>8</sup> (%)	56.6	60.0

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
7. Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception.

Women are considered to have unmet need for limiting if they are:

  - At risk of becoming pregnant, not using contraception, and want no (more) children.
  - Pregnant with an unwanted pregnancy.
  - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception.

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	84.8	74.2
33. Mothers who had at least 4 antenatal care visits (%)	82.7	86.6
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	97.8	93.6
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	69.2	38.3
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	33.1	13.7
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	96.5	94.0

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	70.7	82.2
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	2,166	4,738
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	*	*
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	79.8	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	95.5	86.6
43. Institutional births in public facility (%)	60.8	37.5
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	1.4	6.4
45. Births attended by skilled health personnel <sup>10</sup> (%)	96.9	92.2
46. Births delivered by caesarean section (%)	42.8	39.1
47. Births in a private health facility that were delivered by caesarean section (%)	69.0	66.2
48. Births in a public health facility that were delivered by caesarean section (%)	30.9	17.6
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	(87.8)	73.8
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	(90.8)	(81.2)
51. Children age 12-23 months who have received BCG (%)	(96.2)	97.5
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	(90.6)	78.0
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	(93.4)	86.6
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	(89.8)	83.8
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	(28.3)	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	(3.9)	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	(80.2)	79.3
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	70.1	72.1
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	(87.4)	86.5
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	(12.6)	13.5
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	6.6	4.5
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	*	*
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	*	*
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	*	*
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	5.6	7.1

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(53.8)	(81.0)

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*
10. *Doctor/nurse/LHV/ANM/midwife/other health personnel.*
11. *Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
12. *Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
13. *Not including polio vaccination given at birth.*
14. *Since rotavirus is not being provided across all states and districts, the levels should not be compared.*

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Child Feeding Practices and Nutritional Status of Children	Total	Total
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	58.4	46.3
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	*	*
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	22.8	20.0
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	*
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	20.6	20.0
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	27.5	34.6
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	21.3	14.6
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	10.5	4.4
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	27.3	28.4
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	4.6	1.9
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	10.3	16.5
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	22.8	25.9
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	76.6	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	67.7	56.8
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	65.6	58.6
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	*	(40.2)
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	65.3	58.1
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	67.1	52.5
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
<b>Women</b>		
86. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	9.5	na
87. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	6.2	na



Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	16.9	na
Men		
89. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	10.8	na
90. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	8.3	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	20.3	na
Hypertension among Adults (age 15 years and above)		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	13.6	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	6.8	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	24.0	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	18.7	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	6.0	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	26.8	na
Screening for Cancer among Women (age 30-49 years)		
98. Ever undergone a screening test for cervical cancer (%)	0.3	na
99. Ever undergone a breast examination for breast cancer (%)	0.0	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.1	na
Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)		
101. Women age 15 years and above who use any kind of tobacco (%)	6.0	na
102. Men age 15 years and above who use any kind of tobacco (%)	44.7	na
103. Women age 15 years and above who consume alcohol (%)	0.7	na
104. Men age 15 years and above who consume alcohol (%)	19.4	na

15. Based on the last child born in the 3 years before the survey.
16. Based on the youngest child living with the mother.
17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).
18. Below -2 standard deviations, based on the WHO standard.
19. Below -3 standard deviations, based on the WHO standard.
20. Above +2 standard deviations, based on the WHO standard.
21. Excludes pregnant women and women with a birth in the preceding 2 months.
22. Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.
23. Random blood sugar measurement.

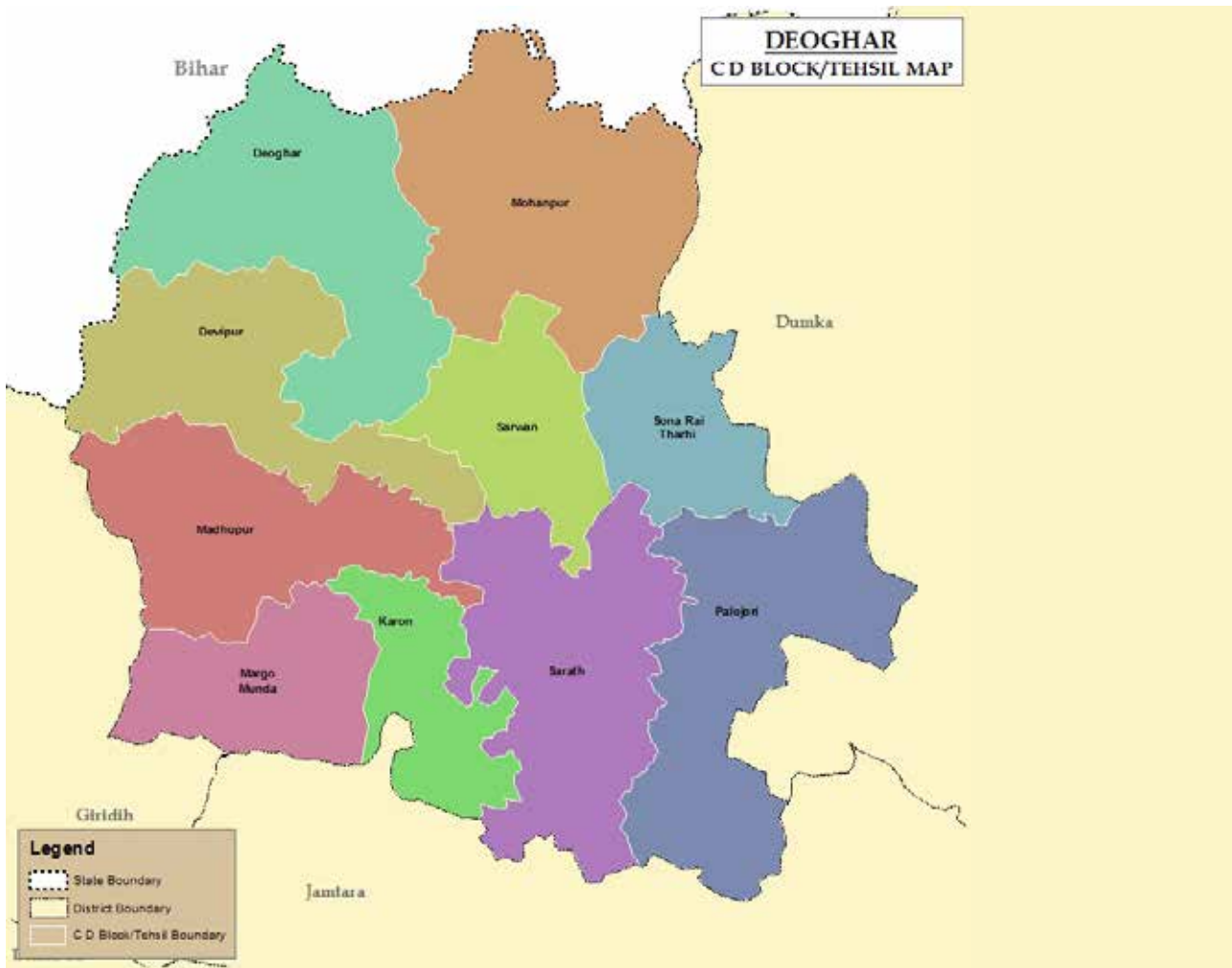


**3**

**Forestry  
Community**







**Location: Bhiknadih village, Deoghar district, Jharkhand**

Deoghar is a major district located in the state of Jharkhand. The name, literally translated, means ‘abode of gods’ and is a holy, sacred place of Hinduism, situated on the Ajay River in the Rajmahal Hills.

The region’s climate ranges from subtropical to subhumid. The hottest month is May, which has an average temperature of 42°C, while the coldest month is December, which has an average temperature of 7°C. As per provisional reports of Census India, population of Deoghar in 2011 is 203,123. The average literacy rate of Deoghar city is 85.68% of which male and female literacy is 91.24 and 79.37% respectively.<sup>1</sup> Wheat, maize, paddy, pulses, and oilseeds are the principal agricultural

crops. The area stays dry for the majority of the year and only gets rain during the monsoon season. Rain-fed, monoculture crops are cultivated here.

*Shivratri, Shravana Sombari and Shri Panchami* are the three most significant seasonal fairs celebrated in Deoghar. *Gopastmi Mela, Dussehra Mela, Makar Sankranti Mela, Newan Mela and Durga Puja* are a few additional significant fairs and festivals.<sup>2</sup>

Bhiknadih village is located at the edge of a forested area, approximately 30km from Deoghar city. It is divided into two divisions, with one division situated 3-4 km away from the All India Institute of Medical Sciences (AIIMS), Deoghar road. The area surrounding the village is protected, and strict prohibitions are in place to prevent deforestation and logging activities on a large scale.

1 Deoghar City Population 2023 | Literacy and Hindu Muslim population. (n.d.). <https://www.census2011.co.in/census/city/254-deoghar.html>

2 About District | District Deoghar, Government of Jharkhand | India. (n.d.). <https://deoghar.nic.in/about-district/>

# I. Background Of The Community

## A. A Snapshot of the Forestry Community

Since ancient times, the Deoghar district has had a special relationship with the forest. Jharkhand is covered in forests. Therefore, Deoghar is connected to trees both practically and symbolically. Agro-pastoralism has been practiced by numerous ethnic groups over the years, including the *Munda*, *Oraon*, *Ho*, *Santhal*, *Paharia*, *Chero*, *Birjea*, *Asura* groups and others. These indigenous people have historically had symbiotic relationships with the forests. Local holidays like *Sarhul* and *Karma* are traditionally associated with tree worship.<sup>1</sup> Most rural and tribal groups living in poverty rely largely on forests to supply them with a variety of non-timber forest products (NTFPs) in order to survive. The protection of catchment regions, nutrient cycles, and environmental pollutants, as well as the regulation of climate, carbon sequestration, flood mitigation, protection against soil erosion and many other environmental services, are all provided by these forests.<sup>2</sup>

## B. Status of Household Health and Nutrition in Deoghar

The NFHS indicators in Deoghar show a negative trend. While child malnutrition levels have improved over the years, 41.7% of under-five children remain stunted and 37% underweight. Further, only 7.2% infants ages 6-23 months reportedly receive a minimum adequate diet, implying significant nutrient deficiencies among the majority of the child population. This also reflects in the dramatic increase in anemia among children, with 73.9% anemia prevalence among under-5 children in the district. While immunization rates have seen a 10% drop, there has been a significant increase of 56.4% in the number of infants receiving professional postnatal care within 2 days of birth.

Maternal health and nutrition continue to remain a challenge with only 30% of mothers accessing four ANC visits, anemia prevalence rising to 72.4% among pregnant women and IFA consumption for more than 100 days limited to only 18.5% of mothers.

## C. Food and Nutrition Security Challenges faced by Forestry Households

Forested and tribal-dominated areas across India comprise some of the most vulnerable populations, owing to rampant poverty and severe food insecurity.<sup>3</sup> Deogarh is among the highly insecure districts on the Food Security Outcome (FSO) Index of rural Jharkhand and ranks high on the Multidimensional Poverty Index.<sup>4</sup> In fact, the food insecurity situation of Deoghar along with other districts from the Santhal Pargana region have been marked as alarming. A number of variables appear to compound this insecurity. The district of Deoghar is reported to suffer from poor absorption of food, low literacy rates especially amongst women and little to no change in access to improved toilet facilities. Further, Deoghar also holds an insecure status when it comes to availability of food.

While access to forests can result in income generation and nutrition support, geographical and legal restrictions limit their use. With strict laws guarding forests from deforestation, limiting forest-based livelihood activities, most households look for supplemental earning opportunities. Further, there are certain peculiar negative correlations that exist between nutrition and forest-based communities. These include but are not limited to deficient food access to external food products in terms of affordability and accessibility, lower food availability due to lower or inconsistent agricultural yield and instability since forest-dependent communities

1 Forest | District Deoghar, Government of Jharkhand | India. (n.d.). <https://deoghar.nic.in/forest/>

2 Bashabi Gupta. (2020). Status of Forests in Jharkhand, India: A Geo-Spatial Approach to Forest Appraisal. *Forest Chemicals Review*, 11 - 20. Retrieved from <http://www.forestchemicalsreview.com/index.php/JFCR/article/view/1244>

3 UN World Food Programme and Institute for Human Development (2008) *Food Security Atlas of Rural Jharkhand*. rep. New Delhi, Delhi: Institute for Human Development.

4 *Food Security Atlas of Rural Jharkhand, 2022*; Indira Gandhi Institute for Development Research, Institute of Human Development; [https://www.ihdindia.org/pdf/FSA\\_JHARKHAND\\_2022.pdf](https://www.ihdindia.org/pdf/FSA_JHARKHAND_2022.pdf)

**Table 1: Key NFHS indicators for Deoghar, Jharkhand**

INDICATORS	NFHS 5 (2019-21)	NFHS 4 (2015-16)
Children under five years who are stunted (height-for-age)	41.7	44.8
Children under five years who are wasted (weight-for-height)	17.7	23.8
Children under five who are underweight (weight-for-age)	36.9	46.0
Total children (6-23 months) receiving an adequate diet	7.2	7.9
Children age 6-59 months who are anaemic (<11.0 g/dl)	73.9	64.6
Mothers who had at least four antenatal care visits	30.7	25.5
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	72.4	67.3
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	70.1	55.3
All women age 15-49 years who are anaemic (<11.0 g/dl)	67.2	53.2

experience higher food and income volatility between seasons.<sup>5</sup>

Limited financial resources strongly impact food and nutrition security among the community, further exacerbated by limited awareness and knowledge about diet diversity and optimal nutritional choices for individuals of all ages.

In the forestry community in Deoghar, it is observed that there is limited focus on the nutritional value of vegetables and fruits, particularly among men, although women have some awareness through interactions with Anganwadi workers. While interaction with and access to frontline workers is reported by women, compliance with advice from Anganwadi workers is found to be inconsistent either due to limited agency of young women or due to the inability to implement the advice owing to comprehension, accessibility, and affordability being limited. This demonstrates a disconnect between the Anganwadi workers and community members

for nutrition-related practices. Food is seen as sustenance rather than nutritional fulfillment. Diet diversity is limited due to financial constraints, but money is spent on packaged snacks.

Prioritizing children's satisfaction irrespective of their nutritional value is seen as a sign of prosperity and of being a responsible parent. The overall understanding of nutrition in the community is low, mainly due to weak financial conditions. Occasional vegetable purchases are mainly driven by the desire for flavour variations rather than nutritional awareness. In this context, resource maximization becomes an intrinsic attitude with low-income households like submerging food in water to prevent it from spoiling and extending consumption through the day.

Community members also report being habituated to alcohol and tobacco consumption, resulting in health issues with little regulation practiced in frequency or quantity of consumption.

<sup>5</sup> Forests support people's food and nutrition security through multiple pathways in low- and middle-income countries - <https://www.sciencedirect.com/science/article/pii/S2590332222005814>

# II. Participant Context and Cumulative Community Profile

## KEY HIGHLIGHTS

- Majority of families in Bhiknadih village belong to the *Santhal* tribe and are mostly followers of Christianity.
- They predominantly live in mud homes, with the exception of few with brick homes.
- Bhiknadih village exhibits a diverse range of economic activities and resource ownership patterns.
- The community members engage in *mahua* production and daily wage labour as assistants to masons, depending on the season. Income varies greatly, with the *mahua* season providing relatively higher earnings compared to other periods.
- Both men and some women engage in activities to supplement their income from forestry related activities.
- Land ownership is prevalent among community members, with varying levels of agricultural utilization.
- Bike ownership is widespread, even in households experiencing financial difficulties. Owning a bike is considered essential, often acquired as part of the marriage dowry.
- Sanitation practices indicate preference for open defecation

## A. Social Structure

### i. Family Structure

The women we met were aged between 18-26 and the men from 23-30 years of age.

Each household reported a minimum of two children, going upto five. The women live in joint family setups, with in-laws (MIL, FIL, SIL and BIL) husband and children.

### ii. Marriage and Childbearing Age

According to the NFHS data, 49.2% women aged 20-24 years were married before the age of 18 years and 20.2% women aged 15-19 years were already mothers or pregnant at the time of the survey in Deoghar.

Amongst participants in the research study, women's age at marriage is deduced to be approximately between 16-22 years, with the first child invariably being born within a year of marriage. The currently reported ages of women and the age/number of children offer reason to believe that some of the women may have been married at less than 18 years of age. For instance, a 26-year-old woman reports having a nine year-old daughter, indicating that the age of marriage would be approximately 16-17 years.

### iii. Educational Landscape

The level of education among the community members engaged within the study is varied. Women in the village have received education between the 8<sup>th</sup> to 10<sup>th</sup> standard. On the other hand, men in the community are educated between the 5<sup>th</sup> and 10<sup>th</sup> standard, with the exception of one participant who is a graduate and has returned to the village after migrating elsewhere.

## B. Modes of Livelihood

Women mostly play the role of housewives with a few exceptions who work as *bidi-packers* or gather leaves to make disposable utensils for sale to contractors. The men are seasonal workers of forest produce and supplement their income through their work as laborers, shop mechanics and farmers. during the off-season. The women interviewed said that they weren't members of self-help groups (SHGs) or *Jeevika* except one participant who confirmed that she was a part of a SHG named Sonia Ajivika Sakhi Mandal."

Seasonal work (also known as *mahua* season) ensures higher income: During the *mahua* season, most men in the village engage in dual economic activities. They gather flowers/fruits from the *Mahua* tree and produce and sell *mahua* – a country liquor named after its source. This activity generates a relatively high income, ranging from INR 1000 to 2000 per day. However, outside the *mahua* season, the income is limited, ranging from INR 200 to 300 per day, resulting in limited cash flow. During this period, men from the entire community predominantly work as assistants to masons,



responsible for lifting and transferring materials and equipment to earn a livelihood.

The COVID-19 pandemic has had a significant impact on the livelihoods of the community members. Many individuals who previously worked as waiters or laborers in cities such as Calcutta and Delhi lost their jobs and returned to the village in search of local employment opportunities. In the village and surrounding townships, they primarily engage in contracted daily wage construction work. The daily wages earned by the villagers range from INR 100 to 400, depending on the intensity of the labor involved.

## C. Social Fabric, Roles and Expectations

### Community and Religious Affiliations

Majority of the families in Bhiknadih village belong to the *Santhal* tribe and are mostly followers of Christianity. However, there are also a few members of the *Routh* community who report being followers of Hinduism.

### Living Facilities

Most community members in Bhiknadih village own their land and majority live in mud homes, while some have brick homes. The land is primarily used for cultivation by relatively affluent families. Most families attempt to grow rice and vegetables such as brinjal, potato and onion. However, some families lack the means to utilize their land for gardening or crop cultivation, leading to an inability to sustain crops. The research team observed a home garden near the Anganwadi center with wilting snake cucumber (*kakri*) and cauliflower, attributed to inconsistent rainfall and the absence of organized irrigation.

## D. Access to Facilities and Services

Despite reported severe financial paucity in some households, it was observed that most men in the village owned bikes. Owning a bike is reported to be essential, often acquired as part of marriage dowry. These bikes enable community members to travel from the village to nearby towns, especially for daily wage construction work when forestry work is not possible.

Access to mobile phones is usually shared, with primary ownership resting with men. Most women reported having restricted access to mobile phones

– typically shared with the husband or with other members in the family like mother in-law, sister in-law and children in the home.

There was evidence of individual ownership of mobile phones by women only in nuclear households. This was typically done with the intention of maintaining contact between the male member and the rest of the family who are at home.

*“I talk to my mother, friends and also my husband. It is direct video calling and not through WhatsApp.”*

- (WOMAN - DEOGHAR)

*“If I forget something I need to purchase, I call my wife from the haat and she tells me what I need to purchase, on the phone itself.”*

- (MAN, IDI - DEOGHAR)

## Sanitation Facilities

Public toilets are available in the village but are rarely used due to their small size and limited capacity. As a result, there is a preference for open defecation, particularly at the riverside. It is noteworthy that there is a sign at the entry of the village lane claiming that the village is open-defecation free, which contradicts the observed sanitation practices.

## E. Life of Forestry Community Members

### i. Routines

Due to the lack of private sanitation facilities, women utilize the early hours of the morning to go to the fields for defecation. Upon returning they are occupied with household chores, including religious rituals, cooking, cleaning and getting children ready for school. With household chores wrapped up by 9 a.m., they head to the forest to cut wood and gather dry twigs for the *“chulha”* and continue with remaining household responsibilities. All meals for the day are prepared by noon, following which some women engage in leisure activities, while others supplement their household income by engaging in tailoring work or packing *‘bidis’* or making utensils for sale.

Men in the community wake up by 5 a.m., perform their daily ablutions and head to work by 8 a.m. For those engaged in making *mahua* and selling it during the season, the workday may end as early as 2-3 p.m., at which time they return to their homes

for lunch, followed by a visit to the market around 5km away. Those engaged in construction labour – which includes assisting the primary mason for odd jobs like lifting and transporting raw material – tend to wait at common meeting points for contractors to hire them for the day. In this case, men tend to stay at their place of work throughout the day, from morning until evening and only then get paid for their work.

## ii. Activities

Beyond household and child rearing responsibilities, women occasionally visit Anganwadi centers to receive injections/medical services and advice from “*Sahiya Didi*” (vernacular term used for frontline workers or ASHAs who are responsible for providing last-mile access to healthcare services, especially for women and infants) or the doctor, if present. During festivals women report getting together in groups to visit temples and fairs.

When not engaged in livelihood related activities, men spend their time drinking country liquor with friends at common meeting places and often consuming meals from local restaurants (*dhabas*) at nearby town centers, or at the edge of the village. Their time is also utilized in making household purchases from nearby semi-urban and urban locations and facilitating the family’s visits to healthcare centers or schools. Men reportedly have higher mobility with no access restrictions to public or private spaces, unlike women. Alcohol consumption tends to feature frequently in their routines, with some men reporting consumption as early as 7-8 a.m. and continuing through the day.

***“We start drinking as early as 7 or 8 a.m. We tend to do this at home and with friends too. We often end up eating meals outside with them when we are together for long periods.”***

– (MALE, IDI - FATHER OF 2 CHILDREN, LIVES IN A JOINT FAMILY)

## iii. Relationships Gendered Roles, Restrictions and Power Dynamics

The sole aspirations of men and women revolve around providing food and education to their children, a result of their own limited access growing up.

In terms of familial relationships, it is seen that the burden of household chores rests most heavily on the youngest daughter in-law in the household. Her domestic activities are supervised by older daughters-in-law or by her mother-in-law. Further, when it comes to food, the order of priority for feeding (both in terms of timing and quantity) starts with older male members, followed by older women or mother-in-law, then male members, children and then the women of the household. In some cases, the mother in-law may eat after the children are fed.

In terms of marital relationships, men and women living in joint households report limited interpersonal interaction, except for discussions on health, purchases to be made for the child etc. They occasionally spend time together when visiting the nearby market or a health facility. Men and women in nuclear family setups report having greater communication. In these homes, it is also seen that women have greater flexibility in terms of norms such as fixed times for chores, waiting to eat after the male members of the household and access to technology.

***“My wife does not need to wait for me to eat. She will eat with the child, if I am getting late. But she does sit with me while I have my meal.”***

– (MALE, IDI, FATHER OF 2 CHILDREN, LIVES IN A NUCLEAR HOUSEHOLD)



# III. Deconstructing Nutrition and its Beliefs in the Community

## KEY HIGHLIGHTS

- The purpose of food is primarily seen as sustenance rather than nutrition.
- Overall understanding of nutrition in the community is low, mainly due to weak financial conditions.
- Doctor's and FLWs are major sources of information for the community members.
- Women have a basic idea about nutritional content of foods due to engagement with Anganwadi workers.
- Pregnant women are given nuts, vegetables, fruits but some items like jackfruit, cauliflower and non-veg are avoided at the time of pregnancy.
- Fulfilling children's needs, including food desires like chips and ice cream, is highly prioritized and considered a sign of prosperity.

## A. Perception of Health Healthy Child

Across the community, there is a common opinion that the level of activity of the child is the sole marker of their state of good health. As long as a child looks happy and active and does not throw a tantrum, the child is healthy.

Many claimed not knowing or understanding the 'markers' of a healthy or unhealthy child with some men reporting that the child will say when he/she is not well and mothers reporting a happy child is a healthy child. There is no reference to or focus on anthropomorphic traits as a sign of health.

## Unhealthy Child

It is observed that not many parents do not make any associations between the health and height /weight of children. Visible illness is the only indicator of being unhealthy or in a state of bad health. There is a common understanding that unhealthy children

will be inactive, sitting in one place, might be cranky, lethargic and develop fever or have watery eyes.

*"See, the one who would be healthy would play and eat properly but the one who is suffering even from little fever would not play and would not eat properly, his hands and feet would ache, he would feel pain in his body."*

- (WOMAN, FGD - DEOGHAR)

*"He would keep crying, not eat food. He would not sleep properly."*

- (WOMAN, FGD - DEOGHAR)

*"He would irritate his mother."*

- (WOMAN, FGD - DEOGHAR)

*"Child would be slim"*

- (WOMAN, FGD - DEOGHAR)

## B. Low Salience of Nutrition

The purpose of food is primarily seen as sustenance rather than nutrition. There is a lack of emphasis on the importance of nutrition within the community. No overt conversations take place about nutrition and food consumption is planned based on budget availability. Some legacy knowledge exists around the introduction of complementary food, typically by ages 1 – 1.5 years and on texture and taste, i.e., soft/mashed food, low in spice. This can be seen in practice, but its salience is not overtly expressed.

Overall understanding of nutrition in the community is low, mainly due to weak financial conditions and is seen to be especially lower amongst men and women who report lower levels of education. Limited awareness is seen with respect to the nutritional value of various food groups such as vegetables and fruits, particularly among men. Occasional vegetable purchases are mainly driven by the desire for flavour variation rather than nutritional awareness. Overall, the larger understanding of nutrition for adults is linked to food providing strength and energy to



function and work and linked to growth for children. It is important to note though that the concept of growth in children is also tied into sustenance and energy for children to play and exhibit physical movement.

### C. Struggles with Meal Adequacy

Most households struggle to earn enough to plan for two separate meals a day, leading to storage, reheating and reuse of food. Limited households report cooking up to three separate meals daily and are usually restricted to homes with multiple earning members, as well as those who cultivate their own land for grains and vegetables.

#### i. Prioritization during Pregnancy

Women's preferences or nutritional needs are not prioritized within households, as reported by both men and women. However, as a unanimous exception, men report paying greater attention to women's nutritional needs and desires at the time of pregnancy, linking it with increased physiological need to nourish the foetus. Men reportedly prioritize the fulfillment of pregnancy cravings, as long as the food is not harmful for the foetus. This sentiment however does not translate into the period of lactation, except for men reporting restrictions on spicy food to avoid contaminating breast milk.

#### ii. Fulfilling Children's Desires

In Deoghar, being able to fulfill children's food-related needs, including desire for packaged foods and snacks like chips and ice cream, is considered a sign of prosperity. Nutritional value or harmful effects are often overlooked in favor of meeting children's requests for various food items which are usually provided on demand, with little emphasis on frequency or quantity of consumption. Similarly, in the spirit of indulging the child, home-cooked food items are also given to children – especially those over 3 years of age, based on their desire for variety and quantity of consumption.

### D. Sources of Information Shaping Perception of Health

The extensive outreach efforts of ASHA and Anganwadi workers, combined with the guidance provided by doctors regarding the significance of consuming nutritious foods and the detrimental effects of alcohol and tobacco consumption, serve to educate and influence individuals' perceptions of health. Women demonstrate some understanding of the nutritional value of certain fruits or vegetables through interactions with Anganwadi workers. Further, it is reported that decisions on food for children are governed by advice from elders, and adults' own experience of food intake when they were younger.

It is reported that across this region, the advice of ASHA workers (or ASHA *didi* as they are commonly called) holds a very important place in the lives of the people living in the village. The reasons for visiting an Anganwadi center is primarily to get the child vaccinated and give polio drops to children. The community members send their children to the Anganwadi school for education as well the the food the child gets there. Though, it has been reported that Anganwadi workers do not give any advice related to food.

***We go to the Anganwadi to get our children vaccinated. Our children also go to study and eat there."***

- (WOMAN (MOTHER), IDI – DEOGHAR)

***"(She) does not give us any advice related to food."***

- (WOMAN, FGD – DEOGHAR)

***"Anganwadi workers come and tell us to get children vaccinated and gives polio drops."***

- (WOMAN, FGD – DEOGHAR)

## D. Perceived Dietary Knowledge and Attitudes

Stakeholders	What is Perceived to be Healthy and Nutritious
Infants	<p><b>Perception of Good Food:</b></p> <p><b>Exclusive breastfeeding:</b></p> <ul style="list-style-type: none"> <li>• Upto 6 months, only mother’s milk is considered beneficial food for infants.</li> </ul> <p><b>Introduction of complementary foods after 6 months:</b></p> <ul style="list-style-type: none"> <li>• <i>Bhaat</i> (rice): After 6 months, rice is introduced as a food for tasting. It is not, however, introduced as part of a regular diet.</li> <li>• Cerelac is also reported to be introduced by one or two women (because of their awareness from the doctor and affordability).</li> <li>• Liquid <i>poha</i>: Only one woman said that introducing liquid <i>poha</i> was considered beneficial for their health. This preparation is typically made by her mother-in-law and was not the case in most households. This is not common to the community</li> </ul> <p><b>Food options for children aged 6 months to 2 years: In small, inconsistent quantities</b></p> <ul style="list-style-type: none"> <li>• Soup of pulses, dal and rice: Provide nutritional value and are easy for the child to consume.</li> <li>• Semolina with water or Maggi with water: Provided to make it easier for the child to eat. Semolina is used in different preparations for the child’s meals.</li> <li>• <i>Chapati</i>: Introduced as a food option for the child.</li> <li>• Parle G Biscuits: Included as a snack option</li> <li>• <i>Maar bhaat</i>: A meal consisting of rice and other ingredients is provided to the child.</li> </ul> <p><i>“After 6 months: We start giving them bhaat in limited quantities”</i> - (woman, FGD – Deoghar)</p> <p><i>“He started eating everything on his own (when he is 3 years old).”</i> - (woman, FGD – Deoghar)</p> <p><i>“We had been hearing that we can make children have Cerelac - that is why we make them have it.”</i> - (woman, FGD – Deoghar)</p> <p><b>Perception of Bad Food</b></p> <p>Knowledge on avoidance of hard foods for infants: Since the infants have no teeth, therefore food in a hard form is generally avoided</p> <p>It has been observed that meat, eggs, and fish as well as oily food are considered unsuitable for young children under 2.5-3 years. The concern is related to the potential negative effects on children’s health, such as vomiting, falling ill, developing jaundice and having boils on their body</p> <p><i>“When children becomes 3 years old, they have teeth and slowly start eating all these types of food.”</i> - (woman, FGD – Deoghar)</p> <p><i>“We don’t give meat, eggs, fish and very oily food. They vomit, they can fall ill. They can have jaundice after having more oily food. Children can have boils on their body.”</i> - (woman, FGD – Deoghar)</p>
Children (Over 2.5 - 3 years)	<p><b>Perception of Good Food</b></p> <p>Food that is considered Good for children across the community include <i>dal</i>, rice, milk, curd, <i>roti</i> as well vegetables including potato, brinjal etc.</p> <p>It is reported that children over 2.5-3 years can also consume eggs/meat two-three times a week. (This does not necessarily translate into practice owing to affordability barriers)</p> <p><b>Perception of Bad Food</b></p> <p>After the age of 2.5-3 years the child develops teeth and these foods become easier to chew and digest. Therefore, the community reports that the child can consume any food that is being consumed by the rest of the household.</p>

Stakeholders	What is Percieved to be Healthy and Nutritious
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Pregnant Women

**Perception of Good Food**

Some common nutritional food items consumed by pregnant women include Horlicks, iron tablets, *shalgam* (turnip), cashew nuts, raisins and homemade food (*dal*, rice and milk).

**Nutritional Considerations:** Despite limited awareness and knowledge, women pay attention to their nutritional intake during pregnancy. Consuming food like Horlicks, iron tablets and nutritious homemade meals indicates a conscious effort to provide essential nutrients for both the mother and the developing baby.

**Cravings and Indulgences:** Occasional indulgence in special foods like chaat and chowmein are reported by pregnant women to be specific cravings or preferences during pregnancy. While it is important to maintain a balanced diet, allowing for occasional indulgences can contribute to overall satisfaction and well-being during this period.

**Special Food:** It has been reported that consuming pickles made of mango, jackfruit or tamarind help in balancing the intense desire to eat something sour (*khatta*).

*“Pregnant women should have Horlicks, consume iron tablets and eat shalgam to get protein”* - (woman, FGD – Deoghar)

*“When I was pregnant I used to eat cashew-nuts, raisins, and Horlicks. The food which is prepared at home I use to eat that”* - (woman, FGD – Deoghar)

**Perception of Bad Food**

**Breastfeeding:** There is a belief that over-eating during breastfeeding may cause stomach pain for the child. Women are advised not to eat meat and fish after childbirth. This is likely due to cultural or traditional practices. In the community, there is also a custom for lactating women to avoid eating meat and fish until the child reaches 6 months of age.

**Pregnancy:** In advanced stages of pregnancy, the consumption of jackfruit, *khasi* (goat) meat and cauliflower is avoided due to perceived adverse effects.

*“At that time of breastfeeding, elders tell us to not eat too much food because the stomach of the child starts aching. They also say that we should not eat meat and fish after childbirth”* - (woman, FGD – Deoghar)

*“Jackfruit is avoided at the time of pregnancy since it gives us a stomach ache. We also don’t eat khasi meat during pregnancy for the same reason. We don’t eat cauliflower since we get a fever after eating it. When ladies are 8 or 9 months pregnant their mother-in-law and elders in the family advise them not to eat mutton, chicken, jackfruit or cauliflower”* - (woman, FGD – Deoghar)

Lactating Women

**Perception of Good Food**

Mothers-in-law advise lactating women to eat fruits, milk and dry fruits.

*“In our community till the time he ( the child) would become 6 months old we are not allowed to eat meat and fish”* - (woman, FGD – Deoghar)

# IV. Deep Dive into Food Consumption and its Implications

## KEY HIGHLIGHTS

- More focus on breastfeeding of children till 1-2 years of age.
- Occasional vegetable purchases are mainly driven by the desire for flavour variation rather than nutritional awareness.
- Eggs are avoided at the early stage of growth because of the notion that it generates more heat in the body.
- Importance is given to hierarchy, togetherness and selflessness in the mealtime dynamics within the household.
- The serving order ensures that respect and care are given to elder family members, while the collective mealtime promotes family cohesion.
- The community members often engage in alcohol and substance abuse and face consequent health challenges. Children of 10 to 12 years of age smoke cigarettes and *bidi* and eat tobacco.

## A. Overview of Food Consumed A Snapshot of the Dietary Habits of the Forestry Community

### Regularly Consumed (Daily or more than once a week)

Rice is the most frequently consumed grain, along with *arhar* and *masoor* dal (for all members above 2.5-3 years of age). Regularly consumed vegetables include potatoes and onions (to prepare *chokha*, a local boiled potato dish), as well as beetroot, carrot, spinach, brinjal, pointed gourd, cabbage and drumstick leaves (particularly for pregnant women), prepared in mustard oil. It is critical to note that quantities of vegetables tend to be limited and only available for one-time preparation. When observing a household, it is seen that the vegetable available needs to be apportioned between various members, with women sometimes having smaller portions available, in comparison to larger quantities of rice and *dal*.



Children are given milk with Horlicks. *Namkeen* or fried, savory snacks and biscuits are preferred packaged foods.

#### **Occasionally/ Irregularly (Once a week or less)**

Wheat, in the form of *rotis*, is consumed occasionally, while *sooji* (semolina) is also consumed mainly during festivals or special occasions or while initiating solid foods among infants. Fruits like apples, pomegranates, bananas and grapes are also occasional occurrences – but are entirely contingent on available monetary resources and are often the last priority when making purchases. Non-vegetarian foods like fish and meat are consumed when income is available. In homes where affordability is not a barrier, non-vegetarian items are prepared as often as twice or thrice a week. Packaged foods like Maggi, pasta and chowmein are also enjoyed.

***“We cook meat and fish almost twice a week.”***

- (WOMAN, FGD – DEOGHAR)

#### **Festive Cooking and Celebration**

At the time of the *Santhali* festival various dishes,

including fish and chicken, are cooked. The festival is associated with joyful activities like singing and dancing. This suggests that food plays a significant role in celebration and the preparation of special dishes adds to the festive atmosphere.

#### **Considerations for Young Children**

Women modify food formats or avoid certain textures or spices in food for younger children.

***“At the time of festivals, we fry the fish in cumin seeds, fenugreek seeds and ginger and garlic. We cook and dance at that time.”***

- VOICE OF A WOMAN FROM DEOGHAR.

***“I would cook something else for him as he is very young and would find it spicy.”***

- VOICE OF A WOMAN FROM DEOGHAR.

***“I do not give fish to the small child but instead, prepare semolina or Maggi for him. Now he eats himself, but I do not give him fish because there are chances of the bone getting stuck in his throat.”***

- VOICE OF A WOMAN FROM DEOGHAR



## B. Routine of Food Consumption

Headers	Deoghar
No. of Meals	The community generally consumes two main meals although there are three meals planned for children and pregnant women.
Meal Timings	Community members have lunch at 1 p.m. and then eat dinner at 8 p.m. If a third meal is afforded, this is typically consumed at 8 a.m. A light snack is consumed before going for work or into the forest by both men and women
Meal-wise Dishes/Items	Early morning: Starts with tea and biscuits. Everyone, including children, have tea in the morning. For the morning meal, they have mostly rice and <i>dal</i> or <i>maarbhaat</i> . Some households prepare <i>rotis</i> in the morning. After that, women cook dal and rice with vegetables like potato, onion, tomatoes (more frequent) and brinjal, cabbage, pointed gourd (more occasional) depending on the ability to afford it. Lunch: <i>Dal</i> and rice are consumed by everyone in the household. Dinner: Dinner typically constitutes rice, dal and occasionally <i>rotis</i> ; with a vegetable and meat (if it is available)
Snacks/Food consumed	Biscuits and <i>namkeen</i> with tea. Snacks are procured on a daily basis that are available at the lesser price. Children often consumed packaged food like chips.
Order of Eating	There is a hierarchical meal serving order within the household. The food is served first to the father-in-law and mother-in-law, followed by the husband, children and then the woman who is responsible for preparing the meal. The emphasis is placed on ensuring that everyone is served before the woman consumes her own meal. This suggests a cultural practice of prioritizing the nutritional needs of the elder family members and immediate family members before themselves. Contrastingly, collective mealtime is reported as an instance of bonding. The family members all sit in the same space to eat their meals, even as they are served sequentially. This is still considered to be communal dining within the household. However, the daughters-in-law tend to consume meals after the entire household has eaten. The women have a responsibility to serve food to others before eating themselves. The only exception is in nuclear families where the household constitutes only the husband and wife with their children. “(We first serve food) to our father and mother-in-law, then to husband, then children and then ourselves. We eat at last after making everyone eat.” - (Woman, FGD – Deoghar) “(We first serve food) to children, to my father, mother-in-law, sister-in-law, husband and then we eat at last. We have to serve food to them and get scolded, if we eat first” - (Woman, FGD – Deoghar)
Cooking Fuel/Culinary Practices	A combination of gas and <i>chulha</i> (traditional stove fuelled by wood or other combustible material) are used for cooking meals. While the preferred choice is cooking on gas, there are instances when the <i>chulha</i> is used, particularly to either conserve gas or when the gas is unavailable or has run out. It was specified that meat dishes are preferably made on the <i>chulha</i> . In this case the <i>chulha</i> being outside the home also indicates the segregation of non-vegetarian items from staples, pulses and vegetables. Homes with limited income only use <i>chulhas</i> . “We go to pick wood and make food on <i>chulha</i> and use both gas and <i>chulha</i> ” - Voice of a woman from Deoghar. “We don’t use the gas but use the <i>chulha</i> to make meat” - (Woman (HH), IDI – Deoghar)



## C. Substance Consumption (Alcohol and Tobacco)

Reports from men and women suggest the daily consumption of country liquor as early as 7 a.m. and continuing through the rest of the day, especially among elderly men who stay at home. A few men report occasional consumption of alcohol during festivals such as Holi.

***“Elderly people drink alcohol. Those who do not have work drink but young people who work do not drink.”***

- (WOMAN, FGD – DEOGHAR)

***“My husband drinks taadi. They get it from the local shop.”***

- (WOMAN, FGD – DEOGHAR)

Younger boys are exposed to the usage of tobacco at the early stage of their lives as they see elders engage in tobacco consumption. Smoking cigarettes and consuming gutka or chewing tobacco are common practices amongst both elderly and younger men.

***“Boys of 10 to 12 years smoke here. . Both elderly and younger age men smoke cigarettes and consume gutka.”***

- (WOMAN, FGD – DEOGHAR)

**Impact on Food Consumption:** Men report altered food consumption routines due to alcohol consumption. This is true specifically for younger men who step out of the house for work. Those drinking post-work, along with friends or other community members tend to indulge in packaged snacks or meals of meat and rotis at local restaurants (dhabas). This tends to impact the consumption of homemade meals.

**Impact on Health:** Women are more emphatic about the adverse health effects of alcohol consumption, citing the possibility of liver failure due to incessant drinking.

When it comes to tobacco consumption, persistent cough and propensity to illness (or lowered immunity) are cited as the harmful effects.

Participants cite that doctors often advise people not to smoke, and even the news conveys that smoking is bad for health. For men, these adverse effects are not top of mind, and even if known are not discussed

# V. Decision Making Related to Food Preparation and Procurement

## KEY HIGHLIGHTS

- Women (daughters-in-law with supervision or support from mothers-in-law) are responsible for preparing meals in the house.
- Mothers-in-law hold a prominent and influential role in decision making such as items to be prepared, timely preparation, maintaining household rules, etc.
- The husband holds the responsibility of buying vegetables from the market.
- Due to daily wage earnings, the food items are purchased on a daily basis.
- There are two or three kirana stores in the village area, hatiyas or weekly fresh produce markets 1-2 km away, and the block/town market is 5-6 km away.



## V. A Decision Making and its Makers: Meal on a Plate (Daily)

Item	Source/Frequency/Quantity	Stakeholder	Nuances/Implications/Insights
Perishables (leafy vegetables, banana, eggs, milk)	Vegetables are bought from the weekly/ bi-weekly <i>hatiyas</i> or vegetable markets.	Eldest daughter in-law and husband	Some households grow their own vegetables. Mustard, potato and onion are common crops.
Other Vegetables and Fruits (potatoes, carrots, oranges, apples)	Root vegetables (which can be stocked for longer)- town/block market 5-6 km away; weekly or fortnightly intervals. Fruits- weekly <i>hatiyas</i> ; infrequently	Husband/ MIL	Fruits are purchased infrequently and in very small quantities owing to the financial constraints.
Whole Grains (staples) (rice, wheat ragi, barley)	Wheat is bought from the wholesale stores at the town market. Rice is largely procured through PDS, but often needs to be supplemented through purchased quantities.	Husband/ MIL and eldest DIL	Bulk quantities of dry staples are in demand, particularly in households that accommodate eight or nine members. Whenever feasible, men express their efforts to economize by consolidating their shopping into a single trip to the nearby town market. During this trip, they aim to procure discounted amounts of wheat and rice. However, this practice is not widespread and is observed primarily in households with multiple income earners or access to cultivated land. Due to financial limitations faced by the majority of the community, most households are compelled to buy limited quantities of food on a daily basis.
Pulses, Sugar and Salt	Nearby grocery shop in some smaller quantities.	MIL/Wife	Purchasing of food items occurs daily by the husband due to the limited amount of money earned in a single day
Fish	Nearby shop	Husband/ FIL get more.	The division of food quantity is gender specific as the men are served larger quantities as compared to women.
Chicken/ Mutton	Nearby shop	Husband	
Snacks (packaged)	Chips, biscuits and <i>namkeen</i> are purchased almost everyday. Cooked items like noodles or <i>chaat</i> are procured once a week or lesser.	Children and fathers	Indulging the desires of children is seen as an indicator of prosperity. Even children as young as 3 years old are frequently given small amounts of money (INR 5 or 10) to visit the nearby shop and buy snacks like chips or biscuits.

Item	Source/Frequency/Quantity	Stakeholder	Nuances/Implications/Insights
Snacks (cooked outside/ street food)	Local <i>hatiyas</i> – typically on a weekly basis, depending on availability of funds	Men	When visiting local markets or <i>bazaars</i> , men often bring back chaat or noodles for their families with leftover money after their household grocery shopping.

## B. Meal Preparation Gendered Responsibility

The data suggests that women, specifically wives or daughters-in-law, are primarily responsible for preparing meals in the households. Though, sisters-in-law (sisters of the male members who may be unmarried or co-sisters of the youngest daughter in-law) also support in household chores such as cleaning and cooking. This reflects a gendered division of labour where women have the role of cooking and serving food to the family members.

### Extended Support

Sisters-in-law seem to play a crucial role in providing support to the pregnant woman as well as when the child is at the early stage of growth.

*“We used to cook together - when my sister in-law used to take care of child then I use to cook and sometimes I use to take care of the child and she used to cook.”*

- (WOMAN (HH), IDI – DEOGHAR)

## C. Decision-making Process: Influencing Factors (inc. Storage)

This section explores the dynamics of decision making within the household, particularly highlighting the significant role played by the mother-in-law (MIL). It emphasizes the authoritative position held by the MIL and how her decisions shape the functioning of the household. It also mentions specific instances where the MIL's decisions influence the timing and manner in which tasks are performed.

The husband is responsible for purchasing vegetables, fruits, and chicken. Usually, the wife/ daughter in-law informs the MIL and husband about the groceries required. It is expected that the eldest daughter-in-law is more responsible and in some households, the elder daughter in-law goes with the MIL to make purchases.

Purchasing of food items occurs daily due to limited amount of money earned in a single day: The occurrence of grocery or food items varies, with some items being procured once a month while other items such as dal, sugar, potato, turmeric, chillies, and jeera are procured daily, particularly when the husband returns from work. Geographical proximity is preferred at the time of shopping for household groceries, with preference given to nearby grocery shops.

Everyone present in the household is asked about their choice of food from the available items in the kitchen and then a decision is taken about what is to be prepared. The opinion of men is limited since they are away working during the day.

*“I am the eldest bahu (DIL) in the family, so I go with my mother-in-law to buy groceries.”*

- (WOMAN, FGD – DEOGHAR)

*“There is a shop near my house and I only buy grocery items from that shop.”*

- (WOMAN, FGD – DEOGHAR)

# VI. Supply Perspective: Sporadic and Regular Purchases

## A. Available Items at Kirana Store

### i. Focus on Best Quality Goods

The interaction with *kirana* store owners highlights the seller's focus on selling the best quality goods such as pigeon peas, edible oil and rice. This commitment to quality results in a lack of complaints from customers. However, occasional mistakes happen like soda getting mixed with flour when customers return the flour.

### ii. Variation in Demand for Different Products

A variation in demand for different products is reported. Rice, pulses, oil, sugar and flour are reported as the most sold items. Pigeon peas have a higher demand compared to other pulses, likely due to their perceived nutritional value. Chickpea lentils and red lentils have lower sales than pigeon peas, while green gram has lowest sales when compared to chickpea l and red lentils.

The *kirana* store owner cites that liquor and tobacco products have higher demand than milk. There is high reported demand for *Punjabi Tadka* – a branded savoury snack - compared to other items, indicating that men tend to purchase this as an

accompaniment when consuming liquor. Branded chips are summarily referred to as *Kurkure* though multiple brands like Lays and Haldiram *namkeen* are found at the storefront. This is likely because the vernacular term for savoury snacks is *kurkuri* making it a ubiquitous term for the category. Overall, the store owner reports that packaged snacks and biscuits are the highest selling items – sometimes even purchased by children as young as three or four years old. Further, they said that jaggery is purchased by parents for young children as it is considered to make a child's bones stronger. Eggs are not purchased too often or in large quantities by customers. Those who consume it, do so only twice or thrice a week.

### iii. Availability of Branded Food Items

While branded food like Aashirwaad *atta* (flour) are available at the *kirana* store, branded raw ingredients/staples are considered to be expensive by community members leading to preference for loosely sold *atta* or wheat flour, as well as pulses, sugar etc. Market penetration of Fast-Moving Consumer Goods (FMCG) brands is seen, but these are considered 'expensive' by community members.



## B. Items Purchased from Markets

Markets are located nearby 5-6 km away from the community. This proximity to the market is convenient for the individuals as they have their own vehicles. If they are unable to find certain items at the *kirana* (local grocery store), they opt to purchase them from the nearby market. This suggests that the market serves as an alternative shopping destination when specific products are not available at the *kirana* store.

## C. Ration or Food Items Received via Public Distribution System (PDS) or Take-Home-Rations (THR) or Supplementary Nutrition Programs at Anganwadi Centers.

Rice is available at a subsidized rate of INR 1 per kg, allowing them to purchase 20 kg of rice for only INR 20. This affordability and accessibility of rice through the PDS plays a crucial role in ensuring food security for the community members. Anganwadi workers give packets to pregnant women and also sweet packets to children. The packets given to pregnant women dissolve in water and are then drunk.

Store owners report that community members do not necessarily adhere to the advice of Anganwadi workers, though they are often the source of knowledge with respect to nutrition for children. This shows a disconnect between the Anganwadi workers and community members for nutrition-related practices.

*“I am talking about PDS. You get rice at INR 1 per kilogram. You get 20 kilograms rice at INR 20, which is equivalent to price of 0.5 kilogram rice.”*

- (KIRANA STOREKEEPER, IDI - DEOGHAR)

*“Anganwadi is there, but most of them don’t listen to Anganwadi workers. Some people do have money, but they don’t want to spend money on nutrition. Eg-There is an old businessman, around 65 years old. His three sons are government servants but none of them stay with him. He eats roti with raw onion and salt.”*

- (KIRANA STOREKEEPER, IDI - DEOGHAR)

*“(We) receive materials/food (e.g. THR) from the Anganwadi Centre: She doesn’t come to my house but calls all of us to the Anganwadi center and tells us to go and collect the packets.”*

- (KIRANA STOREKEEPER, IDI - DEOGHAR)

## D. Livestock Ownership

This is not seen as a prevalent practice in this community. This likely leads to the lack of consumption of dairy products in the community – there has been little recognition (upon being shown images of various food items) or mention of milk or milk-based products like curd, sweets etc. across the community.

## E. Status-quo of Kirana store: Perspective on Most Sold Items

Certain items like rice, pulses, oil, sugar, flour have higher demand than others. Pigeon peas and lentils are popular pulses. For this community, alcohol and tobacco have a greater demand than milk. *Punjabi Tadka* is a famous snack, amongst various other chips and *namkeens* available for purchase.

*“Rice, pulses, oil, sugar, flour. Pigeon peas has higher demand than other kinds of pulses.”*

- (KIRANA STOREKEEPER, IDI - DEOGHAR)

*“Right from beginning, this lentil is consumed the most.”*

- (KIRANA STOREKEEPER, IDI - DEOGHAR)

*“Liquor and tobacco products have more demand than milk.”*

- (KIRANA STOREKEEPER, IDI - DEOGHAR)

*“Demand for Punjabi Tadka is higher than other things.”*

- (KIRANA STOREKEEPER, IDI - DEOGHAR)

# VII. Conclusion

## A. COM-B Lens

Stakeholder	Capability	Opportunity	Motivation	Behavioural Trait (challenges)
MIL	<p>Mothers-in-law are the second most influential decision-makers in the household after the men of the household. They hold the capability to influence decisions, especially with respect to pregnant and lactating women and children in the household. However, quality of knowledge is a point of contention, given that they tend to pass on legacy or inter-generational wisdom about nutrition.</p>	<p>Interaction with Anganwadi workers is typically limited to the younger daughters in-law in the home – and that too is inconsistent across households. Observations in field indicate a community-level bias amongst Anganwadi workers, that they engage with households from select backgrounds.</p> <p>This indicates inconsistent knowledge transfer to MIL, receiving the least information from them.</p>	<p>Mothers-in-law are reported to be inclined towards ensuring good health for the children in the household.</p> <p>This motivation can be leveraged if MILs are given information from Anganwadi workers, so as to channel this motivation towards positive nutrition practices in the household.</p>	<p>Mothers-in-law govern quantities and types of food items purchased for and prepared in the household, but are mostly dependent on legacy wisdom when influencing decisions. Further, it is reported that mothers-in-law tend to prioritize the needs of the men and children in the household.</p>
Women (Pregnant / Lactating)	<p>Pregnant women tend to receive support from other family members (in this case SIL) in terms of distribution of household chores.</p> <p>It is clear that pregnant women also have the capability to influence food related decisions, given that their nutritional needs to be prioritized by their husbands and even mothers in-law.</p>	<p>There seems to be an opportunity for women to join self-help groups to rely on community support and to have a captive platform for dissemination of knowledge on nutrition. Further, these could enable some financial independence through livelihood promotion carried out by SHGs.</p> <p>Here, role models too could be used to encourage sharing of nutrition-related knowledge.</p>	<p>Women report high motivations to optimize resources and make exceptions in food preparation routines when they are feeding young children. This motivation may be leveraged to redirect efforts to replace food items like packaged or non-healthy snacks with healthier alternatives.</p>	<p>Women are often not in control of the diets they consume since the same food is prepared for the household.</p> <p>At present, efforts are made by women to modify formats and ingredients to ensure less spice and easy-to-chew food for children under 3 years of age. However, there is no focus on quantity or frequency of consumption.</p>

Stakeholder	Capability	Opportunity	Motivation	Behavioural Trait (challenges)
Children	<p>Capability to influence nutrition led decision as early as 3 years of their age.</p> <p>Sending children to Kirana stores as early as 3 years of age up to adolescence.</p>	<p>There is provision of opportunity by the environment itself as Anganwadi workers/FLW workers are the ones who provide polio drops and kits to children which is seen as an excitement quotient for children.</p> <p>The primary education happens at Anganwadi centers. Therefore, the capability for children to learn more by the knowledge provided.</p> <p>Imparting children with the set of education and can even start sessions for them to teach them about good and bad foods.</p>	<p>Motivation to choose attractive packaging and savory, fried snacks – when visiting Kiranas or when going to markets with their fathers.</p> <p>Positive behavior noticed here is the children are more interested in going to Anganwadi centers and taking the sweets from the Anganwadi workers.</p>	<p>Need to sensitize parents that desire of a child is not always positive in terms of impact on health.</p> <p>Need for kirana stores to have more healthy products for children at similar prices as packaged snacks.</p>
Men	<p>Capability here is that the direct influence of alcohol and tobacco consumption as they look up to them and try following what they do.</p> <p>Anthropologically speaking, on the pattern of learned behaviour, these children are capable of noticing, inculcating through these learned behaviour.</p>	<p>Setting up counseling sessions for both younger and elder men.</p> <p>Since children are seen picking up habits from elder men (fathers/grandfathers) therefore we can set up engagement sessions with men to educate them on practicing optimal nutritional habits and thereby imparting to their children/grandchildren.</p>	<p>The increased rate of the substance consumption in younger men is influenced by the elders.</p>	<p>The alcohol and tobacco consumption leads to ill-practices of food consumption by the men.</p>

## B. Key implications & actions recommended

Implications	Actions
<p>There is limited focus on the nutritional value of vegetables. fruits, particularly among men, although women have some awareness through interactions with Anganwadi workers. Diet diversity is limited due to financial constraints, but money is spent on packaged snacks.</p>	<p>Fostering community engagement and initiatives that promote a shift from focusing solely on filling stomachs to prioritizing 'diet diversity' nutrition and having well-rounded meals – especially by allocating funds reserved for 'packaged snacks' to healthier alternatives.</p>



Implications	Actions
No special focus on lactating women's nutrition, but there appears to be special consideration and concern towards pregnant women – with husbands and mothers-in-law catering to their food cravings, even if it may not always align with healthy choices.	Possible sentiment to positively leverage to focus on not just cravings but supplementing it with nutritious food alternatives and extending special nutrition (over and above the household) to the period of lactation.
In Jharkhand, fulfilling children's desires for foods like chips and ice cream is seen as a sign of prosperity, and of being a responsible parent - prioritizing children's satisfaction over nutritional considerations.	Need to emphasize limiting consumption of packaged snacks amongst children aged 3-5 years of age, and replacement with healthier alternatives.
Consumption through prescription and not through awareness: Willingness of community to rely on expert advice to enhance food intake (especially for children and pregnant women) having 'anar' just because it has been prescribed by the doctor.	Enabling the locally present Anganwadis and NGO partners with more intensive involvement towards educating the community members for nutritional values in the foods, fruits, and variety of vegetables for starters.
Children are given 'food consumed by everyone else' as early as 2.5 years. Women are cognizant of 'reducing spice' in the food prior to serving.	Consciousness about the need for modifying the format of food could possibly be the starting point to extend this behaviour from format, to type and variety of food items.
Resource maximization is an intrinsic attitude – In low-income households, women and men submerge food in water to prevent from spoiling and extending consumption of 1 meal through the day. Specifically, Maar bhaat is given to children (6 months – 5 years of age) wherein the water is retained in cooked rice, to preserve bulk and starch, and leverage its 'cooling properties'	It can be leveraged and encouraged across the community – with adequate hygiene considerations – so as to ensure consistent nutrition for children, even in times when resources are limited.
Practice of extending breastfeeding up to 3 or even 4 years in some homes, to maximize nutrition for child, and minimize expenditure on complementary food. On the other hand, women consume food last in the household, leading to inconsistent quantity of consumption.	Severe need to promote nutritious and adequate meal consumption by lactating women.



# Case Study – Positive Deviance

The participant is from Deoghar, 19 years old with one daughter (nine months old). She lives in a joint family set-up with her husband and in-laws. The couple is not highly educated- the wife studied till the eighth grade and the husband till the tenth grade. The exact income is not known but the husband left for Ghaziabad recently in hopes of making more money than what his village in Deoghar offered. There is not much support from Anganwadi workers in terms of resources or information. However, the baby and participant's health are taken care of- the baby is given Cerelac and the participant was allowed to eat first when she was pregnant. She also stopped cooking in her last trimester.

## Knowledge and Attitude with respect to Nutrition and Nutritional Practices:

- The participant has trusted sources of information- doctors- who gave her advice on her baby's health (who was born with jaundice). However, she still cross-checked the advice with her parents- there is a great degree of trust in family and legacy knowledge.
- Cerelac is known to be good for the new baby- advised by doctors and her parents

- Legacy knowledge also says Horlicks and nuts (raisins and cashews) are good for pregnant women

## Positive Deviations in Practice:

- The participant started complementary feeding at the age of nine months and gave Cerelac to her baby.
- Deviating from the rest of the community, the participant ate first when she was pregnant and also made additional food for herself such as daal
- The participant was allowed to rest and was exempt from household duties- especially cooking- during her last trimester
- The family gave due importance to the participant's health when she was pregnant- bringing her special food (extra daal, horlicks, nuts) and giving her time to rest
- The baby was given Cerelac nine months after birth
- The deviance is knowledge-based: information given by trusted sources is turned into action for both the pregnant woman as well as the young child.

# Annexure 1

## Status of Household Health & Nutrition in Deogarh

Indicators	NFHS-5 (2019-21)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>	<b>Total</b>	<b>Total</b>
1. Female population age 6 years and above who ever attended school (%)	59.8	59.9
2. Population below age 15 years (%)	36.0	34.2
3. Sex ratio of the total population (females per 1,000 males)	1,068	958
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	929	778
5. Children under age 5 years whose birth was registered with the civil authority (%)	55.7	62.6
6. Deaths in the last 3 years registered with the civil authority (%)	44.8	na
7. Population living in households with electricity (%)	95.6	81.3
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	90.8	86.6
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	41.6	21.3
10. Households using clean fuel for cooking <sup>3</sup> (%)	23.5	20.5
11. Households using iodized salt (%)	98.3	96.9
12. Households with any usual member covered under a health insurance/ financing scheme (%)	53.8	8.2
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	6.4	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	50.7	na
15. Women with 10 or more years of schooling (%)	19.7	24.5
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	49.2	52.3
17. Births in the 5 years preceding the survey that are third or higher order (%)	2.7	3.9
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	20.2	22.6
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	68.0	37.5
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	65.4	46.1
21. Any modern method <sup>6</sup> (%)	48.5	43.0
22. Female sterilization (%)	40.1	36.2
23. Male sterilization (%)	0.2	1.7
24. IUD/PPIUD (%)	1.0	1.0
25. Pill (%)	1.5	2.5
26. Condom (%)	2.6	1.0
27. Injectables (%)	0.4	0.6
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	11.1	18.0
29. Unmet need for spacing <sup>7</sup> (%)	4.6	8.1

Indicators	NFHS-5 (2019-21)	NFHS-4 (2015-16)
Quality of Family Planning Services		
30. Health worker ever talked to female non-users about family planning (%)	25.0	7.8
31. Current users ever told about side effects of current method <sup>8</sup> (%)	35.3	28.8

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

() Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
7. Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception. Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2019-21)	NFHS-4 (2015-16)
Maternal and Child Health		
Total		
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	58.1	62.2
33. Mothers who had at least 4 antenatal care visits (%)	30.7	25.5
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	89.2	92.5
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	18.5	20.6
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	11.8	3.2

Indicators	NFHS-5 (2019-21)	NFHS-4 (2015-16)
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	83.1	72.0
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	55.6	39.6
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	2,133	981
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	0.0	0.7
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	56.4	na
Delivery Care (for births in the 5 years before the survey)		
42. Institutional births (%)	61.3	58.0
43. Institutional births in public facility (%)	47.2	40.9
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	12.6	4.6
45. Births attended by skilled health personnel <sup>10</sup> (%)	72.3	62.0
46. Births delivered by caesarean section (%)	7.8	6.7
47. Births in a private health facility that were delivered by caesarean section (%)	45.8	35.3
48. Births in a public health facility that were delivered by caesarean section (%)	2.9	1.7
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	54.5	64.2
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	54.7	62.7
51. Children age 12-23 months who have received BCG (%)	87.5	95.3
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	62.6	74.2
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	68.6	86.7
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	73.0	81.1
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	15.7	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	54.0	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	64.3	62.8
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	53.3	42.4
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	96.7	96.3
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	3.3	3.7
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	6.5	5.6
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	(21.8)	(21.8)

Indicators	NFHS-5 (2019-21)	NFHS-4 (2015-16)
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	(8.6)	(3.2)
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(36.7)	(58.2)
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	0.8	5.2
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	56.0	69.4

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*
10. *Doctor/nurse/LHV/ANM/midwife/other health personnel.*
11. *Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
12. *Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
13. *Not including polio vaccination given at birth.*
14. *Since rotavirus is not being provided across all states and districts, the levels should not be compared.*

Indicators	NFHS-5 (2019-21)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>	<b>Total</b>	<b>Total</b>
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	22.6	33.6
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	(71.6)	70.5
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	7.8	7.9
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	*
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	7.2	7.9
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	41.7	44.8
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	17.7	23.8
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	6.2	5.8
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	36.9	46.0
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	1.9	1.2
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	32.5	38.0
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	10.9	7.7
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	56.6	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	73.9	64.6
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	70.1	55.3

Indicators	NFHS-5 (2019-21)	NFHS-4 (2015-16)
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	72.4	67.3
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	70.2	55.9
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	67.2	53.2
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
Women		
86. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	4.9	na
87. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	4.7	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	10.0	na
Men		
89. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	7.3	na
90. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	5.8	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	13.5	na
<b>Hypertension among Adults (age 15 years and above)</b>		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	8.6	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	4.2	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	14.2	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	12.5	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	4.4	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	18.5	na
<b>Screening for Cancer among Women (age 30-49 years)</b>		
98. Ever undergone a screening test for cervical cancer (%)	0.7	na
99. Ever undergone a breast examination for breast cancer (%)	0.2	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.2	na
<b>Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)</b>		
101. Women age 15 years and above who use any kind of tobacco (%)	6.6	na
102. Men age 15 years and above who use any kind of tobacco (%)	52.0	na
103. Women age 15 years and above who consume alcohol (%)	2.0	na
104. Men age 15 years and above who consume alcohol (%)	26.3	na

15. Based on the last child born in the 3 years before the survey.

16. Based on the youngest child living with the mother.

17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).



18. *Below -2 standard deviations, based on the WHO standard.*
19. *Below -3 standard deviations, based on the WHO standard.*
20. *Above +2 standard deviations, based on the WHO standard.*
21. *Excludes pregnant women and women with a birth in the preceding 2 months.*
22. *Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.*
23. *Random blood sugar measurement.*

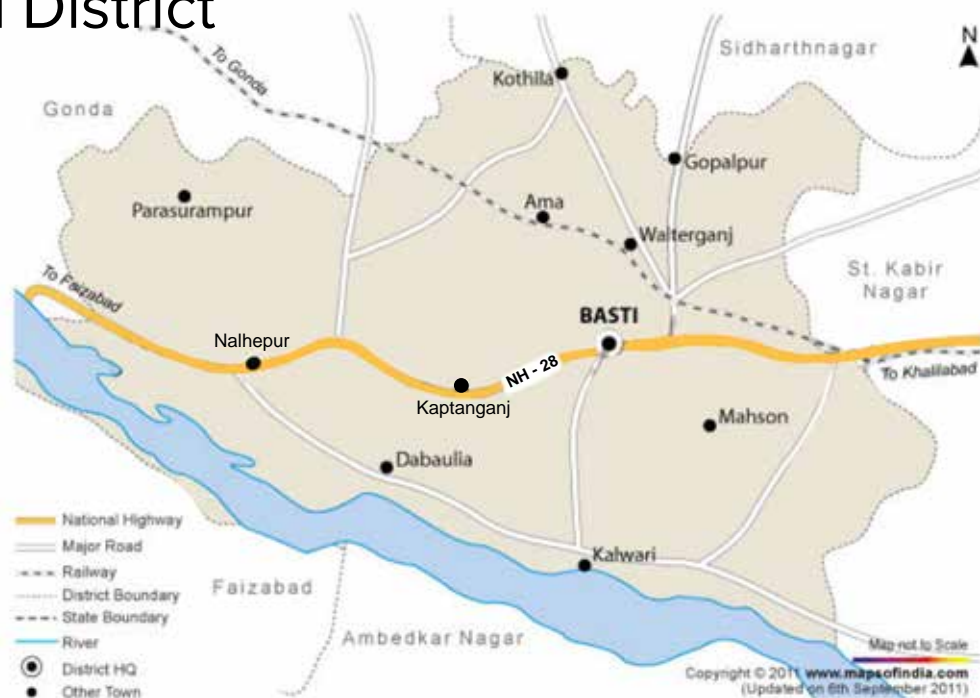


**4**

**Farming  
Community**



# Basti District



# Parbhani District



**Location:**

1. Darideeha Village, District Basti, Uttar Pradesh
2. Paralghavan Village, District Parbhani, Maharashtra
3. Mallavaram Village, District Vishakhapatnam (Vizag), Andhra Pradesh

**Basti, Uttar Pradesh**

Basti is located in the eastern part of Uttar Pradesh at the intersection of the Gorakhpur – Lucknow National Highway No. 28 and Kuano river. It is a city, municipal board and the administrative headquarters of Basti district, situated 202 km east of the state capital Lucknow. As per Census 2011, Basti district has a total population of 24,64,464 persons of which 12,55,272 are males and 12,09,192 are females and 95% of rural population. The population within the age group of 0 to 6 years is 3,90,969. The average literacy rate of Basti is 67.2%, with 65.3% male literacy and 47.4% female literacy.

Basti's climate is more equable than that of the adjoining districts to the south, with temperatures ranging from 9°C to 44°C. The average annual rainfall of the district is 1166 mm. The economy of Basti is based on agriculture and agro-based small-scale industries.<sup>1</sup> The government fruit orchard is famous for the development and preservation research of new varieties of fruits and trees. Sugarcane, maize, paddy, pulses, wheat, barley and potato are commonly cultivated, with sugar mills located across the district. It is also famous nationally for bamboo, eucalyptus (*Eucalyptus Teritornis*), mango and sheesham (*Dalbergia Sissoo*). The inhabitants of the district celebrate festivals like *Nav Durga*, *Ramnavami*, *Krishna Janmasthanmi*, *Shivratri*, *Deepawali*, *Eid-ul-Fitr*, *Id-uz-Zuha*, *Muharram*, *Dussehra* and *Holi*. The *Kewariya Mela* also serves as a great attraction.<sup>2</sup>

Dari Deeha village is located in the Basti *tehsil* of Basti district. It is situated at a 3 km distance from Basti district and sub-district headquarter. Dari Deeha village is also a Gram Panchayat with total geographical area of 151.7 hectares and total population of 4,325 persons, of which the male population is 2,273 and female population is

2,052. The literacy rate of the Dari Deeha village is 57.9%, with the male literacy rate at 65.8% and the female literacy rate at 49.3%. There are about 766 households in Dari Deeha village and the nearest town is Basti, a District Headquarter and hub of all major economic activities of the district.

**Parbhani, Maharashtra**

Parbhani, earlier known as “Prabhavatinagar”, is one of the eight districts in the Marathwada region of Maharashtra. The district is surrounded by Hingoli district in the north, Nanded district in the east, Latur in the south and Beed and Jalna districts in the west. Parbhani is well connected by roads, connecting it with other major towns of Maharashtra and with the neighbouring state of Andhra Pradesh. As per Census 2011, the total population of Parbhani district is 18,36,086 persons, of which 9,42,870 are male and 8,93,216 are female, total 0-6 population is 2,57,320 and has total area of 6,214 sq km. The average literacy rate of Parbhani district is 73.3% of which male literacy rate is at 70.6% and female literacy rate is at 55%.

The climate of the region is generally dry except during the southwest monsoon season. The maximum temperature crosses 44°C during summers and minimum temperatures of 10.5°C is recorded during the cold months. The soil is rich in nutrients and the major crops grown during the Kharif season are jowar, cotton and pulses. Oil seeds are grown in the Rabi season. Sugarcane and banana are the other major crops cultivated. The important festivals of the region include *Dussehra*, *Diwali*, *Holi*, *Eid-Ul-Fitr* and Christmas.<sup>3</sup>

Paralgavhan village is located in the Parbhani *tehsil* of Parbhani district. The total geographical area of the village is 463.55 hectares. Paralgavhan has a total population of 1,072 people, of which the male population is 558 and the female population is 514 individuals. The literacy rate of Paralgavhan village is 63.4% of which 73.3% males and 52.72% females are literate. There are about 199 households in Paralgavhan village. Parbhani is the nearest town, about 16 km from Paralgavhan village and is the hub for all major economic activities.<sup>4</sup>

1 According to the survey of 2014-15, approximately 68.7% of the land is used for cultivation. As per Agriculture Survey 2011-12, there are 233.25 lakh farmers in the state.

2 District Basti Government of Uttar Pradesh | Acharya Ram Chandra Shukla | India. (n.d.). <https://basti.nic.in/>

3 Survey of India. (n.d.). <https://surveyofindia.gov.in/>

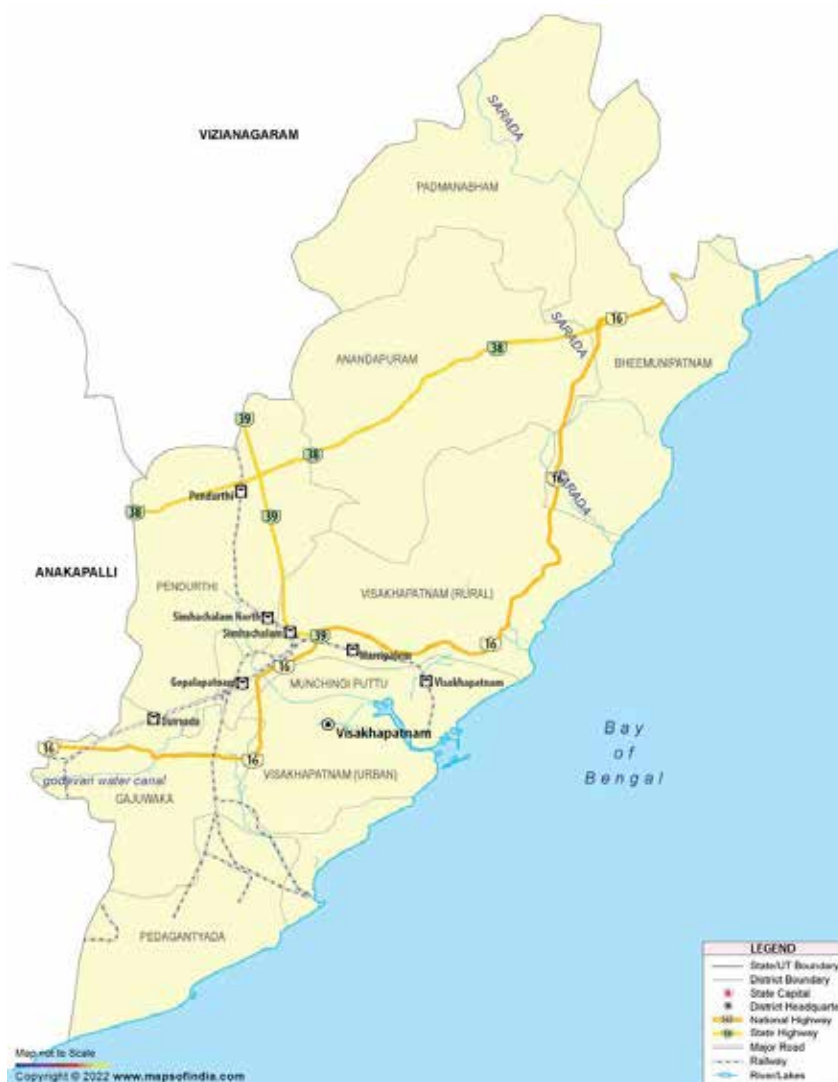
4 <https://villageinfo.in/maharashtra/parbhani/parbhani/paralgavhan.html>

## Visakhapatnam, Andhra Pradesh

Visakhapatnam, also called Vizag, is a city and port in north-eastern Andhra Pradesh. It lies on a small embankment of the Bay of Bengal, about 610 km northeast of Chennai in Tamil Nadu. Visakhapatnam is a major commercial and administrative centre with road, rail and air connections. As per Census 2011, the total population of Visakhapatnam district is 42,90,589 persons, of which 21,38,910 are male and 21,51,679 are female. The total 0-6 population of the district is 4,52,213 and the total literacy rate of 66.9% of which male literacy rate is at 66.5% and female literacy rate is at 53.2%.

Tropical wet and dry weather prevails in Visakhapatnam. The yearly mean temperatures range between 24.7-30.6 °C. Monsoon in Visakhapatnam begins from June and lasts till the end of September. Rice is one of the main crops of the area followed by *ragi*, *bajra*, *jowar* and cash crops like groundnut, sugarcane, sesame, cotton and chillies. The area is suitable for the production of apples, strawberries, grapes, pepper, organic coffee and many other crops. Agriculture is the main source of income for 70% of households. This city celebrates almost every festival. Some of the famous festivals are *Chandanotsavam*, *ISKON Utsav*, *Lumbini*, *Vaisakha*<sup>1</sup> etc.

Mallavaram village is located in the Makavarapalem *mandal* of Visakhapatnam district. It is situated 11 km away from the sub-district headquarter and 86 km away from district headquarter. Mallavaram village is a Gram Panchayat, with a total population of 1,126 persons, of which 550 are male and 576 are female. The literacy rate of Mallavaram village is 51.42%, of which 56.55% males and 46.53% females are literate. There are about 297 households in Mallavaram village and the nearest town is Chintapalle, approximately 40 km away from the village.<sup>2</sup>



1 Visakhapatnam District, Government of Andhra Pradesh | The City of Destiny. . . | India. (n.d.). <https://visakhapatnam.ap.gov.in/>

2 <https://villageinfo.in/andhra-pradesh/visakhapatnam/makavarapalem/mallavaram.html>

# I. Background of the Community

## A. A Snapshot of the Agriculture Community

### Uttar Pradesh

The contribution of the agriculture sector is significant to the economic development of the state. There are three categories of farmers in the Basti district, namely Resource Rich (RR), Resource Poor (RP) and Landless Laborers (LL). Resource Rich are farmers with medium to large land holding size, assured irrigation, ploughing facilities and good credit support. Resource Poor are farmers with marginal to small land holding size, occasionally assured irrigation, without tractor and low/no credit support. Major crops cultivated include rice, wheat, maize, lentils, gram pea, mustard, sesame, groundnut and *urd*. The average annual rainfall of the district is 915 mm, of which most rainfall occurs in July-August. Most of the soil is sandy while other types include sandy loam, loam soil and clay loam soil.<sup>1</sup>

### Maharashtra

The economy of Parbhani depends heavily on farming with more than half the population dependent on it for its livelihood. Most of the land is used for agricultural produce and the adoption of new technologies by farmers have helped boost agriculture production. The key agriculture products cultivated include sugarcane, pulses, oil seeds, vegetables, bananas and rice. The Vasanttrao Naik Marathwada Agricultural University (VNMAU)<sup>2</sup> in Parbhani offers several agriculture courses under the same campus. Of the total cultivable land, the gross cropped area of Parbhani district is 88% and the net sown area is 72.5%. Since 2002-03, the gross cropped area has increased by 9.5% while the net sown area has shown an increase of 18.6%.<sup>3</sup>

### Andhra Pradesh

Agriculture is the main source of income for more than 70% of the population in the Vishakhapatnam district. The average farm size in these villages is around two-thirds of an acre and between 70%-80% of the tribal farm holdings are tiny or marginal holdings. Non-timber minor forest products (NTFPs), which make up no more than 15% of family income, are determined to be less significant sources of income.<sup>4</sup> Main crops cultivated include paddy, wheat, *jowar*, *bajra*, maize, *ragi*, millets, coarse grains, *rajma* and other pulses. In 2022, the total area sown was 1204 hectares with paddy as highest crop sown.<sup>5</sup>

The district's farming practices are undergoing a transformation through the widespread adoption of natural farming processes. This shift is accompanied by numerous advantages, including enhanced climate resilience and cost-effectiveness. Notably, these natural approaches have led to a substantial reduction in the reliance on pesticides and chemical-based products, contributing to improved environmental health. The agricultural practices within the locality are influenced by the prevailing patterns of rainfall, underscoring the importance of water availability. Unfortunately, the absence of an efficient irrigation system leaves farmers grappling with inadequate irrigation resources. Compounding these challenges are the deficient extension services and market systems, which further exacerbate the difficulties faced by the local farming community.

## B. Status of Household Health & Nutrition

### Basti, Uttar Pradesh

The NFHS data for Basti (Annexure 1) shows an increase in the access that women have to antenatal

1 Welcome Krishi Vigyan Kendra, Basti. (n.d.). <https://basti.kvk4.in/district-profile.php>

2 DistrictsOfIndia- Socio-economic statistical data of Parbhani District, Maharashtra. (n.d.). <https://www.indiastatdistricts.com/maharashtra/parbhani-district>

3 Growth action and land use pattern in Parbhani district of Maharashtra India, A.A.Awcher and et al, <https://www.ijcmas.com/8-5-2019/A.A.%20Awchar,%20et%20al.pdf>

4 [http://nirdpr.org.in/nird\\_docs/srsc/srsc230217-25.pdf](http://nirdpr.org.in/nird_docs/srsc/srsc230217-25.pdf)

5 Season and crop coverage report 2022-23, [https://www.apagrisnet.gov.in/2022/weekly/November/weekly\\_report\\_\(Rabi\)\\_25-01-2023.pdf](https://www.apagrisnet.gov.in/2022/weekly/November/weekly_report_(Rabi)_25-01-2023.pdf)

**Table 1: Key NFHS indicators for Basti, Uttar Pradesh**

INDICATORS	NFHS 5 (2019-21)	NFHS 4 (2015-16)
Children under five years who are stunted (height-for-age)	35.9%	48.9%
Children under five years who are wasted (weight-for-height)	24.2%	14.1%
Children under five who are underweight (weight-for-age)	39.2%	33.3%
Total children (6-23 months) receiving an adequate diet	5.7%	2.7%
Children age 6-59 months who are anaemic (<11.0 g/dl)	58.4%	71.6%
Mothers who had at least four antenatal care visits	31.5%	19.8%
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	28.8%	49.3%
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	40.3%	56.1%
All women age 15-49 years who are anaemic (<11.0 g/dl)	39.9%	55.7%

**Table 2: Key NFHS indicators for Parbhani, Maharashtra**

INDICATORS	NFHS 5 (2019-21)	NFHS 4 (2015-16)
Children under five years who are stunted (height-for-age)	37.6%	46.4%
Children under five years who are wasted (weight-for-height)	22.8%	19.8%
Children under five who are underweight (weight-for-age)	41.8%	42.3%
Total children (6-23 months) receiving an adequate diet	1.9%	3.7%
Children age 6-59 months who are anaemic (<11.0 g/dl)	75.4%	52.1%
Mothers who had at least four antenatal care visits	47.4%	79.3%
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	48.0%	57.4%
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	59.4%	45.7%
All women age 15-49 years who are anaemic (<11.0 g/dl)	58.8%	46.4%

**Table 3: Key NFHS indicators for Visakhapatnam, Andhra Pradesh**

INDICATORS	NFHS 5 (2019-21)	NFHS 4 (2015-16)
Children under five years who are stunted (height-for-age)	31.0	30.1
Children under five years who are wasted (weight-for-height)	21.5	17.2
Children under five who are underweight (weight-for-age)	33.5	33.1
Total children (6-23 months) receiving an adequate diet	11.8	10.2
Children age 6-59 months who are anaemic (<11.0 g/dl)	72.6	64.5
Mothers who had at least four antenatal care visits	58.6	81.8
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	NA	NA
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	58.6	66.6
All women age 15-49 years who are anaemic (<11.0 g/dl)	58.0	66.4



care, institutional births, postnatal care access to children and the number of vaccinated children-under-3, indicating improved access to public health services. Nutrition and maternal indicators like mothers who received four antenatal care visits, children-under-3 receiving adequate diet, children-under-5 who are wasted or underweight shows marginal increase and/or worsened for few. Indicators like children-under-3 receiving an adequate diet remain under 10% while children-under-5 who are wasted increased by 10% and the percentage of children-under-5 who are underweight increased from 33.3% to 39.2%. This reflects the overall dietary issues for children-under-5 in the district, making them highly vulnerable.

### **Parbhani, Maharashtra**

The NFHS data for Parbhani (Annexure 2) shows a declining trend for antenatal care, no change in institutional births and a marginal change for vaccinated children-under-2. Nutrition and maternal indicators declined for indicators like mothers who received four antenatal care visits (47.4%), children-under-2 receiving an adequate diet (1.9%), children-under-5 who are underweight (41.8%) and increased for children-under-5 who are wasted (22.8%). The indicator for anemia (<12.0 g/dl) among non-pregnant women aged 15-49 years has increased from 45.7% to 59.4% and from 52.1% to 75.4% for children-under-5.

### **Visakhapatnam, Andhra Pradesh**

The NFHS data for Visakhapatnam (Annexure 3) shows a significant decline in the trend for antenatal care but an increase in institutional births and more than 90% coverage for vaccinated children-under-2. There is a decline in maternal and nutritional indicators like mothers who received four antenatal care visits (58.6%), children-under-2 receiving an adequate diet (12%), an increase in children-under-5 who are wasted (21.5%) and stunted (31.0%) and no change in underweight children-under-5 (33.5%). Indicators like children-under-5 who are wasted has increased from 17.2% to 21.5%, anemia among children-under-5 has increased from 64.5% to 72.6% and there is less than 10% decline in anemia among all women age 15-49 years (<11.0 g/dl).

## **C. Food and Nutrition Challenges faced by Farming Communities**

While the nature of the occupation ensures food diversity for the farming community, it may necessarily not be true, given factors like ownership, land size, type of produce and shared knowledge affecting affordability, availability and their food preferences. There is limited awareness of nutrient-rich food items and nutrition among these communities. Children's food consumption in these communities is unregulated with preference given to their cravings like packaged foods/snacks, biscuits and chips. As these communities largely adapt shared knowledge and understanding related to food and food preferences, it affects the demand for certain food items.

In Parbhani, people are more concerned about their sugar intake, especially for children and elders. While this indicates consumption of sugar-rich food items, it also suggests awareness of sugar and its effects among this community. In Visakhapatnam, people are concerned about salt intake and prefer to consume a lesser quantity of salt. This awareness about sugar and salt intake in these communities reflects the knowledge they have acquired about health effects of high intake of these commodities.

The practices of consuming milk products and non-vegetarian foods items (like meat, fish) are influenced by socio-cultural and economic factors and the understanding and/or influence of regional or local food practices and preferences. Preference for nutrient-rich food and larger food items consumed amongst the marginal landholder community and agriculture laborers is defined by income earned from farm produce or days of employment (as hired daily laborers). Families who grow food items like rice, wheat, other grains and vegetables have these food items available at the household level and prepare two or three meals. Those who work as agriculture laborers with marginal ownership of farmland, depend on income earned from days of employment as agriculture laborers. Their low income limits their frequency and variety of food items consumed.



# II. Participant Context and Cumulative Community Profile

## KEY HIGHLIGHTS

- Gender roles within the community are distinct - women are primarily responsible for household chores and childcare and men are predominantly engaged in income-generating activities.
- The community's livelihood is primarily dependent on agriculture, with most members working as field laborers on nearby farms.
- During the non-farming period, they engage in various other occupations such as driving taxis, electrical work and few also work as *pandits* (priests) - demonstrating their adaptability and willingness to take up different jobs.

## A. Social Structure

### i. Family Structure

Joint family setting is most common in Basti while in Visakhapatnam nuclear families are also part of the community setting. Mothers-in-law stay at home and make decisions about what meals are to be prepared, decisions related to purchase of food items and other household chores. Husbands, fathers-in-law and other men of the household are engaged in farming and other daily jobs to earn income. However, in nuclear families (like in Visakhapatnam), the wife decides about meals to be prepared and in consultation with the husband decides food items to be purchased.

In Basti and Parbhani, some female participants were pregnant for the first time, some second and some already had two or three children. In Visakhapatnam many of the women participants reported to have more than three children as well. Other than doing household chores, the participating women reported that they also engaged in cattle rearing.

The men are predominantly engaged in work outside home, indicating their role as breadwinners. They are responsible to earn a livelihood and support the family financially. On the other hand, the women are primarily involved in household activities, such as cooking, cleaning and taking care of the children.

### ii. Marriage and Childbearing Age

Amongst all the three communities, the percentage of women who were aged 20-24 years and married before the age of 18 was highest in Parbhani district at 48% (as per NFHS-5), increasing by nearly 5% from NFHS-4 to NFHS-5. In Visakhapatnam, this was at 25.4%, followed by Basti at 15.9%.

### iii. Educational Landscape

In Basti, the education level of men was found to be higher than women. Few men had completed graduation, while some had completed 10th standard and a few had studied till the 8th standard. However, women mostly had educational qualifications till the 8th or 10th standard. In Visakhapatnam, the highest level of education for men was till the 12th standard and women upto the 10th standard. Interestingly, in Parbhani, educational qualifications of participating women was reported to be higher than men - from 12th standard to graduation among women and upto the 12th standard for men.

### District-wise Literacy Rates

District	Total Literacy	Male Literacy	Female Literacy
Basti, UP	67.2%	77.8%	56.2%
Parbhani, MH	73.3%	82.6%	63.6%
Visakhapatnam, AP	66.9%	74.5%	59.3%

## B. Modes of Livelihood

In Basti, most members in the community are engaged as field laborers in nearby farms – growing wheat or sugarcane. During non-farming periods, they work as laborers in other sectors or opt for other temporary occupations like taxi drivers, electricians and priests. In Parbhani, the men are employed in cultivation of paddy, sugarcane, turmeric, soyabean, cotton, whole gram, jowar and groundnuts and take-up other temporary jobs during the non-farming period. Similar to the other two locations, in Visakhapatnam, also farming is the main source of livelihood for the surveyed community, apart from other temporary jobs like working in nearby studios, handling equipment.



Cow's milk for selling



Dried grass



Market observation



Participant's room



Handpump



Storage area



Quantity of food consumption

Picture 2: Pictorial representation from Basti's visit

### C. Social Fabric, Roles and Expectations

Across the three communities, the participants belonged to the Below Poverty Line (BPL) category. With most of them belonging to joint families, they demonstrated resilience towards addressing economic difficulties and other challenges at the community level. The community members of the three regions had aspirations about the education of their children and factfully none of their children were engaged in income-generating activities.

Most families have *pakka* ( permanent structures) houses, consisting of three or four rooms. In Basti, the kitchens are made of mud and found outside the house and the households use traditional clay stoves or *chulhas* for cooking and have mud-coated containers for storage. Since they don't have toilets, open defecation is common in these communities except in Visakhapatnam where many of the households have private toilets.

### D. Access to Facilities and Services

These communities have *kirana* stores in the village selling biscuits, chips, other snacks, cigarettes, *bidi*, tobacco, soaps, dry ration, and need-based items. They have access to nearby markets and weekly

markets where they buy most household goods (including both food and non-food items). Given limited income, food items stock are purchased to suffice for one or two weeks mostly. *Kirana* shop owners mostly procure stock that suffices for a week and use their own transport (bike, etc.) for carriage.

Men of the household have access to mobile phones (including smart and feature phones). Women have shared access and take the phone along when they go to visit nearby markets, health centres, relatives, etc.

These communities have schools, healthcare facilities and ration depots within and in neighbouring villages. All the three communities are accessible through roads with nearby towns at a distance of 10-30 km radius and use public transport (like buses) and owned vehicles (mostly bikes) for commuting.

### E. Life of Farming Community Members

#### i. Routines

The daily routine of the women in these communities start early in the morning with cleaning their kitchens and the house, preparing meals for the morning or



**Picture 3: Pictorial representation from Parbhani visit**

the day and taking care of the children. As the day progresses they get busy doing laundry, preparing tea and snacks and evening meals. Men leave for the field after their morning tea/snack and return by afternoon. In the evening, there isn't much work left for men and hence they roam around the village. During non-farming days, the men work as daily laborers and return by evening.

### ii. Activities

Household chores remain the main activity for women through the day except those who work in farm-fields or rear cattle.. Men of these communities spend most of the time of the day working in farm-fields.

### iii. Relationships, Gender Roles, Restrictions And Power Dynamics

In all these communities, gender roles are aligned with social norms. It's the mothers-in-law who decide

what is to be cooked and purchased since the daughters-in-law in joint families aren't involved in decision making of what food items or meals are to be purchased. In case of nuclear families, such decisions are taken by the wife in consultation with the husband and they also visit weekly markets together to purchase household related items. This is however more prevalent in Visakhapatnam.

The women (mothers) take care of the needs of their children like preparing them for school, feeding, bathing etc. The men are out most of the day for farm work and don't get involved or support their wives/mothers with work related to children. The power hierarchy is also seen while serving meals and men of the household are served first, mothers-in-law next and the women (daughters-in-laws) the last. This is prevalent in Basti.



# III. Deconstructing Nutrition and its Beliefs in the Community

## KEY HIGHLIGHTS

- Women in the farming community display a relatively high level of understanding when it comes to nutritious food for younger children-under-3. They possess knowledge about the nutritional benefits of specific food items, such as Horlicks, Bournvita, boiled *dal* water, etc. and its importance for their children's growth and development.
- In Visakhapatnam children are breastfed till 2-3 years of age whereas in Basti and Parbhani, children are breastfed till 6 months of age and the introduction of semi-solid food starts after 6 months.
- Their awareness of good and bad nutrition suggests that they have access to information from sources like FLWs (ASHA/ Anganwadi workers) as well as through YouTube, television and market banners.
- This overall understanding of nutrition from FLWs demonstrates the women's commitment to provide nutritious food to their families, especially children, with a balanced and nutrient-rich diet.
- In Parbhani, in spite of no technical knowledge of excessive consumption there is legacy knowledge of excess consumption of salt intake. They avoid giving packaged foods to children perceiving it contains excess salt.
- In Visakhapatnam, people have awareness about the harmful effects of substance consumption (like alcohol), mainly because of the stringent policies implemented and practised in Andhra Pradesh.

## A. Perception of Health Health Markers

More than technical knowledge, commonly accepted norms or practices are followed to assess the health and wellbeing of children. This includes physical appearance like height and weight and the child's

mood and actions. In Dari Deeha village the health of a child is reflective of his/her body weight/ structure - a child who appears thin or underweight is considered less healthy and if a child is irritated or annoyed, it is also perceived as poor health. A child who falls short of average weight and/or height is also considered unhealthy. But the height and weight of a child needs to be validated with due measurements.

In Parbhani there are various social beliefs - a healthy child is a male child, breastfeeding is dependent on the child's gender, the mother focusses on conceiving a male child after the birth of a girl child, a plump child is considered to be healthy while a weak/thin child is perceived as unhealthy, no visible growth of a child or not eating on time are also indicative of a child being healthy or unhealthy. The responsibility of the unhealthy child (as perceived) lies with the parents as they tend to work in the farm-field or at the household level. Another common belief is that if a person consumes good food it will lead to good blood circulation and good weight gain.

In Visakhapatnam, the commonly accepted beliefs regarding the health of a child depends on how much the child is consuming while there is no pressure on the quantity of the food a child eats after 2-3 years of age and the child decides the quantity of food he/she wishes to consume. A healthy child is one who doesn't fall sick easily, plays, talks and studies well and doesn't nag about eating food. An unhealthy child has less haemoglobin, will fall sick easily and look, pale. An unhealthy child also doesn't consume rice, eggs, porridge and vegetables and prefers chocolates, sweets and Kurkure. Among adults, if the person does not eat healthy food (as perceived) the person will be ill most of the time and would vomit or have loose motions as visible symptoms. Interestingly, in this community, salt intake is very limited due to the knowledge that it increases blood pressure. However, there is very

little knowledge about nutritional food items and any food consumed is considered to be healthy.

## B. Sources of Information Shaping Perception of Health

Based on the information gathered from interactions with FGD participants, ASHA and Aganwadi workers have been crucial in disseminating the knowledge and providing support on various aspects of health and nutrition, more for pregnant, lactating women and children-under-5. Other sources like TV, social media (YouTube), posters/banners in places of larger gatherings (like market) have also been mentioned

by participating women as sources of information. In Basti, women acknowledged the support provided by FLWs to pregnant women for check-ups, providing IFA supplies and sharing information about diet during pregnancy, in addition to the routine advice received from consulting medical practitioners during ANCs. The most common touch points for information sharing by FLWs are home visits, at the time of ANC and during Village Health Nutrition Day (VHND) sessions. Similar sources were acknowledged by the community in Visakhapatnam as well.





## C. Perceived Dietary Knowledge and Practices

Stakeholder	Basti	Parbhani	Visakhapatnam
Perception of good food			
Infants (0-2 years)	Dal soup, thin curry of dal and mashed rice. Women understand the importance of Bourvita's nutrients for their children's growth and development. Consequently, many of them regularly include these items in their children's diet to ensure they receive the necessary nutrition.	Fruits and milk. Water extracted from boiled vegetables, <i>dal</i> and rice is fed to infants as it is easier to feed.	A child is exclusively breastfed till 2 years, and can also exceed three years of age. For infants, breastfeeding is considered as good food
Children (aged 3-5 years)	<i>Parantha</i> , food grains, <i>dal</i> and fruits give vitamins to growing children.  Protein-rich foods: <i>Dal</i> , eggs and vegetables, <i>ghee</i> , butter and almonds are fed to children.  Packaged foods like Maggi, biscuits are consumed within a gap of a few days because a few days of frequency is not considered to be harmful.	Potato <i>sheera</i> , <i>upma</i> , boiled fruits, milk and rice, boiled potato, pureed carrots and apples, <i>nachni (ragi)</i> floor and plain rice with dal are considered healthy options for children.	Porridge, rice without chilly, mother's milk. fruits like apples, grapes, bananas are fed, along with vegetables like <i>amaranth</i> , spinach, ash gourd, brinjal, okra, cauliflower, cabbage, carrot, potato and beetroot.
Perception of bad food			
Children (aged 3-5 years)	While it's perceived that biscuits, chips shouldn't be fed to children, it doesn't seem to work before a child's demand. However, they do try to put limitations over consumption of biscuits.  Chips has spicy ingredients which should be avoided by the child.		Chilly or spicy food is not to be fed to children.
Good Foods			
Pregnant Women	Pomegranate is majorly consumed by pregnant women because of the iron content for haemoglobin regulation during pregnancy, impacting child growth. Iron and calcium tablets are also consumed.	Leafy vegetables, milk, all kinds of fruits and vegetables, coconut water.	Carrot, beetroot, green leafy vegetables, compulsory or prescribed tablets, eggs, <i>achulu</i> (sweet), <i>thoppa</i> (sweet) with <i>ragi</i> flour, apples, grapes are given to women



Stakeholder	Basti	Parbhani	Visakhapatnam
	Protein powder- Protinex as it increases protein in the body. <i>Paneer</i> , milk, more green vegetables and <i>dal</i> , <i>daliya</i> .	Same diet as others but increased number of fruits and milk, pulses like moth beans and peas, coconut water. Dry fruits like cashew, almonds and <i>anjeer</i> are preferred.	
Bad Foods			
Pregnant Women	For pregnant women, the food that has <i>garam taseer</i> is considered to be bad. Papaya, <i>garam masala</i> is avoided especially till the 3rd or 4th month of pregnancy as this is believed to lead to abortion Almonds shouldn't be consumed during the first trimester.	There is no restriction on food, it is mostly about the choice and liking of the woman during pregnancy. Non-vegetarian food is consumed less during this time.	Papaya is generally avoided because it generates heat in the body (as perceived).
Good Foods			
Lactating Women	<i>Chana</i> water is considered good because of its richness of protein and perceived as directly helping in nourishing the child.	Pulses are given as it gives protein to the mother and therefore to the child.	
Good Foods			
Others	Apples offer a range of health benefits and are easily accessible in local markets, making them a popular choice among the community members. <i>Dal</i> , <i>sabji</i> and <i>roti</i> are also considered to be good food.	Peanuts and <i>til ladoos</i> are known to increase the haemoglobin levels in the body and more circulation of blood as well as weight gain. <i>Jaggery/puran poli</i> is the preferred sweetener compared to sugar.	
Bad Foods:			
Others		Sugar intake is generally limited for everyone.	Salt intake is limited for everyone, especially for kids and elders.
Important Foods (Must-have)	Tea with sugar, oil, chilly, turmeric, coriander, salt, flour ( <i>aata</i> ), rice.	Dal, rice, and flour ( <i>atta</i> ) for <i>chapatis</i> .	



# IV. Deep Dive into Food Consumption and its Implications

## KEY HIGHLIGHTS

- The routine food consumption revolves around two main meals for everyone, while children and women sometimes have an additional meal. Breakfast consists of dishes like *dal*, *sabji*, and *chawal/roti*, while dinner is based on a single item that may include non-vegetarian options.
- In Parbhani, pregnant women are given preference while in Visakhapatnam, young children are given preference.
- Snacks and tea are enjoyed in the evening, after the end of the day's work. Adherence to traditional mealtime norms and beliefs is reflected in the practice of men being served first at home and it is generally perceived that women should not eat at the same time with the elderly or their in-laws.
- Special occasions bring some variations in the preparation and quantity of food, adding a festive touch to the meals.
- In Parbhani, people do not eat *bajra* as it is not available and in Basti, they make *sattu* from barley, though barley is not available in large quantities.
- The observations reflect a mix of daily essentials and occasional food items in the households' diet, reflecting a combination of staple foods. Affordability and availability of food items influence the diet consumed.
- The frequency of non-veg food consumption across three regions depends on other factors like affordability, availability and cultural preferences.
- Affordability, availability and limited knowledge are factors acting as barriers for optimal diet to be consumed.
- There is awareness about dry fruits and non-vegetarian foods to be consumed by children, pregnant and lactating women.
- Across the three regions, there are observed differences in the food consumed. In Basti and Parbhani, *dal* is the major source of protein across all stakeholder groups and dal and rice are the staple diets consumed.
- In Parbhani people are concerned about their intake of sugar, especially for children and elders.
- In Visakhapatnam, people are concerned about their salt intake and prefer having a lesser quantity of salt
- Food consumption within the household varies for individuals, considering their nutritional needs, forms of food, and routines.
- Men, women, pregnant women, children, and elderly have different routines, Since there are limitations like affordability, there is marginal difference in dietary preferences for pregnant and lactating women - with only a few items as add-ons.
- For children and Infants, there is only difference in food formation and only a few are aware of the adequate quantity to be fed (measured by the size of the bowl).
- Introduction of semi-solid foods for infants, use of buffalo or goat milk and provision of meals based on children's cues demonstrate the unique considerations for the younger members of the household.
- Packaged foods as a daily snack treat reflects the communities limited awareness of moderation of consumption of packaged foods and preference for their child's desire.

## A. Overview of Food Consumed

While all three communities belong to the same farming community, not all have similar preferences or consume the same types of food, given cultural differences, affordability and availability. Hence, understanding what is included in daily essentials, variety of food items, frequency of consumption across these farming communities helps understand food diversity of these communities.

Category	Basti	Parbhani	Visakhapatnam
Daily Essentials	<i>Chapati</i> , rice, wheat flour, gram flour, grains and few also eat eggs	Wheat, <i>jowar</i> and <i>bajra</i>	Millets, <i>upma</i> and <i>chapati</i> , porridge, rice, tea
Vegetables	Tomatoes, onions, potatoes, brinjal, spinach, cucumber, peas, cabbage - for everyone in the family for one or two meals	Tomatoes, spinach, brinjals, cucumber, peas, onion, potatoes	Green peas, vegetable roots
Pulses	<i>Dal</i> , <i>sambar</i> , barley	Black peas, <i>moong</i> , <i>masoor</i>	Limited usage of <i>dal</i>
Dairy	Dairy products include <i>paneer</i> , <i>lassi</i> , milk, curd consumed by everyone but not daily	Buffalo milk, cow milk	Curd, buttermilk, buffalo milk
Oil/Ghee	Oil, <i>ghee</i> , butter	<i>Ghee</i> , mustard oil	Oil
Fruits	Apple, banana, grapes, pomegranate, mangoes for everyone in the family, when available	Apple, oranges, banana	Apple, grapes, bananas, pomegranates (bought from market) papaya, jackfruit, guava (home-grown)
Non-Vegetarian	Chicken, fish, egg, mutton consumed once or twice a week, eaten by all except if not liked taste-wise	Mutton, eggs and fish are generally consumed by men once or twice a week	Fish, chicken once a week, mutton and pork consumed rarely
Dry fruits	Almonds, raisins, pista, cashew consumed occasionally or as available	Cashew, almonds, raisins and groundnut are consumed rarely	Cardamom, groundnut
Sweets	Home-made sweets are preferred, occasionally as and when asked/want to eat	<i>Puran Poli</i> with no sugar or with jaggery, <i>gulab jamun</i> is consumed rarely/on special occasions	<i>Thoppa</i> , <i>achulu</i> , <i>arisalli</i> (kinds of sweets)
Spices	Used as ingredients for flavouring on special occasions/festivals	Low spice levels are maintained for children	Cinnamon, spices, non-iodised salt
Supplements	Use of Bournvita and Horlicks for children	Not reported	Prescribed tablets for pregnant women
Others	Pasta, macaroni, Maggi	Groundnuts <i>chapati</i> , groundnut chutney and coconut <i>chutney</i> , mango and chilli pickle are consumed on special occasions	Chicken/mutton biryani (high quality rice during festivals), <i>arisally</i> (sweet), <i>pappalu</i> (crispy snack), <i>pakodi</i> , <i>janthikalu</i> (fried snack)



## B. Routine of Food Consumption

Headers	Basti	Parbhani	Visakhapatnam
No. of Meals	Community surveyed has three meals a day.	Community surveyed has three meals a day.	Community surveyed has two meals a day.
Meal Timings	<p>Men and children eat before leaving for work/school, around 6 a.m. Women eat around 8:30 a.m.</p> <p>“The women in the household eat their meals after serving everyone, cleaning up the kitchen, and taking a bath themselves” - (Woman, FGD - Basti)</p> <p>At around 8 a.m., someone brings the men food from home, ensuring they have a meal to sustain them during the day.</p> <p>Women usually eat lunch if they feel hungry, along with their children after they return from school, at around 1:00 – 1:30 p.m.</p> <p>Dinner is served at approximately 7 p.m. Pregnant and lactating women have their dinner around 10-10.30 p.m.</p>	<p>Men and elders eat food before leaving for work Pregnant and lactating women eat after completion of their morning ritual Children eat food before leaving for school.</p> <p>“Yes, that’s the time when the men in the house eat first and rush to work. Then the women eat” - (Woman, FGD - Parbhani)</p>	<p>Men, children and elders eat breakfast before leaving for work around 7 a.m.</p> <p>Pregnant and lactating women eat their food a little late, around 8:30 a.m., after completing their daily chores.</p> <p>“Here, everyone consumes lunch/ dinner between 4-5 p.m.”.</p> <p>Consumption of food is avoided after 5 p.m. Women and children eat during the daytime if they are hungry.</p>
Meal-wise Dishes/Items	<p>Breakfast consists of <i>al</i>, <i>roti</i> and <i>sabji</i> for most of the people from the house. <i>Parantha</i>, tea and <i>sabji</i> are consumed by women. Children have rusk toast or bread and jam.</p> <p>Women and children usually eat lunch. While there are no specific preferences, rice and <i>dal</i> are prepared for lunch. They also eat any leftover food, like <i>paranthas</i> from breakfast.</p> <p>Vegetarian households typically prefer a combination of a single dish, such as vegetable dish and rice or <i>dal</i>. Sometimes pooris are prepared as well.</p> <p>In non-vegetarian households, dinner may include options like egg, chicken, or fish, providing additional sources of protein. Non-vegetarian food is consumed only once a week.</p>	<p>Breakfast includes <i>chapati</i> and vegetables. Lunch is mostly <i>chapati</i> and vegetables only. Dinner usually consists of dal and rice or <i>chapati</i> and vegetables.</p>	<p>Lunch/dinner includes <i>chapati</i>, porridge, rice, vegetable or any <i>dal</i></p>
Snacks/ Other Food Consumed	<p>Men and other members of the family often enjoy a cup of tea at 5 p.m. along with snacks. Popular snacks in the community include <i>kachori</i>, <i>chakhli</i>, <i>Maggi</i>, pasta, chowmein and <i>halwa</i>. Preference is given to food items consisting <i>paneer</i> and <i>chole</i> on special occasions.</p>	<p>In the afternoon, there are snacks like <i>poha</i> and <i>khichdi</i>. <i>Puran poli</i> and <i>shankar pala</i> are prepared at the time of festivities.</p>	<p>Tea is consumed before having their final meal at around 4 p.m.</p>



Headers	Basti	Parbhani	Visakhapatnam
Order of Eating	Traditionally, women in the household serve elderly, their husbands and children first before serving themselves. This practice reflects the cultural norms and values of prioritizing the nutritional needs and well-being of the family members before their own meals.	<p>Pregnant/lactating women are fed first. It is reported that they need care so they are mostly given food alongside the male members and told to eat first.</p> <p>The fathers-in-law - always advises the women to have their food at a convenient time.</p> <p>“We all sit together to eat. The ladies usually serve, so they sit to eat later” - (Women, FGD - Parbhani)</p>	Children eat first since they can't control their hunger. Then in-laws are served food and then adults eat.

### C. Substance Consumption (Alcohol and Tobacco)

In Basti, mostly men including the elderly drink alcohol every evening, though there are a few household exceptions where nobody drinks. Traditionally, women don't drink alcohol or consume any substance. Other than alcohol, most of the men also consume/eat tobacco. Tobacco and alcohol consumption is also reported among boys aged 16-17 years. *Gutka* is a major form of tobacco substance consumed in larger quantities. Substance consumption amongst women is considered a taboo.

**“My father-in-law drinks daily”**

- (WOMAN, FGD - BASTI)

**“My husband brings it (alcohol) home and drinks”**

- (WOMAN, FGD - BASTI)

**“My husband does not drink daily”**

- (WOMAN, FGD - BASTI)

**“My husband doesn't drink, no one in the family does”**

- (WOMAN, FGD - BASTI)

Impact of alcohol or tobacco consumption impedes food consumption among men. They find food to be spicy due to gastric acid accumulation because of alcohol consumption and difficulty to open mouth due to frequent tobacco consumption. Women on the other hand are more aware of the health effects of drinking alcohol and know that it causes damage to one's health. Traditional norms also bars them from consuming such substances.

Consumption of substances like alcohol and tobacco is also prevalent in Parbhani. However, tobacco is more common among men and is consumed after food or tea. In Basti no health impact of substance consumption was reported though few of the participants reported loss of appetite or cough as symptoms of consuming such substances.

In Visakhapatnam, other than men, substance consumption was reported among women as well, though not largely. Given the state regulations on alcohol sale, its consumption in villages is hidden/limited and mostly local brands are available. Interestingly, it was reported by few that some tend to give up alcohol consumption, to avoid family tussles. In-laws and elderly members have a habit of smoking *hookah* and *bidis* or cigarettes were not found to be very common.

# V. Decision Making Related to Food Preparation and Procurement

## KEY HIGHLIGHTS

- In Parbhani and Basti, there are restrictions on women of joint families ( daughters-in-law) to go out to purchase things. In Visakhapatnam, women, especially those in nuclear families, are responsible for making purchases.
- Across communities, it was reported that all purchases depend on the income of the family.
- In Basti, many households don't procure food items since they get it from the produce in their farms and are self-reliant. Among those who have to procure, the decision lies with the mother-in-law or father-in-law.
- Mothers-in-law play a key role in determining the type and quantities of food items to be purchased and also make the decision of what is to be prepared on a daily basis. On a few occasions, the father-in-law's advice is also considered.
- Men make decisions about non-vegetarian food and the meal is prepared by the daughter-in-law.
- In Parbhani, it was reported that the mother-in-law and daughter-in-law mutually decide on what food is to be prepared and food is prepared by the daughter-in-law.
- In Visakhapatnam, given that there are mostly nuclear families, the wife is the primary contributor for meal preparation and acts as a decision-maker for the food to be made. Sometimes, husbands and relatives are also involved in giving advice on food to be fed and to be bought.



## V.A. Decision Making and its Makers

### Meal on a Plate (Daily)

Item	Source/Frequency/Quantity	Stakeholder	Nuances/Implications/Insights
Perishables (leafy vegetables, banana, eggs, milk)	Basti: weekly market  Parbhani: Pimpri markets are visited once a month  Visakhapatnam: Weekly market every wednesday. Also go to Chintapalli ( nearby local market) for purchases - twice a week	Women	Basti: green leafy vegetables are home-grown and, reinforces their motivation for consumption of home-grown food
Other Vegetables and Fruits (potatoes, carrots, oranges, apples)	Several vegetables are grown at home  Basti: The <i>mandi</i> is organised twice a week.  Parbhani: People visit Pimpri for purchases once in a month.  Visakhapatnam: Purchases are made from local <i>kirana</i> stores	Men and women	Growing their own vegetables at home or in the fields where they work. Men/husbands/mothers-in-law/fathers-in-law are mostly responsible for the purchase of food items
Whole Grains (staples) (rice, wheat ragi, barley)	Anganwadis and THR, local <i>kirana</i> stores on monthly basis	Women	Women receive these items from the Anganwadis or as THR. However, mothers-in-law/husbands/fathers-in-law procure the items from the market when it gets over
Pulses, Sugar and Salt	Anganwadis and THR	Women	Provision of pulses/sugar/salt works as a support for some time.
Fish	Once a week by men	Men	All family members eat except women. Although there is no restriction, some ladies prefer chicken and eggs since they don't enjoy the taste of meat or fish.
Chicken/ Mutton	Once a week, home-cooked	Mostly men	Mutton and pork are consumed rarely in Visakhapatnam due to lack of affordability. Chicken is fed twice a week to pregnant women.
Masala, Tea, Oil	Nearby <i>kirana</i> store by men Once a week	Mothers-in-law/ husband in Basti and Parbhani and daughter-in-law in Visakhapatnam	Only coconut oil, no other oil is sold by <i>kirana</i> stores in Visakhapatnam.
Snacks (packaged)	Nearby <i>kirana</i> stores, purchased by men	Children	In Visakhapatnam, usage of packaged foods is given to children in very limited quantities since it is believed to have higher salt content. In Basti, children mostly eat Maggi, chips and biscuits

## B. Meal Preparation

The wife or the daughter-in-law is responsible for preparing all meals - once, twice or three times a day across all locations.

## C. Decision-making Process: Influencing Factors (inc. Storage)

Household purchases regarding food or non-food items depend primarily on income in hand. As men are the sole bread earners in these communities, the decision regarding money to be spent on different purchases is done by them. However, they have a limited role about what should be cooked since they are absent during the day. Mothers-in-law decide what is to be cooked at home. In Basti, the fathers-in-law/head of the family (*mukhiya*) makes the budget keeping in mind the income and also keeps aside money for monthly expenses and school fees.

*“In our house my father-in-law, brother-in-law, elders or husband go to purchase what is required at home.”*

- (WOMAN, FGD – BASTI)

*“If someone falls sick at home or some food items or other things are expensive, then we buy fewer items and pay the shopkeeper next month. If ration is available at home, then we try not to buy it.”*

- (WOMAN, FGD – BASTI)

In Parbhani, the wife/*bahu* (daughter-in-law) and mother-in law make decisions for food items to be prepared and suggestions are taken from the other family members as well. The purchases are only for what is required for a week or two. More budget is allocated for food items during festivals- or if guests visit the family. Families are concerned about wastage of food and hence prepare quantities to be consumed. In Visakhapatnam, since the community has more nuclear families, the wife/*bahu* (daughter-in-law) decides what food needs to be prepared and purchases are made jointly by the couple.

### Role of Mothers-in-Law:

At home, the mothers-in-law hold an influential position in decision-making. Her opinions and choices heavily impact the overall functioning of the family and how the daughter-in-law is to manage the household. The mothers-in-law's decision-making authority extends to various aspects of daily life - household purchases, chores and routines. Interestingly the mothers-in-law also impose norms and expectations for the daughters-in-law and other family members. This could be to maintain cleanliness, discipline, and adherence to traditional practices within the household. Decisions by mothers-in-law have a direct impact on the daughter-in-law's role and responsibilities in the family and the latter is expected to follow the former's decisions related to daily routine, household chores, food to be prepared, food purchases etc.

# VI. Supply Perspective: Defining Sporadic and Regular Purchases

## A. Items Available at the Kirana Store

In all the three communities, purchases related to essential items are done from the *kirana* stores in villages where children, men and women go to buy food items and snacks in small quantities. These purchases are on a frequent, sometimes daily basis. There are options of visiting similar stores in the outskirts of the villages with all types of food items available - pulses, edible oil, snacks (*Maggi*, biscuits, chips). The demand for all types of food items increase during festivals and families tend to spend more on overall food purchases.

## B. Items Purchased from Markets

Other than local *kirana* stores, communities visit other markets like weekly markets and markets in nearby towns to buy food and non-food items. Purchases of food items are made in bulk, depending on the money available and need of the product. All items other than what is grown/cultivated by themselves are purchased from the open market.

In Basti, staples like rice, wheat are supplied by PDS stores to eligible households and items like *chana*, *chana paani*, *atta*, rice and *dal* are provided by the Anganwadi to pregnant/lactating women. In Parbhani, food items like rice, wheat, sugar, salt, spices (turmeric) etc are procured once or twice a month and THR is supplied every month by the Anganwadi to eligible women beneficiaries. However, in Visakhapatnam, the Anganwadi centres supply milk, eggs, food, veg curries, dal, *achulu* (sweet), dates and wheat flour.

## C. Livestock Ownership

Few families across all the three communities own livestock including cows, buffaloes and goats.

## D. Status Quo of Kirana Stores: Perspective on Most Sold Items

The *kirana* stores in Basti sell items that are in high demand, including cold drinks (Coca-Cola, Sprite), soaps, shampoos, detergents, mustard oil, biscuits especially Parle-G, *namkeen* chips, loose





ration items like soya beans, Amul spray (baby milk powder), sanitary napkins, tobacco products (loose tobacco leaves, cigarettes, *gutka*), stationary items, petrol in cans (small quantities) and LPG cylinders. Most frequently sold items include detergents, biscuits, namkeen chips, soya beans (smaller quantity packets) and all tobacco products. Most of these items are sold by *kirana* stores in Parbhani and Visakhapatnam as well. Additional items include, edible oil, sugar, chocolates, eggs, owned cow/ buffalo milk, flattened rice, nylon *chivda*, toast, rice, betel nuts and farming equipment. Items sold in *kirana* stores and unique to Visakhapatnam include, *Ganesh idli rava* and *upma rava*, meal maker, pulses, spices (cinnamon, *elaichi*, *masala*, *boondi* mixture), tea packets, lentils, bengal gram *dal* and ground nuts, *dal* and coconut oil.

Only those items that are high in demand are sold in *kirana* stores. This includes food and non-food items available in small portions/sizes as households having relatively low income don't demand items in large unit quantities and do not procure in bulk.

Interestingly, in Parbhani, *kirana* stores reported selling of medicines as well. In Basti, the *kirana* shop owners also mentioned that customers checked the expiry date of products.

***"I can sell salty betel nuts but I cannot sell cashew nuts and almonds. I bring it in little quantities since fewer customers take cashew nuts and almonds. Otherwise I sell all the other items."***

- (KIRANA STORE KEEPER, IDI – PARBHANI).

***"I don't keep all the medicines, I keep general medicines for stomach ache, headache, cough and cold."***

- (KIRANA STORE KEEPER, IDI – PARBHANI).

***"When they buy any packed item, they see the expiry date. However, not everyone sees this but those who are educated do. For the rest of them I see the expiry date and give them the product."***

- (KIRANA STORE KEEPER, IDI – BASTI).

# Conclusion

## COM-B Lens Basti

Capabilities	Opportunity	Motivation	Baseline Behaviour	Identified Behaviour
<b>Mother-in-law</b>				
Mothers-in-laws holds an authoritative role in the household, therefore the knowledge imparted by her to the bahu is critical. Maintaining cleanliness in the kitchen, the household and her personal hygiene is important for the family.	Since there is awareness of personal hygiene practices in household observed, therefore Mothers-in-laws to act as role models and promote hygiene practices. Can set counselling sessions for Mothers-in-laws to give them more knowledge on WaSH practices.	For a mothers-in-law, her family's health is considered important, especially her children and grandchildren. This knowledge transfer from Mothers-in-laws can act as a catalyst for advice given to daughters-in-law.	WaSH Practices are promoted by mothers-in-law though there is no awareness about WaSH. However, in general maintenance of hygiene is regulated.	Importance is given to cook and store food in hygienic ways, including washing hands before cooking, washing vegetables, storage of meats/veggies/ fruits, etc.
<b>Pregnant/Lactating Women</b>				
Though some advice is followed but due to monetary constraints and HH restrictions, there are limitations in abiding by the advice.  Irrespective of pregnancy and lactation status, there is no help provided to the women from the members in the chores of HH.	Since FLW's are more active, therefore the FLW can work to dedicate time to educate women specifically on nutritious food to be consumed and how a nutritious diet intake impacts the breastfeeding the newborn. There is an opportunity to build in counselling sessions by FLW's for pregnant women to help them become more vocal about their needs of emotional and physical support. This needs to be supported by the family members.	From the reported data, it is clear that pregnant women follow some advice given by FLW's since FLW's are the primary point of healthcare advisories.  The <i>bahu</i> (daughter-in-law) is capable of taking the primary responsibility of food preparation, taking care of herself and child as well as the family members.	Irrespective of pregnancy/lactation status, the woman continues to hold the primary responsibility of food preparation.  There is no change in diet either because of the lack of nutrition counselling or the advice is not followed due to other constraints.	Actively following advice given by FLWs on dietary intake/dietary diversity/meal frequency.  Increased intake of nutritious foods as suggested by any doctor (gynaec) or government FLWs during nutrition counselling.

Capabilities	Opportunity	Motivation	Baseline Behaviour	Identified Behaviour
<b>Infants</b>				
Mothers-in-law could act as a driving force to make women attend these sessions, since there is capability in both mothers-in-law and bahus.	Dedicated educational sessions to be set for women in their third trimester to teach them the importance of exclusive breastfeeding till 6 months.	Dedicated educational sessions to be set for women in their third trimester to teach them the importance of exclusive breastfeeding till 6 months.		No pre-lacteals are fed for the first 6 months since birth as exclusive breastfeeding is practised. (no water/honey/gutthi/tea)
<b>Children</b>				
The food is not prepared differently but the same food consumed by others is given in different forms or pre-made for the child. There is believed or known knowledge about the harmful effects of packaged foods, However, this remains to be the knowledge and practice gap due to the importance given to the child's desire.	There is no observation leading to erratic supplementation given to children. Since people are not averse to supplements, there is limited awareness in the region and education on the quality and quantity to be fed to the child is required.	Education on the process of weaning of the child.  Setting up a session: monthly check-ups and fun activities for children.  Awareness of harmful effects of packaged food can directly lead to promotion of controlling the consumption.	Children have never received or erratically received supplementation.  No special consideration given to meal frequency, quality and quantity for young children and their growing needs.	Different foods are prepared for young children (no spices, easy to chew, mashed)  The young child is discouraged from consuming foods that are oily or fried, high sugar content, packaged chips/ biscuits/sugary drinks/sodas/ chocolates.
<b>Men (Husbands)</b>				
			Men and boys are fed first, followed by the women.	

## Parbhani and Visakhapatnam

Capabilities	Opportunity	Motivation	Identified Positive Behaviour
<b>Pregnant Women</b>			
Familial considerations on eating first shows considerations around her physical health. There is awareness about the cravings during pregnancy.	There is social support at the household level and pregnant/lactating women are taken care of with food being fed first and with respect to their cravings. This shows more knowledge about health. Need to engage Women Self Help Groups – Sakhi Mandals to promote nutrition knowledge and practices during pregnancy.	If women are more vocal about their needs and support is provided, they can act as role models for other women as well. The consequence of taking care of pregnant women will directly lead to the health of the child.	Actively following advice given by FLWs on dietary intake/dietary diversity/ meal frequency.



Capabilities	Opportunity	Motivation	Identified Positive Behaviour
<b>Lactating Women</b>			
THR distribution is utilised by the household more than the child.	More streamlined distribution of food items.  Enable THR consumption for the child.	Convenience and triggers to consume THR ration.	
<b>Infants</b>			
The capability of the mothers to exclusively breastfeed the infants without any other informed pre-lacteals.	Support and knowledge from FLW and mothers-in-law for exclusive breastfeeding.  No pressure of using the prelacteals.	Positive beliefs and understanding of the benefits of exclusive breastfeeding.	No pre-lacteals are fed for the first 6 months since birth as exclusive breastfeeding is practised. (no water/honey/gutthi/tea)
<b>Children</b>			
Awareness about the quantity of sugar intake to be limited for children as well as elders.		Usage of jaggery in the food.	

## B. Key Implications & Actions Recommended

Implications	Actions
<b>Food Consumption Constitutes Diet Diversity Due to Nature of Occupation</b>	
Across farming communities, it appears that access to farming and crops predisposes communities to have access to and consume a variety of food items. In each location there were distinct references to grain, pulse, root vegetables and other vegetables, along with fruits (when affordable) as part of their regular consumption (at least weekly)	This is a distinct advantage in the farmer/farming labor communities. Their access to farming practices makes it easier for them to replicate this in their homes (e.g. in Vizag, vegetables are grown in home gardens). This can be critical to programming when enhancing attitudes towards diet diversity.
<b>Access to FLW</b>	
In communities where either the ASHA or Anganwadi worker counsels women on maternal and child health, there is greater salience and therefore consideration given to details about nutritional value of food. The salience for nutritious value becomes high – even for mothers, something which is typically not a priority in the community during the postpartum period.	This is a critical point of interaction, especially where other forms of information access are restricted to the mothers-in-law or husband. It makes maternal nutrition salient.
<b>Child's Health Receives Special Attention</b>	
Exclusive breastfeeding till 6 months is likely to occur, followed by slowly introducing formats and ingredients which will provide energy but not cause harm, discomfort, or be difficult to chew/digest. The intent to enhance children's meals is common to men and women across centres.	Programs may consider appealing to the mutual intent amongst men, women and elders of communities to provide for a healthy child. This appears to be a critical priority.
<b>Children's Food Consumption is Unregulated</b>	
There is little accessible knowledge around how much to feed the child. Children are given control of meals at as little as 2 years and up.	Severe need to educate parents about monitoring the quantity of food given to younger children – currently not managed.

Implications	Actions
Pregnant Women Are Protected In Order to Protect the Child but No Attention is Paid to Lactating Women or Women in General	
There is an inclination to provide pregnant women with foods that help with purification of blood that helps the foetus grow. However, this is not applicable to the period of lactation.	Opportunity to strengthen the supplement nutrition for pregnant women and to extend this further into the period of lactation – piggybacked on the 6-month period of exclusive breastfeeding.

# Case Study – Positive Deviance

The participant is from Vizag. She is 26 years old with three children aged between 9 months and 9 years. She lives with her husband and sister-in-law and has studied till the 8th grade. While the exact income is unknown, the budget for weekly grocery purchase is INR 500-600 and the participant is also able to buy clothes or something for herself from this money sometimes. There is support from Anganwadi workers and ASHAs in terms of resources and information. This is the only household where everyone eats together and at the same time.

## Knowledge and Attitude with Respect to Nutrition and Nutritional Practices:

Two major sources of awareness regarding nutrition include doctors and ASHA workers. The information disseminated revolves around food good for young children and pregnant/lactating women.

The family believes pomegranate is essential for pregnant/lactating women. Relatedly, all forms of packaged snacks are considered to be unhealthy in this household because they are considered to be oily/spicy or too sweet. Same food is made for all members of the family. She is the sole decision maker for what is cooked and the husband buys food and knows what to buy when. Mutton and fish are deemed to be healthy as well but they are not very affordable and are consumed occasionally (festivals).

## Positive Deviations in Practice:

Based on doctor/ASHA recommendations, the participant gives carrot, chicken, eggs, leafy greens (improve blood levels) to her children. In this household, fresh food is cooked and consumed daily because leftovers (cold food) can lead to illness. Additionally, all members of the family eat together, at the same time, at the same place (especially breakfast and dinner). Even though no special food is prepared for pregnant/lactating women, based on ASHA recommendations, the participant started taking three meals a day. Now, it has become habitual and the entire family consumes three meals a day.

The family grows beans (sold in the market) and *soralu* (a crop) on their land. The *soralu* is turned into a powder and consumed like *ambali* (a drink made with ragi and buttermilk) The deviance is knowledge-based in nature- the information surrounding nutritional foods is turned into action frequently for both pregnant women as well as young children.

Children's health is given value- they eat first in the rest of the community as well. Special foods/fruits are purchased for them.



# Annexure 1

## Status of Household Health & Nutrition in Basti

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>	<b>Total</b>	<b>Total</b>
1. Female population age 6 years and above who ever attended school (%)	64.4	60.0
2. Population below age 15 years (%)	31.7	36.2
3. Sex ratio of the total population (females per 1,000 males)	1,098	1,086
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	895	877
5. Children under age 5 years whose birth was registered with the civil authority (%)	90.9	61.2
6. Deaths in the last 3 years registered with the civil authority (%)	49.8	na
7. Population living in households with electricity (%)	94.6	70.8
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	100.0	100.0
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	64.2	18.7
10. Households using clean fuel for cooking <sup>3</sup> (%)	57.0	19.6
11. Households using iodized salt (%)	97.5	96.5
12. Households with any usual member covered under a health insurance/ financing scheme (%)	15.8	16.0
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	5.7	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	63.2	na
15. Women with 10 or more years of schooling (%)	40.9	30.6
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	15.9	28.3
17. Births in the 5 years preceding the survey that are third or higher order (%)	2.6	4.6
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	1.0	1.3
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	73.3	35.4
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	72.0	18.3
21. Any modern method <sup>6</sup> (%)	53.8	15.5
22. Female sterilization (%)	12.2	7.9
23. Male sterilization (%)	0.0	0.0
24. IUD/PPIUD (%)	3.3	1.2
25. Pill (%)	15.5	1.6
26. Condom (%)	14.2	4.5
27. Injectables (%)	6.8	0.1
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	11.1	29.9
29. Unmet need for spacing <sup>7</sup> (%)	4.1	8.7
<b>Quality of Family Planning Services</b>		
30. Health worker ever talked to female non-users about family planning (%)	22.2	9.6

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
31. Current users ever told about side effects of current method <sup>8</sup> (%)	71.8	(52.8)

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
7. Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception.

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	45.0	33.3
33. Mothers who had at least 4 antenatal care visits (%)	31.5	19.8
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	96.0	89.2
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	15.9	6.5
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	7.2	3.5
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	99.0	72.5

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	83.8	50.6
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	2,062	4,428
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	*	0.0
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	81.6	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	93.2	73.6
43. Institutional births in public facility (%)	79.2	60.5
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	1.7	4.3
45. Births attended by skilled health personnel <sup>10</sup> (%)	92.0	76.6
46. Births delivered by caesarean section (%)	11.6	7.3
47. Births in a private health facility that were delivered by caesarean section (%)	49.5	42.8
48. Births in a public health facility that were delivered by caesarean section (%)	5.9	2.8
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	73.8	57.5
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	77.4	75.5
51. Children age 12-23 months who have received BCG (%)	93.1	91.1
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	84.6	73.7
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	76.3	69.4
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	86.0	80.1
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	33.1	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	45.6	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	76.3	51.0
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	78.5	63.7
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	96.5	90.7
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	2.2	6.5
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	10.4	10.9
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	65.3	37.1
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	29.5	9.6

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	60.1	75.3
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	7.7	6.1
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	53.7	69.6

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*
10. *Doctor/nurse/LHV/ANM/midwife/other health personnel.*
11. *Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
12. *Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
13. *Not including polio vaccination given at birth.*
14. *Since rotavirus is not being provided across all states and districts, the levels should not be compared.*

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>	<b>Total</b>	<b>Total</b>
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	12.1	23.7
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	72.1	68.4
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	(20.9)	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	6.1	2.3
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	*
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	5.7	2.7
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	35.9	48.9
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	24.2	14.1
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	15.2	4.2
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	39.2	33.3
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	2.7	2.6
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	20.0	24.6
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	16.8	15.5
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	62.6	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	58.4	71.6
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	40.3	56.1
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	(28.8)	49.3
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	39.9	55.7
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	41.1	58.9
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		



Women		
86. Blood sugar level - high (141-160 mg/dl)23 (%)	4.3	na
87. Blood sugar level - very high (>160 mg/dl)23 (%)	4.9	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level23 (%)	10.0	na
Men		
89. Blood sugar level - high (141-160 mg/dl)23 (%)	5.9	na
90. Blood sugar level - very high (>160 mg/dl)23 (%)	5.4	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level23 (%)	11.6	na
<b>Hypertension among Adults (age 15 years and above)</b>		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	11.2	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	6.0	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	19.2	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	16.2	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	7.6	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	25.0	na
<b>Screening for Cancer among Women (age 30-49 years)</b>		
98. Ever undergone a screening test for cervical cancer (%)	3.0	na
99. Ever undergone a breast examination for breast cancer (%)	0.5	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.0	na
<b>Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)</b>		
101. Women age 15 years and above who use any kind of tobacco (%)	10.2	na
102. Men age 15 years and above who use any kind of tobacco (%)	51.3	na
103. Women age 15 years and above who consume alcohol (%)	0.2	na
104. Men age 15 years and above who consume alcohol (%)	14.8	na

15. Based on the last child born in the 3 years before the survey.
16. Based on the youngest child living with the mother.
17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).
18. Below -2 standard deviations, based on the WHO standard.
19. Below -3 standard deviations, based on the WHO standard.
20. Above +2 standard deviations, based on the WHO standard.
21. Excludes pregnant women and women with a birth in the preceding 2 months.
22. Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.
23. Random blood sugar measurement.

# Annexure 2

## Status of Household Health & Nutrition in Parbhani

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>		
	Total	Total
1. Female population age 6 years and above who ever attended school (%)	67.1	65.2
2. Population below age 15 years (%)	29.5	29.7
3. Sex ratio of the total population (females per 1,000 males)	966	1,006
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	983	1,114
5. Children under age 5 years whose birth was registered with the civil authority (%)	95.5	96.2
6. Deaths in the last 3 years registered with the civil authority (%)	74.4	na
7. Population living in households with electricity (%)	96.8	92.7
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	89.0	93.3
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	60.1	35.4
10. Households using clean fuel for cooking <sup>3</sup> (%)	54.8	26.6
11. Households using iodized salt (%)	95.1	99.1
12. Households with any usual member covered under a health insurance/ financing scheme (%)	10.5	10.3
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	22.5	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	73.4	na
15. Women with 10 or more years of schooling (%)	28.8	23.1
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	48.0	44.5
17. Births in the 5 years preceding the survey that are third or higher order (%)	3.4	3.1
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	13.7	11.2
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	75.3	64.2
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	42.0	69.6
21. Any modern method <sup>6</sup> (%)	41.5	68.3
22. Female sterilization (%)	33.5	56.1
23. Male sterilization (%)	0.0	0.2
24. IUD/PPIUD (%)	1.3	1.9
25. Pill (%)	1.0	2.7
26. Condom (%)	5.4	6.6
27. Injectables (%)	0.2	0.4
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	18.5	7.5
29. Unmet need for spacing <sup>7</sup> (%)	6.1	3.3
<b>Quality of Family Planning Services</b>		

30. Health worker ever talked to female non-users about family planning (%)	17.4	22.7
31. Current users ever told about side effects of current method8 (%)	48.3	29.8

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately. 7Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception.
7. Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	58.6	72.4
33. Mothers who had at least 4 antenatal care visits (%)	47.4	79.3
34. Mothers whose last birth was protected against neonatal tetanus9 (%)	82.0	92.6
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	64.4	83.9
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	2,779	3,104
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	(11.9)	0.0
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	66.8	na
Delivery Care (for births in the 5 years before the survey)		

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
42. Institutional births (%)	85.6	85.8
43. Institutional births in public facility (%)	53.6	42.9
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	7.3	8.1
45. Births attended by skilled health personnel <sup>10</sup> (%)	90.8	89.3
46. Births delivered by caesarean section (%)	12.5	13.7
47. Births in a private health facility that were delivered by caesarean section (%)	17.4	19.9
48. Births in a public health facility that were delivered by caesarean section (%)	12.9	12.1
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	52.0	51.5
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	(75.4)	(74.3)
51. Children age 12-23 months who have received BCG (%)	89.6	97.3
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	55.9	60.1
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	76.2	80.6
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	77.2	87.7
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	17.6	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	5.7	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	66.6	61.0
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	52.9	70.4
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	93.1	92.8
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	5.5	7.2
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	18.6	12.1
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	49.8	(61.1)
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	18.1	(19.6)
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	76.7	(69.2)
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	1.4	1.7
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	74.5	(91.3)

9. Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at

any time prior to the last birth.

10. Doctor/nurse/LHV/ANM/midwife/other health personnel.
11. Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.
12. Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.
13. Not including polio vaccination given at birth.
14. Since rotavirus is not being provided across all states and districts, the levels should not be compared.

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>	<b>Total</b>	<b>Total</b>
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	47.2	49.1
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	(68.0)	*
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	2.1	2.5
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	22.8	19.8
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	7.6	7.3
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	41.8	42.3
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	3.0	1.0
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	20.4	31.4
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	23.7	14.0
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	27.1	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	75.4	52.1
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	59.4	45.7
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	(48.0)	57.4
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	58.8	46.4
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	60.2	47.9
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
<b>Women</b>		
86. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	6.0	na
87. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	4.8	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	11.6	na
<b>Men</b>		
89. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	5.7	na
90. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	6.4	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	13.4	na
<b>Hypertension among Adults (age 15 years and above)</b>		

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	11.2	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	4.7	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	21.0	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	13.5	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	3.7	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	21.6	na
Screening for Cancer among Women (age 30-49 years)		
98. Ever undergone a screening test for cervical cancer (%)	3.8	na
99. Ever undergone a breast examination for breast cancer (%)	0.9	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.2	na
Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)		
101. Women age 15 years and above who use any kind of tobacco (%)	7.0	na
102. Men age 15 years and above who use any kind of tobacco (%)	37.7	na
103. Women age 15 years and above who consume alcohol (%)	0.1	na
104. Men age 15 years and above who consume alcohol (%)	13.8	na

15. Based on the last child born in the 3 years before the survey.

16. Based on the youngest child living with the mother.

17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).

18. Below -2 standard deviations, based on the WHO standard.

19. Below -3 standard deviations, based on the WHO standard.

20. Above +2 standard deviations, based on the WHO standard.

21. Excludes pregnant women and women with a birth in the preceding 2 months.

22. Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.

23. Random blood sugar measurement.

# Annexure 3

## Status of Household Health & Nutrition in Visakhapatnam

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Population and Household Profile	Total	Total
1. Female population age 6 years and above who ever attended school (%)	66.8	61.3
2. Population below age 15 years (%)	21.4	23.3
3. Sex ratio of the total population (females per 1,000 males)	1,066	1,047
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	974	1,097
5. Children under age 5 years whose birth was registered with the civil authority (%)	90.5	84.5
6. Deaths in the last 3 years registered with the civil authority (%)	71.3	na
7. Population living in households with electricity (%)	99.6	99.1
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	91.8	89.3
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	77.8	54.7
10. Households using clean fuel for cooking <sup>3</sup> (%)	72.9	56.1
11. Households using iodized salt (%)	82.2	90.4
12. Households with any usual member covered under a health insurance/ financing scheme (%)	64.9	70.0
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	(5.0)	na
Characteristics of Women (age 15-49 years)		
14. Women who are literate <sup>4</sup> (%)	69.5	na
15. Women with 10 or more years of schooling (%)	46.0	39.7
Marriage and Fertility		
16. Women age 20-24 years married before age 18 years (%)	25.4	29.2
17. Births in the 5 years preceding the survey that are third or higher order (%)	0.0	1.1
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	9.5	9.5
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	85.7	68.3
Current Use of Family Planning Methods (currently married women age 15-49 years)		
20. Any method <sup>6</sup> (%)	68.0	69.2
21. Any modern method <sup>6</sup> (%)	67.7	69.0
22. Female sterilization (%)	64.9	66.1
23. Male sterilization (%)	1.5	2.3
24. IUD/PPIUD (%)	0.3	0.3
25. Pill (%)	0.0	0.4
26. Condom (%)	0.8	0.0
27. Injectables (%)	0.0	0.0
Unmet Need for Family Planning (currently married women age 15-49 years)		
28. Total unmet need <sup>7</sup> (%)	4.8	5.5
29. Unmet need for spacing <sup>7</sup> (%)	2.4	3.2
Quality of Family Planning Services		
30. Health worker ever talked to female non-users about family planning (%)	15.2	15.5

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
31. Current users ever told about side effects of current method <sup>8</sup> (%)	35.3	29.6

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
7. Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception.
    - Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	79.4	77.9
33. Mothers who had at least 4 antenatal care visits (%)	58.6	81.8
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	88.0	95.4
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	75.0	55.8
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	40.1	34.0
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	97.0	94.0
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	84.8	73.4



Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	2,200	2,352
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	*	*
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	90.9	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	95.3	84.9
43. Institutional births in public facility (%)	69.3	46.2
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	0.0	1.8
45. Births attended by skilled health personnel <sup>10</sup> (%)	94.4	82.3
46. Births delivered by caesarean section (%)	26.5	35.5
47. Births in a private health facility that were delivered by caesarean section (%)	57.2	60.5
48. Births in a public health facility that were delivered by caesarean section (%)	16.8	26.1
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	(76.5)	(66.0)
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	(93.5)	*
51. Children age 12-23 months who have received BCG (%)	(97.9)	(100.0)
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	(76.5)	(76.0)
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	(90.5)	(93.3)
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	(95.1)	(89.3)
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	(45.1)	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	(72.9)	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	(79.6)	(76.5)
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	91.3	74.1
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	(83.8)	(92.3)
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	(9.7)	(7.7)
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	8.1	8.8
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	*	*
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	*	*
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	*	*
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	2.0	0.0

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(72.3)	*

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*
10. *Doctor/nurse/LHV/ANM/midwife/other health personnel.*
11. *Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
12. *Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
13. *Not including polio vaccination given at birth.*
14. *Since rotavirus is not being provided across all states and districts, the levels should not be compared.*

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Child Feeding Practices and Nutritional Status of Children	Total	Total
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	64.3	58.1
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	*	*
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	(6.9)	(6.1)
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	*
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	11.8	10.2
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	31.0	30.1
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	21.5	17.2
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	11.2	1.5
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	33.5	33.1
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	4.8	0.0
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	17.4	18.9
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	23.8	28.8
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	58.0	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	72.6	64.5
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	58.6	66.6
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	*	*
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	58.0	66.4
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	58.9	71.9
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
<b>Women</b>		
86. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	6.1	na
87. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	8.6	na

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	17.0	na
Men		
89. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	7.3	na
90. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	8.5	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	18.2	na
Hypertension among Adults (age 15 years and above)		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	12.1	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	5.9	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	23.9	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	17.0	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	7.0	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	29.2	na
Screening for Cancer among Women (age 30-49 years)		
98. Ever undergone a screening test for cervical cancer (%)	1.7	na
99. Ever undergone a breast examination for breast cancer (%)	0.7	na
100. Ever undergone an oral cavity examination for oral cancer (%)	4.1	na
Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)		
101. Women age 15 years and above who use any kind of tobacco (%)	6.3	na
102. Men age 15 years and above who use any kind of tobacco (%)	22.8	na
103. Women age 15 years and above who consume alcohol (%)	1.3	na
104. Men age 15 years and above who consume alcohol (%)	30.2	na

15. Based on the last child born in the 3 years before the survey.
16. Based on the youngest child living with the mother.
17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).
18. Below -2 standard deviations, based on the WHO standard.
19. Below -3 standard deviations, based on the WHO standard.
20. Above +2 standard deviations, based on the WHO standard.
21. Excludes pregnant women and women with a birth in the preceding 2 months.
22. Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.
23. Random blood sugar measurement.



**5**

**Tea and Coffee  
Plantation Workers**



# Jalpaiguri District



## Locations:

1. Bhagatpur Tea Plantation, Jalpaiguri District, West Bengal.
2. Kolikarai Village, Nilgiris District, Tamil Nadu.

## Jalpaiguri, West Bengal

Jalpaiguri, located in West Bengal, is renowned for its lush green tea gardens and scenic beauty. The region is nestled in the foothills of the Eastern Himalayas, offering mesmerizing views of the mountains and dense forests. The people of Jalpaiguri are predominantly diverse, with a mix of indigenous communities and settlers from various parts of India. The local population is known for their warm hospitality, friendliness and a deep connection to nature. The people of Jalpaiguri celebrate various festivals, popular ones include Durga Puja, Diwali, Holi and Christmas. Durga Puja is the most significant festival in West Bengal and it involves vibrant processions, elaborate decorations, festive food and cultural performances.

The current estimated population of district Jalpaiguri as per Census 2011 is 3,872,846 with an average literacy rate of 73.25% of which male and female literacy stands at 79.95% and 66.23%<sup>1</sup>

respectively. The primary language spoken in Jalpaiguri is Bengali, the official language of West Bengal. However, due to the diverse population, other languages like Nepali, Hindi and English are also spoken. Jalpaiguri has a subtropical climate with hot summers and cool winters. The region experiences heavy rainfall during the monsoon season, which contributes to the lush greenery. 28% of the total geographical area of the district is covered by forests and its high forest cover hosts major wildlife reserves (namely Jaldapara, Buxa Tiger Reserve, Garumara, Chapramari and Hollong). The major forestry products include timber while other minor forest products include bamboo, cane, honey, wax, etc. and both the rural and urban areas produce furniture made of cane and bamboo. The two main products of forests are timber and fuel and tea, tourism and timber are the backbone of trade in the district.<sup>2</sup>

The Bhagatpur Tea Garden village is located in Nagrakata subdivision of Jalpaiguri district in West Bengal. It has a total population of 12,555, of which male population is 6,313 while the female population is 6,242 individuals. The literacy rate of the village is 67.97%, with 77.22% males and 58.61% females

1 <https://www.census2011.co.in/census/district/2-jalpaiguri.html>

2 <https://dcmsme.gov.in/old/dips/jalpaiguri.pdf>

# Nilgiris District



being literate. There are about 2,717 households in this tea garden village.<sup>3</sup>

## Nilgiris, Tamil Nadu

The Nilgiris is situated in the southern Indian state of Tamil Nadu. A captivating hill station encompassing picturesque mountains, enchanting valleys and tea plantation, it is famous for its pleasant climate and abundant flora and fauna. The people of Nilgiris, the Nilgirians, have a rich cultural heritage. The population includes various indigenous tribes like the *Badagas*, *Todas*, and *Kurumbas*, residing in the region for centuries.

The predominant language spoken in Nilgiris is Tamil, which is the official language of Tamil Nadu. However, due to the presence of diverse communities, other languages like Kannada, Malayalam and English are also spoken. The people of Nilgiris celebrate a range of festivals, including Pongal, which is the harvest festival of Tamil Nadu. Other popular festivals include Deepavali, Navratri, and Christmas. The Nilgiri Summer Festival held in the month of May is a major event featuring cultural programs and flower shows. The population of the district in 2011 was 735,398 with an average literacy

rate of 85.20% with male and female literacy at 91.72% and 78.98% respectively.<sup>4</sup>

The region has a largely moderate and equable environment with mild temperatures. Maximum and minimum temperatures in the region range from 10°C to 25°C throughout the summer and from a low of 0°C to a high of 20°C in the winter. This region is home to crops cultivated in hilly areas, including fruits, vegetables, flowers, spices and plantation crops. In many settlements farming is done on terraced soil and perhaps even on steep slopes. Temperate crops like tea, potatoes, cabbage, carrots, beans, plums, peaches and pears are cultivated at higher elevations. Tropical crops including clove, nutmeg, pepper, ginger and fruits like durian, litchi, rambutan, and mango stem are produced in the lower elevation. Mandarin oranges and coffee are grown in the mid-elevation regions.

Kolikarai is a small village/hamlet in Udthagamandalam block in The Nilgiris district of Tamil Nadu. It is located 8 km towards west from the district headquarters in Udthagamandalam, 9 km from Ooty, and 508 km from Chennai, the state capital.

3 <https://www.census2011.co.in/data/village/307030-bhagatpur-tea-garden-west-bengal.html>

4 <https://www.census2011.co.in/census/district/31-the-nilgiris.html>





# I. Background Of The Community

## A. A Snapshot of the community

### Jalpaiguri

The tea plantation communities in Jalpaiguri play a significant role in the region's economy. The tea estates of this region produce some of the finest tea varieties in India, with Darjeeling tea being the famous one. The tea gardens here are not only known for their exquisite tea production but also serve as a way of life for the local people. Tea plantation workers, often belonging to different ethnic backgrounds, form close-knit communities and have their own distinct culture and traditions. They have a deep understanding of tea cultivation and their expertise contributes to production of high-quality tea the region is known for.

In the Nilgiris, tea cultivation is also a significant part of the local economy. The tea plantations here are spread across vast areas and the process of plucking, processing and manufacturing tea leaves provide employment opportunities to a large number of people. The tea plantation communities in Nilgiris have their unique customs, festivals and traditions that reflect their close association with the land and their livelihood.

## B. Status of Household Health & Nutrition

### Jalpaiguri, West Bengal

Owing to the prevalent ASHA and Anganwadi access in the region, the NFHS data (Annexure 1) shows

a positive trend for maternal and child healthcare related indicators like access to antenatal care, institutional births and fully vaccinated children-under-2. However, under the same sub-set, indicators like wasted children-under-5, underweight, non-pregnant women and anemic women age 15-49 years have worsened. As per Table 1, while indicators like underweight children-under-5 has increased by less than 1% and children under-2 receiving an adequate diet has increased by more than 10%, both remain under 30%. This reflects that while people of Jalpaiguri have access to FLWs and services supported by them, there is a need to improve the nutritional status of children and women to improve the overall health status of these vulnerable sections of population.

### Nilgiris, Tamil Nadu

The NFHS data (Annexure 2) for Nilgiris showcases the positive impact of the access of knowledge available to the people in the region. As per Table 2, maternal and child healthcare indicators like antenatal care visits by pregnant women (min of four) have increased and there is a decline in indicators like anemic women aged 15-49 years, children-under-5 who are stunted, wasted, underweight and anemic. Interestingly, children-under-2 receiving an adequate diet has declined as well, from 32.5% to 18.8%. Alongside, there is also a decline from 50.7% to 44.2% in anemia among all women aged 15-49 years.

**Table 1: Key NFHS indicators for Jalpaiguri, West Bengal**

INDICATORS	NFHS 5 (2019-21) %	NFHS 4 (2015-16) %
Children under five years who are stunted (height-for-age)	28.9	31.2
Children under five years who are wasted (weight-for-height)	18.3	17.7
Children under five who are underweight (weight-for-age)	25.4	24.6
Total children (6-23 months) receiving an adequate diet	28.5	14.6
Children age 6-59 months who are anemic (<11.0 g/dl)	67.4	71.0
Mothers who had at least four antenatal care visits	88.4	80.7
Pregnant women age 15-49 years who are anemic (<11.0g/dl)	44.8	NA
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	72.2	67.0
All women age 15-49 years who are anemic (<11.0 g/dl)	71.4	67.0



**Table 2: Key NFHS indicators for Nilgiris, Tamil Nadu**

INDICATORS	NFHS 5 (2019-21) %	NFHS 4 (2015-16) %
Children under five years who are stunted (height-for-age)	26.7	33.1
Children under five years who are wasted (weight-for-height)	17.3	31.0
Children under five who are underweight (weight-for-age)	23.2	30.7
Total children (6-23 months) receiving an adequate diet	18.8	32.5
Children age 6-59 months who are anaemic (<11.0 g/dl)	45.9	53.3
Mothers who had at least four antenatal care visits	92.5	88.8
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	NA	30.5
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	44.4	51.2
All women age 15-49 years who are anaemic (<11.0 g/dl)	44.2	50.7

### C. Food and Nutrition Challenges Faced by Tea/Coffee Plantation Worker Households

India, a leading tea producer, employs over a million people, consisting mainly of scheduled castes, tribes and ethnic minorities.<sup>1</sup> The plantation workers are subject to dire working and housing conditions. They lack land ownership and alternative livelihoods, making them dependable on specific sector livelihood and vulnerable to hunger and food insecurity challenges with lesser income opportunities. Women, constituting a majority of the workforce, bear the brunt of discrimination and exploitation, impacting their families' well-being and perpetuating cycles of malnutrition. Generational housing issues exist, with limited opportunities for the next generation and a lack of land purchase options. The unequal distribution of work opportunities further hampers women's

rights and their access to social services, including inadequate maternity leave and breastfeeding support provisions.<sup>2</sup>

The community relies on common knowledge shared by elders regarding food practices, with an understanding that use of excessive oil or spices can harm the child. It was reported that Anganwadi and ASHA workers provide guidance on healthy food habits and nutrition, along with hygiene and family planning advice for pregnant women. Women play a significant role as decision-makers regarding nutrition and food. Consumption of fruits and nutrient-rich food is sporadic and depends primarily on income of the families. Factors like inflating cost and limited availability may hinder the regular inclusion of these foods in their diet, depriving them of essential vitamins, minerals and dietary diversity.

1 <https://www.cec-india.org/our-work.php?wid=9#:~:text=There%20are%20more%20than%20one,more%20than%2050%25%20are%20women>

2 [https://pre2020.iuf.org/w/sites/default/files/FFMFINALReport\\_160616\\_web.pdf](https://pre2020.iuf.org/w/sites/default/files/FFMFINALReport_160616_web.pdf)

# II. Participant Context and Cumulative Community Profile

## KEY HIGHLIGHTS

- Tea leaf plucking which is the primary source of livelihood for the community is passed down through generations.
- Smartphones have become an essential source of entertainment and information.
- Jalpaiguri generally offers better access to markets, local vendors and educational facilities compared to Nilgiris, where people often have to travel longer distances, sometimes about 20 km, to access affordable goods.
- The tea pluckers have a specific work schedule in Jalpaiguri, which starts early and has defined working hours, as compared to Nilgiris.
- There is adherence to traditional gender roles and the potential for flexibility and sharing of responsibilities within certain households.

## A. Social Structure

### i. Family Structure

Within the tea plantation community, marriage and family dynamics follow a predominantly patrilocal system, where women leave their homes to live with their husband's family. The community consists of both joint and nuclear families, with an average family size ranging from four to seven members. These family structures shape the social fabric and support systems within the community.

### ii. Marriage and Childbearing Age

According to NFHS-5, in Jalpaiguri, 18.7% of women aged 20-24 years were married before 18 years and 11.8% women aged 15-19 years were already mothers or pregnant at the time of the survey. In the Nilgiris, 11.1% women aged 20-24 years were married before 18 years and 4.5% women aged 15-19 years were already mothers or pregnant at the time of the survey.

Women in these communities are typically married off at 18 years, though it is becoming increasingly common for women to marry after completing their

education, i.e. around the age of 22-23 years. Men, on the other hand, tend to marry after the age of 22. The age gap between spouses varies, with younger couples having a gap of around 3-5 years, while older generations may have a gap of 7-8 years.

### iii. Educational Landscape

Education levels within the tea plantation community are varying. A majority of the community have completed primary school education and there is a growing number of senior school graduates in the current generation. Among the two communities surveyed (Jalpaiguri and Nilgiris), few women have obtained undergraduate degrees, indicating increasing educational attainment over time.

*"We have to go to Kunjakanam for 1st to 12th class. It's around 5 km from here. So it's tuition for 1st to 5th class children."*

(WOMAN, FGD - NILGIRIS)

## B. Modes of Livelihood

The primary source of livelihood for the tea plantation community is tea leaf plucking and related activities. Many community members, especially women, work as tea pluckers, leaving homes early in the morning to begin their work around 9 a.m. This occupation is often passed down through generations and holds a significant cultural and traditional value within the community. Additionally, men in the community may engage in other jobs such as masonry, driving, operations and other roles outside the tea estates. Some community members also find employment as cooks or run small shops, contributing to household income.

However, the economic conditions can vary, with some households facing more financial constraints than the others. The daily wages earned through plantation work provide a modest income, typically around INR 600. However, due to the relatively low wages, it is common for multiple family members to work and contribute to the household income. Some community members also seek employment outside the tea estates, taking on roles such as cooks or

working in local clinics and restaurants. These additional sources of income serve as financial support mechanisms for the community.

### C. Social Fabric, Roles and Expectations

The tea plantation community is characterized by a close-knit social structure, with members living in clusters or settlements near the tea plantations. They share a strong sense of camaraderie and rely on each other for various aspects of their daily lives. The community comprises people of all ages, from small children to older populations, creating a diverse and interconnected social fabric.

### D. Access to Facilities and Services i. Interaction with Technology

Technology plays a significant role in the tea plantation community, as it does in various aspects of their lives. Each household has access to at least one smartphone and in Jalpaiguri, it is common for teenagers to have their own phones, irrespective of gender. Smartphones have become an essential source of entertainment and information, especially since all households don't own a television. In both the Nilgiris and in Jalpaiguri, cell phones are utilized to stay connected, access online shopping platforms and engage with social media platforms such as Instagram and YouTube.

Technology also serves as a vital resource for young expectant and new mothers who turn to platforms

like YouTube and Google searches to gather information about pregnancy, childbirth and child care. This interaction with technology enhances their knowledge and understanding of maternal and child nutritional needs, providing support during vulnerable and anxious times.

*“The first thing I searched was what I should feed my child. We mostly search about food on YouTube.”*

(WOMAN, FGD - JALPAIGURI)

*“I learnt how to massage the child.”*

(WOMAN, FGD - JALPAIGURI)

*“Currently there are advertisements about gripe water and we watch television as well.”*

(WOMAN, FGD - JALPAIGURI)

### ii. Other Facilities Available and Accessible

The availability and accessibility of facilities within the tea plantation community can vary based on the geographic location and available resources. Local shops and government ration shops provide essential groceries and household items at subsidized rates, ensuring basic necessities are within reach. Educational facilities, healthcare services and transportation infrastructure exist in varying degrees, depending on the specific region.

Jalpaiguri generally offers better access to markets, local vendors and educational facilities compared





to Nilgiris, where people often have to travel longer distances, sometimes as far as 20 km, to access affordable goods. Despite these differences, the community strives to make the most of the facilities available and navigate their daily lives with resourcefulness and resilience.

## E. Life of Community Members

### i. Routines

Both in Jalpaiguri and the Nilgiris, women's daily routines revolve around household tasks and responsibilities. However, the key difference lies in the tea pluckers' specific work schedule in Jalpaiguri, starting early and with defined working hours.

***"I wake up at 4 a.m. to cook food for everyone and then I do things related to my children and then go to work. I have to leave my house by 7 a.m. because if I get late and reach by 7:30 a.m. my superior won't let me work."***

(WOMAN, FGD - JALPAIGURI)

In Jalpaiguri, women working as tea pluckers in tea gardens follow a specific daily routine. Their day starts at 4 a.m. They cook food for their families, attend to their children's need and leave home by 7 a.m. to ensure they arrive on time. If they are late, they are not allowed to work. The tea plucking work starts by 9 a.m., with a break for breakfast around noon. After lunch, they rest for an hour ( 12 noon- 1 p.m.) . and continue tea plucking for a few more

hours until the working hours end at 3 p.m. They return home by 3:30 p.m and go back to household chores, including cooking.

In Nilgiris, women working in various occupations follow a slightly different routine. They wake up around 6 a.m. cook and clean till 8:30 a.m. and leave for work after breakfast. They return home for lunch and then resume household chores, including preparing dinner. The day concludes around 10 p.m. when they go to sleep.

***"We wake up at 6 a.m., finish cooking by 8:30 a.m. and have rice for breakfast by 9 a.m. After that I finish cleaning and then go to the farm to work. I come back for lunch and later prepare dinner, eat and go to sleep around 10 p.m."***

(WOMAN, FGD - NILGIRIS)

***"We wake up around 6-6:30 a.m. Then we brush and freshen up, cook food, take care of my children, bathe them and send them to the school. We come back and then do other household activities like cleaning the house. These are all things that happen in the day."***

(WOMAN, FGD - NILGIRIS)

For women in Jalpaiguri who are primarily homemakers, their day begins around 6-6:30 a.m. They start by cooking meals and taking care of their children's needs, ensuring they get ready for school and sending them off. Afterward, they focus

on household activities such as cleaning the house. These tasks occupy their time throughout the day. Similarly, women in Nilgiris who are homemakers wake up around 6 a.m. and begin their day by cooking. They complete the cooking before 7 a.m. and proceed to carry out household chores, including cleaning and organising.

## **ii. Activities:**

Other than the work in tea estates, cooking and taking care of their families remain their primary responsibilities. Some women engage in activities like watching TV, while others simply stay at home, completing household tasks, cooking, having dinner, and eventually going to sleep.

## **iii. Relationships, Gendered Roles, Restrictions and Power Dynamics**

In the traditional gender roles observed in both Jalpaiguri and Nilgiris, women are typically responsible for cooking, cleaning and taking care of

all household chores. They also take on the role of nurturing and caring for children and the overall well-being of the family. This includes selecting products for purchase, while their husbands go out to make the actual purchases. The women are actively involved in the food preparation process, such as choosing the ingredients and cutting and chopping vegetables. However, in case of a few, husbands also take on the responsibility of cooking, particularly when the wife is unable to do so due to reasons like feeling unwell or pregnancy-related discomfort. This breaks away from the traditional expectation and showcases a more egalitarian approach to household duties.

In Nilgiris, the women are primarily responsible for cooking and serving meals, even when their husbands come home late at night. In case the husband arrives late, the wife stays awake to give him food.

# III. Deconstructing Nutrition and its Beliefs in the Community

## KEY HIGHLIGHTS

- The community perceives health based on observable indicators and physical appearance.
- The advice and recommendations received from doctors, community healthcare workers, technology platforms and traditional wisdom influence their understanding of nutrition, sexual and reproductive health (S&RH) and general well-being.
- In the Nilgiris, moderate consumption of Maggi mixed with vegetables is considered relatively healthy, whereas in Jalpaiguri, homemade food is perceived as more nutritious.
- The perception of good food includes green vegetables, milk and dairy products, fruits, lentils, pulses, chickpeas, eggs, fish and poultry, dry fruit and nuts. Processed food is considered bad food.
- Lactating mothers follow a specific dietary approach aimed at ensuring the quality and quantity of breast milk. Their diet often includes lentil soup, chicken broth, fish broth and green vegetables, which are believed to enhance milk production.
- During pregnancy the community places a strong emphasis on the health of the developing baby.
- For pregnant and lactating women, there is the conscious reduction in fried items, spices and a decrease in packaged food consumption to avoid gas and digestive discomfort for pregnant and lactating women.
- For children-under-2, breastfeeding continues as the primary source of nutrition. As they grow, their diet expands to include semi-solids and soft foods for easy digestion.
- Cerelac, baby food available in the open market, is also introduced to provide additional nutrients required for healthy growth.
- For children between 2-5 years, the diet mimics the adult diet. They are often given supplements like Bournvita or Horlicks to meet their nutritional needs.

## A. Perception of Health

### i. Health Markers

Health is perceived based on observable indicators and physical appearance. Good health is associated with characteristics such as plumpness, optimum height and a well-nourished appearance. Conversely, unhealthy bodies are perceived as being skinny, having a protruding stomach, showing signs of malnourishment and exhibiting physical weaknesses.

### ii. Understanding of Healthy and Unhealthy Bodies

The understanding of healthy and unhealthy bodies is primarily based on external manifestations. People look for physical signs of overall well-being, such as weight, body structure and facial appearance. A healthy body is described as neither too fat nor too slim, with proper body weight and structure and the ability to eat well. In contrast, an unhealthy body

is characterized by being underweight, having a distended stomach, prominent bones on the face, dark circles under the eyes and lack of appetite.

*“You can’t say what is going on inside the body of the child but from outside if the child is a bit plump, is of optimum height and is eating adequately then we will consider him healthy. Unhealthy children would be skinny, short and not eat everything. The face would be quite skinny while the stomach would be big and will have dark circles under the eyes and be dry.”*

(FGD, WOMAN - JALPAIGURI)

Staying healthy requires several key factors and there is emphasis on the importance of maintaining good hygiene, adopting good food habits and consuming nutritious meals. Community members who participated in discussions believe that eating

on time is crucial for maintaining health as it ensures that the body receives adequate nourishment. Additionally, they highlighted the significance of proper food intake during pregnancy to ensure the well-being of both the mother and the child.

## B. Sources of Information Shaping Perception of Health

An eclectic set of sources of information collectively shape the women's perception of health. The advice and recommendations received from doctors, community healthcare workers, technology platforms and traditional wisdom influence their understanding of nutrition, sexual & reproductive health (S&RH) and general well-being.

Medical professionals (doctors and nurses of nearby PHC) are important sources of information for women in both communities. Community members follow the doctor's suggestions regarding nutrition during pregnancy, including the consumption of specific foods such as green leafy vegetables, pulses, bananas for weight gain and stronger bones. The advice received from doctors helps shape their perception of what constitutes a healthy diet during this crucial period.

***“We are not highly educated so we cannot take care of nutrition. So whenever a doctor says or suggests anything we follow that.”***

(WOMAN, FGD - JALPAIGURI)

***So, what does the doctor suggest that a woman should eat when she is expecting?***

***“Green leafy vegetables, pulses and lentils and chickpeas. They also ask to add bananas to our diet so that women gain weight as well as the baby inside the womb. Bananas also make bones stronger. We are also asked to have milk for calcium and pomegranate to enhance the blood.”***

(WOMAN, FGD - JALPAIGURI)

***“We gather information from everywhere, in addition to the doctor.”***

(WOMAN, FGD - JALPAIGURI)

Community healthcare workers, such as ASHAs and AWW provide valuable information to the women. They offer guidance on contraception methods, treatment for illnesses and importance of timely periods. These sources contribute to the women's overall understanding of reproductive health and the well-being of their children.







*“We get information from the Anganwadi Centers and also get iron and calcium tablets and Mothers Horlicks (THR). We also get other things after we give birth.”*

(WOMAN, FGD - JALPAIGURI)

*“When we have a child the ASHAs and FLWs tell us about keeping a gap before having a second child, medicines and methods we should use for contraception and medicines or treatment we should take in case of any illness. They also keep inquiring whether we are having our periods on time and tell us about making children eat the best.”*

(WOMAN, FGD - JALPAIGURI)

### **i. Technology and Social Media**

Accessibility of technology, particularly smartphones and YouTube, has become influential in shaping the communities’ perception of health. Women watch videos on topics such as pregnancy concerns, child feeding practices and infant massage techniques. They also encounter health-related information through social media platforms and television advertisements. These sources contribute to their knowledge base and influence their beliefs and practices.

*“We watch a lot of things on YouTube. All of us have touch screen phones. I was in the first trimester, when I learnt from YouTube that you don’t wish to eat anything at that time. I was into my first trimester, so I wrote about my 3-month pregnancy.”*

(WOMAN, FGD - JALPAIGURI)

### **ii. Community as Repository of Indigenous Knowledge**

Traditional wisdom and the advice of elders within the village community plays a significant role in shaping their perception of health. Elders offer remedies and suggestions for addressing common health issues, such as using salt and sugar in hot water for diarrhea or consuming coconut water for various benefits. Indigenous knowledge contributes to their understanding of maintaining health through natural remedies and practices.

*“Everybody gives suggestions in the village and not only our mothers-in-law. If the child is suffering from diarrhea, then people from the village suggest what we can feed the child to prevent health loss. They suggest adding salt and sugar in hot water to give to the child and Gripe Water as well.”*

(WOMAN, FGD - JALPAIGURI)

## C. Perceived vs Actual Dietary Practices for Stakeholders

Stakeholder	What is perceived to be good or bad food
Men, Women, Elders and Children-above-5	<p><b>Perception of good food</b></p> <ul style="list-style-type: none"> <li>• Green vegetables: Rich in vitamins, minerals and fiber</li> <li>• Fruits: Provides essential nutrients and antioxidants</li> <li>• Milk and dairy products: Source of calcium, protein, and nutrients</li> <li>• Lentils, pulses, chickpeas: High in protein, fiber, vitamins and minerals</li> <li>• Eggs: Provides protein, vitamin B12 and iron for growth and development</li> <li>• Fish and poultry: Source for protein, omega-3 fatty acids, vitamins and minerals</li> <li>• Dry fruits and nuts: Good for fats, fiber, vitamin and minerals</li> </ul> <hr/> <p><b>Perception of bad food</b></p> <ul style="list-style-type: none"> <li>• They perceived bad as frequency of consumption of a particular item than the item itself</li> <li>• Processed foods: Too much or too little of anything is not recommended but processed foods are known to be not good</li> </ul>
Pregnant Women	<p><b>Good food/ healthy habits:</b></p> <ul style="list-style-type: none"> <li>• Conscious inclusion of fruits, juices, and vegetables</li> <li>• Focus on regular intake of protein-rich foods such as eggs, fish, soybean supplements and milk</li> <li>• Emphasis on mental and physical wellbeing</li> </ul> <hr/> <p><b>Bad food to be avoided:</b></p> <ul style="list-style-type: none"> <li>• Conscious exclusion of heat-producing fruits</li> <li>• Reduction in fried items, spices</li> <li>• Decrease in packaged food consumption to avoid gas/digestive discomfort.</li> <li>• Cold foods: Not preferred, believed to disrupt digestion</li> </ul> <hr/> <p><b>Philosophy behind dietary control:</b>            “We keep in mind the health of the child that is developing inside the womb and how we need to provide the baby with proper nutrition. This includes green vegetables, fruits and food prepared with less spices and oil. Dry fruits are essential for the development of a healthy brain of the baby.” (FGD, Women - Jalpaiguri)</p>
Lactating Women	<p><b>Philosophy behind dairy control:</b>            In both Jalpaiguri and Nilgiris, the good foods specifically mentioned for lactating women are only those items that are believed to help with more milk production.</p> <p>In Jalpaiguri, items that seem to be either protein-rich or rich in micronutrients are added to the diet for lactating women, such as lentil soup, chicken broth and fish broth along with the dedicated addition of green vegetables. In Nilgiris, only ‘Rasam’ (a protein-rich dish) is mentioned as an exclusive item that should be given in order to ‘increase milk production.’</p> <p>“The focus is on the quality of milk being good. Lentil soup is provided to ensure an increase in the quantity of milk. We keep in mind that we should feed women only those foods that will help her produce more milk for the baby. Her diet includes chicken broth, fish broth, green vegetables etc” (FGD, Women - Jalpaiguri)</p>

Stakeholder	What is perceived to be good or bad food
<p>Infants (0-6 months) children-below-2</p>	<p>They should only drink breast milk/ mother's milk</p> <hr/> <p><b>Perception of good food:</b></p> <ul style="list-style-type: none"> <li>• Breast milk: Along with breastfeeding, complementary feeding is suggested by healthcare professionals and indigenous knowledge</li> <li>• Introduction of vegetables and grains: Boiled mash, water, soup and porridge are introduced, emphasizing the importance of vegetables and grains</li> <li>• Store-bought health foods: Commercial products like <i>Cerelac</i> and Lactogen are considered suitable for children in this age group</li> </ul> <hr/> <p><b>Perception of bad food:</b></p> <ul style="list-style-type: none"> <li>• Jackfruit is avoided as an ingredient in the child's diet.</li> <li>• Dairy products like curd and paneer are avoided to prevent indigestion</li> </ul>
<p>Children between 2-5 years</p>	<p><b>Perception of good food:</b> (same as adults) <i>Ghee</i> is a must in Jalpaiguri to support and strengthen the process of growth and development in children</p> <hr/> <p><b>Perception of bad food:</b> (Same as adults) They should especially avoid eating extreme amounts of sweets and sugary goods to avoid tooth decay or <i>kirmi</i> . They should avoid junk food like processed snacks (chips, cakes, cream biscuits)</p>



# IV. Deep Dive into Food Consumption and its Implications

## KEY HIGHLIGHTS

- The overall diet seems to include a balance of macronutrients (carbohydrates, proteins and fats) from staples, supplemented by periodic consumption of animal proteins and occasional intake of processed foods and sweets.
- The consumption of fruits and fiber is largely sporadic and influenced by various factors such as intent, income and individual grocery purchasing habits.
- In Jalpaiguri, typically two or three meals are cooked in a day, depending on whether the woman is working or not. Whereas in Nilgiris, two meals are cooked, once in the morning and for dinner and consumed thrice in the day.
- In Jalpaiguri men and children are served the food first, followed by women. In Nilgiris there is no specified order, although women are responsible for serving.
- In Jalpaiguri gas stoves are preferred. In the Nilgiris, time-consuming items like rice are cooked using *chullah* (firewood) as it is more cost-effective. Other food items are cooked using LPG.
- In Jalpaiguri food is stored in refrigerators. In Nilgiris, dal is stored in one bucket while wheat flour and refined flour are stored in one bucket and onions and potatoes are stored in a corner. There are no refrigerators at all since they consume more power.
- Alcohol consumption is primarily associated with the menfolk. Elderly women also consume alcohol. They prefer a locally made liquor called *hariya*, derived from fermented rice water.
- Another prevalent form of substance consumption within the community is the use of cigarettes, *bidis* and *paan*.
- *Gutkha*, a popular tobacco product, particularly *Shikhar gutkha*, is widely consumed by all members of the community, regardless of age or gender.

## A. Overview of Food Consumed

Category	Jalpaiguri	Nilgiris
Daily Essentials	Daily diet consists of staple foods such as rice, pulses, <i>roti</i> , vegetables and eggs. These foods provide essential nutrients like carbohydrates, proteins, fiber, vitamins and minerals for overall health and energy.	Hill-greens and tubers (not readily available in the plains) like <i>Reya</i> and <i>Nurai</i> are considered highly nutritious. Other greens such as spinach varieties ( <i>Sokathi Keerai</i> , <i>Kovai Keerai</i> ), drumstick leaves and jackfruit are also part of the diet. The inclusion of these vegetables and tubers adds a range of vitamins, minerals and dietary fiber to the diet.
Weekly & Monthly Consumption	Fish and chicken are consumed once or twice a week, while mutton is consumed rarely due to cost implications. These animal-based protein sources provide essential amino acids and micronutrients necessary for muscle growth, repair and overall health. Fruits are consumed weekly, contributing to the intake of vitamins, antioxidants and dietary fiber.	Fish is consumed daily, green leafy vegetables (spinach) are consumed two times a week. Dry fruits like nuts are not consumed frequently since they are relatively more expensive than other commodities.

Category	Jalpaiguri	Nilgiris
Weekly & Monthly Consumption	<p>Nuts as well as fruits are considered relatively expensive and may not be frequently purchased due to cost considerations.</p> <p>Processed foods like Maggi are occasionally consumed. While these foods may be convenient, they are generally considered less nutritious due to their high sodium and preservative content.</p>	<p>Also, moderate consumption of Maggi mixed with vegetables is considered acceptable.</p>

**Insights into the Consumption of Key Nutrients and their Health Implications:**

- The overall diet seems to include a balance of macronutrients (carbohydrates, proteins and fats) from staples, supplemented by periodic consumption of animal proteins and occasional intake of processed foods and sweets.
- Consumption of fruits and fiber is largely sporadic and influenced by various factors such as intent, income, and individual grocery purchasing habits.
- People tend to consume fruits based on availability, seasonal abundance and perceived affordability. Fruits like bananas, which are more accessible and relatively cheaper, are consumed in higher quantities. However, fruits that are considered highly nutritious but relatively costly, such as apples and pomegranates, are consumed less frequently.



## B. Routine of Food Consumption

Headers	Jalpaiguri, West Bengal	Nilgiris, Tamil Nadu
No. of Meals	Typically, two or three meals are cooked a day, depending on whether the woman is working or not. Working women often cook two meals, one in the early morning and another in the evening, while homemakers or those returning early from work prepare a light lunch.	Typically, cook two meals a day – morning and dinner  Consume three meals a day – the breakfast is also consumed at work for working people. Those who stay at home may binge on the morning leftovers
Meal Timings	Morning meals: Cooked around 7-8 a.m. Lunch: Around 12 noon - 1 p.m or 3 p.m. Snacks: 4-5 p.m. Dinner: 8-9 p.m.	Morning meals: 8-9/9:30 a.m. Lunch: 1-2 p.m. Snacks (optional) : 5 p.m. Dinner : 8-8:30 p.m.
Meal-wise Dishes/Items	Breakfast + Lunch: On weekdays, meals consist of rice or <i>roti</i> with pulses and a vegetable side dish. On weekends, there is sometimes a variation with homemade pastas and noodles.  Snacks: Adults indulge in tea with biscuits, while children have milk mixed with a health drink and light snacks like chips or Maggi noodles.  Dinner: Staple foods like rice and vegetable side dishes are accompanied by <i>dal</i> or non-vegetarian curries (fish or poultry).	Breakfast: Usually consists of <i>idlis</i> or dosas with tea or coffee. Children often have biscuits and milk mixed with Horlicks or Bournvita before going to Anganwadi Centers.  Lunch: Includes rice and pulses or vegetables. Children often have mid-day meals at AWC (Anganwadi Centers).  Snacks: Biscuits with tea or coffee in the evening.  Dinner: Rice, different varieties of pulses and vegetables are commonly consumed.
Order of Eating	In the morning the husband is served first as he leaves early for work, followed by the father-in-law.  During lunch or dinner, the father-in-law, husband and children are served first, followed by women.	There is no specific order of eating. But women are generally responsible for serving food
Snacks/Food Consumed	Snacks include both ready-to-eat or pre-cooked foods and homemade snacks. There is a preference for cooking snacks at home to minimize eating outside and limit intake.	Snacks like Maggi noodles, chips, and biscuits are commonly consumed, especially in the evening. Maggi is considered relatively healthier when mixed with vegetables
Cooking Fuel/ Culinary Practices	Prefer gas stoves – hassle free and easy to clean	Time-consuming items like rice are cooked on the <i>chullah</i> (firewood) as it is more cost-effective. Other food items are cooked using LPG.
Storage	Access to home refrigerators, due to joint family setups or affordability from multiple income sources  Enables effective food storage, reducing waste and allowing for a wider range of perishable items  Greater flexibility in meal planning and dietary choices and maintaining a diverse and nutritious diet.	<i>Dal</i> in one bucket, <i>maida</i> or refined flour/atta or wheat flour in one bucket,  Onions and potatoes also stored at one corner  No refrigerators at all since they consume more power.

## C. Substance Consumption (Alcohol and Tobacco)

In Jalpaiguri, alcohol consumption is primarily associated with the menfolk. Most men, starting from the age of 20-25 and even up to 30, drink. Interestingly, a few women (relatively older) in the community also consume alcohol. The consumption of alcohol among these individuals is a daily occurrence, usually taking place in the evening. They prefer a locally made liquor called *hariya*, derived from fermented rice water.

***“The ones who consume hariya do not eat food at all as they feel full. If they don't drink hariya for two days they start shivering and cannot even stand and only start feeling normal when they consume a glass.”***

(WOMEN, FGD - JALPAIGURI)

According to community members, drinking *hariya* provides them a surge of energy and strength to carry out their work. They believe that without consuming alcohol they experience a sense of weakness and even tremors. For some individuals, the consumption of *hariya* replaces the need for regular meals, resulting in a lack of proper nutrition. The regular consumption of alcohol weakens their bodies physically and disrupts their ability to sleep soundly. Some individuals even face financial constraints, preventing them from affording both food and alcohol, therefore prioritizing alcohol over food consumption.

***“They think consuming alcohol gives them strength but it is not so. It gradually weakens them from the inside since they don't eat properly and the body is always short on food and they also cannot sleep properly.”***

(WOMEN, FGD - JALPAIGURI)

Very rare instances of alcohol or tobacco consumption were cited in the community in Nilgiris. The male participants project a self-image of responsibility towards family, citing that even those few men who do consume alcohol/tobacco tend to quit their habit after marriage, in the interest of leading healthy lives and taking care of family members.

### Cigarettes/Bidis/Paan:

Another prevalent form of substance consumption within the community is the use of cigarettes, bidis and paan. Some individuals start smoking at a young age of 15-16 years and there are even cases of children as young as 11-12 years engaged in substance consumption in secrecy. Young children venture near the river to indulge in substance consumption.

***“Everyone from the village eats gutka - men, women, old, young, everyone takes gutkha. I don't eat gutkha, but I sell it. If I don't sell it, then someone else will sell it. The only solution is a complete ban on this product.”***

(WOMEN, FGD - JALPAIGURI)

***“Young children consume substance, but they hide from the villagers. There are some parents who don't care for their children and the children go to the riverside and they take these things.”***

(WOMEN, FGD - JALPAIGURI)

*Gutkha*, another popular tobacco product, particularly *Shikhar gutkha*, is widely consumed by all members of the community, regardless of age or gender. Some individuals are engaged in selling *gutkha*. But there is a growing consensus that a complete ban on this product is the only effective solution to curb its consumption.

***“Some people keep it in their mouth. Their mouth is always full of gutkha so it affects their oral health. I feel it becomes stone when it goes inside the body.”***

(WOMEN, FGD - JALPAIGURI)

While chewing *gutkha* is not considered to negatively impact a diet, it is also perceived to adversely impact one's oral health. The constant presence of *gutkha* in the mouth poses risks and raises concerns about potential internal issues. Additionally, continuous consumption of *gutkha* can result in a diminished sense of taste, which ultimately impacts food habits.



# V. Decision Making Related to Food Preparation and Procurement

## KEY HIGHLIGHTS

- Women play a significant role in choosing the products needed for the household. In both regions, they communicate their requirements to their husbands, who then go out and make the actual purchases.
- Grocery shopping is not a daily occurrence for this community. Instead, it is typically done once every two or three days.
- The majority of their purchases are made from local shops and/or central markets.
- These shops often provide the convenience of extending credit facilities, allowing the community members to manage their expenses effectively.

## A. Decision Making and its Makers

### *Meal on a Plate (Daily)*

Item	Source/Frequency/Quantity	Stakeholder	Implications/Insights
Perishables (leafy vegetables, banana, eggs, milk)	Nearby vendors -daily/need basis	Mostly women (mother, mothers-in-law)	Convenience and accessibility for urgent requirements.
Other Vegetables and Fruits (potatoes, carrots, oranges, apples)	Known and cheaper vendor - weekly	Mostly Men (fathers-in-law/ husband )	Long-distance travel for cheaper rates and weekly purchase ensures access to fresh produce.  Collaborative decision-making process where women playing a significant role in product selection.
Whole Grains (staples) (rice, wheat ragi, sugar, pulses)	Government ration shops - as needed	Men	Subsidized rates and essential items available, cost-effective/ sustainable option for household needs
Fish and Poultry	Local shacks/ known vendors - weekly once	Women/men	Locally sourced fish and poultry to add variety and for taste preferences while promoting local economies.
Snacks	Nearby shops/daily/ demand-basis	Women and children	Motivated to strike a balance with home-made and market manufactured products

## B. Meal Preparation

In both communities, women of the household engage in the process of meal preparation.

## C. Decision-making Process: Influencing Factors (inc. storage)

The purchase and procurement process within the tea plantation communities involves a collaborative decision-making approach, with women often taking the lead in selecting the products and managing the household budget. Women play a significant role in identifying the products needed for the household. In both communities, they communicate their requirements to their husbands, specify the quantities needed for each



item, ensuring that the correct amounts are bought and men then go out and make the actual purchases. For serving immediate requirements, women often procure things on their own from nearby shops or vendors.

Grocery shopping is not a daily occurrence for these communities, it is typically done once every two to three days. This helps them manage their household needs efficiently without the need for frequent visits to the market.

# VI. Supply Perspective: Defining Sporadic and Regular Purchases

## A. Items Available at Kirana Stores

*Kirana* stores in both Jalpaiguri and Nilgiris typically sell a wide range of daily essentials and household items. This includes groceries such as *dal*, rice, oil, spices, snacks, biscuits and beverages like tea and coffee. They may also stock items like milk, yogurt, bread, eggs and basic stationery items.

Understandably, the *kirana* store owners often strive to accommodate the specific demands and preferences of their customers. They may adjust their product offerings based on local preferences, introduce new items based on customer requests and provide personalized services like home delivery and credit facilities for trusted customers.

## B. Items Purchased from Markets

The majority of purchases are made from local shops and/or central markets. These shops often provide the convenience of extending credit facilities, allowing the community members to manage their expenses effectively. In Nilgiris, household items including vegetables are bought from a market located approximately 20 km away from Kolikaria

village. This market offers cheaper rates, motivating them to make a weekly trip to stock up on fresh produce. In some cases, both men and women travel longer distances to buy vegetables.

In Jalpaiguri, the Sunday market, known as the Champaguri market/*haat*, is a bustling weekly market spanning an area of approximately 600-700 m with multiple entrances. It offers a wide range of products including household essentials, fancy items, food items, vegetables, dry fruits, kirana items, pooja materials and electrical goods. The market showcases a mix of permanent and temporary structures, with temporary shades and makeshift shops being more prevalent.

## C. Ration or Food Items Received from Anganwadi Centers/PDS.

Some items, such as dry rations, are purchased from government ration shops. These include rice and wheat, oil, sugar and some pulses. In Nilgiris, people don't purchase rice from other sources, depending on the ration provided through the PDS as travel to the market nearby is 20 km.



*Display of nutritional supplements, cereals and medicines.*



### D. Status-quo of Kirana Store: Perspective on Most Sold Items

In terms of food and nutrition, suppliers in Jalpaiguri and Nilgiris understand the current trends and acknowledge the importance of providing a variety of products that contribute to a balanced diet.

*“We have observed an increasing demand for healthier alternatives such as whole grain products, organic items and locally sourced produce. We ensure we have a wide range of essentials, including dal, rice and spices, to support the nutritional requirements of the local community.”*

(KIRANA SHOPKEEPER, IDI - NILGIRIS)

Expanding their range of nutritious products reflects the supplier’s commitment to offering products that align with the dietary preferences and cultural practices of the region. Furthermore, they play a significant role in introducing new food products and creating awareness about their benefits.

*“We will buy and give what they ask for. If they don’t have the same items as before, we will buy them ( new products).”*

(KIRANA SHOPKEEPER, IDI - NILGIRIS)

Such sentiments demonstrate the suppliers efforts to collaborate with *kirana* store owners, providing them the necessary knowledge to expand their product offerings and meet evolving consumer demands. Local markets in Jalpaiguri and Nilgiris offer a diverse range of food products that cater to the nutritional needs and preferences of the local communities. *Kirana* store owners ensure the availability of fresh and nutritious items and also introduce new products aligned with changing consumer trends. By nurturing these partnerships, the retail ecosystem contributes to the vibrant and sustainable retail ecosystem of the community, promoting healthy food choices and fostering community well-being.

# Conclusion

## A. COM-B Lens

Stakeholder	Behavioural Trait (Enablers)	Capability	Opportunity	Motivation	What can be done?
Children below two years	<p>Different foods are prepared specifically for young children, taking into account their nutritional needs. Cooking separate foods for children even under resource strained conditions.</p> <ul style="list-style-type: none"> <li>Despite limited resources, caregivers make the effort to cook separate foods for children, prioritizing their nutritional</li> <li>Nutritional supplements are provided to children above 3-4 years to ensure adequate nourishment.</li> </ul>	<p>Knowledge and skills are built through a supportive network of stakeholders, including healthcare professionals (doctors and frontline workers) and the village community. This enables expectant and new mothers to learn and sustain practices that improve the nutrition of their babies. They don't blindly follow traditional practices but seek updated information.</p> <p>Many women are capable of earning and actively participate in household decision-making, including the purchase of food and other household products. This empowers them to have control over what they feed their children.</p>	<p>Access to technology, such as YouTube and other sources of information, provides interim guidance on effective nutrition practices and addresses anxieties related to raising infants.</p>	<p>The desire to provide the best nutrition possible for their children serves as a strong motivation for mothers and caregivers.</p>	<p>Strengthening the support network by conducting regular training and awareness programs for healthcare professionals and frontline workers, emphasizing evidence-based nutrition practices for infants.</p> <p>Expanding access to technology and digital resources, ensuring that accurate and reliable information on infant nutrition is readily available.</p> <p>Since nutritional supplements are provided to children above 3-4 years of age, there is an opportunity to sensitize and bring about behaviour change among parents and the community on adequate diet and nutritious diet for children above 6 months.</p>

Stakeholder	Behavioural Trait (Enablers)	Capability	Opportunity	Motivation	What can be done?
Pregnant and Lactating Women	Women are confident decision-makers who take an active role in their own self-care and well-being during pregnancy and lactation.	Access to smartphones equips women with the ability to gather relevant information, seek advice, and validate the advice received from various sources.  The availability of evidence-based nutrition information empowers women to make informed decisions about their dietary needs during pregnancy and lactation.	During pregnancy and the postnatal stage, husbands and mothers-in-law often take charge of household responsibilities, providing support and assistance to pregnant and lactating women.  Women's position as economic contributors in the community places them in a better position to make decisions and take on managerial roles beyond household responsibilities.	The communal support and assistance received by pregnant and lactating women emphasize the collective responsibility of the community in ensuring their well-being "strong support network"	Conducting awareness programs and workshops that promote self-care and decision-making skills among pregnant and lactating women, emphasizing their capability and importance in shaping their own health and nutrition.  Strengthening community-based initiatives that create a supportive ecosystem for pregnant and lactating women, fostering a culture of care and ensuring that their nutritional needs are met.
Community	The community embraces regional diversity and incorporates locally sourced food into their everyday diet, which ensures a variety of nutrients and flavours in their meals.	Members value the advice of elders who share knowledge about indigenous varieties of leafy herbs that are highly nutritious and readily available, even in resource-constrained areas.	Regular access to ASHAs and AWW creates an opportunity for community members to understand the importance of including a variety of foods in their diet and the benefits of diverse nutrition.  They purchase major grocery items once a week, often requiring long trips to the market. This provides an opportunity for community members to be more mindful and conscious about their food choices, ensuring they have a comprehensive list of items to meet their dietary needs.	Preference for trying different types of food, including non-vegetarian options, various vegetables, and homemade dishes like pasta and Maggie. This motivation for culinary exploration and variety enhances their dietary choices and overall nutrition.	Promote local food diversity and the inclusion of indigenous leafy herbs through awareness campaigns, cooking demonstrations, and education programs, highlighting their nutritional benefits. (sustainable nutrition counselling)

Stakeholder	Behavioural Trait (Enablers)	Capability	Opportunity	Motivation	What can be done?
			The availability of government ration shops enables community members to access essential food items like rice, pulses, oil, and spices at subsidized rates. This ensures food security and allows individuals to focus on other important nutrients.		
Key behavioural traits challenging optimal health and nutrition					
Community	The consumption of fruits and nutrient-rich foods is sporadic and depends on factors such as income and affordability. Cost implications and limited availability may hinder the regular inclusion of these foods in their diet, depriving the community of essential vitamins, minerals, and dietary diversity.	Lack of knowledge about alternative sources of essential nutrients may contribute to this challenge.	Economic factors and limited options in local markets may restrict community members' ability to purchase and consume these foods regularly.	The motivation to consume fruits and nutritious foods may be dampened by the perceived higher cost and limited availability. Lack of awareness about the long-term health benefits and importance of dietary diversity may also contribute to a lower motivation to prioritize these foods in their diet.	Provide practical information and resources on alternative and affordable sources of essential nutrients to empower community members to make informed choices.







## B. Key Implications & Actions Recommended

Implications	Actions
<p>The community relies on common knowledge passed down from elders regarding food practices, with an understanding that excessive oil or spices can harm the child.</p>	<p>Provide training and capacity-building initiatives to empower community members, especially women, to make informed decisions about nutrition and food choices.</p>
<p>Aanganwadi and ASHA workers provide guidance on healthy food habits and nutrition, along with hygiene and family planning advice for pregnant women.</p>	
<p>Doctors and health centers are trusted sources of information, and internet access contributes to decision-making and general awareness through platforms like YouTube, Facebook and Instagram. Women play a significant role as decision-makers in households regarding nutrition and food.</p>	



# Case Study – Positive Deviance

The participant is 32 years old, with two children (ages 5 and 10) and lives with her husband and parents-in-law. All of them work and the household is run based on their collective income- 1.5 LPA. She has a degree in Psychology and works at Keystone Health. The family is close-knit and they all eat the same food, with the only exception made for children - children's likes and dislikes are strongly considered during meal preparation and food procurement. This is in stark contrast to the rest of the community, which feeds young children the same food as everyone else.

## Knowledge and Attitude with Respect to Nutrition and Nutritional Practices

- There are three major sources of information that contribute to awareness and knowledge about nutrition: Anganwadi workers (talk to women in households), school-teachers (talk to children) and grandparents (talk to women and children).
- There is awareness about the health benefits (not specified) of leafy greens, but these vegetables are hard to procure during rainy seasons.
- Additionally, the community understands that young children should not be given spicy foods

## Positive Deviations: in Practice

- With all the information in mind, food is cooked separately for young children, with only mild *masala*.
- Because the children in this household enjoy consuming apples and bananas, the house is always stocked with these fruits- even if that means foregoing other fruits like oranges.
- Food is freshly prepared and consumed- This household does not consume leftovers; it is fed to their cattle.
- The woman's parents grow food on their land and often send it to her place- the value of homegrown and home-cooked food is acknowledged and appreciated.
- Children's preferences (and what is good for them) impacts food procurement and meal preparation
- The deviance is knowledge-based and also contextual- the mother's education level plus multiple sources of awareness
- Household recognizes there is a need to make special provisions to ensure young children are well-fed and that fresh food is healthier to consume



# Annexure 1

## Status of Household Health & Nutrition in Nilgiris

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>	Total	Total
1. Female population age 6 years and above who ever attended school (%)	85.2	81.7
2. Population below age 15 years (%)	19.7	21.2
3. Sex ratio of the total population (females per 1,000 males)	1,093	1,056
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	1,035	949
5. Children under age 5 years whose birth was registered with the civil authority (%)	98.7	99.7
6. Deaths in the last 3 years registered with the civil authority (%)	96.6	na
7. Population living in households with electricity (%)	98.6	97.6
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	96.4	94.6
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	83.6	63.8
10. Households using clean fuel for cooking <sup>3</sup> (%)	81.5	69.9
11. Households using iodized salt (%)	98.4	87.2
12. Households with any usual member covered under a health insurance/ financing scheme (%)	74.5	71.8
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	29.3	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	89.1	na
15. Women with 10 or more years of schooling (%)	63.4	61.1
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	11.1	18.7
17. Births in the 5 years preceding the survey that are third or higher order (%)	0.0	0.2
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	4.5	1.7
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	96.7	90.9
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	77.9	56.5
21. Any modern method <sup>6</sup> (%)	74.7	55.8
22. Female sterilization (%)	68.9	55.0
23. Male sterilization (%)	0.0	0.0
24. IUD/PPIUD (%)	4.5	0.7
25. Pill (%)	0.2	0.0
26. Condom (%)	1.0	0.1
27. Injectables (%)	0.1	0.0
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	6.0	7.4
29. Unmet need for spacing <sup>7</sup> (%)	1.6	4.1
<b>Quality of Family Planning Services</b>		

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
30. Health worker ever talked to female non-users about family planning (%)	35.3	36.9
31. Current users ever told about side effects of current method <sup>8</sup> (%)	88.9	82.8

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

- Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
- Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
- Electricity, LPG/natural gas, biogas.
- Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
- Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
- Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
- Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception. Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
- Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	80.0	72.7
33. Mothers who had at least 4 antenatal care visits (%)	92.5	88.8
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	94.1	68.1
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	93.8	57.3
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	76.4	42.4
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	99.4	99.4

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	91.5	70.3
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	3,438	2,519
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	*	*
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	90.9	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	100.0	99.8
43. Institutional births in public facility (%)	62.2	72.8
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	0.0	0.0
45. Births attended by skilled health personnel <sup>10</sup> (%)	100.0	99.8
46. Births delivered by caesarean section (%)	42.3	26.3
47. Births in a private health facility that were delivered by caesarean section (%)	56.6	34.5
48. Births in a public health facility that were delivered by caesarean section (%)	33.6	23.3
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	(90.1)	78.7
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	(98.0)	(86.0)
51. Children age 12-23 months who have received BCG (%)	(100.0)	100.0
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	(91.9)	88.4
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	(100.0)	98.4
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	(96.2)	90.3
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	(38.5)	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	(81.9)	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	(95.8)	80.5
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	69.4	85.4
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	(92.1)	86.0
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	(7.9)	14.0
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	1.3	6.7
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	*	*
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	*	*

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	*	*
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	0.0	2.7
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	*	*

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*
10. *Doctor/nurse/LHV/ANM/midwife/other health personnel.*
11. *Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
12. *Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
13. *Not including polio vaccination given at birth.*
14. *Since rotavirus is not being provided across all states and districts, the levels should not be compared.*

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>	<b>Total</b>	<b>Total</b>
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	66.1	50.7
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	*	*
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	(20.8)	30.0
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	*
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	18.8	32.5
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	26.7	33.1
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	17.3	31.0
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	7.7	17.1
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	23.2	30.7
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	8.5	5.0
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	10.8	12.7
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	39.5	23.2
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	62.2	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	45.9	53.3
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	44.4	51.2
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	*	(30.5)
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	44.2	50.7
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	37.7	54.4

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
Women		
86. Blood sugar level - high (141-160 mg/dl)23 (%)	5.4	na
87. Blood sugar level - very high (>160 mg/dl)23 (%)	6.5	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level23 (%)	13.6	na
Men		
89. Blood sugar level - high (141-160 mg/dl)23 (%)	8.2	na
90. Blood sugar level - very high (>160 mg/dl)23 (%)	5.9	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level23 (%)	15.0	na
<b>Hypertension among Adults (age 15 years and above)</b>		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	20.0	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	10.9	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	34.2	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	21.9	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	9.8	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	32.9	na
Screening for Cancer among Women (age 30-49 years)		
98. Ever undergone a screening test for cervical cancer (%)	23.2	na
99. Ever undergone a breast examination for breast cancer (%)	12.3	na
100. Ever undergone an oral cavity examination for oral cancer (%)	1.2	na
<b>Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)</b>		
101. Women age 15 years and above who use any kind of tobacco (%)	6.8	na
102. Men age 15 years and above who use any kind of tobacco (%)	21.5	na
103. Women age 15 years and above who consume alcohol (%)	1.1	na
104. Men age 15 years and above who consume alcohol (%)	25.9	na

15. Based on the last child born in the 3 years before the survey.

16. Based on the youngest child living with the mother.

17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).

18. Below -2 standard deviations, based on the WHO standard.

19. Below -3 standard deviations, based on the WHO standard.

20. Above +2 standard deviations, based on the WHO standard.

21. Excludes pregnant women and women with a birth in the preceding 2 months.

22. Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among



women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.

23. *Random blood sugar measurement.*

# Annexure 2

## Status of Household Health & Nutrition in Jalpaiguri

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>	Total	Total
1. Female population age 6 years and above who ever attended school (%)	73.7	68.8
2. Population below age 15 years (%)	22.6	25.7
3. Sex ratio of the total population (females per 1,000 males)	1,038	969
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	1,099	908
5. Children under age 5 years whose birth was registered with the civil authority (%)	99.2	96.9
6. Deaths in the last 3 years registered with the civil authority (%)	74.8	na
7. Population living in households with electricity (%)	97.4	90.5
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	95.2	85.2
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	73.2	51.0
10. Households using clean fuel for cooking <sup>3</sup> (%)	42.7	27.0
11. Households using iodized salt (%)	94.8	92.1
12. Households with any usual member covered under a health insurance/ financing scheme (%)	35.8	25.3
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	30.0	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	73.6	na
15. Women with 10 or more years of schooling (%)	33.9	22.7
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	18.7	34.5
17. Births in the 5 years preceding the survey that are third or higher order (%)	0.0	1.2
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	11.8	9.7
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	82.3	51.4
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	82.7	49.1
21. Any modern method <sup>6</sup> (%)	70.1	48.2
22. Female sterilization (%)	35.5	25.8
23. Male sterilization (%)	0.3	0.3
24. IUD/PPIUD (%)	4.6	0.9
25. Pill (%)	20.2	17.1
26. Condom (%)	7.6	4.0
27. Injectables (%)	1.0	0.0
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	4.0	13.6
29. Unmet need for spacing <sup>7</sup> (%)	1.6	5.1

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Quality of Family Planning Services		
30. Health worker ever talked to female non-users about family planning (%)	15.1	14.9
31. Current users ever told about side effects of current method <sup>8</sup> (%)	61.1	61.7

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

- Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
- Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
- Electricity, LPG/natural gas, biogas.
- Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
- Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
- Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
- Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception. Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
- Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	77.5	57.0
33. Mothers who had at least 4 antenatal care visits (%)	88.4	80.7
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	96.6	90.6
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	70.7	24.0
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	29.0	17.0
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	100.0	97.0

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/ midwife/other health personnel within 2 days of delivery (%)	74.8	69.7
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	2,243	3,728
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	*	*
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/ midwife/other health personnel within 2 days of delivery (%)	82.5	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	95.8	84.0
43. Institutional births in public facility (%)	83.2	67.6
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	0.4	3.3
45. Births attended by skilled health personnel <sup>10</sup> (%)	97.7	86.5
46. Births delivered by caesarean section (%)	28.7	18.5
47. Births in a private health facility that were delivered by caesarean section (%)	(90.8)	(53.4)
48. Births in a public health facility that were delivered by caesarean section (%)	20.8	14.5
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	87.9	81.7
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	96.3	87.8
51. Children age 12-23 months who have received BCG (%)	98.3	98.3
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	89.5	87.5
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	94.8	91.2
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	96.6	88.9
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	53.6	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	0.0	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	94.8	93.0
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	65.5	79.0
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	100.0	98.1
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	0.0	1.9
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	4.3	10.3
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	*	(79.9)
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	*	(27.5)

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	*	(80.4)
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	2.1	5.3
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(80.9)	79.8

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*
10. *Doctor/nurse/LHV/ANM/midwife/other health personnel.*
11. *Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
12. *Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
13. *Not including polio vaccination given at birth.*
14. *Since rotavirus is not being provided across all states and districts, the levels should not be compared.*

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>	<b>Total</b>	<b>Total</b>
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	61.3	48.3
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	(60.9)	*
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	*	*
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	29.7	15.6
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	*
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	28.5	14.6
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	28.9	31.2
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	18.3	17.7
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	7.3	7.6
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	25.4	24.6
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	5.5	3.9
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	15.8	26.1
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	16.7	14.8
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	82.7	na
<b>Anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	67.4	71.0
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	72.2	67.0
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	(44.8)	*
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	71.4	67.0
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	66.6	73.1

Indicators	NFHS-5 (2019-20)	NFHS-4 (2015-16)
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
Women		
86. Blood sugar level - high (141-160 mg/dl)23 (%)	7.9	na
87. Blood sugar level - very high (>160 mg/dl)23 (%)	5.2	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level23 (%)	13.8	na
Men		
89. Blood sugar level - high (141-160 mg/dl)23 (%)	9.5	na
90. Blood sugar level - very high (>160 mg/dl)23 (%)	6.8	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level23 (%)	17.2	na
<b>Hypertension among Adults (age 15 years and above)</b>		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	12.6	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	6.3	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	21.2	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	15.1	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	7.1	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	23.7	na
<b>Screening for Cancer among Women (age 30-49 years)</b>		
98. Ever undergone a screening test for cervical cancer (%)	0.0	na
99. Ever undergone a breast examination for breast cancer (%)	0.0	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.0	na
<b>Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)</b>		
101. Women age 15 years and above who use any kind of tobacco (%)	19.0	na
102. Men age 15 years and above who use any kind of tobacco (%)	54.2	na
103. Women age 15 years and above who consume alcohol (%)	2.8	na
104. Men age 15 years and above who consume alcohol (%)	28.2	na

15. Based on the last child born in the 3 years before the survey.

16. Based on the youngest child living with the mother.

17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).

18. Below -2 standard deviations, based on the WHO standard.

19. Below -3 standard deviations, based on the WHO standard.

20. Above +2 standard deviations, based on the WHO standard.

21. Excludes pregnant women and women with a birth in the preceding 2 months.

22. *Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.*
23. *Random blood sugar measurement.*



**6**

**Salt Pan Worker  
Community**







### Location:

Bhojo ki Bap Chak No. 1 Village, Jodhpur District, Rajasthan

Jodhpur city in Rajasthan, is situated just northwest of the Luni River on a sterile tract of land covered with high sand hills. The region is sometimes referred to as *Marwar*, derived from *maru-war* (“region of death”) because of the area’s harsh desert conditions. Its north and northwest areas form part of the Thar (Great Indian) Desert.

As per census 2011, Jodhpur district had a population of 3,687,165 and average literacy rate of 65.94%, with male and female literacy rates being 78.95% and 51.83%, respectively.<sup>1</sup> Jodhpur is a major regional road and rail junction and a trade center for agricultural crops, wool, cattle, salt and hides. The city also has a domestic airport, engineering and railway workshops and manufactures cotton textiles, brass and iron utensils, bicycles, ink and polo equipment. Jodhpur is famous for its handicraft products, which include ivory goods, glass bangles, cutlery, dyed cloth, lacquer work, felt and leather products, marble stonework and carpets. Tourism is an important component of the city’s economy.



Jodhpur experiences desert weather, which is hot and dry. The year sees an average of 32 cm of rainfall each year. The summertime maximum and lowest temperatures are 42°C and 37°C, respectively, while maximum and minimum temperatures in winter are roughly 27.5° C and 15.5°C, respectively. Excellent ground water is present over much of Jodhpur district. The principal crop during the Kharif season is *bajra* (pearl millet) while wheat, lentils and a variety of spices like red chilli, *jeera* and *dhania* are also grown during the Rabi season. Red chilli, onion and garlic are well-known for being grown in Jodhpur.

Jodhpur is also one of the main *Gwar* manufacturing hubs – where natural gum made from the *Gwar* or *Guar* plant is sold in bulk and supplied to other markets thereafter. Sandstone and limestone are the two most significant minerals in the area. There is a lot of fawn and red sandstone in the area, which is quite attractive. The Marwar Festival, Jodhpur International Desert Kite Festival and Nagaur Fair are the most popular festivals of the region.<sup>2</sup>

The village of Bhojon Ki Bap Chak No. 1 & 2 is situated in the Phalodi tehsil of Jodhpur district. It is located 165 km from the district headquarters and 25 km from the sub-district headquarters in Phalodi (tehsildar office). The village has a total size of 1425 hectares. There are 1,141 people living in Bhojon Ki Bap Chak No. 1 2, of which 601 are men and 540 are women. The village has a 38.56% literacy rate, with 49.92% males and 25.93% females being literate. There are roughly 180 homes in the village of Bhojon Ki Bap Chak No. 2.<sup>3</sup>

1 Jodhpur District Population Census 2011 - 2021 - 2023, Rajasthan literacy sex ratio and density

2 Krishi Vigyan Kendra, Jodhpur-i. (n.d.). <https://jodhpur1.kvk2.in/district-profile.php>

3 <https://villageinfo.in/rajasthan/jodhpur/phalodi/bhojon-ki-bap-chak-no1-2.html>



# I. Background Of The Community

## A. A Snapshot of the Community

The progress of the salt industry since independence has been dramatic: salt production has gone up nearly eightfold, from about 19 lakh tonnes in 1947 to 149 lakh tonnes in 2003. Salt is an essential commodity and falls under the list of Central subjects as per the Constitution, governed by the Salt Cess Act of 1953 (SCA, 1953).

Salt production is a seasonal activity. The season occurs in the period between the two consecutive monsoons. The length of the season varies throughout the country and is normally between 6 to 10 months. The major source of salt production in the coastal areas of the country is sea brine, but in Rajasthan and the Little Rann of Kutch area in Gujarat subsoil brine is the prime source of salt production. However, since the density of subsoil brine is more than sea brine there is a growing trend of mixing or replacing sea brine with subsoil brine.

Salt work is an important unorganized sector. Most of the salt workers are from backward classes and minority communities. They constitute 68.59% of the total salt workers' population at the national level, 80% in Rajasthan.<sup>1</sup> Typically, salt pans are located away from urban settlements and thus are found in remote areas in respective states. Their work is also rarely visible in the public eye and in addition to being unorganized, also goes unrecognized. As a result of this, salt workers are not provided specific protection by law and are paid very little for their work.

Workers in this sector could be engaged in various processes of salt manufacturing - viz., sweeping the salt crystals with a wooden spade, heaping salt crystals at the edges of pans, loading, weighing, milling, packing or transportation of salt. For most

workers this is an inherited profession i.e. the skills and knowledge are often passed down from one generation to the next.<sup>2</sup>

Work takes place in extremely harsh conditions as the workers are exposed to adversities of environmental conditions as well as the salt in the environment.<sup>3</sup> Working in such dire conditions leads to many health morbidities. Some of the most common symptoms observed are issues pertaining to eyes/vision, irritation and infection etc., itching, cracks and burning sensation in skin caused by direct contact with salt. Further, the physical stress of strenuous manual labor in the desert heat can lead to headache, giddiness, muscular pain, joint pain and general weakness among the workers.

## B Status of Household Health & Nutrition

Jodhpur has witnessed an improvement in the total number of stunted, wasted and underweight children (Annexure 1). However the total percentage of children receiving a minimum adequate diet is limited to 12.5% coupled with high anemia rates in children-under-5 (64.4%).

The data shows a growth for maternal and child healthcare with various indicators like folic acid consumption by mother (2.8% to 24.4%), postnatal care of mothers (59.4% to 81.6%) showing a significant improvement. Notably, the children who received professional postnatal care within 2 days of birth showed a drastic increase of 83.9%.

While the data suggests a positive trend in maternal and child health indicators, the observable condition of the salt-pan community visited had a different story to tell. There are visible malnutrition and health-related concerns amongst the community.

1 <https://www.bobpigo.org/webroot/img/pdf/report/7-Socio-Economic%20Status%20of%20Workers%20in%20the%20Salt%20Industry%20in%20India.pdf>

2 <https://www.bobpigo.org/webroot/img/pdf/report/7-Socio-Economic%20Status%20of%20Workers%20in%20the%20Salt%20Industry%20in%20India.pdf>

3 [https://journals.lww.com/ijoe/Fulltext/2006/10020/Work\\_related\\_health\\_problems\\_in\\_salt\\_workers\\_of.3.aspx](https://journals.lww.com/ijoe/Fulltext/2006/10020/Work_related_health_problems_in_salt_workers_of.3.aspx)

**Table 1: Key NFHS indicators for Jodhpur, Rajasthan**

INDICATORS	NFHS 5 (2019-21) %	NFHS 4 (2015-16) %
Children under five years who are stunted (height-for-age)	32.6	40.3
Children under five years who are wasted (weight-for-height)	13.3	23.8
Children under five who are underweight (weight-for-age)	25.4	38.6
Total children (6-23 months) receiving an adequate diet	12.5	3.6
Children age 6-59 months who are anaemic (<11.0 g/dl)	64.4	63.6
Mothers who had at least four antenatal care visits	56.7	40.2
Pregnant women age 15-49 years who are anaemic (<11.0g/dl)	23.6	40.8
Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl)	44.2	44.5
All women age 15-49 years who are anaemic (<11.0 g/dl)	43.4	44.3

### C. Food and Nutrition Security Challenges faced by Salt Worker Households

Owing to their nature of work and residence, these communities are located in remote areas and cut off from essential services. There is a dearth of knowledge sources, leaving little or no access to professional guidance on issues of health and nutrition. An Anganwadi, while present in the vicinity, operates sporadically and seems to cater to only a subset of the village population. The nearest Community Healthcare Centre (CHC) is 7 km away, but the community reports limited accessibility given the limited mobility of women and children outside the village. Due to the non-functioning and limited nature of infrastructure, there is very little understanding on nutrition among the members of the community. There are no knowledge providers to help generate awareness and provide people with adequate information on nutrition.

Little consideration is given to ensuring nutrition and is not prioritized by the community due to lack of knowledge. They have meager resources and thus only work towards ensuring food for themselves. The members of the community consume food to feel full which they believe will ensure sustenance. Further, caste and gender discrimination exacerbate the hesitancy in seeking healthcare services, including nutrition counseling.

There is very limited understanding of the body's increased nutritional requirements across the life cycle. As a result, no special measures are taken towards improved or enhanced nutrition at the early stages of life, during pregnancy and post-delivery. Due to the paucity of resources and restricted access to health services, the food consumed in the household remains the same for everyone. While there is awareness and acknowledgement that fruits are healthy, they are only purchased occasionally due to the high prices.

# II. Participant Context and Cumulative Community Profile

## KEY HIGHLIGHTS

- Salt work forms an important unorganized sector. Most of the salt workers are from backward classes and minority communities.
- Both ST/SC have been marginalized and deprived of resources due to decades of discrimination. The caste identity of people continues to be a fundamental lens through which they engage with the communities from outside their village.
- Men and women carry out roles ascribed by their gender.
- The women largely belong to a Muslim dominant community which implies that Islamic customs, traditions and learning govern their everyday lifestyle and choices.
- Children spend most of their day at the *madrasa* and visit it at least twice every day.
- Both men and women have only gained an education till the 8th to the 10th standard.
- For most workers this is an inherited profession i.e. the skills and knowledge are often passed down from one generation to the next.

## A. Social Structure

### i. Family Structure

Most people are a part of a joint family setup which includes at least two or three generations living together. The number of bread-earners could differ depending on the number of able-bodied men within a household.

Within such a setup, everyone has a role and responsibility to fulfill. Every relation is predefined with little or no space to think beyond it. For instance, a woman has specific actions and duties to perform in the capacity of a wife, mother and daughter-in-law, and is often not allowed to step beyond them. That is, if she is dependent on her husband or mother-in-law to take certain decisions, it is unlikely that she will ever be able to take control of decision making.

### ii. Marriage and Childbearing Age

According to the NFHS data, 28.1% women in the region aged 20-24 years, were married before the age of 18 years and 5.1% of women aged 15-19 years were already mothers or pregnant at the time of the survey.<sup>1</sup>

Women are married by the age of 19-20 years and become mothers to two or three children within the initial years of marriage itself.

### iii. Educational Landscape:

Most people have little exposure to formal education. Both men and women have only gained an education till 8<sup>th</sup> or 10<sup>th</sup> standard. The life stage of being children is reduced since they are married at ages of 16/17 years itself. Thus, the years spent studying also get reduced since they move onto the next life stage much earlier.

Children go to the school run by the Anganwadi and the *Madrasa*, an educational institution where Islamic teachings and religious instructions are imparted. More time is spent at the madrasa as the children visit it at least twice every day.

***“I am illiterate. My wife is also illiterate.”***

- (MEN, IDI - JODHPUR)

***“Wife is also 8th pass or 10th pass.”***

- (MEN, IDI - JODHPUR)

***“I have studied till 4th standard.”***

- (MEN, IDI - JODHPUR)

## B. Modes of Livelihood

Salt Work remains one of the important unorganized sectors of the state with large participation from both men and women. Salt workers are seasonal workers with a marginal source of income. The occupational hazards of the work have been highlighted through several studies. People who work in the salt industry are directly exposed to inhalable salt dust, salt crystals and concentrated

<sup>1</sup> [http://rchiips.org/nfhs/NFHS-5\\_FCTS/RJ/Jodhpur.pdf](http://rchiips.org/nfhs/NFHS-5_FCTS/RJ/Jodhpur.pdf)





brine. They are also subjected to the physical strain of hard manual labor, direct bright sunlight and glare from sunlight reflected off the brine's and salt crystals' surfaces. Eye-related complaints are the most prevalent among salt-workers.<sup>2</sup>

While the income status of these people is low, they do not engage in other activities, limiting their livelihood opportunities to salt pan work. In that, the men have varying jobs, with some collecting salt and others driving vehicles. The daily wage ranges from INR 800 to 1500, depending on the task undertaken. Women stay at home due to strict patriarchal beliefs and are mostly deprived of higher education opportunities.

Even though the income levels are low, emphasis is placed on the outward display of status and wealth among community members, rather than investments in improved nutrition at the household level. The respondents were keen on buying gold jewelry, with the women regularly donning most of the jewelry they own.

***“For 16 years I have been doing this work.”***

- (MEN, IDI - JODHPUR)

***“I have to travel 10-12 km for labor work at the salt factory. I am working it for 10 years. When I started thinking of doing something, I got this work and started working here only”***

- (MEN, IDI - JODHPUR)

***“I am working in a salt factory. I have been digging for salt for 5 years. Earlier I was in Jodhpur and digging in mines and stones. I left that job because there was some disease there and people suffer from TB. I was here during Corona. I travel 8-9 km to go to work. We don't work during the rainy season because the salt melts/dissolves.”***

- (MEN, IDI - JODHPUR)

### **C. Social Fabric, Roles and Expectations**

In each village, a dominant influence is observed that both directly and indirectly influences the everyday lifestyle of the community.

The women largely belong to a Muslim dominant community which implies that Islamic customs,

traditions and learning govern their everyday lifestyle and choices. Members in the community carry out fasts in the month of Ramadan leading to a shift in both lifestyle and food rituals during that month. Moreover, Eid is the main festival for the members of the community. It represents a time of celebration, indulgence and breaking from the mundane.

The men from the other village belong to the Scheduled Caste (SC) and Scheduled Tribe (ST). Historically, both ST/SC have been marginalized and deprived of resources due to decades of discrimination. Their caste identity, thus, continues to be a fundamental lens through which they engage with the communities from outside their village. No exchange of resources or food would occur outside the community, given this context.

The ways in which the members of both the communities relate to the world around them is highly coded. For instance, it is observed that the women of the community owned gold jewelry that was extremely high value. On special occasions within their community such as weddings, they tend to wear this jewelry. Owning such gold jewelry stands in absolute contrast to their daily lifestyle where they have bare minimal resources to sustain themselves. However, owning gold jewelry in India is traditionally associated with prosperity and wealth, defining a person's status in society. Often gold jewelry is passed down through the generations and thus has a strong symbolic value. However, there is a highly coded relationship with this material object and it is almost impossible to re-imagine the purpose of this jewelry from the ways in which the community already relates and connects to it. Therefore, in spite of owning high value jewelry, they refrain from selling the jewelry and continue to struggle with minimal resources.

Similar cultural rigidity is likely to extend into various spheres of their lives, including their legacy understanding and practices related to food consumption in households. It is imperative to bear this context in mind whilst thinking of potential interventions to change existing nutrition-related habits for the community.

Caregiving and care manifest uniquely in the community. It is important to highlight that emotional

2 Sachdev, R., MI, M., Haladiya, K. R., & Saiyed, H. N. (2006). Work-related health problems in salt workers of Rajasthan, India. *Indian Journal of Industrial Medicine*, 10(2), 62. <https://doi.org/10.4103/0019-5278.27301>



responses and behaviors are culturally coded and in every culture, there would be distinct manifestations.. In this community it is observed that the mothers did not express care and compassion towards their children in ways that is often noticeable in urban India. However, this does not imply that the mothers do not feel those emotions towards their children.

For example, allowing a child to consume as much food as they desire, is a form of care as far as this community is concerned. It is critical to note the intent behind nutrition-related actions, to appeal to the motivations of the community members.

#### D. Access to Facilities and Services

The members of the community have limited access and exposure to markets and technology. There is a small market which has a series of shops selling various items such as vegetables, fruits, clothes, utensils etc. The members of the community purchase their groceries and utility items from this market. Men from the community take an off on Fridays to go to the nearby village to perform Friday prayers. Often, special purchases such as buying

fruits, vegetables and mutton are made on the way back.

Only a few women own a personal smartphone and watch Reels and YouTube videos in their free time.

***“We don’t have TV in our home.”***

(MAN, IDI – JODHPUR)

***“I have a Vivo phone for my personal use. I talk to my mother, watch reels and even Pakistani dramas sometimes.”***

(WOMAN, FGD – JODHPUR)

Asset wise, it is observed that the households have a refrigerator and an immersion water heater. None of them have a television. Almost everyone owns some hereditary land as property which is passed down through generations. Members grow *bajra*, *jowar*, black *chana* etc. The grains grown here are used for consumption purposes and only the extra grains are sold in the market.



***“I grow black channa. We keep it for home and only sell it if there is an excess.”***

(MAN, IDI – JODHPUR)

***“I have a bike but it is in my father’s name on paper.”***

(MAN, IDI – JODHPUR)

## **E. Life of Community Members**

### **i. Routines**

Women wake up around 5 a.m. to 6 a.m. During the day, they are occupied in cleaning the house, washing clothes and dishes and preparing meals until around 8 a.m., after which- they tend to livestock (goat/cow/sheep) and prepare the children to go to the madrasa. Upon returning at 2 p.m. the children are made to eat and then spend time studying. In the evening, they again visit the madrasa.

***“I generally get up at 6 a.m. and the entire morning goes in doing house chores. I take a break at around 4 p.m. before I get started on dinner preparation.”***

(WOMAN, FGD – JODHPUR)

Men’s daily routine involves spending a significant portion of the day outside the home. They typically begin their day around 5-6 a.m. by completing their morning ablutions and tending to their livestock. Subsequently, they leave the house at 9 or 10 a.m. for work, later returning for lunch before embarking on their afternoon shift. Once they return in the evening, usually around 6 or 7 p.m., they engage in leisure activities, have dinner and eventually retire for the night.

### **ii. Activities**

Men and women have divided roles and responsibilities within both communities. Men go out to earn a livelihood and the women perform all the chores within the house. Further, confined within the boundaries of the house, the lives of the women are highly guarded and controlled by the men and elders in the families. Women are not allowed to go out on

their own and must be accompanied by a male family member or mother in-law at the very least.

Children spend most of their day at the *madrassa* in the evening and sometimes at Anganwadi school. However, visiting the madrasa at least twice a day is a custom.

After coming back home, men spend their time watching news, engaging in social media and meeting friends.

***“After coming back home, I do nothing as such except use my mobile to see the news, watch YouTube, listen to songs, use Facebook and whatsapp and chat with friends.”***

(MAN, IDI, JODHPUR)

***“We are working, and we don’t get free time. Everyone has hobbies but I don’t have a TV in my house.”***

(MAN, IDI, JODHPUR)

### **iii. Relationships Gendered Roles, Restrictions and Power Dynamics**

Gender roles are predefined and men and women carry out the duties and roles traditionally ascribed by their gender. For instance -

- Only the men are allowed to go outside of the home to earn a livelihood.
- All financial purchases are made by the men.
- Women are confined within the boundaries of the house and ensure that everything is provided for within the home.
- Women in many houses only eat after everyone else has completed their meal.

Though patriarchy dominates everyday lifestyle, it is noticed that mothers-in-law hold a lot of power and influence within the household, especially in the absence of male members. Her years of experience is rarely questioned and she is next-in-line to control household purchase decisions, as well as decisions related to the quality, quantity and planning of nutrition for the entire household including children and women after the men.

# III. Deconstructing Nutrition and its Beliefs in the Community

## KEY HIGHLIGHTS

- People across all age groups consume the same food.
- Individuals (apart from children) within a house do not purchase any food just to satisfy their own needs.
- Vegetables and fruits are consumed occasionally because of high costs and are even considered impure by some.
- Cost of the item plays the most dominant role while deciding on what will be consumed.
- Non-vegetarian food (mutton) and fruits/vegetables are considered expensive and thus consumed less often.
- The core expectation from food is to provide sustenance and meet their hunger demands.

## A. Perception of Health

The members of the community did not convey any understanding of differential nutrition needs at various life stages. The act of food consumption for them is only equated with filling their stomachs. Thus, the core expectation from food is to provide sustenance and meet their hunger demands. Good/positive physical health of the children is defined by an active, happy and playful child. If the children are found complaining about their physical pains, then the child is unhealthy.

Impaired access to information sources like frontline workers, fractured educational and health systems, leave them deprived of opportunities to learn and adapt.

*“If someone is in regular pain or is looking weak, then we know they are not healthy.”*

(WOMEN, FGD -JODHPUR)

*“A child with a strong body is good because he*

*will play with other children.”*

(WOMEN, FGD -JODHPUR)

*“A weak child always complains of leg pain and will feel weak and tired.”*

(WOMEN, FGD -JODHPUR)

*“If the infant is not eating anything, then we give them milk with bread. We have to give something because that stops the baby from crying.”*

(WOMEN (MOTHER), FGD - JODHPUR)

## B. Sources of Information Shaping Perception of Health

Food knowledge and rituals are passed through generations. This community has lived with the same set of ingredients they have been using for generations with dishes like *bajre ki roti* and *dal* as staple meals. However, any knowledge beyond this legacy wisdom is highly limited.

*“My elder brother-in-law told me about bread in milk because they also give this to their child.”*

(WOMAN FGD – JODHPUR)

*“Older people tell us what is good.”*

(WOMAN FGD – JODHPUR)

ASHAs provide medicines and injections during pregnancy and when children fall sick. Some foods (rice, dal, wheat) are also provided to pregnant and lactating women. They give further advice regarding menstruation, diseases and healthy food. However, this interaction is very limited.

*“Ashas advise us not to use cloth since it’s dirty but to use pads or clean cloth instead.”*

(WOMAN FGD – JODHPUR)

## C. Perceived vs. Actual Dietary

## Practices for Each Stakeholder

The members of the community consume food with limited ingredients every day and occasionally supplement these with a non-vegetarian dish (mutton) or fruits and vegetables. Affordability plays the most dominant role when deciding on items that can be consumed. Non-vegetarian dishes like (mutton) and fruits and/vegetables are considered expensive and thus consumed less often.

So, good food refers to food that can be consumed every day. However, they do acknowledge the goodness of some of the dishes that are consumed less often but are more expensive to purchase.

### Perceived Good and Bad Foods

This is common for all stakeholders.

Good food: Food that can be/is consumed every day.

*Bajra*, pulses, garlic, onion and tomato are essentials and are consumed every day.

Wheat, *roti* and rice are understood to be good food however not consumed regularly (due to limited availability). Some also felt that dairy is good and thus curd, milk and buttermilk are considered good food as well. Milk is good for health as it makes one stronger.

Fruits like papaya, banana are considered healthy and consumed more frequently during Ramadan. Otherwise purchases are rare when the men go to the nearby villages, as they are considered expensive. They are considered to provide vitamins and strength.

“I don’t know the exact benefits of fruits, but I know they are good.” (Male)

The community knows that vegetables are good for health and that they provide strength and are important for growth. This is also the case with dry fruits. They have knowledge of dry fruits like almonds and walnuts, but these nuts are not available in their village, nor can the people afford to buy them. However, almonds (*badam*) and cashew (*kaju*) are procured from far-off markets, in very limited quantities and given to women upon delivery post-pregnancy.

Sweets are also believed to be very good for health, but they only state this based on what they see in shops, as they cannot afford to buy them.

For Children:

*Ghee* is considered to be healthy for children. Milk is considered to provide satiety, and hence be adequate. Bread is also considered to be a good filler for catering to the appetite of children

Bad food: Junk food such as chips, Maggi etc. are considered bad food., especially for children, with some mentioning chicken in the same category as well.

“Kurkure I don’t think is good, but if the child is crying or cranky then we give them Kurkure.” (FGD, Woman – Jodhpur)

Conflicting view on vegetables

Vegetables are expensive and thus are eaten only occasionally. They are seen as a luxury resource. However, some members of the community also felt that the vegetables in the market are impure and contain chemicals and thus should be avoided. So they grow their own vegetables, if possible.

Mutton is recommended over chicken.

# IV. Deep Dive into Food Consumption and its Implications

## KEY HIGHLIGHTS

- All members of the house, apart from children younger than 6 months, consume the same food.
- Tea is an essential component of the community members routine and is consumed almost four or five times in a day.
- INR 10 are given to children sometimes to enjoy some chips and munchies (biscuits) from the *kirana* store
- During the month of Ramadan, people are able to purchase fruits which otherwise is a rarity, since they fast the whole day.
- Consumption of tobacco (*zarda*) is a common practice among the men of this community.

## A. Overview of Food Consumed

Grains like wheat (*gehu*) and *bajra*, pulses like *chana dal* and vegetables like tomato, onion and red chili are all regularly consumed across meals. Milk and milk products are seen to be commonly consumed – these are home-made, using the milk from livestock owned in the households. *Ghee* is regularly used in meals, especially for children. Milk is consumed in the form of curd and *chaach* (buttermilk). Mutton is consumed occasionally i.e. once a week or less, especially in homes that have livestock. Sweet dishes with *gur* (jaggery), wheat and chana are also consumed for dessert. *Saunth laddoo* and *ajwain* are given to lactating mothers for about 40 days. Children consume packaged food items like chips, chocolates and ice creams frequently. Rice and vegetables are consumed less often (every 15 days). In order to complement meals, the community members report using tomatoes and onions as vegetable preparations, given the inability to afford any other vegetables. These ingredients are also used to temper *dal* or to be eaten raw, indicating that usage is optimized.

Further, eggs and fruits are consumed very infrequently – as little as once a month and sometimes even more sporadically so. Apples, bananas and seasonal fruits along with sweets like *laddos* are rarely consumed, mostly on festivals. This infrequency is linked to affordability.

Children older than 6-7 months consume the same food as adults and get accustomed to the same diet very early. However, sometimes exceptions are made in the following ways:

- *Ghee* is added to their food à for strength
- In exceptional scenarios milk and bread is given to ensure that their stomach feels full.
- Biscuits are used as an alternative and one or two people also mentioned that biscuits are kept just in case the child is not eating the food.
- INR 5-10 are given to children at times, to indulge in some local chips and munchies (biscuits) from the *kirana* store

**“There is no difference in what men and women eat. The same thing is cooked for everyone.”**

(WOMAN, FGD – JODHPUR)

The women belonging to the Muslim community see active shifts in their lifestyle and food routines during Ramadan and Eid. During the month of Ramzan they are able to purchase fruits which otherwise is a rarity, since people are fasting, Festivities such as Eid or a wedding in the community become occasions when people break from the routine and cook food such as Biryani, mutton etc. Sweets such as *sheera* and *halwa* are also cooked. Peanuts and almonds are added to sweets such as *halwa* which is cooked on marriages or other such auspicious occasions.

**“If guests come, then I make Biryani sometimes.”**

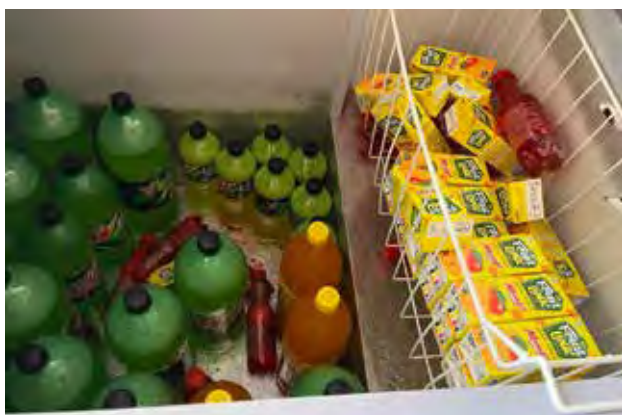
(WOMAN, FGD – JODHPUR)

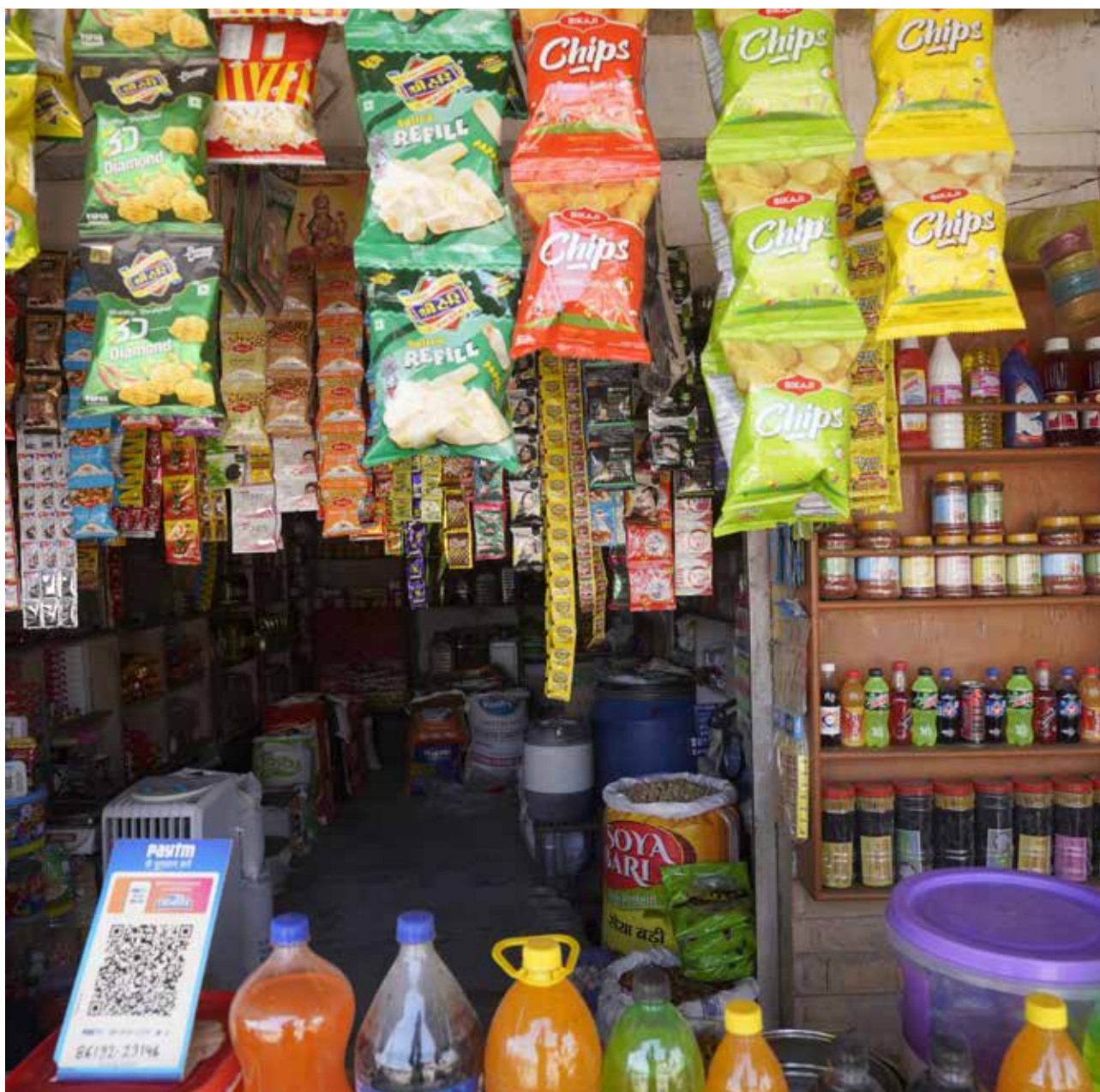




## B. Routine of Food Consumption

Headers	Jodhpur
No. of Meals	On average, three meals are consumed daily. Women prepare food twice a day, once for breakfast and lunch and a second time for dinner
Meal Timings	Men usually come home to have their lunch and then go back to work. They then come home in the evening and have dinner.
Meal-wise Dishes/items	<i>Bajre ki roti</i> with either pulses ( <i>Chana and moong dal</i> )/ garlic <i>chutney</i> / onion <i>sabzi</i> / tomato <i>sabzi</i>  If they have prepared <i>bajre ki roti</i> and <i>dal</i> for breakfast and lunch, then generally <i>bajre ki roti</i> and <i>chutney</i> would be prepared for dinner.  Children are fussy eaters and sometimes mothers simply give them bread and milk so that there is food in their stomachs.  “We eat very little rice. We eat bajre ka roti everyday.” (Male)
Order of Eating	In most houses, children eat first, followed by the men and women eat after all the other members of the house.
Snacks/Food Consumed	Tea is an essential component in the routine of both women and men and is consumed almost four or five times in a day. Children are also introduced to tea from a young age as well. This becomes a way to ensure milk intake.  “Can’t live without tea! It is very important.” (IDI, Man – Jodhpur)
Cooking Fuel/ Culinary Practices	Although they own cooking gas, it is very expensive for them (INR 1100), hence food is made in a <i>chulha</i> (traditional stove).
Storage	The households have access to refrigerators and an immersion water heater.





### C. Substance Consumption (Alcohol and Tobacco)

It is a common practice among the men of this community to consume *zarda*, a type of smokeless or chewing tobacco that is commonly used in certain regions, particularly in South Asia, including India, Pakistan, and Bangladesh.

*Zarda* consumption is mostly a social activity and is consumed with other men of the community. This allows people to meet and engage with others.

*Zarda* is consumed several times a day and is an addiction. Male members spend almost half of their daily wage on it. However, these men do not see it in the same light. There is an awareness of its ill effects

as they acknowledge that it is damaging to their health, yet its intoxication is addictive in nature and hence do not want to quit.

Consuming *zarda* is reported to provide a feeling of energy which helps them detach from the pressures of the mundane and get consumed by a sense of calmness. Some shared that consuming *zarda* prior to having the food enhanced their experience of consuming a meal.

*“I just have one puria of zarda, it does not affect our body. I usually eat it after eating the food.”*

(MAN, IDI - JODHPUR)

# V. Decision Making Related to Food Preparation and Procurement

## KEY HIGHLIGHTS

- Decisions regarding food choices and purchasing behavior are heavily influenced by the social systems and constructs of patriarchy and ageism – the men in the household have the maximum control over decision-making, followed by elder women in the household, indicating that the young women or daughters-in-law have little to no agency in the household.
- It is observed that hierarchies are often highly rigid within households.
- All financial transactions done outside the household are only carried out by the male members.

## A. Decision Making and its Makers

### Meal on a Plate (Daily)

Item	Source/Frequency/Quantity	Stakeholder	Nuances/Implications/Insights
Perishables (leafy vegetables, banana, eggs, milk)	Vegetable market- once in 15 days	Men and mothers-in-law	Vegetables and fruits are considered expensive and thus are not consumed in higher or larger quantities.
Other Vegetables and Fruits (potatoes, carrots, oranges, apples)	Fruits- once a month from the market	Men and elders	They believe that the vegetables available in the market may not be healthy due to their potential chemical content. As a result, they prioritize cultivating their own vegetables whenever feasible.
Whole Grains (staples) (rice, wheat ragi, barley)	<i>Kirana</i> store-weekly	Men and mothers-in-law	Rice doesn't constitute a staple in their dietary habits. The main grains consumed by this community are gehu and bajra.
Pulses, Sugar and Salt	<i>Kirana</i> store-weekly	Men and mothers-in-law	These constitute some of the most sold items of the kirana store.
Chicken/ Mutton	Domesticated goats- once a week or less.	Men	Mutton is primarily eaten among non-vegetarian food. ; Chicken is not preferred.
Masala, Tea, Oil, Sugar	<i>Kirana</i> store	Men and mothers-in-law	<i>Ghee</i> is consumed daily.
Snacks (packaged)	<i>Kirana</i> store	Children and elders	Packaged food items like chips, chocolates and ice creams are consumed by children.

## B. Meal Preparation

Meal preparation is undertaken daily by the wife/ mother of the house. Meals are generally prepared in the morning and the men carry the same to work- what is eaten for breakfast is thus consumed for lunch.





### C. Decision-making Process: Influencing Factors (inc. Storage)

Purchases made for nutrition are largely governed by the patriarchal structure – wherein the men are majority decision-makers, followed by occasional instances of the elderly women in the household. The young women in the home have limited influence on decision-making, though they are critical to the process of providing nutrition.

Within this community, it is observed that only men are the bread earners. They go out to work and bring in the financial resources to sustain their families. Further, everything that is purchased and brought within the house is done by the men. Even the things that are required by the women such as clothes, makeup, bangles are purchased by the men or in the presence of one or more men from the house.

Every Friday men generally go to the nearby area to offer Friday prayers and procure groceries that are not locally available such as vegetables, fruits etc. Thus, all financial transactions done for the household are only carried out by the male members. They showcase complete control over making the choice whether to bring in something into the house or not.

*“On Friday, generally we go for prayers to the nearby town and we buy things on our way back.”*

(MAN, IDI - JODHPUR)

Decision-making related to preparation of meals is controlled by the mothers-in-law who play a dominant role within the house. She is usually considered an alpha figure within the house who has significant control over the choices and decisions of every other member. Further, she also is the ultimate decision maker on what is cooked daily within the house. She will decide what resources the money will be spent on and informs her son, who then purchases it from the market. So, the son here is told exactly what he should purchase and is only carrying out the orders of his mother.

The mothers-in-law commands a position of respect and authority due to their seniority. Their knowledge that comes through years of experience is given utmost regard and will rarely be dismissed or not obeyed. Such knowledge is treated as wisdom as it's understood that it comes with lived experiences. The food preparation is then carried out by the daughter-in-law, who prepares it as per the decisions of the mother-in-law.



# VI. Supply Perspective

## A. Available Items at the Kirana Store

There is only one *kirana* store in the vicinity. Oil, soyabean, rice, pulses, sugar, chili powder, coriander powder, namkeen, *ghee*, salt, flour, biscuits, Surf, soap, ice cream, chips, Kurkure, Maggi, toffee, incense sticks, coconut oil, dry coconut, powder, tea, bread, rusk and garlic are available at the store. Notebooks and pens are also available.

Eggs and milk are not kept at the store since people have their own livestock and do not purchase it from the shops. There is no demand for dry fruits such as raisins, almonds, cashews etc.

*“People don’t buy dry fruits, so we don’t need to keep them. The market is near around 4 km and, people go there”*

(KIRANA STORE INTERVIEW)

## B. Items Purchased from Markets

The shopkeepers keep a variety of products such as rice, pulses, sugar, *masalas*, chips, ice cream etc. He purchases them as per the demands of his customers. Dry fruits are purchased from the market directly by the customers.

*“Every week I need to go to buy tobacco”*

(KIRANA STORE INTERVIEW)

## C. Ration or Food Items Received through THR/Anganwadi Centers

Owing to inconsistencies in documentation, awareness and accessibility, the community members do not avail THR or PDS services. There is a wide gap between the ASHA workers and the people with little to no assistance provided to these families. The Anganwadi center is well set up in terms of infrastructure but remains non-functional on most days.

## D. Livestock Ownership

Almost everyone owns some land and livestock – which is utilized for personal consumption. This ownership plays a large role in fulfilling nutrition-related needs of members in the household.

The produce from land and livestock is primarily used for personal usage and if left with extra, the community members make a sale of it. The most common livestock is goat and cattle. Most of the households domesticate goats while some domesticate cows as well – this difference is typically characterized by the religion of the community. They get their daily produce of milk from this livestock, and *chai*, *ghee*, curd and *chhach* are also made from cow’s or goat’s milk. For homes owning goats, domestication is also intended for use of meat, later.

If a mother is facing concerns with lactation, then the child is fed goat’s milk during the first 6 months of birth. There is no inhibition or concern in switching to an alternative.

*“I have two cows and the milk is used only for home.”*

(MAN, IDI – JODHPUR)

*“I have four goats. We extract the milk and use it for drinking or in making tea etc.”*

(MAN, IDI – JODHPUR)

## E. Status Quo of Kirana Store: Perspective on Most Sold Items

Essentials such as *ghee*, oil, sugar, rice, tobacco, tea are the most selling items: The shopkeeper keeps a constant stock of these as they are the most in demand. Kurkure and chips are the most sold items amongst children. Cold drinks and ice cream share a high demand too.

At an overall level, the shopkeeper shares that the demand has increased since Covid as people have also started to stock items.

*“We get these products from Jodhpur.”*

(IDI, KIRANA SHOPKEEPER - JODHPUR)





# VII. Conclusion

## A. COM-B Lens

Stakeholder	Capability	Opportunity	Motivation	Behavioral Trait (challenges)
Mothers-in-Law	Mothers-in-Law seem to be taking more charge in the household decisions with the men of the family. There seems greater capability amongst Mothers-in-Law to make the decisions and therefore to be able to guide their daughters-in-law on the decisions related to food and nutrition practices.	The wisdom and years of experience that the mothers-in-law hold can be used to generate engagement amongst the community members to enhance the existing knowledge of the nutritional practices by actively engaging them in sessions/ workshops.	Being the alpha figure of the household, Mothers-in-Law has the charge and the motivation to hold that position of authority.	Behavior-led challenges impact the household negatively because there is limited or no care for nutrition or for women, but the money earned is for future investment and not the current health benefits.
Women (Pregnant / Lactating)	Because of strong patriarchal frameworks, it is seen that the women are responsible for making food and serving it on the table but not to take a stand for themselves or be vocal about their needs, because of the stronger role played by the Mothers-in-Law and men.	<p>The prevailing cultural and societal norms dictate traditional gender roles, with women primarily responsible for food preparation and serving. This indicates that women have an opportunity to challenge these norms or rules if they are guided and advised in an appropriate manner.</p> <p>There is a noticeable gap between the local community and ASHA workers, which could provide an opportunity for collaboration and communication between the two groups.</p>	There might be a motivation among community members, especially women, to have an equal say in decision-making processes and challenge traditional power dynamics in a positive manner.	Women/ daughters-in-law are not in a position to make decisions for themselves and are not even allowed to step outside their houses.

Stakeholder	Capability	Opportunity	Motivation	Behavioral Trait (challenges)
Men	There is the capability to spend but the expenditure is more focussed on financial security for the future with little to no priority given to improving nutritional food habits, quantity, and quality.	The opportunity here is to guide the community members on the careful management of finances, along with nudges on optimal nutrition investments.  Men among newlyweds and young couples can be sensitized around nutrition and the health of their partner (wife), including involving and promoting their partner in decision-making around food purchase and food preparation.	The dire need to earn and save for the future is a motivation in itself to earn money to afford basic sustenance and save for the future. This motivation can be enhanced to emphasize the long-term returns on investments in food and nutrition, while also balancing more immediate/ highly prioritized expenses.	Any excess or additional money not utilized in everyday expenses, is invested in valuable items like gold or gold ornaments. There is a glaring absence of nutrition-related knowledge and therefore limited inclination to apportion some of this money for household food or diversity in diet.

### Key Implications & Actions Recommended

Implications	Actions
It is evident that social discrimination limits accessibility for these community members over and above the limited access to urban locations, and nutrition resources. Marginalization leads to limited inter-community access and they are cut-off from public systems like education, primary healthcare, and ICDS – leading to the community functioning in a vacuum. The maximization of local resources is noted in that food is made using bajra, tomato, onions, and sugar in various forms which are readily available.	<ul style="list-style-type: none"> <li>Interventions need focus on building diversity into diets which are currently limited to grain, pulse, tomatoes, and onions (and sometimes red chilies)</li> <li>Improving access to government services including, but not limited to, ICDS, PDS, and health services and nutrition counseling must be done in parallel with community-interventions to improve diet diversity, ideally led by local FLWs.</li> </ul>
Most adults report that they consume as much as is required to sustain themselves. There is a need to enable access to PDS in order to ensure adequate quantities for basic sustenance. However, there is a propensity to save and spend money on items like coarse sugar and jaggery.	<ul style="list-style-type: none"> <li>There is an urgent need to cater to food quality and quantity regulation for adults, especially for pregnant women whose meals are not supplemented.</li> <li>Access to the PDS requires administrative and political will.</li> </ul>
The village has no interface with ICDS or public education altogether, leading to a severe dearth of knowledge of nutrition for infants, children, pregnant women, and lactating mothers.	<ul style="list-style-type: none"> <li>There is a need to focus on education on nutrition for pregnant women and lactating women.</li> <li>Health and ICDS departments can plan for remote/mobile services to be aware and educate the community.</li> </ul>
The community maximizes the use of goats in that the milk is used for direct consumption and to make <i>ghee</i> . They also use goats for mutton.	<ul style="list-style-type: none"> <li>This is a replicable practice given that owning livestock is a common practice</li> </ul>

# Case Study – Positive Deviance

The respondent is 20 years old from Jodhpur with one baby and pregnant with the second one. She lives in a joint-family set-up with her husband and in-laws. She is not highly educated (studied till the 5th standard), but is adept at using technology and has her own smartphone. While the exact family income is unknown, money is an issue because sometimes the family buys food on credit. She pays special attention to her child and makes sure he is never empty-stomach, even if that means giving him some biscuits. Others in the community let their children remain hungry if they are creating a fuss.

## Knowledge and Attitude with Respect to Nutrition and Nutritional Practices:

- Despite no access to or support from Anganwadi workers, there is still some level of awareness and knowledge about nutrition and nutritional foods. This knowledge is generational- passed down from mothers/mothers-in-law to their daughters/daughters-in-law. This legacy knowledge is given high value because it is believed that elders know better.
- Milk is known to be healthy for both young children as well as pregnant women (with little regard for lactating women and their nutritional requirements).

- Fruits (special ones such as kiwi, banana, and coconut) and vegetables are regarded as good for hemoglobin- a lot of this additional information also comes from doctor visits during the woman's pregnancy.
- As far as healthy food is considered, whatever is cooked at home is deemed to be healthy and nutritious.

## Positive Deviations: In Practice

For this woman, not letting her child go hungry is paramount- even if the child is creating a fuss about whatever is cooked at home, the woman feeds him bread-milk or even biscuit-milk.

- The entire household eats the same food, but there is a practice of cooking with a lesser quantity of spices and oil for the benefit of all members. The rest of the community, however, indulges in heavily spicy meals.
- There is a focus on child's health
- Home-made food is considered healthy. This can be leveraged and replicated across centres/ communities.
- The deviance is attitudinal- the family has a positive attitude towards children's health. Such positive attitudes turn into positive action.



# Annexure 1

## Status of Household Health & Nutrition in Jodhpur

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Population and Household Profile</b>		
	Total	Total
1. Female population age 6 years and above who ever attended school (%)	64.8	58.0
2. Population below age 15 years (%)	30.3	31.9
3. Sex ratio of the total population (females per 1,000 males)	1,042	952
4. Sex ratio at birth for children born in the last five years (females per 1,000 males)	872	870
5. Children under age 5 years whose birth was registered with the civil authority (%)	97.1	68.4
6. Deaths in the last 3 years registered with the civil authority (%)	83.3	na
7. Population living in households with electricity (%)	98.4	91.1
8. Population living in households with an improved drinking-water source <sup>1</sup> (%)	96.5	98.1
9. Population living in households that use an improved sanitation facility <sup>2</sup> (%)	75.4	52.2
10. Households using clean fuel for cooking <sup>3</sup> (%)	56.1	44.8
11. Households using iodized salt (%)	94.5	88.6
12. Households with any usual member covered under a health insurance/ financing scheme (%)	87.5	17.6
13. Children age 5 years who attended pre-primary school during the school year 2019-20 (%)	1.7	na
<b>Characteristics of Women (age 15-49 years)</b>		
14. Women who are literate <sup>4</sup> (%)	67.4	na
15. Women with 10 or more years of schooling (%)	34.6	25.1
<b>Marriage and Fertility</b>		
16. Women age 20-24 years married before age 18 years (%)	28.1	34.7
17. Births in the 5 years preceding the survey that are third or higher order (%)	2.6	4.7
18. Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)	5.1	8.2
19. Women age 15-24 years who use hygienic methods of protection during their menstrual period <sup>5</sup> (%)	89.5	55.7
<b>Current Use of Family Planning Methods (currently married women age 15-49 years)</b>		
20. Any method <sup>6</sup> (%)	78.9	61.2
21. Any modern method <sup>6</sup> (%)	66.4	55.8
22. Female sterilization (%)	41.0	39.3
23. Male sterilization (%)	0.0	0.2
24. IUD/PPIUD (%)	1.6	1.8
25. Pill (%)	4.8	3.1
26. Condom (%)	18.0	10.8
27. Injectables (%)	0.3	0.6
<b>Unmet Need for Family Planning (currently married women age 15-49 years)</b>		
28. Total unmet need <sup>7</sup> (%)	5.7	11.4
29. Unmet need for spacing <sup>7</sup> (%)	3.2	4.8

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
Quality of Family Planning Services		
30. Health worker ever talked to female non-users about family planning (%)	21.5	15.3
31. Current users ever told about side effects of current method <sup>8</sup> (%)	70.8	49.7

Note: Major indicators are highlighted in grey.

LHV = Lady health visitor, ANM = Auxiliary nurse midwife na = Not available

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

1. Piped water into dwelling/yard/plot, piped to neighbour, public tap/standpipe, tube well or borehole, protected dug well, protected spring, rainwater, tanker truck, cart with small tank, bottled water, community RO plant.
2. Flush to piped sewer system, flush to septic tank, flush to pit latrine, flush to don't know where, ventilated improved pit (VIP)/biogas latrine, pit latrine with slab, twin pit/composting toilet, which is not shared with any other household. This indicator does not denote access to toilet facility completely.
3. Electricity, LPG/natural gas, biogas.
4. Refers to women who completed standard 9 or higher and women who can read a whole sentence or part of a sentence.
5. Locally prepared napkins, sanitary napkins, tampons, and menstrual cups are considered to be hygienic methods of protection.
6. Any method includes other methods that are not shown separately; Any modern method includes other modern methods that are not shown separately.
7. Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:
  - At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
  - Pregnant with a mistimed pregnancy.
  - Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception. Women are considered to have unmet need for limiting if they are:
    - At risk of becoming pregnant, not using contraception, and want no (more) children.
    - Pregnant with an unwanted pregnancy.
    - Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception. Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.
8. Based on current users of female sterilization, IUD/PPIUD, injectables, and pills who started using that method in the past 5 years.

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
Maternal and Child Health	Total	Total
Maternity Care (for last birth in the 5 years before the survey)		
32. Mothers who had an antenatal check-up in the first trimester (%)	71.9	60.5
33. Mothers who had at least 4 antenatal care visits (%)	56.7	40.2
34. Mothers whose last birth was protected against neonatal tetanus <sup>9</sup> (%)	96.4	86.2
35. Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	46.3	14.7
36. Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	24.4	2.8

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
37. Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	99.4	91.2
38. Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	81.6	59.4
39. Average out-of-pocket expenditure per delivery in a public health facility (Rs.)	2,286	22,172
40. Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	0.0	2.2
41. Children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	83.9	na
<b>Delivery Care (for births in the 5 years before the survey)</b>		
42. Institutional births (%)	90.0	72.7
43. Institutional births in public facility (%)	73.9	57.4
44. Home births that were conducted by skilled health personnel <sup>10</sup> (%)	3.1	5.8
45. Births attended by skilled health personnel <sup>10</sup> (%)	92.6	78.0
46. Births delivered by caesarean section (%)	13.6	10.1
47. Births in a private health facility that were delivered by caesarean section (%)	35.1	29.8
48. Births in a public health facility that were delivered by caesarean section (%)	10.8	9.6
<b>Child Vaccinations and Vitamin A Supplementation</b>		
49. Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall <sup>11</sup> (%)	81.2	42.1
50. Children age 12-23 months fully vaccinated based on information from vaccination card only <sup>12</sup> (%)	77.0	68.5
51. Children age 12-23 months who have received BCG (%)	94.1	84.9
52. Children age 12-23 months who have received 3 doses of polio vaccine <sup>13</sup> (%)	87.2	57.0
53. Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)	85.9	63.1
54. Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)	89.0	75.2
55. Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)	23.4	na
56. Children age 12-23 months who have received 3 doses of rotavirus vaccine <sup>14</sup> (%)	46.1	na
57. Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	84.1	41.0
58. Children age 9-35 months who received a vitamin A dose in the last 6 months (%)	69.8	52.8
59. Children age 12-23 months who received most of their vaccinations in a public health facility (%)	97.3	93.0
60. Children age 12-23 months who received most of their vaccinations in a private health facility (%)	2.7	6.2
<b>Treatment of Childhood Diseases (children under age 5 years)</b>		
61. Prevalence of diarrhoea in the 2 weeks preceding the survey (%)	5.3	6.0
62. Children with diarrhoea in the 2 weeks preceding the survey who received oral rehydration salts (ORS) (%)	(88.6)	(51.5)

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
63. Children with diarrhoea in the 2 weeks preceding the survey who received zinc (%)	(17.0)	(24.1)
64. Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(85.0)	(54.7)
65. Prevalence of symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey (%)	2.4	0.6
66. Children with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider (%)	(55.0)	80.2

9. *Includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.*
10. *Doctor/nurse/LHV/ANM/midwife/other health personnel.*
11. *Vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
12. *Among children whose vaccination card was shown to the interviewer, percentage vaccinated with BCG, measles-containing vaccine (MCV)/MR/MMR/Measles, and 3 doses each of polio (excluding polio vaccine given at birth) and DPT or penta vaccine.*
13. *Not including polio vaccination given at birth.*
14. *Since rotavirus is not being provided across all states and districts, the levels should not be compared.*

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
<b>Child Feeding Practices and Nutritional Status of Children</b>	<b>Total</b>	<b>Total</b>
67. Children under age 3 years breastfed within one hour of birth <sup>15</sup> (%)	27.9	32.1
68. Children under age 6 months exclusively breastfed <sup>16</sup> (%)	64.7	49.3
69. Children age 6-8 months receiving solid or semi-solid food and breastmilk <sup>16</sup> (%)	(67.2)	(43.9)
70. Breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	13.1	4.2
71. Non-breastfeeding children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	*	0.0
72. Total children age 6-23 months receiving an adequate diet <sup>16, 17</sup> (%)	12.5	3.6
73. Children under 5 years who are stunted (height-for-age) <sup>18</sup> (%)	32.6	40.3
74. Children under 5 years who are wasted (weight-for-height) <sup>18</sup> (%)	13.3	23.8
75. Children under 5 years who are severely wasted (weight-for-height) <sup>19</sup> (%)	6.0	9.0
76. Children under 5 years who are underweight (weight-for-age) <sup>18</sup> (%)	25.4	38.6
77. Children under 5 years who are overweight (weight-for-height) <sup>20</sup> (%)	5.5	2.1
<b>Nutritional Status of Women (age 15-49 years)</b>		
78. Women whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m <sup>2</sup> ) <sup>21</sup> (%)	16.9	20.8
79. Women who are overweight or obese (BMI ≥25.0 kg/m <sup>2</sup> ) <sup>21</sup> (%)	13.3	18.3
80. Women who have high risk waist-to-hip ratio (≥0.85) (%)	52.8	na
<b>anemia among Children and Women</b>		
81. Children age 6-59 months who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	64.4	63.6
82. Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) <sup>22</sup> (%)	44.2	44.5
83. Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) <sup>22</sup> (%)	23.6	40.8

Indicators	NFHS-5 (2020-21)	NFHS-4 (2015-16)
84. All women age 15-49 years who are anaemic <sup>22</sup> (%)	43.4	44.3
85. All women age 15-19 years who are anaemic <sup>22</sup> (%)	50.1	45.0
<b>Blood Sugar Level among Adults (age 15 years and above)</b>		
Women		
86. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	3.1	na
87. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	2.2	na
88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	6.3	na
Men		
89. Blood sugar level - high (141-160 mg/dl) <sup>23</sup> (%)	4.8	na
90. Blood sugar level - very high (>160 mg/dl) <sup>23</sup> (%)	2.4	na
91. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level <sup>23</sup> (%)	7.5	na
<b>Hypertension among Adults (age 15 years and above)</b>		
Women		
92. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	8.7	na
93. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	2.6	na
94. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	13.1	na
Men		
95. Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)	12.8	na
96. Moderately or severely elevated blood pressure (Systolic $\geq$ 160mm of Hg and/or Diastolic $\geq$ 100mm of Hg) (%)	2.6	na
97. Elevated blood pressure (Systolic $\geq$ 140 mm of Hg and/or Diastolic $\geq$ 90 mm of Hg) or taking medicine to control blood pressure (%)	16.5	na
<b>Screening for Cancer among Women (age 30-49 years)</b>		
98. Ever undergone a screening test for cervical cancer (%)	0.0	na
99. Ever undergone a breast examination for breast cancer (%)	0.2	na
100. Ever undergone an oral cavity examination for oral cancer (%)	0.3	na
<b>Tobacco Use and Alcohol Consumption among Adults (age 15 years and above)</b>		
101. Women age 15 years and above who use any kind of tobacco (%)	6.9	na
102. Men age 15 years and above who use any kind of tobacco (%)	43.6	na
103. Women age 15 years and above who consume alcohol (%)	0.2	na
104. Men age 15 years and above who consume alcohol (%)	7.5	na

15. Based on the last child born in the 3 years before the survey.

16. Based on the youngest child living with the mother.

17. Breastfed children receiving 4 or more food groups and a minimum meal frequency, non-breastfed children fed with a minimum of 3 Infant and Young Child Feeding Practices (fed with other milk or milk products at least twice a day, a minimum meal frequency that is, receiving solid or semi-solid food at least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months, and solid or semi-solid foods from at least four food groups not including the milk or milk products food group).

18. Below -2 standard deviations, based on the WHO standard.

19. Below -3 standard deviations, based on the WHO standard.



20. *Above +2 standard deviations, based on the WHO standard.*
21. *Excludes pregnant women and women with a birth in the preceding 2 months.*
22. *Haemoglobin in grams per decilitre (g/dl). Among children, prevalence is adjusted for altitude. Among women, prevalence is adjusted for altitude and for smoking status, if known. As NFHS uses the capillary blood for estimation of anemia, the results of NFHS-5 need not be compared with other surveys using venous blood.*
23. *Random blood sugar measurement.*



**Key Action Points and Areas for  
Future Course of Action**

## An overview of the capability, opportunity, and motivation to achieve diet diversity and areas for future action:

### Summarizing the pillars of the COM-B framework of analysis<sup>1</sup>:

- **Capability refers to the inherent skill and knowledge available to individuals to carry out certain actions**, including mental and physical abilities. Platforms for upskilling and knowledge-building can be set up to help individuals feel empowered to achieve the desired action.
- **Opportunity here refers to the physical, environmental, social, or psychological factors** that create an enabling environment for individuals or communities to take action. Improving opportunities may involve policy actions, programmatic interventions, creating knowledge exchange platforms, and providing access to resources, incentives, etc.
- **Motivation refers to internal processes that impact decision-making**, including fears, inhibitions, desires, and reflective motivation that involves planning. Improving motivation could involve leveraging positive motivations or demonstrating the positive outcomes of certain behaviors to increase desirability and likelihood of action. The greater the desirability, the greater the likelihood of enhancing motivation.

## Key insights

### CAPABILITY

#### Physical capability:

- Ownership of land, livestock, or homes tends to enhance the capability to improve nutritional intake.
- Government focus on specific food items can boost the capability to produce, procure, and utilize nutritional alternatives, as seen in Ganjam where *ragi* has become a staple due to an economic push.

#### Psychological capability:

- Communities engaged in primary sector work related to food have greater exposure and knowledge about food and nutrition.

- Access to education and technology improves the ability to convert motivation for better nutrition into action, utilizing resources like YouTube videos, access to doctors, etc.
- Antenatal and postnatal check-ups with doctors provide women direct access to nutritional knowledge.

Many households give items like Cerelac or Horlicks to children after gaining knowledge about the nutritional value of foods and foods to avoid from doctors.

### OPPORTUNITY

#### Physical opportunities:

- Accessibility to markets plays a significant role as communities closer to urban centers have better access to resources and can make wholesale purchases from markets with multiple *kirana* stores or *mandis*, leading to greater bargaining power and variety in vegetable and fruit purchase, optimizing expenses on food.

In these locations, women are more involved in the procurement of food items due to the easy access to markets and social acceptance of traveling shorter distances with their husbands. However, in areas isolated from urban centers, it is mostly men who buy food items, leading to a communication and planning gap between women and men.

Having personal or public mobility also enhances the capability to access food resources.

- Consistent and regulated access to government schemes related to THR and PDS significantly reduce the need for buying staples from limited income. Homes with adequate PDS provisions tend to purchase more vegetables and fruits since their everyday staples are taken care of.
- Adequate availability of THR also provides pregnant women with access to nutritious supplementary diets like *dalia* or small amounts of fruits and nuts. Children under the age of 5, too, get access to meals other than what is prepared at home, promoting better nutrition.

<sup>1</sup> [https://social-change.co.uk/files/02.09.19\\_COM-B\\_and\\_changing\\_behaviour\\_.pdf](https://social-change.co.uk/files/02.09.19_COM-B_and_changing_behaviour_.pdf)  
<https://thedecisionlab.com/reference-guide/organizational-behavior/the-com-b-model-for-behavior-change>  
[https://www.researchgate.net/publication/314086441\\_The\\_COM-B\\_Theory\\_of\\_Change\\_Model\\_V3](https://www.researchgate.net/publication/314086441_The_COM-B_Theory_of_Change_Model_V3)

### **Social opportunities:**

1. Community platforms like self-help groups (SHGs) and festive gatherings bring community members together, but they rarely involve interactions related to nutrition.
2. Exposure to AWW and AWC offers knowledge about good nutritional practices, and in these communities, participants are more likely to refer to terms like “vitamins” and have technical knowledge about the importance of complementary feeding.

## **MOTIVATION**

### **Automatic:**

There is explicit motivation to prioritize the nutritional needs and well-being of children and pregnant women. However, there may be a lack of knowledge on how to best fulfill these motivations.

- For pregnant women, the actions focus on prioritizing their desires/cravings and eliminating foods known to be harmful during pregnancy.
- For children, the priority is on diet modification until the age of 2 to 3 years to minimize negative impact. After 3 years, children are allowed to control and decide the quantity and quality of food they consume, and indulgence is considered important.

### **Reflective:**

- Household food consumption is typically managed by women, but decision-making regarding planning and procurement of food items wrests with men and elders in the household..

## **Key actions**

### **ENABLE**

***Provide access to information and knowledge, particularly among women*** in communities with limited knowledge about nutrition, especially community such as brick kiln workers, salt-pan workers, and the forestry community.

There is a need for women to gain access to the touchpoints of resources where they can systemically build their nutritional knowledge.

***Focus on mandating access to nutritious resources at the district/state-level.*** For instance, the Government of Odisha focused on millets, which has led to increased knowledge, visibility, access, and utilization of *ragi* as a wheat alternative.

### **ENHANCE**

Consider incentivizing community members to set up multiple *kirana* stores in smaller, isolated locations to improve access to food variety and competitive



pricing, eliminating the need for long commutes to procure daily food items as soon in Visakhapatnam and the Nilgiris.

***Introduce programmatic intervention by utilizing existing social platforms:***

- Create a meta platform involving AWW, ASHA, and SHG and Panchayati Raj Institutions (PRI) members to highlight maternal and child health as a community cause. The platform can be used for multiple initiatives, including reviewing and monitoring PDS/THR access, knowledge exchange on positive practices, and using SHG members (who tend to have greater social exposure and access) as catalysts for greater social interaction around the subject of nutrition.
- Consider incentivizing SHG members to promote maternal and child nutrition for increased awareness on the subject.

**EXTEND**







1. Leverage existing motivations to provide nutritious alternatives for:
  - Lactating women by piggybacking on the motivation to make special provisions for pregnant women.

- Children between 3 to 5 years of age by emphasizing the importance of continued monitoring of food quality and quantity.
  - Demonstrate and help communities visualize the negative impact on physical and mental development resulting from an unregulated diet or excessive consumption of packaged foods and snacks.
2. Consider communication interventions on collaborative food purchase planning between the husband and the wife (parents of young children) as a means to achieve positive household nutrition and ensure good health for the child “*Swasthya parivaar, swasthya shisu* (healthy family, healthy child).”



# **Comparative Highlights Community-Wise**

COMMUNITIES	FISHERMAN COMMUNITY	BRICK-FIELD WORKERS	SMALL-HOLDER FARMERS/ FIELD LABORERS	TEA/COFFEE PLANTATION WORKERS	FORESTRY COMMUNITY	SALT-PAN WORKERS
<b>A. CONTEXT OF THE COMMUNITY</b>						
<b>Education levels</b>	Relatively low. In Ganjam, men have not completed Class 10, while women have studied up till class 5 to Class 10	Very limited. Little formal education	Moderate. Many have completed Class 12 and some are even graduates	Most community members have completed primary school education. There is a growing number of senior school graduates in the current generation.	Limited. Women have studied up till Class 8 to Class 10. Men have studied up till Class 5 and Class 10.	Little exposure to formal education. Both men and women have studied up till Class 8 to Class 10.
<b>Economic context:</b>	Fishing seems to be a stable source of income, with the men being the breadwinners in both Thoothukudi and Ganjam and the women running the household.  However, some Thoothukudi women engage in daily work and earn them ₹ 500 to ₹ 1,000 per day, because their husbands DO NOT provide monetary support.	Members of this community work near riverbanks for 6-8 months and live in accommodations provided by kiln owners. Often, 4 to 5 families share amenities such as stove.  Both men and women work but have different tasks.  Pregnant women also work until the final stages of their pregnancy.	Both men and women work in farms (sometimes on their own land and other times on another landowners' farm). In Basti, however, only the men work in farms.	While the precise income is unknown, members of the community take up alternative jobs such as electricians and masonry to earn an additional Rs 600 per day.	Forestry is not a viable source of income to solely rely on as activities are limited in protected forest areas.  Men make mahua from mahua fruits and flowers during the February to April season and earn up to ₹ 1,000- ₹ 2,000 per day during this time.  Women in the community engage in adjacent jobs like gathering leaves and making disposable utensils that are sold to contractors for as low as ₹ 200 for ₹ 1,000 each.	Even as the community's income is low, its members do not engage in activities other than working in salt pans. Men have different jobs, with some collecting salt and others driving vehicles.  Daily wages range from ₹ 800 to ₹ 1,500, depending upon the task.  Women stay at home due to strict patriarchal beliefs and are not very educated due to it.







COMMUNITIES	 FISHERMAN COMMUNITY	 BRICK-FIELD WORKERS	 SMALLHOLDER FARMERS/ FIELD LABORERS	 TEA/COFFEE PLANTATION WORKERS	 FORESTRY COMMUNITY	 SALT-PAN WORKERS
		Child labor is also common in this community, with children as young as 10 years working in the kilns.			Men engage in daily wage work through the year to supplement income. They work as helpers at mechanic shops or as masons repairing or building small structures/terraces/homes in adjacent urban areas.	The respondents were keen on buying gold jewelry, with the women decked up all the time.
<b>Limitations</b>	Prominent patriarchy	Living in mud houses, there are limited amenities, leading to open defecation.	In Visakhapatnam, the women are underpaid. There is no insight into income levels in Parbhani.		The lack of stable income makes it difficult for members of the community to provide food consistently for all meals, leading to limited availability of food items and resources.	Even though their income levels are low, the community's focus is on showing their social status rather than investing in healthy food and eating well. Most members are from scheduled castes and scheduled tribes. We observed strong discrimination against the community. Child labor is also prevalent.
<b>B. PERCEPTION OF NUTRITION</b>						
<b>Overall understanding</b>	Good. Aware of what is nutritious.	Very limited. Food is consumed for sustenance.	Good. Aware of what is nutritious.	Limited knowledge	Low. The purpose of food is sustenance, not intake of nutrition.	Community knowledge and YouTube
<b>Good food</b>	<i>Thoothukudi</i> - All food and fruits. <i>Ganjam</i> - Horlicks, eggs, Bournvita, <i>Santula</i> , <i>Dalma</i>	Gram, pulses, vegetables, almond, Horlicks	<i>Basti</i> - Eggs, dry fruits, fruits, Horlicks, Bournvita <i>Prabhani</i> - Fruits, vegetables, milk products	Rich in vitamins, minerals, and fiber. Fruits, milk and dairy products, lentils, pulses, chickpea, eggs, fish and poultry, and dry fruits and nuts.	Maar bhaat, jagger, pomegranate.	Dry fruits and nuts, vegetables, and sweets.









COMMUNITIES	FISHERMAN COMMUNITY	BRICK-FIELD WORKERS	SMALLHOLDER FARMERS/ FIELD LABORERS	TEA/COFFEE PLANTATION WORKERS	FORESTRY COMMUNITY	SALT-PAN WORKERS
<b>Bad food</b>	Alcohol	<i>Chana dal</i> during lactation. Potato and brinjal during pregnancy.	<b>Visakhapatnam-</b> Packaged foods	Processed foods, too much or too little of anything is not recommended.	Mahua	<i>Zarda</i> (chewing tobacco) and vegetables sold in markets.
<b>Contradictions, if any</b>	Egg is considered healthy for pregnant women in Thoothukudi but harmful for pregnant women in Ganjam	Eggs are right for children but not adults.			Children are given whatever they ask for in terms of food.	
<b>C. FOOD CONSUMPTION – ROUTINE &amp; ITEMS</b>						
<b>Number of meals</b>	At least two meals a day – morning and evening – with snacks.	At least two meals a day, with most households eating three meals.	At least two meals a day – morning and evening – with snacks.	At least two meals a day – morning and evening – with snacks.	Meal prepared in the morning and consumed through the day – breakfast, lunch, and dinner.	Respondents said meals vary between two or three times a day.
<b>Timings</b>	<b>Thoothukudi-</b> Meals are cooked as early as 3 am. <b>Ganjam-</b> Breakfast is served around 6 am.	Early morning, afternoon, evening.	<b>Basti-</b> Breakfast is served around 6 am, lunch at 1 pm, snacks at 5 in the evening, and dinner at 7 pm. Pregnant and lactating women eat dinner at 10 pm. <b>Visakhapatnam-</b> Breakfast is served around 7 am and lunch or dinner around 4 pm.	<b>Jalpiguri-</b> Breakfast is cooked at 4 am and lunch or dinner at 4 pm. <b>Nilgiris-</b> Breakfast is served at 6 am, lunch at 4 pm, and dinner at 6 pm.	Early morning, afternoon, and evening.	Breakfast is served at 10 am and tiffin, lunch, and dinner in served in the evening.

COMMUNITIES	FISHERMAN COMMUNITY	BRICK-FIELD WORKERS	SMALLHOLDER FARMERS/ FIELD LABORERS	TEA/COFFEE PLANTATION WORKERS	FORESTRY COMMUNITY	SALT-PAN WORKERS
<b>Meal-wise items</b>	<p><b>Ganjam-</b> Breakfast: Vada or Idli, biri chakuli (dosas), or <i>mandia</i> idly (<i>vogi</i> idly). Lunch: <i>Dal</i> (kolatha, urad, arhar, and moong), saag and rice, double cooked rice with <i>dal</i> and vegetables, or <i>Santula</i>. Snack : Leftovers or ‘tiffins’ (light snacks such as fritters) and tea. Dinner: A full fresh meal of rice, fish, prawn curry, and vegetables. In vegetarian households, <i>dal</i>, rice, and seasonal vegetables.</p> <p><b>Thoothukudi-</b> Breakfast/snack: Leftovers, bonda with tea, or idly purchased from local vendors. Lunch: This meal is optional and may include <i>dal</i>, rice, and egg fry. Children get their lunch during mid-day meals at schools. Dinner: It is the only well-rounded and planned meal containing fish curry, rice, and vegetables like spinach.</p>	<p>Breakfast: Tea without milk, before leaving for work, around 6 am. Lunch: Rice and onion and chilly paste that the community members carry with them to work. Snack: Tea Dinner: Rice with saag or a vegetable. Leftovers are eaten the next day, while rice is immersed in water. Drink: Maari ot leftover water from cooking rice, 4 to 5 times a day.</p>	<p><b>Basti-</b> Breakfast: <i>Dal</i>, <i>roti</i>, and vegetables. Lunch: Rice and <i>dal</i>. Snack: Kachori, chakli, Maggi, pasta, chowmein, or <i>halwa</i>. Dinner: Vegetarian households eat vegetables, rice, and <i>dal</i>. They also consume poori sometimes. In non-vegetarian homes, members eat egg, chicken, or fish. <b>Parbhani-</b> Breakfast: <i>Roti</i> and vegetables. Lunch: <i>Roti</i> and vegetables. Snack: Poha and Khichdi. Dinner: <i>Dal</i> and rice or chapati and vegetables. <b>Visakhapatnam-</b> Lunch/dinner: Chapati, porridge, rice, vegetable, or <i>dal</i>.</p>	<p><b>Jalpaiguri-</b> Breakfast and lunch: Rice or <i>roti</i> with pulses and a vegetable side dish. The community members also sometimes eat homemade pasta and noodles. Snack: Adults drink in tea with biscuits, while children drink milk mixed with a health drink powder and are also served light snacks like chips or Maggi instant noodles. Dinner: Rice and vegetable side dish accompanied by <i>dal</i> or a non-vegetarian curry (fish or poultry). <b>Nilgiris-</b> Breakfast: Idly or dosas with tea or coffee. Lunch: Rice and pulses or vegetables. Snack: Biscuits or tidbits with tea or coffee. Dinner: Rice, different variety of pulses, and vegetables.</p>	<p>Breakfast: <i>Maar bhaat</i> (rice cooked with excess water – with the water retained for bulk and nutritional value). It is the staple dish of the community. Lunch or dinner: <i>Dal</i>, tomato chutney, or ground pepper paste. Men are often not present at home for lunch. On some days of the week, the community members eats brinjal, potato, pointed gourd, spinach, cabbage, etc., cooked in mustard oil.</p>	<p>Breakfast and lunch: <i>Bajrey ki roti</i> and onion chutney. Dinner: <i>Bajrey ki roti</i> and <i>dal</i> or chutney.</p>







COMMUNITIES	FISHERMAN COMMUNITY	BRICK-FIELD WORKERS	SMALLHOLDER FARMERS/ FIELD LABORERS	TEA/COFFEE PLANTATION WORKERS	FORESTRY COMMUNITY	SALT-PAN WORKERS
<b>Infants 0-6 months</b>	Exclusively breastfed. Breastfed till children are 3 years old. Fish, eggs, beetroot, spinach, and carrot.	Exclusively breastfed. Same food as what is served to other members of the household after the child learns to walk. Spices are toned down from the dish before feeding the child.	Exclusively breastfed. <b>Basti</b> - Semi-solid foods like khichdi and <i>dal ka pani</i> are fed along with breastmilk. <b>Parbhani</b> - Boiled potato <i>halwa</i> , mashed potatoes, carrots, stock, <i>dal ka pani</i> , <i>upma</i> , and <i>sheera</i> . <b>Visakhapatnam</b> - Children are fed rice, eggs, <i>dal</i> , and leafy vegetables along with breastmilk.	Exclusively breastfed. <b>Jalpaiguri</b> - Geela chawal <i>bhat</i> , Cerelac, biscuits dipped in milk, khichdi, soft <i>rotis</i> , boiled apples, bananas, Litto. <b>Nilgiris</b> - <i>Ragi</i> porridge, rice, <i>dal</i> , carrots and green vegetables, nurai, and reya.	Exclusively Breastfed Breastfeeding till as long as possible – up to 3 years. oods not introduced before the child turns one year old. Foods like <i>maar bhaat</i> , watery <i>dal</i> , and jaggery are occasionally introduced to the child.	<i>Bajrey ka doodh</i> , goat's milk <i>Bajrey ki roti</i> and vegetables, bread, and milk.
<b>2-5 years</b>	Rice with <i>dal</i> , carrots, beetroot, spinach, fish, or eggs, as well as seasonal fruits. Packaged food like chips and biscuits.	Same food as what is served to other members of the household after the child learns to walk. Spices are toned down from the dish before feeding the child.	<b>Basti</b> - Semi-solid food <b>Parbhani</b> - Same food as everyone else with limited spices. <b>Visakhapatnam</b> - Same meal as what is served to adults.	<b>Jalpaiguri</b> - diet aligns with that of others in the family. Milk, <i>ghee</i> , fruits, Complian, and Horlicks. <b>Nilgiris</b> - Green vegetables, non-vegetarian dish, rice, fruits, and packaged food.	Same meal and what is cooked for everybody else in the household. Occasionally, goat's milk.	<i>Bajrey ki roti</i> and vegetables with extra <i>ghee</i> . Chips, chocolates, and ice cream.
<b>Pregnant women</b>	<b>Thoothukudi</b> : <i>Pomegranate</i> , apple, eggs, fish, and chicken. <b>Ganjam</b> : <i>Santula</i> (native to the region), papaya, chuna maas, fruits, milk, and chicken.	Same food cooked for everybody else in the household.	<b>Basti</b> - 3 meals of their choice. <b>Parbhani</b> - More vegetables, fruits, milk, and coconut water. <b>Visakhapatnam</b> - Mutton, beetroot, carrots, chicken, rice, <i>dal</i> , and vegetables.	<b>Jalpaiguri</b> - Dry fruits, fruits, milk, <i>dal</i> , rice, <i>roti</i> , and Horlicks for mothers and Horlicks for mothers <b>Nilgiris</b> - Beetroot, carrots, spinach, <i>dal</i> , fish, chicken, and drumstick leaves.	Anything they crave and ask for. Horlicks is given to the pregnant woman in more educated/financially stable homes.	<i>Bajrey ki roti</i> , vegetables, and goat's milk.

COMMUNITIES	FISHERMAN COMMUNITY 	BRICK-FIELD WORKERS 	SMALLHOLDER FARMERS/ FIELD LABORERS 	TEA/COFFEE PLANTATION WORKERS 	FORESTRY COMMUNITY 	SALT-PAN WORKERS 
<b>Lactating women</b>	<i>Thoothukudi</i> - Emphasis is on beetroot juice. <b>Ganjam</b> - Same diet as that of pregnant women.	Same as everyone else in the household.	Same diet as pregnant women, with the addition of: <b>Basti</b> - Chana water is considered good for lactating mothers. <b>Parbhani- More pulses.</b>	<b>Jalpaiguri</b> - Same food as that of pregnant women, country chicken, and chicken soup. <b>Nilgiris</b> - Same food served to pregnant women and rasanm.	No special food is cooked for lactating women. Oil and spice are used in limited quantities so as not to contaminate breastmilk.	<i>Bajrey ki roti</i> and vegetables.
<b>Diversity in diet: Food groups included and excluded</b>	<b>Thoothukudi</b> - Staple: Fish, rice, vegetables, millet, and idly/dosa. Occasional: Nuts, dry fruits, crab, and prawns. Rare: Sweets like papayasam and sewaiyya. <b>Ganjam</b> - Staple: <i>Dal, roti</i> , vegetables, rice, and fish. Occasional: Papaya, apple, prawns, and crabs. Rare: Reetha, kheer, non-vegetarian dishes.	Staple: Rice and pulses cooked in mustard oil. Occasional: Eggs, chicken, and fish. Rare: <i>Atta, hadwa</i> , all-purpose flour, and poori.	<b>Parbhani</b> - Staple: Wheat <i>roti, Bajrey ki roti</i> , vegetables, and dairy products. Occasional: Apple, banana, mutton, and chicken. Rare: Dry fruits and sweets. <b>Basti</b> - Staple: Rice, <i>roti, dal</i> , and vegetables. Occasional: Apple, banana, fish, chicken, and Maggi instant noodles. <b>Visakhapatnam</b> - Staple: Rice porridge, <i>ragi</i> malt, onion, tomato, carrots, beetroot, and bitter gourd. Occasional: Apples, pomegranate, fish, and chicken. Rare: Chicken <i>biryani</i> and mutton.	<b>Jalpaiguri</b> - Staple: <i>Dal, bhut</i> , and vegetables. Occasional: Non-vegetarian meals. <b>Nilgiris</b> - Staple: Fish, rice, vegetables, millet, and <i>ragi</i> . Occasional: Dry fruits and non-vegetarian dishes. Rare: Local sweets like muruku.	Staple: Rice with <i>dal</i> cooked in mustard oil. Occasional: Vegetables like potato and brinjal cooked with spices and mustard oil. Rare: Fruits such as apple and banana.	Staple: Mutton, wheat, <i>bajra, chene ki dal</i> , onion/ tomato/red chilly <i>sabzi</i> , <i>jaggery</i> , and <i>chaas</i> . Occasional: Mutton. Rare: Fruits and sweets like laddoos.







COMMUNITIES	FISHERMAN COMMUNITY	BRICK-FIELD WORKERS	SMALLHOLDER FARMERS/ FIELD LABORERS	TEA/COFFEE PLANTATION WORKERS	FORESTRY COMMUNITY	SALT-PAN WORKERS
<b>Highlights/best practices/ call out</b>		Apart from breastmilk, there is no concept of milk in the community. This is why they are not able to identify dairy products.	There is diversity in the diets of the community members and access to FLWs.  <b>Parbhani:</b> Pregnant women are given preference in what is cooked, while in Visakhapatnam, young children's diets are given preference.  <b>Basti:</b> The community members do not eat bajra as it is not available in the region. Even though barley is available in limited quantities, the members make and eat Sattu.  <b>Visakhapatnam:</b> No food is consumed after 5 pm.		The community members have learned that submerging vessels with cooked food in water extends its longevity and keeps it from going bad -- a technique they learned from cooking Maar bhaat.	Diet diversity is severely limited.
<b>D. DECISION-MAKING – PREPARATION, FEEDING</b>						
<b>Overall decision-making</b>	Women	Women	<b>Basti-</b> Mother-in-law. <b>Parbhani-</b> Women. <b>Visakhapatnam-</b> Women.	Women	Women	Mother-in-law
<b>Preparation – timings and person</b>	2 fresh meals are prepared (morning and evening) by the mother or wife.	Cooked once or maximum twice a day by the woman at 4 am.	Morning and evening by women.	<b>Jalpigur-</b> Women prepare the food thrice -- 4 am, 4 pm, and in the evening. <b>Nilgiris-</b> Women prepare the food thrice -- 6 am, 4 pm, and 6 pm.	2 fresh meals are prepared (morning and evening) by the mother or wife.	Prepared in the morning by women.







COMMUNITIES	FISHERMAN COMMUNITY 	BRICK-FIELD WORKERS 	SMALLHOLDER FARMERS/ FIELD LABORERS 	TEA/COFFEE PLANTATION WORKERS 	FORESTRY COMMUNITY 	SALT-PAN WORKERS 
<b>Fuel, storage and hygiene</b>	<b>Ganjam</b> - Firewood and traditional choolah. Refrigerator is used to store food. <b>Thoothukudi</b> - Gas and firewood is used to cook food. Due to lack of access to a refrigerator, families prioritize minimizing waste and leftovers, particularly for perishable items.	<i>Choolhas</i> are shared between multiple families. No storage option to stock food, and poor hygiene standards.		<b>Jalpaiguri</b> - gas stove Access to refrigerators <b>Nilgiris</b> : Firewood for time consuming foods, otherwise LPG Stored in buckets, no refrigerators	Both gas and wood-fired choolahs are used as per availability. Hygiene is compromised due to practices like open defecation.	
<b>Infants 0-6 months</b>	Breastmilk	Breastmilk	Breastmilk	Breastmilk	No special food is prepared.	Bajre ka doodh
<b>6-24 months</b>	Breastmilk, fish, eggs, beetroot, spinach, and carrots.	Same food as what is cooked for other members of the household but with fewer spices.	<b>Basti</b> - Semi solid foods like khichdi and <i>dal ka pani</i> are fed along with breastmilk. <b>Parbhani</b> - Boiled or mashed potatoes, <i>halwa</i> , carrots, stock, <i>dal ka pani</i> , upma, and sheera. <b>Visakhapatnam</b> - Rice, eggs, <i>dal</i> , and leafy vegetables are fed along with breastmilk.	<b>Jalpaiguri</b> - Geela chawal <i>bhat</i> , Cerelec, biscuits dipped in milk, khichdi, soft <i>rotis</i> , boiled apples, bananas, and Lito. <b>Nilgiris</b> - <i>Ragi</i> porridge, rice, <i>dal</i> , carrots, greens vegetables, nurai, and reya.	Milk mashed with rice.	<i>Bajrey ki roti</i> and vegetables.
<b>2-5 years</b>	Rice with <i>dal</i> , carrots, beetroot, spinach, fish, or eggs and seasonal fruits.	Same food as what is cooked for other members of the household but with fewer spices.	<b>Basti</b> - Semi solid food. <b>Parbhani</b> - Same food that is served for other members of the household but with less use of spices. <b>Visakhapatnam</b> - Same meal served to adults.	<b>Jalpaiguri</b> - Diet aligns with that of others in the family. Milk, <i>ghee</i> , fruits, Complian, and Horlicks. <b>Nilgiris</b> - Green vegetables, non-vegetarian dishes, rice, fruits, and packaged food.	Maal bhaat	<i>Bajrey ki roti</i> and vegetables with extra <i>ghee</i> .

COMMUNITIES	FISHERMAN COMMUNITY	BRICK-FIELD WORKERS	SMALLHOLDER FARMERS/ FIELD LABORERS	TEA/COFFEE PLANTATION WORKERS	FORESTRY COMMUNITY	SALT-PAN WORKERS
<b>Pregnant women</b>	<p><b>Thoothukudi-</b> Pomegranate, apple, eggs, fish, and chicken.</p> <p><b>Ganjam- Santula,</b> papaya, chuna maas, fruits, milk, and chicken.</p>	No special food is prepared for pregnant women.	<p><b>Basti-</b> 3 meals according to the choice of the pregnant woman.</p> <p><b>Parbhani-</b> More vegetables, fruits, milk, and coconut water.</p> <p><b>Visakhapatnam-</b> Mutton, beetroot, carrots, chicken, rice, <i>dal</i>, and vegetables.</p>	<p><b>Jalpaiguri-</b> Dry fruits, fruits, milk, <i>dal</i>, rice, <i>roti</i>, and Horlicks for mothers</p> <p><b>Nilgiris-</b> Beetroot, carrots, spinach, <i>dal</i>, fish, chicken, and drumstick leaves.</p>	Tea without milk, apples, pomegranate, drumsticks, beetroot, carrots, spinach, and <i>dal</i> .	<i>Bajrey ki roti</i> , vegetables, and goat's milk.
<b>Lactating women</b>	<p><b>Thoothukudi-</b> The community lays emphasis on beetroot juice for lactating women.</p> <p><b>Ganjam-</b> Same food as what is cooked for pregnant women.</p>	No special food is prepared for lactating women.	<p>Same food that is prepared for pregnant women, with the addition of:</p> <p><b>Basti-</b> Chana water is considered good for lactating women.</p> <p><b>Parbhani-</b> More pulses for lactating women.</p>	<p><b>Jalpaiguri-</b> Same food that is prepared for pregnant women, country chicken, and chicken soup.</p> <p><b>Nilgiris-</b> Same food that is prepared for pregnant women, with the addition of rasam.</p>	Rasam, drumsticks, beetroot, carrots, spinach, and <i>dal</i> .	<i>Bajrey ki roti</i> , and vegetables.
<b>Challenges</b>		Very limited knowledge of nutritious food.			There is limited focus on the nutritious value of food. They community members also do not take advice from AWWs and consume inconsistent quantities of food.	Diet diversity is severely limited.

E. DECISION-MAKING – PURCHASES						
COMMUNITIES	 FISHERMAN COMMUNITY	 BRICK-FIELD WORKERS	 SMALLHOLDER FARMERS/ FIELD LABORERS	 TEA/COFFEE PLANTATION WORKERS	 FORESTRY COMMUNITY	 SALT-PAN WORKERS
<b>Overall decision-making process and person in-charge</b>	<i>Thoothukudi</i> - Women. <i>Ganjam</i> - Mother-in-law or father-in-law.	Men	<i>Basti</i> - Mother-in-law and father-in-law. <i>Parbhani</i> - Women. <i>Visakhapatnam</i> - Women.	Women	Men or mother-in-law.	Mother-in-law and father-in-law.
<b>Frequency</b>	On demand.	Weekly, based on the day wages are paid.	<i>Basti</i> - Twice a week. <i>Parbhani</i> - Every 15 days. <i>Visakhapatnam</i> - Sporadic or every 15 days.	Every 2-3 days.	Sporadic	On demand
<b>Location of purchase</b>	<i>Kirana</i> stores and local markets.	Local markets, <i>haats</i> , and <i>kirana</i> stores.	<i>Basti</i> - Fields and <i>mandi</i> . <i>Parbhani</i> - Pimpri. <i>Visakhapatnam</i> - Weekly market and Chintapalle.	<i>Haats</i> , local markets, <i>kirana</i> stores	<i>Kirana</i> stores and <i>hatiyas</i> or local markets.	Local markets.
<b>Budget and item planning</b>	Based on the income from daily wages. Fish is consumed every day.	The community prefers to cook <i>poori-saag</i> with vegetables because it is an inexpensive dish.	Based on the number of family members in the household. The community members compromise in case there is shortage of money or food.		Purchases depend upon the availability of money, with no diversity in the food consumed.	
<b>PDS/ THR</b>	Yes	No	Yes	Yes	Yes	No



COMMUNITIES	 <b>FISHERMAN COMMUNITY</b>	 <b>BRICK-FIELD WORKERS</b>	 <b>SMALLHOLDER FARMERS/ FIELD LABORERS</b>	 <b>TEA/COFFEE PLANTATION WORKERS</b>	 <b>FORESTRY COMMUNITY</b>	 <b>SALT-PAN WORKERS</b>
<b>Process of purchase</b>	<p><b>Thoothukudi-</b> Men give money to the women, who decide what and where to buy food items from. The men, on the other hand, are responsible for purchasing essentials items such as oil, sugar, tea, and grains from their preferred shops or central markets on the way back from work.</p> <p><b>Ganjam-</b> It is usually the father-in-law who steps out to buy groceries, occasionally accompanied by other male members of the household returning from work.</p>	<p>Every Monday from local markets and <i>kirana</i> stores.</p>	<p><b>Basti-</b> The mother-in-law and father-in-law go to purchase food items, with the daughter-in-law telling them the requirements.</p> <p><b>Parbhani-</b> The women tell the men what to buy, who then purchases the food items. The men list down what they need to buy and call the woman in case they forget something.</p> <p><b>Visakhapatnam-</b> The women tell the men what to buy, who then purchases the food items. The men list down what they need to buy and call the woman in case they forget something.</p>	<p>Women tell their husbands what to buy, who then go out and make purchases.</p>	<p>Male members of the family and the mother-in-law usually go to the <i>hatiya</i> to purchase food items.</p>	<p>Women list down the requirements as the men go out and make purchases.</p>
<b>Priorities: Which items and for whom?</b>		<p>Weekly: Ration, <i>dal</i>, and <i>sabzi</i>. Once in 2 weeks: Rice. Occasionally: Oil.</p>	<p><b>Basti-</b> The community members do not purchase essential items but grow them at their homes.</p>	<p>Vegetables and fruits, followed by whole grains and staples like fish and poultry, and finally snacks.</p>	<p>While the community consumes food they grow at home, they also purchase vegetables based on the availability of funds.</p>	
<b>Highlights/ best practices</b>	<p><b>Ganjam-</b> Women have significant decision-making authority and knowledge.</p>	<p>No wastage of food.</p>	<p>The shops offer a credit system allowing effective management of expenses.</p>			

<b>COMMUNITIES</b>	 <b>FISHERMAN COMMUNITY</b>	 <b>BRICK-FIELD WORKERS</b>	 <b>SMALLHOLDER FARMERS/ FIELD LABORERS</b>	 <b>TEA/COFFEE PLANTATION WORKERS</b>	 <b>FORESTRY COMMUNITY</b>	 <b>SALT-PAN WORKERS</b>
<b>Challenges</b>		Lack of access to essential documents like ration cards.			Money is spent on packaged foods.	The community lacks access to essential documents like ration card and voter ID, as well as limited access to public services like PDS and AWCs.
<b>F. MARKETS</b>						
<b>Number of kirana stores in the village</b>	<b>Thoothukudi</b> - 2 stores. <b>Ganjam</b> - Given that Ganjam is a Notified Area Council, it has 6 to 7 stores. The mainstay is the sale of fish.	<b>Howrah</b> - None nearby. The closest store is in an upscale residential locality nearby, where community members feel uncomfortable visiting.	<b>Basti</b> - 2 stores. Parbhani- 1 store. <b>Visakhapatnam</b> - None	<b>Nilgiris</b> - None <b>Jalpaiguri</b> - Series of kirana stores in the village.	<b>Deoghar</b> : 2 kirana stores located next to each other.	<b>Jodhpur</b> : 1 kirana store.
<b>Markets nearby – fixed, haats, etc., and distance</b>	Local vegetable vendors, shacks, and weekly bazaars. <b>Ganjam</b> - All markets are located within a 15-minute distance. <b>Toothukudi</b> - Markets are located 8 km away.	<b>Haats</b> , <b>Howrah</b> daily bazaar, and weekly markets within a kilometre's distance.	<b>Basti</b> - <i>Mandi</i> (local market) twice a week, located on the outskirts of the village. <b>Parbhani</b> - Pimpri, located 200 meters from the temple. <b>Visakhapatnam</b> : Weekly markets (every Wednesday) and <i>chintapalli</i> (town market)	<b>Jalpaiguri</b> - Sunday market, <i>champaguri</i> market, and <i>haats</i> spread across an area expanding 600-700 meters with multiple entrances. <b>Nilgiris</b> - Limited access to markets as they are located 19-20 km away.	Weekly <i>hatiya</i> or <i>haat</i> at the intersection of 2-3 villages, located around 2 km away.  Local markets with multiple stores in Burhai block, located 5-6 km away.  Large wholesale markets in Deoghar city, located 35 km away.	Local markets with fixed stores at accessible distances.

COMMUNITIES	FISHERMAN COMMUNITY	BRICK-FIELD WORKERS	SMALLHOLDER FARMERS/ FIELD LABORERS	TEA/COFFEE PLANTATION WORKERS	FORESTRY COMMUNITY	SALT-PAN WORKERS
<b>Most sold items at kirana stores</b>	Staple foods like rice, flour, pulses, milk powder, fish masala, and hair accessories.	Rice, oil, biscuits, and dairy products.	<p><b>Basti-</b> Detergents, Parle-G, <i>namkeen</i> chips, soya bean, tobacco products such as loose tobacco leaves, cigarettes, and gutka, and pooja items like agarbati.</p> <p><b>Parbhami-</b> Oil, sugar, chocolates, wheat, buffalo milk, eggs, oils, flattened rice, nylon chiwada, Parle-G, Patanjali, and Krack Jack biscuits, toast, rice, and beetle nuts.</p> <p><b>Visakhapatnam-</b> Aashirvad <i>atta</i>, Ganesh idly rava and upma rava batter, 5 kg rice bags, pulses, spices such as cinnamon and cardamom, boondi mixture, Chakra Gold tea packets, lentils, Bengal gram <i>dal</i>, roasted Bengal gram, ground nuts, pulses, and coconut oil (no other oil is sold).</p>	<i>Dal</i> , rice, oil, spices, snacks, biscuits, beverages like tea and coffee, milk, yogurt, bread, eggs, and basic stationery items.	Rice, pulses (pigeon peas have the highest demand), oil, sugar, flour, punjabi tadka, liquor, and tobacco.	Ghee, oil, sugar, rice, and tobacco.
<b>Least sold items</b>			<p><b>Basti-</b> Milk, khoya, <i>paneer</i>, Maggi instant noodles, wheat flour, eggs, meat, and fish.</p> <p><b>Parbhami-</b> Dry fruits.</p>		Eggs, <i>atta</i> , and soyabean.	Dry fruits and milk.

COMMUNITIES	 FISHERMAN COMMUNITY	 BRICK-FIELD WORKERS	 SMALLHOLDER FARMERS/ FIELD LABORERS	 TEA/COFFEE PLANTATION WORKERS	 FORESTRY COMMUNITY	 SALT-PAN WORKERS
<b>Factors impacting Kirana store owners</b>	Several new shops have emerged post the COVID-19 pandemic, ensuring healthy competition.	The owner of a <i>kirana</i> store in Howrah purchases products from the weekly bazaar, Sheoraphuli, or even as far as Kolkata for candy and chocolates. There is less consumption of aerated beverages and packaged snacks than before.	Storing items for longer, thereby keeping inventory based on demand.  <b>Parbhani</b> – Sale of tobacco products has reduced after the COVID-19 pandemic.  <b>Visakhapatnam</b> - No beedi or tobacco products are allowed to be sold due to restrictions from officials.		Fast-moving consumer goods (FMCG) brands have penetrated the market but are considered by the community as being expensive.	Shopkeepers have stopped stocking eggs and milk since people own livestock and do not purchase it from stores.



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