Baseline Survey Report of Nineteen Villages from two States of India

(Undertaken as part of the Farming system for Nutrition Study under Leveraging Agriculture for Nutrition in South Asia)

A Report

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About the Report

This report is a documentation of baseline survey results undertaken as part of the Farming System for Nutrition (FSN) study under LANSA in Wardha, Maharashtra and Koraput, Odisha in 2014.

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Farming System for Nutrition:

An Analysis of Baseline Data from 19 Villages in two States of India

1. Introduction

The South Asian region houses about 276 millions of undernourished people in 2014-15 (Pandey, 2015). Despite rapid economic growth, under-nutrition rates in the region remain high. According to the IFPRI (2014) in Global Nutrition Report, 45 per cent of children under-5 years in Pakistan, 41 per cent in Bangladesh and 48 per cent in India are stunted. A majority of the population in South Asia depend on agriculture and related occupations and activities for their livelihood. This makes meeting the challenge of combating malnutrition by leveraging agriculture a core area of focus.

Different potential pathways of linking agriculture with nutritional outcomes have been reported in the literature (World Bank 2007, FAO 2013a, Kadiyala et al. 2014). "How strong is the evidence that agricultural interventions can be pro-nutrition?" is the core research question that forms the basis of a study undertaken by the M S Swaminathan Research Foundation (MSSRF) from mid 2013 under the research programme on Leveraging Agriculture for Nutrition in South Asia (LANSA). The main objective of the study is to demonstrate the feasibility of a Farming Systems for Nutrition (FSN) approach to address the nutritional deficiencies in the population. The study hypothesis is to study the feasibility of nutrition sensitive agriculture in terms of increasing area under cultivation, increasing the number of households cultivating nutrition rich crops and improving household dietary diversity. The FSN model envisages the introduction of agricultural remedies for the undernutrition status prevailing in an area through mainstreaming nutrition sensitive agriculture in the selection of the components of a farming system involving crops, farm animals, poultry and fish (Das et al., 2014). These need to be integrated simultaneously with nutrition awareness programme which focus on the importance of dietary diversity, balanced diet and linking agriculture to nutrition. A starting point for this is the requirement for baseline data on the agro-ecology, socio-economic, agricultural patterns and nutritional status of the communities, on the basis of which the interventions can be designed.

The research study is being conducted at two different agro-ecological locations in India, viz. Wardha district in the Vidarbha region of Maharashtra and Koraput district of Odisha (Das et al. 2014, Nagarajan et al. 2014). The study locations were purposively selected on the basis of agro-climatic and socio-economic status, landholding pattern, farming practices and food

consumption pattern. Information on the study locations have been previously reported in Das et al. (2014). Despite soil and agro-ecological differences between the study areas, both are characterized by rain-fed farming and high levels of undernutrition. According to NFHS 4 (2015-16), in Wardha district, 36.1% of less than 5 years children were underweight, 48.5% of less than 5 years children, 42.4% of women and 43.4% of pregnant women were anaemic. In Koraput district, 44.4% of less than 5 years children were underweight, 71.4% of less than 5 years children, 63.4% of women and 60.5% of pregnant women were anaemic. The Government of India's Census data of 2011 (www.censusindia.gov.in) provided preliminary socio-demographic information on the study region, based on which a set of villages were identified for this study. Based on this, eight villages having 822 households with a population of 3287 in Wardha and eleven villages having 921 households with a population of 3958 in Koraput were identified for baseline study and subsequent planning of interventions on farming systems to improve dietary diversity. Figure 1 shows the study locations in India.

A series of baseline surveys as listed in Table 1 were undertaken in the two locations (Wardha and Koraput) in 2013-14, to collect information on household demographic and socio-economic characteristics, farming practices and nutritional status of the population.
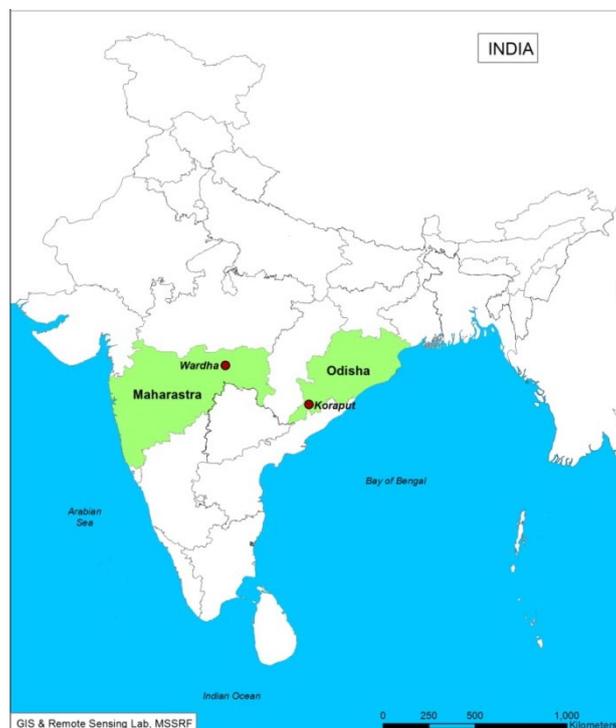
Figure 1. India map showing FSN study locations

Table 1: List of Baseline Surveys

Sl.	Particulars	Purpose	Administered on	Period of data collection
1	Detailed baseline household survey on demography, agriculture and socio-economic aspects	To document the baseline demographic, occupation and socio-economic profile of households	All households	Wardha & Koraput: January to February 2014
2	Baseline status of agriculture, animal husbandry and home garden	To plan FSN interventions	All households	Wardha & Koraput: January to March 2014
3	Baseline food consumption frequency survey (three rounds)	To understand seasonal variations in consumption at household level	All households	Wardha & Koraput: 1. January to March 2. April to June 3. October to December
4	Baseline intra-household dietary survey (24 hour recall)	To document existing dietary pattern within the household	Sub sample of 150 households (sampling methods explained in methods section)	Wardha: March to May 2014; Koraput: July to September 2014
5	Baseline nutrition survey (anthropometry)	To collect information on height, weight of all members	All individuals of all households	Wardha: January to March 2014; Koraput: April May 2014
6	Biochemical indicators from blood samples	To assess level of anaemia by estimating haemoglobin level and vitamin-A deficiency by assessing serum retinol levels	Haemoglobin levels: All 1-5 yrs children, 12-17 yrs adolescent girls and 18-45 yrs women; Serum retinol levels: All 1-5 yrs children	Wardha: April to June 2014; Koraput: April to July 2014

This Report presents the status of the study area on the basis of the information collected.

2. Methods

The main instruments used for data collection were different sets of structured questionnaires for the village and household level using pre-tested questionnaires to collect quantitative data and focus group discussions to collect qualitative information[1]. The set of survey schedules are in Annex 2.

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[1] The format of survey schedules administered in national level household surveys conducted by the National Sample Survey Organisation, India Human Development Survey and the National Family Health Survey, was followed in designing the survey schedules.

2.1. Socio-economic and demographic profile: Parameters like age, sex, occupation of head of the household, family size (number of members in a household), education of head of household, dwelling house type, cooking fuel, toilet facility, land holding size, existing cropping pattern, homestead/backyard garden and livestock owned were collected.

2.2. Frequency of food consumption: Three rounds of food frequency surveys were undertaken to gather information on the different foods consumed, their frequency, quantity of consumption, value and sourcing pattern, broadly covering the 3 main agricultural seasons: September – December 2013 (planting), and January – April (harvesting) and May – August (lean) in 2014.

2.3. Food and Nutrient Intake: The food intake collected using 24 hours diet recall method was used for calculating the food and nutrient intake of individuals. The nutrient composition of the foods consumed by the individuals was computed using Food Composition Tables published by ICMR (2012). The mean of food intakes and median of various nutrient intakes of the population were compared with balanced diet as suggested in 'Recommended Dietary Intakes for Indians' and 'Recommended Dietary Allowances for Indians' (ICMR 2010), respectively. A one-day intra-household diet survey based on 24 hours recall was administered on a sub-sample of minimum 150 households. The sub-sample covered all households with children in the 1-5 years age group, thereby ensuring that information on both food intake and biochemical analysis would be available for the same set of households; where households with children in the prescribed age group did not add up to the required number of 150, households with adolescent girls in the 12-17 years age group were included for the diet survey.

2.4. Dietary Diversity: Data collected using food frequency questionnaire and 24 hour diet recall were used to calculate dietary diversity.

Household: Dietary diversity index (DDI) was calculated using food frequency data by Simpson's Index method[2]: Using the frequency and the quantity of food consumed, the value

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[2] $$DDI = \frac{1}{\sum_i^n (s_i^2)} \, X \, 100 \qquad s_i = \frac{VF_i}{\sum_1^n VF_i}$$

where DDI_h : Dietary Diversity Index for a household; S_i : Share of value of ith food stuff out of total value of food consumed
VF_i : Value of ith Food stuff

of monthly consumption of each food item by a household was arrived at for each round of the food frequency survey. This amount was pooled for the three rounds and the share of each food item in the total value of foods consumed was derived.

Individual: Dietary diversity score (DDS), the food intake collected using 24 hour diet recall method was used for calculating the foods consumed per day as given by FAO (2013b). The foods were categorized into 13 food groups as recommended by the Indian Council of Medical Research (ICMR, 2012). Simple counting of food groups was done to arrive at food scores of the household with the scores ranging from 1 to 13.

The calculated dietary diversity index and food scores were categorized into tertiles (low, moderate and high diversity) based on internal distribution of the diversity index and scores within the samples (Table 2) and used for studying the association with socio economic parameters.

Table 2. Tertiles of dietary diversity scores

	Wardha		Koraput	
Dietary Diversity	**DDI**	**DDS**	**DDI**	**DDS**
Low	≤92.9	≤7	≤86.1	≤7
Moderate	93.0 to 93.8	8 to 9	86.2 to 89.3	8
High	≥93.9	≥10	≥89.4	≥9

2.5. Nutritional status

2.5.1. Anthropometry

The height and weight of all individuals were measured and Z scores for underweight (weight for age), stunting (height for age) and wasting (weight for height) were calculated using Anthro (version 3.2.2, 2011) and Anthroplus (2007) software of the WHO and the prevalence was computed using WHO Child Growth Standards (cutoff for WAZ, HAZ and WHZ: ≥ Median –2SD: normal; < Median –2SD to Median –3SD: moderate underweight/stunted/wasted; < Median–3 SD: severe underweight/stunted/wasted); school age children and adolescents were categorized according to age/sex specific Body Mass Index (BMI)[3] recommended by the WHO using Standard Deviation classification (cutoff: ≥ Median + 2 SD: obesity; +1SD to +2 SD: overweight; ≥Median–2SD: normal; <Median–2SD to Median–3SD: moderate thinness; < Median–3 SD: severe thinness); adult nutritional status was categorized by BMI as per the WHO cut off levels for Asians (cutoff: <16: CED

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[3] Mercedes. de. Onis et al. Development of a WHO Growth Reference for school aged children and adolescents. Bulletin of WHO, 2007 Vol. 85, pp 660-667

III; 16.0 to 17.0: CED II; 17.0 to 18.5: CED I; 18.5 to 23.0: normal; 23.0 to 27.5: overweight; ≥ 27.5: obesity).

2.5.2. Biochemical analysis

Finger prick blood samples were collected using filter paper technique to assess the hemoglobin levels by cyanmethaemoglobin method (Drabkin's method), and estimation of blood vitamin A levels by dried blood spot technique (using HPLC). The samples collected were analysed at NIN. The criteria suggested by WHO were used to diagnose the extent and degree of anaemia and VAD. Children in the age group of 1-5 years (cutoff: ≥ 11 g/dl normal; 10 to 11 g/dl mild; 7 to 10 g/dl moderate; <7g/dl severe), adolescent girls (12-17 yrs) (cutoff: ≥ 12 g/dl normal; 10 to 12 g/dl mild; 7 to 10 g/dl moderate; <7g/dl severe) and women (18-45 yrs) (cutoff: ≥ 12 g/dl normal; 10 to 12 g/dl mild; 7 to 10 g/dl moderate; <7g/dl severe) had finger prick blood samples collected for estimation of haemoglobin levels to assess the prevalence of anaemia. The blood sample of children aged 1-5 years was tested for serum retinol level to assess the prevalence of vitamin A deficiency (VAD) (cutoff: <20 µg/dl of serum retinol is considered as VAD).The survey teams were trained by scientists from the National Institute of Nutrition (NIN), Hyderabad.

The Ethics Committee of the MSSRF Board of Trustees accorded approval for the Farming System for Nutrition Research Study and the drawing of blood samples for assessment of nutrition status of the population. The purpose of the exercise was explained to each member from whom blood sample was taken and their prior consent taken on a Consent Form in the local language. In addition, the relevant district authorities were informed and their consent obtained.

2.6. Statistical Analysis

Chi-square test was run to see the association of socio-demographic characteristics with dietary diversity. Statistical Package for Social Sciences (SPSS) software, version 20 was used to perform chi-square test. Stata software (version 12) was used for descriptive statistics.

3. Results

3.1. Socio-economic and demographic aspects of study villages

Table 3 shows socio-economic and demographic characteristics of the households at the two locations. Scheduled Tribe is the dominant community in both study locations (Wardha 49%;

Koraput 44%). Half of population in the two locations lived in kutcha house type, 50% in Wardha and 57% in Koraput) and most of the households had family size of 1 to 4 members.

Table 3: Socio-demographic profile of Households in Wardha and Koraput

Demographic and socio-economic characteristics	Wardha N (%)	Koraput N (%)
Population		
Scheduled tribes	401 (48.8)	406 (44.1)
Scheduled caste	107 (13.0)	120 (13.0)
Other castes	314 (38.2)	395 (42.9)
Dwelling types		
Kutcha	414 (50.4)	524 (56.9)
Semi-pucca	408 (49.6)	397 (43.2)
Gender		
Male	1722 (52.4)	1874 (47.3)
Female	1565 (47.6)	2084 (52.7)
Family size		
1 to 4	540 (65.7)	500 (54.3)
5 to 7	265 (32.2)	380 (41.3)
8 & above	17 (2.1)	41 (4.5)
Age group		
0 – 5 years	282 (8.6)	472 (11.9)
6 – 11 years	255 (7.8)	588 (14.9)
12 – 17 years	345 (10.4)	501 (12.7)
18 – 44 years	1435 (43.7)	1524 (38.5)
>=45 years	970 (29.5)	873 (22.1)
Sources of drinking water		
Dug well	219 (26.6)	193 (21.0)
Piped water	428 (52.1)	117 (12.7)
Tube well	175 (21.3)	611 (66.3)
Cooking fuel		
Fire wood	794 (96.6)	917 (99.6)
Gas	28 (3.4)	4 (0.4)
Toilet type		
Toilets	177 (21.5)	11 (1.2)
Open defecation	648 (78.5)	909 (98.8)
Occupation of head of household		
Cultivation	470 (57.2)	520 (56.5)
Agricultural wage labours	314 (38.2)	122 (13.3)
Wage/salary labours	38 (4.6)	279 (30.3)
Education of head of household		
No formal education	182 (22.1)	609 (66.1)
Primary	378 (46.0)	239 (26.0)
Secondary	189 (23.0)	60 (6.5)
Higher Secondary/tertiary	73 (8.9)	13 (1.4)
Landholding size		
Landless	306 (37.2)	153 (16.6)
Marginal (< 1 ha)	83 (10.1)	743 (80.7)
Small (1 - < 2 ha)	213 (25.9)	20 (2.2)
Semi-medium (2 - < 4 ha)	155 (18.9)	5 (0.5)
Medium > 4 ha)	65 (7.9)	-

The major source of drinking water was piped water in Wardha and tube/bore well in Koraput. Firewood is the major source of fuel for cooking in both locations. A little over three quarter of households in Wardha and almost all households in Koraput practiced open defecation. In Wardha, 46% of the head of households had primary education while in Koraput majority (66%) of the head of the households did not have any formal education. Cultivation is the major occupation of the head of the households in Wardha (57%) and 26% of them are small farmers having 1 to less than 2 ha of land. In Koraput, 56% of the head of households practised cultivation and 81% are marginal farmers having less than 1 ha of land.

3.2. Existing farm resources

3.2.1. Agriculture

Agriculture is largely rainfed and the monsoon or *kharif* season is the main cropping season. Koraput is characterised by subsistence agriculture of paddy while Wardha is characterised by cultivation of commercial crops, viz. cotton and soybean. Both the regions have less area under cultivation during the winter or *rabi* season. The cultivation land areas are classified as low, medium and upland in Koraput.

The average farm landholding size in Koraput is 0.84 ha (Table 4). Overall, rice is the major crop grown and few households grow finger millet or little millet and horse gram during *Kharif*, in *Rabi*, ground nut, green gram, maize, finger millet and black gram are grown.

In Wardha, the average landholding size in Wardha is 2.14 ha. In *kharif,* cotton and pigeon pea occupied bulk portion of land area, few households cultivate soybean and sorghum, mainly for fodder purpose. In *Rabi* season, wheat and chick pea is cultivated.

Table 4: Data matrix of farming by households

Particulars	Wardha (n=822)			Koraput (n=921)		
	n	Mean	± SD	n	Mean	± SD
Land holding (Ha) / per farming HH	516	2.14	1.86	768	0.84	0.80
Number of crops cultivated (per HH) in *Kharif* season	437	2.56	0.85	753	1.47	0.71
Number of crops cultivated (per HH) in *Rabi* season	77	1.32	0.47	230	2.48	1.90
Number of crops cultivated (per HH) in either of the seasons	437	2.79	1.13	753	2.23	1.60

Source: Baseline Survey 2014; n: No. of households; SD: Standard Deviation; HH: household

3.2.2. Home garden

Less than a fifth (15%) of the households in Wardha had home garden and 48% per cent in Koraput. Table 5 gives the details on home gardens. Average area under home garden was also less in Wardha at 0.06 cents[4] while it was 0.17 cents in Koraput.

Irrespective of seasons in Wardha, the horticultural crops cultivated included beans, brinjal, papaya, guava, lemon, bitter gourd, custard apple and green chillies. Very limited cultivation of spinach, tomato, radish, carrot, onion and pumpkin were reported.

In Koraput, most households grew broad beans, tomato, brinjal, onion, green chillies, amaranths, cauliflower, radish, spine gourd, cabbage, field beans, garlic and papaya. Very limited bottle gourd, mustard, spinach, and ginger were reported.

Table 5: Data matrix of home gardening by households

Particulars	Wardha (n=822)		Koraput (n=921)	
	Mean	**± SD**	**Mean**	**± SD**
Households owning home garden	n=124 (15%)		n=446 (48%)	
Land under home garden/ HH (in cents)	0.06	0.15	0.17	0.08
Number of fruits and vegetables cultivated / HH	1.81	1.08	2.52	1.50

Source: Baseline Survey 2014; n: No. of households; SD: Standard Deviation

3.2.3. Animal Husbandry

In Koraput, seventy one per cent of the households reported having farm animals (single or combination of small ruminants, milch animals, draught animals and poultry) and fifty five per cent in Wardha. Table 6 gives the animal husbandry profile in the two locations. On an average each household in Wardha and Koraput had a milch animal. The holding of draught animals, small ruminants and poultry also averaged one in Koraput while it was much less in Wardha. In Koraput, seventy one per cent of the households reported to have farm animals (single or combination of small ruminants, milch animals, draught animals and poultry) in contrast to fifty five per cent in Wardha.

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[4] 100 cents is equal to 0.41 hectare

Table 6: Animal husbandry by households

Number of animals per household	Wardha (n=822)		Koraput (n=921)	
	Mean	**± SD**	**Mean**	**± SD**
Households owning animals	454(55%)		655(71%)	
Milch animals	1.16	2.91	0.97	1.54
Small ruminants	0.37	1.51	1.10	2.66
Poultry	0.14	0.97	1.14	2.78
Draught animals	0.56	0.99	0.82	1.20

Source: Baseline Survey 2014; n: No. of households; SD: Standard Deviation

3.3. Food consumption pattern

3.3.1. Food Frequency

Wheat is the main cereal consumed on daily basis by all the households in Wardha. Millet consumption is very low and jowar is consumed once a week by some of the households during September to December months. Pulses and legumes, mainly red gram dhal, bengal gram dhal and leafy vegetables like coriander leaves, fenugreek leaves and spinach are consumed twice or thrice a week, while roots & tubers, mainly onions are consumed daily followed by consumption of potatoes twice or thrice a week in all villages by most of the households in all seasons. The consumption of other vegetables is daily or twice or thrice a week depending on the seasons. Consumption of fish and sea food is very minimal. Majority of the households consume milk and milk products daily. The quantity consumed is however low and the primary use must be in tea. Ripe tomatoes (classified as fruit) are used in daily cooking and other fruits that are consumed throughout the year are bananas. Meat and meat products are consumed once a week by majority of the households. Condiments and spices, fats & oils and sugars & jaggery are consumed daily in all villages.

Only a few households procure cereals from the public distribution system (PDS); the majority purchase them from the open market. All the other food stuffs are also sourced from open market. Some households source millet (sorghum) from home produce during September to April and pulses and legumes throughout the year. Very few households sourced milk and milk products from their own production.

Frequency of consumption of food for three seasons is given in Annex 1.

In Koraput, rice was consumed daily by all households. Finger millet was consumed daily by majority of the households in all seasons; however some of the households did not include finger millet in diet during May to August. Pulses, green leafy vegetables and other

vegetables were consumed twice or thrice a week. Roots and tubers mainly onions were included in daily diet. Majority of the household did not consume milk and milk products and few households include very less quantity of amul milk powder. Fruits were consumed once in a month except May to August during which fruits were consumed once a week. Consumption of fish and meat was once a week or fort nightly.

3.3.2. 24 hour diet recall

The average food consumption is shown in Table 7. Consumption of cereals and millets was much in excess of the recommended level in Koraput while it was close to the recommended level in Wardha; Sugar and jaggery on the other hand was consumed much in excess in Wardha. All the other food groups were consumed less than the recommended levels in both the locations.

Table 7: Average intake of foodstuffs by households (g/CU/day)

FOOD GROUPS	Wardha (n=311)		Koraput (n=300)		RDI
	Mean	**±SD**	**Mean**	**±SD**	
Cereals & Millets	370.1	138.7	595.9	212.1	**375**
Pulses & Legumes	65.8	51.2	36.5	31.1	**75**
Green Leafy Vegetables	10.3	24.9	18.2	50.5	**100**
Roots & Tubers	32.5	29.8	107.2	75.2	**200**
Other Vegetables	36.8	48.6	88.8	92.0	**200**
Nuts & Oil Seeds	2.0	5.3	0.9	3.4	**-**
Condiments & Spices	17.5	9.4	11.8	8.7	**-**
Fruits	18.1	33.0	15.4	66.3	**100**
Fish & other Sea Foods	2.4	17.5	11.2	38.3	**-**
Meat &Poultry	4.8	21.0	9.0	28.6	**-**
Milk & Milk Products	30.2	48.7	6.7	30.7	**300**
Fats & Edible Oils	25.6	13.5	10.9	9.6	**25**
Sugar & Jaggery	39.3	23.8	12.6	25.4	**20**

Source: Baseline Survey 2014; RDI : Recommended Dietary Intake as per Dietary Guidelines for Indians, ICMR, 2011; CU: Consumption Unit; n: No. of households; SD: Standard Deviation

Table 8 shows that with the exception of intake of nutrients like niacin and thiamine at both locations, iron and fat Wardha and energy in Koraput, the consumption of all other nutrients was less than the recommended levels.

Table 8: Intake of energy and nutrients by households (per CU/day)

Nutrients	Wardha (n=311)			Koraput (n=300)			RDA
	Median	**Mean**	**SD**	**Median**	**Mean**	**SD**	
Protein (g)	53.2	55.1	22.1	57.0	59.2	22.8	**60**
Visible Fat (g)	29.1	33.2	16.2	14.7	29.0	10.9	**25**
Energy (kcal)	1801.6	1849.4	669.5	2393.1	2438.0	792.1	**2320**
Calcium (mg)	268.1	290.6	140.5	420.4	499.3	333.7	**600**
Iron (mg)	17.9	18.7	8.9	11.8	14.6	18.8	**17**
Vitamin A (µg)	55.1	96.1	98.3	46.0	219.7	739.6	**600**
Thiamin (mg)	1.6	1.7	0.9	0.9	1.4	3.2	**1.2**
Riboflavin (mg)	0.8	0.8	0.9	0.6	1.5	4.7	**1.4**
Niacin (mg)	15.1	15.9	7.0	13.4	17.1	20.2	**16**
Vitamin C (mg)	17.1	23.5	26.5	31.1	45.0	55.4	**40**
Dietary Folate (µg)	54.4	58.7	27.9	36.0	39.4	18.4	**200**

Source: Baseline Survey 2014; *Recommended Dietary Allowance as per Dietary Guidelines for Indians, ICMR, 2011; n: No. of households; SD: Standard Deviation

Table 9 shows the household and individual dietary diversity at the two locations. The household and individual dietary diversity are better in Wardha. The variation between the households in Koraput was higher when compared with Wardha. The individual dietary diversity includes spices & condiments and nuts & oilseeds which were included in minimum quantity in daily diet and does not contribute much to the total energy intake, and so the average dietary diversity in Wardha is 6 and 5 in Koraput.

Table 9: Mean Dietary Diversity Index (DDI)

Area	N	Mean	±SD
Household: DDI (Simpson's Index)			
Wardha	765	93.32	1.03
Koraput	889	87.26	3.92
Individual: Food Scores-24 hr diet recall			
Wardha	1226	8.02	1.72
Koraput	1302	7.18	1.51

3.4. Nutritional status of the population

3.4.1. Anthropometry

In both the locations, more than 40% of children under age five reported underweight, 35% stunted and 20% wasted. In Koraput, about 41.1% of school-age children (5-9 years) reported undernourished (thinness), in contrast to 33.1% in Wardha. However, in Wardha, 54.1% and 51.8% of adolescents (10-14 and 15-17 years) were undernourished (thinness) in contrast, to

29.5% and 17.5% in Koraput. In both the locations, percentage of women (48%) with chronic energy deficiency was found to be higher than the men (39%) (Table 10).

Table 10: Prevalence (%) of under-nutrition among children, adolescents and adults

Age group/Gender	Wardha		Koraput	
	n	**%**	**n**	**%**
Underweight among 0 to 5 yrs		40.8		44.6
Stunting among 0 to 5 yrs	169	35.5	377	35.0
Wasting among 0 to 5 yrs		27.8		26.5
Thinness among 5-9 yrs	157	33.1	472	41.1
Thinness among 10-14 yrs	255	54.1	404	29.5
Thinness among 15-17 yrs	114	51.8	206	17.5
CED among >18 yrs Men	1072	39.2	1033	38.8
CED among >18 yrs Women	1002	47.8	1129	47.7

Source: Baseline Survey 2014; CED: Chronic Energy Deficiency

3.4.2. Biochemical analysis

About 65% of children under age five in Koraput and 73% in Wardha had anaemia. In Wardha, majority (71.4% and 73.3%) of girls in the age groups of 12-14 and 15-17 years respectively reported anaemia while it was 58.8% and 64.4% respectively in Koraput. The percentage of non-pregnant non-lactating women having anaemia was 78.4% in Wardha, and a little lower at 64.8% in Koraput. In both Wardha and Koraput, about 55-60 per cent of pregnant women and 67-71 per cent of lactating women reported anaemic. In both locations, about 33% of children under age five had VAD. Table 11 gives the details of the prevalent levels of anemia and vitamin A deficiency.

Table 11: Prevalence (%) of Anaemia and Vitamin A Deficiency by Age Group/Gender

Age Group/Gender	Wardha		Koraput	
	n	%	n	%
Anemia				
1-5 years children	130	73.8	376	65.2
12-14 years adolescent girls	70	71.4	153	58.8
15-17 years adolescent girls	60	73.3	104	64.4
NPNL women (18-45 years)	500	78.4	667	64.8
Pregnant women (18-45 years)	18	55.6	51	60.8
Lactating women (18-45 years)	34	67.6	72	70.8
Vitamin A Deficiency (VAD)				
1-5 years children	135	34.1	386	33.4

Source: Baseline Survey 2014; n: No. of households; SD: Standard Deviation

3.5. Relationship between DDI and community, family size, home garden and land holding

In Wardha, the socio-economic and demographic parameters like family size and having home garden showed significant association with household dietary diversity. As the family size increased there is reduction in the household dietary diversity. Households having home garden also showed positive association with higher household dietary diversity. In Koraput, community and family size showed association with dietary diversity.

Table 12: Distribution (%) of household by Dietary Diversity Index (DDI-Simpson's Index) by socio-economic and demographic characteristics

Particulars	N	Wardha			χ^2	N	Koraput			χ^2
		Low[+]	Moderate[+]	High[+]			Low[+]	Moderate[+]	High[+]	
Community										
OBC	134	26.9	37.3	35.8		364	28.3	34.1	37.6	
Others	157	36.3	33.8	29.9	3.90^{NS}	21	28.6	19.0	52.4	22.5^{***}
SC	96	35.4	33.3	31.2		112	47.3	28.6	24.1	
ST	378	33.9	36.2	29.9		392	35.2	36.2	28.6	
Family Size										
1 to 4	497	26.4	38.0	35.6		478	17.2	34.3	48.5	
5 to 7	251	45.8	31.1	23.1	32.8^{***}	370	51.6	34.6	13.8	172^{***}
8 & above	17	52.9	29.4	17.6		41	65.9	24.4	9.8	
Land Holding										
Landless	277	32.1	35.0	32.9		145	23.4	37.9	38.6	
Large	5	40.0	0.0	60.0						
Marginal	80	46.2	30.0	23.8		720	36.0	33.5	30.6	
Medium	55	32.7	29.1	38.2	13.67^{NS}					11.5^{NS}
Semi Medium	148	29.1	41.2	29.7		5	20.0	20.0	60.0	
Small	200	33.0	35.6	31.1		19	31.6	26.3	42.1	
Home garden (HG)										
Without HG	648	34.1	36.9	29.0	8.8^{**}	449	34.5	32.7	32.7	0.6^{NS}
With HG	117	29.1	28.2	42.7		440	33.0	34.0	32.3	

*, **, ***: statistically significant at 5%, 1% and 0.1% levels of significance, NS : Not Significant; +: dietary diversity as explained in Table 2

Socio-economic parameters like community, family size and land holdings showed significant association with individual dietary diversity in both locations; while owning home garden showed association only in Koraput.

Table 13: Distribution (%) of individual by Dietary Diversity Score by socio-economic and demographic characteristics

| Particulars | N | Wardha | | | χ^2 | N | Koraput | | | χ^2 |
		Low[+]	Moderate[+]	High[+]			Low[+]	Moderate[+]	High[+]	
Community										
OBC	193	8.8	62.2	29.0		478	49.0	29.5	21.5	
Others	226	17.7	61.9	20.4	122.2***	28	32.1	28.6	39.3	49.3***
SC	124	40.3	39.5	20.2		186	57.5	18.3	24.2	
ST	683	43.0	45.4	11.6		610	63.1	25.6	11.3	
Family Size										
1 to 4	527	39.7	44.0	16.3		447	58.2	28.9	13.0	
5 to 7	641	28.2	55.2	16.5	24.7***	748	57.5	24.9	17.6	31.7***
8 & above	58	19.0	56.9	24.1		107	42.1	22.4	35.5	
Land Holding										
Landless	370	35.9	45.7	18.4		307	64.2	27.0	8.8	
Large	13	7.7	76.9	15.4						
Marginal	116	26.7	69.0	4.3		959	53.3	26.2	20.5	
Medium	106	41.5	38.7	19.8	41.1***					28.5***
Semi Medium	277	27.4	50.9	21.7						
Small	344	33.7	51.7	14.5		36	75.0	13.9	11.1	
Home garden (HG)										
Without HG	1059	33.2	49.8	17.0	1.7[NS]	667	61.9	22.9	15.1	16.7***
With HG	167	29.3	55.1	15.6		635	50.7	29.3	20.0	

*, **, ***: statistically significant at 5%, 1% and 0.1% levels of significance, NS : Not Significant: +: dietary diversity as explained in Table 2

4. Discussion

Both the FSN study locations are rain fed farming areas with agro-ecological variation, Koraput being humid and Wardha semi-arid. A large proportion of the population belongs to the Scheduled tribe community and agriculture is the primary occupation. In both the locations, firewood is used as a major source of fuel. Piped water is used for sourcing drinking water in Wardha and tube well or bore well in Koraput. The level of open defecation is high in both locations.

Cotton and soybean are the major crops grown in Wardha; paddy is the primary crop during *kharif* in Koraput. Vegetables are grown during rabi, especially in Maliguda. Milch animals are owned by half of the households in Wardha and in Koraput; most households own small ruminants and poultry.

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Wheat is the staple cereal consumed in Wardha while it is rice in Koraput. Dietary Diversity is low in both the locations. The daily diet in Koraput is majorly cereal based even though the availability of vegetables is high; there is very less milk and milk product consumption. In Wardha, the consumption of food groups except sugar and jaggery is very low when compared to the recommended levels. This is reflected in the nutrient intake and in turn in higher prevalence of under-nutrition in all age groups and micronutrient deficiency like anemia among children, girls and women and VAD among children.

Dietary diversity in both locations is strongly associated with nutritional status of the community irrespective of the socio-economic parameters like community, family size, land holdings and home garden. Even though diversified food is available in both locations, its consumption is low. This highlights the need for improving dietary diversity. This can be done through agricultural/horticultural and home nutri-garden interventions. Increased availability of animal source foods through pisciculture, poultry and dairy activities to increase availability, access and thereby intake is also an aspect to focus on.

Acronyms

BMI	Body Mass Index
CED	Chronic Energy Deficiency
FSN	Farming System for Nutrition
ICMR	Indian Council for Medical Research
NNMB	National Nutrition Monitoring Bureau
NIN	National Institute of Nutrition
NPNL	Non Pregnant Non Lactating
RDI	Recommended Dietary Intake
RDA	Recommended Dietary Allowance
SD	Standard Deviation
WHO	World Health Organisation

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Annexure 1: Frequency of consumption of various food group by the households (in%)

Wardha

Season 1(S1 n=820) – September to December   (Data collection – Jan to Mar); **Seasons 2 (S2 n=798)** – January to April (Data Collection – April, May & June); **Season 3 (S3 n=784)** – May to August (Data Collection –   Oct, Nov & Dec)

Food Group	Season	Daily	Twice/ Thrice a week	Once a week	Fortnight	Once a Month	Occasional	Never
Cereals & Millets	S1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S2	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S3	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Cereals	S1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S2	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S3	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Millets	S1	0.7	9.4	12.7	3.5	3.1	0.6	70.0
	S2	0.3	0.7	1.4	0.0	1.6	0.4	95.6
	S3	0.3	1.5	0.8	0.0	0.0	0.0	97.4
Pulses & Legumes	S1	32.8	64.7	2.2	0.0	0.1	0.0	0.2
	S2	21.5	76.9	1.6	0.0	0.0	0.0	0.0
	S3	20.0	61.7	16.3	2.0	0.0	0.0	0.0
Green Leafy Vegetables	S1	17.6	76.9	4.7	0.4	0.1	0.0	0.3
	S2	1.3	92.7	4.7	1.2	0.1	0.0	0.0
	S3	6.3	88.4	5.1	0.0	0.0	0.0	0.1
Roots & Tubers	S1	99.0	1.0	0.0	0.0	0.0	0.0	0.0
	S2	98.3	1.5	0.2	0.0	0.0	0.0	0.0
	S3	97.5	0.7	0.3	0.0	0.9	0.5	0.1
Other Vegetables	S1	0.7	86.8	12.3	0.0	0.0	0.0	0.1
	S2	0.0	74.8	24.6	0.5	0.0	0.0	0.1
	S3	65.3	30.4	3.8	0.4	0.0	0.0	0.1

Cont.,

Food Group	Season	Daily	Twice/ Thrice a week	Once a week	Fortnight	Once a Month	Occasional	Never
Nuts & Oil Seeds	S1	75.7	11.2	7.6	1.1	0.0	0.0	4.4
	S2	15.1	28.6	49.3	2.5	1.1	0.3	3.3
	S3	19.7	60.2	19.2	0.3	0.3	0.0	0.3
Condiments & spices	S1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S2	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S3	99.9	0.1	0.0	0.0	0.0	0.0	0.0
Milk & Milk Products	S1	83.7	1.6	5.8	0.3	1.0	2.6	5.1
	S2	93.6	3.3	1.5	0.1	0.3	0.7	0.5
	S3	87.3	6.5	2.9	1.2	1.3	0.0	0.8
Fruits	S1	88.7	10.4	0.6	0.0	0.0	0.0	0.2
	S2	92.0	7.6	0.5	0.0	0.0	0.0	0.0
	S3	7.2	0.1	1.3	2.8	20.0	68.0	0.5
Fish & Other Sea Foods	S1	0.1	0.6	6.6	2.3	4.2	0.9	85.2
	S2	0.0	0.1	7.7	1.4	8.3	0.0	82.4
	S3	0.0	0.3	11.2	13.8	21.5	1.2	52.0
Meat & Flesh Foods	S1	0.1	4.1	55.5	9.0	13.8	0.0	17.4
	S2	0.3	1.0	75.2	8.3	5.9	0.3	9.1
	S3	0.7	1.2	57.7	20.4	6.3	0.1	13.5
Fats & Oils	S1	99.5	0.0	0.1	0.0	0.0	0.3	0.1
	S2	99.1	0.3	0.6	0.0	0.0	0.0	0.0
	S3	96.8	0.0	0.0	0.1	0.1	2.9	0.0
Sugar & Jaggery	S1	99.8	0.0	0.1	0.0	0.0	0.0	0.1
	S2	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S3	95.2	0.0	0.0	0.0	0.0	0.0	4.8

Koraput

Season 1(S1 n=921) – September to December (Data collection – Jan to Mar); **Seasons 2 (S2 n=901)** – January to April (Data Collection – Apr, May & June); **Season 3 (S3 n=907)** – May to August (Data Collection – Nov & Dec)

Food Group	Season	Daily	Twice/ Thrice a week	Once a week	Fortnight	Once a Month	Occasional	Never
Cereals & Millets	S1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S2	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S3	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Cereals	S1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S2	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S3	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Millets	S1	79.2	15.9	1.9	0.3	0.6	1.3	0.7
	S2	93.8	4.1	0.3	0.3	0.6	0.3	0.7
	S3	65.2	3.9	0.4	0.0	0.0	0.0	30.5
Pulses & Legumes	S1	2.4	86.5	10.9	0.2	0.0	0.0	0.0
	S2	0.8	77.5	21.2	0.3	0.0	0.0	0.2
	S3	8.7	76.6	13.4	1.2	0.0	0.1	0.0
Green Leafy Vegetables	S1	0.7	88.9	9.4	0.5	0.2	0.0	0.3
	S2	0.3	90.3	8.8	0.3	0.0	0.0	0.3
	S3	3.3	28.4	47.4	20.3	0.3	0.0	0.2
Roots & Tubers	S1	86.2	13.7	0.1	0.0	0.0	0.0	0.0
	S2	96.5	3.1	0.0	0.0	0.0	0.0	0.4
	S3	93.8	5.3	0.7	0.2	0.1	0.0	0.0
Other Vegetables	S1	42.6	54.0	3.1	0.2	0.0	0.0	0.0
	S2	67.1	32.7	0.0	0.0	0.1	0.0	0.1
	S3	56.4	40.9	1.9	0.8	0.0	0.0	0.0

Cont.,

Food Group	Season	Daily	Twice/ Thrice a week	Once a week	Fortnight	Once a Month	Occasional	Never
Nuts & Oil Seeds	S1	51.7	19.1	4.7	3.6	6.4	8.9	5.6
	S2	38.3	34.8	0.7	1.5	5.5	14.8	4.3
	S3	35.1	42.9	7.5	6.4	5.9	2.1	0.1
Condiments & spices	S1	99.9	0.1	0.0	0.0	0.0	0.0	0.0
	S2	100.0	0.0	0.0	0.0	0.0	0.0	0.0
	S3	96.8	2.7	0.3	0.0	0.0	0.0	0.1
Milk & Milk Products	S1	7.3	6.1	1.3	1.0	1.2	7.0	76.2
	S2	4.0	1.8	3.1	1.2	1.7	8.6	79.6
	S3	7.7	1.9	2.2	1.0	1.0	27.6	58.5
Fruits	S1	0.6	1.7	20.2	15.1	31.3	25.0	6.1
	S2	0.1	0.8	22.1	16.9	35.8	19.5	4.8
	S3	2.9	21.1	42.0	26.2	7.2	0.6	0.1
Fish & Other Sea Foods	S1	0.1	7.4	29.0	15.6	12.3	17.5	18.1
	S2	0.0	3.0	21.7	16.4	22.1	21.6	15.1
	S3	0.1	7.0	20.0	36.6	21.6	10.6	4.2
Meat & Flesh Foods	S1	0.0	0.7	26.7	26.8	34.0	8.3	3.6
	S2	0.0	0.3	19.9	55.3	17.0	5.0	2.5
	S3	0.1	3.6	26.6	46.9	14.8	5.6	2.3
Fats & Oils	S1	92.6	6.1	0.1	0.0	0.1	0.2	0.9
	S2	71.8	26.9	0.1	0.0	0.0	0.0	1.2
	S3	55.3	43.7	0.2	0.0	0.0	0.1	0.6
Sugar & Jaggery	S1	66.9	21.6	2.5	0.6	0.9	0.9	6.6
	S2	57.5	31.0	3.9	0.7	0.5	1.6	4.8
	S3	84.4	9.3	1.7	0.6	0.0	0.5	3.5

Annexure 2: **Schedules used for data collection**

M S Swaminathan Research Foundation

Schedule 1: Household Characteristics

Dist Name……………………….. Dist Code__ __ __   Village Name……………………. Village Code__ __ __ __   HH ID __ __ __ __   Date of Interview__ __ /__ __ /__ __

1.1 Name of the head of the household………………………………………………………………………………

1.1a Caste…………………………   1.1b Sub-caste ………………………………….   1.1c Household Size ……………… (Total)   Male……………   Female…………..

1.2 Particulars of the household members

S.No	Indi ID	Name	Age* (Years)	Gender M=1 F=2	Relationship to Head of HH (Code)	Physiologic al Status (Code)	Major Occupation** (Code)	Physical Activity (Code)	Consumptio n Units (Code)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1			— — . — —						— . —	
2			— — . — —						— . —	
3			— — . — —						— . —	
4			— — . — —						— . —	
5			— — . — —						— . —	
6			— — . — —						— . —	
7			— — . — —						— . —	
8			— — . — —						— . —	
9			— — . — —						— . —	
10			— — . — —						— . —	
								Total CU	__ __. __	

*Age in completed years; Up to the nearest month in case of children below 5 years of age   ** Major occupation based on the time spent on the work

Code for Caste
SC=1; ST=2; OBC=3; Others=4

Code for Col (6) – Relationship to the Head of the Household
Head=1; Spouse=2; Children=3; Son/daughter-in-law=4; Grandchildren=5; Parents=6; Siblings=7; Parents-in-law=8; Niece/Nephew=9; Grandparents=10; Any Other=11

Code for Col (7) – Physiological Status
Women in the age group 15-45yrs   : NPNL (Non-pregnant Non-lactating)=1; Pregnant=2; Lactating (up to 12 months)=3
Children <2 yrs of age   : Only breast fed=4; Breast fed+water=5; Breast fed+Complementary feed=6; Not breast fed=7
All Others*   : Not Applicable=9

Code for Col (8) – Major Occupation
Agriculture & Allied Activities=1; Artisans=2; Business=3; Service (Salaried)=4; Ag. Labour=5; Non-ag. Labour=6; Housewife=7; Student=8; Any Others (Specify)=9

Code for Col (9) – Physical Activity
Sedentary – Landlord, Service, Business, Housewife, Postman, Teacher etc =1
Moderate – Ag. labour, Other labour, Cultivator, Artisans, masons, Servant maid, Tailor, Rickshaw puller etc = 2
Heavy – Blacksmith, Stone cutter, Wood cutter, Mine worker etc = 3

Code for Col (10) – Consumption Units
Adult male (≥ 18yrs) – Sedentary=1.0   Moderate=1.2   Heavy=1.6

Adult female (≥ 18yrs)- NPNL   : Sedentary=0.8   Moderate=0.9   Heavy=1.0
                                  Pregnant : Sedentary=0.9   Moderate=1.0   Heavy=1.1
                                  Lactating : Sedentary=1.3   Moderate=1.4   Heavy=1.5

Adolescents & Children (<18yrs):
                      16 -17 yrs : Boys=1.2, Girls=0.9   7 - 9 yrs (B+G)=0.9
                      13 -15 yrs : Boys=1.1, Girls=1.0   4 - 6 yrs (B+G)= 0.7
                      10 -12 yrs : Boys=1.0, Girls=0.9   1 - 3yrs (B+G)= 0.5   < 1 year (B+G)=0.0

* All individuals >=2 yrs of age excluding women in the age group 15-45 yrs

1.3 Water (Domestic Use)

S.No	Q	Drinking (Code)	Cooking (Code)	Cleaning (Code)
(1)	(2)	(3)	(4)	(5)
1	What is the *primary* source of water for these purposes? (Code)			
2	Where is it located? (Code)			
3	How far is the source? (in Meters)			
4	How long does it take to go there? (in Minutes)			
5	Who usually goes to fetch the water? (Code)			
6	Do you treat the water to make it safer? (Y=1; N=2)			
7	What is the mode of treatment? (Code)			
8	Whether availability is sufficient throughout the year? (Y=1; N=2)			
9	If No, then what is the alternate source of water? (Code)			

Code for Q1 & Q9
Piped water=1; Tube well/bore well=2; Dug well=3; Covered well=4; River/canal/stream=5; Ponds=6; Rainwater=7; Any Other (Specify)=8

Code for Q2
Inside the house/ compound=1; Neighbourhood=2; Community=3; Govt.=4; Common resource=5
Code for Q5
Adult women=1; Adult men=2; Female child < 15 years=3; Male child < 15 years=4

Code for Q7
Boil=1; Add bleach/chlorine=2; Strain through cloth=3; Use water filter=4; Use electronic purifier=5; Any Other (Specify………………………..)=6

1.4 Sanitation

1.4a What kind of toilet facility does this household use?
Open defecation=1; Open pit=2; Closed toilet=3; Any Other (Specify………………)=4 □

1.4b If the household has a closed toilet, does it have running water? Y=1; N=2 □

1.4c If the household has closed toilet facility, do they use it?
Yes-use it=1; Yes-do not use it=2; No=3 □

1.4d What is the mode of disposal of liquid waste?
Open drain=1; Closed Drain=2; Any Other (Specify……………………)=3 □

1.4e What is the mode of disposal of solid waste?
Pit=1; Common Place=2; Anywhere=3; Any Other (Specify……………………)=4 □

1.5 Fuel & Energy

1.5a What type of fuel does this household mainly use for cooking?
Firewood=1; Crop residue=2; Kerosene=3; Cow dung=4; LPG=5; Bio-gas=6;
Any Other (Specify………………………………..)=7

Primary Source □   Secondary Source □

1.5b What type of chulha does the household use?   Primary   Secondary
Open fire=1; Traditional chulha=2; Improved chulha/Smokeless chulha=3;
Kerosene Stove=4; LPG Stove=5; Bio-gas=6

1.5c Is the cooking done under a chimney? Y=1; N=2 ☐

1.5d Where is the cooking usually done?
Separate room inside the house=1; Common room inside the house=2; Outdoors=3; Any Other=4 ☐

1.5e Does your household have electricity? Y=1; N=2 ☐

1.6 Aadhar Card

1.6a Who all in this household have an Aadhar Card? No one=1; Some=2; All=3 ☐
Fill in the table **only if some members** of the HH have Aadhar Card

S.No	Name	Individual ID
(1)	(2)	(3)
1		
2		
3		
4		
5		

1.7 Bank Details

1.7a Do you have a savings account? Y=1; N=2 ☐
If Yes, fill in the table

S.No	Name of A/C Holder	Individual ID	Name of Bank/SHG/Co-ops	Type of Savings Savings=1; Cash transfer=2; Remittances=3 (Multiple)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1					
2					
3					
4					

1.8 Insurance Details

1.8a Does anybody in this household have health insurance? Y=1; N=2 ☐
If Yes, fill in the table

S.No	Name	Individual ID	Pvt=1; Govt=2	Remarks
(1)	(2)	(3)	(4)	(5)
1				
2				

1.8b Does anybody in this household have life insurance? Y=1; N=2 ☐
If Yes, fill in the table

S.No	Name	Individual ID	LIC=1; Govt=2; Pvt=3; Micro=4	Remarks
(1)	(2)	(3)	(4)	(5)
1				
2				

1.8c Do you have crop insurance/ weather insurance etc? Y=1; N=2 ☐
If Yes, fill in the table

S.No	Name	Individual ID	Crop insurance=1; Flood insurance=2; Drought insurance=3	Remarks
(1)	(2)	(3)	(4)	(5)
1				
2				

1.9 Debt

1.9a Do you have any outstanding loans currently or repaid any in the last one year? Y=1; N=2 ☐
If Yes, fill in the table

S.No	Purpose (Code)	Source (Code) (Multiple Source)	How many years back was the loan taken?	When was it paid back? (Year)	Interest rate* (%)	Amount outstanding including interest as on date (Rs.)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1							
2							
3							
4							
5							
				Total			

*To be calculated at per annum basis

Code for Col (2) - Purpose
Buy/ improve house=1; Buy land=2; Marriage/Other functions=3; Agriculture/business=4;
Daily consumption=5; Education=6; Medical=7; Any Other=8

Code for Col (3) - Source
Employer=1; Local money lender=2; Friend=3; Relative=4; Bank=5; Co-operative=6; MFI=7; SHG=8;
Kisan Credit Card=9; Input dealers=10; Traders=11

1.10 Household Consumer Expenditure

S.No	Items	Value of Consumption (Rs.)	
		Last 30 days	Last 365 days
(1)	(2)	(3)	(4)
1	Cereals		
2	Pulses		
3	Milk & Milk products		
4	Oil		
5	Vegetables		
6	Fruits & Nuts		
7	Egg, fish, meat		
8	Sugar		
9	Salt & spices		
10	Other food items (tea, coffee, juice, biscuit etc)		
11	Pan, tobacco, alcohol etc		
12	Fuel (gas/ petrol/ kerosene/ wood/ coal)		
13	Electricity		
14	Entertainment		
15	Consumer goods (tooth paste, hair oil, soap etc)		
16	Consumer service (tailoring, telephone charges etc)		
17	Conveyance		
18	Rent paid		
19	Savings (monthly savings, premium for insurance)/ Interest on loans etc		
20			
21			
22	**Sub Total (1 to 21)**		
23	Medical		
24	Education related expenses (fees, books, stationary etc)		
25	Clothing, footwear & bedding		
26	Furniture & fixtures		
27	Cooking and household appliances (refrigerator, cooker, TV, fan,etc)		
28	Crockery & utensils		
29	Jewellery		
30	Personal transportation equipment		
31	Other personal goods (mobile, watch etc)		
32	Repair and maintenance		
33			
34			
35			
36	**Sub Total (23 to 35)**		
37	**Avg monthly exp for items 23 to 35 {(s.no 36) / 12}**		
38	**Monthly household consumer expenditure (22+37)**		

1.11 Asset Details/ Asset Purchase Details

S.No	Asset	Do you own any? (As on date) Y=1; N=2	Number as on date	Purchased any in the last one year? Y=1; N=2	If Yes, Value (Rs.)	S.No	Asset	Do you own any? (As on date) Y=1; N=2	Number as on date	Purchased any in the last one year? Y=1; N=2	If Yes, Value (Rs.)	S.No	Asset	Do you own any? (As on date) Y=1; N=2	Number as on date	Purchased any in the last one year? Y=1; N=2	If Yes, Value (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Household						**Agriculture**						**Animal Husbandry**				
1	House					19	Ag. Land					37	Milch Cattle				
2	Non-ag. Land					20	Tube wells					38	Cattle				
3	TV					21	Open wells					39	Buffalo				
4	Air Cooler					22	Tanks and ponds					40	Goat				
5	Radio					23	Electricity Pumps					41	Pig				
6	Electric Fan					24	Diesel Pumps					42	Poultry				
7	Refrigerator					25	Drip irrigation					43	Duck				
8	Cooking appliances					26	Sprinklers					44	Bullocks				
9	Mattress/Bed					27	Sprayer					45	Sheep				
10	Furniture					28	Tractor					46	Animal shed				
11	Bicycle					29	Tractor trolley					47					
12	Motor Cycle					30	Bullock Cart					48					
13	Mobile					31	Thresher					49					
14	Jewellery					32	Seed driller					50					
15	LPG Cylinder					33	Power Tiller					51					
16	Hand pump					34	Generator					52					
17						35	Storage facility*					53					
18						36						54					

*Storage facility means shed/ godown etc. outside the house. Does not include bin or bags stored within the house

1.12 Asset Sale/ Mortgage Details (for the last 12 months)

1.12a Did you sell or mortgage any assets in the last one year? Y=1; N=2 ☐

If Yes, fill in the table

| S.No | Name of the Asset* | Did you sell any assets? | | Did you mortgage any assets? | |
		Value (Rs.)	Remarks	Value (Rs.)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1					
2					
3					
4					
5					

*Asset includes household asset, agriculture asset and animal husbandry

1.13 Land details (in Acres)

| Land Type | Total Own land | Irrigated | | | | Unirrigated/ Rainfed | | | |
		Own land	Leased in	Leased out	Fallow land	Own land	Leased in	Leased out	Fallow land
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Up Land									
Medium Land									
Low Land									
Total									

Note 1: Own land is inclusive of leased out land and fallow land
Note 2: Own land should not include leased in land

Schedule 2: Agriculture, Animal Husbandry & Home Garden Details

Dist Name……………………….. Dist Code__ __ __   Village Name……………..…….. Village Code__ __ __ __   HH ID __ __ __ __   Date of Interview__ __ /__ __ /__ __

2.1 Household Foodgrains Farm Details (For the last 12 months)

2.1a Total Operational Land …………………….. (Acres) (*Note: Operational land includes own land as well as leased in – irrigated and rainfed*)

S.No	Crop Name	Crop ID	Area (Acres)			Land type	Border/Field (only for veg)	Total Expenses	Total Output (Qtl)	Mkt Value / MSP (Rs.)	Total Value (8*9)	Qty - Self Cons (Qtl)	Value (11*9)	Qty – Sold (Qtl)	Price/ Qtl (Rs.)	Value (13*14)	Qty – Seed (Units)	Value of seeds/Unit	Value (16*17)	Value of By Product (Rs.)	Total Value (12+15+18+19)
			Irrigated	Rainfed	Total																
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Kharif																					
1																					
2																					
3																					
4																					
5																					
6																					
Rabi																					
1																					
2																					
3																					
4																					
5																					
6																					

2.2 Livestock Details (For the last 12 months)

S.No	Items		Cow	Buffalo	Goat	Sheep	Piggery	Poultry	Duckery	Ox/Bullocks	Fisheries
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Number (as on date)										
2	How many milch animals										
3	How many Used for agriculture/labour purpose										
	Expenses										
4	Purchase of animals										
5	Labour (Rs.)										
6	Feed (Rs.)										
7	Infrastructure (eg. Shed) (Rs.)										
8	Veterinary charges (Rs.)										
9	Interest on loan (Rs.)										
10	Other expenses (Rs.)										
11	Total (Rs.) (4 to 10)										
	Receipts										
12	Milk	Total Output (Ltrs)									
13		Self-cons - Qty (Ltrs)									
14		Sale - Qty (Ltrs)									
15		Value (Rs./Ltrs)									
16		Total Value (12*13)									
17	Egg	Total Output (Nos.)									
18		Self-cons - Qty (Nos.)									
19		Sale - Qty (Nos.)									
20		Value (Rs./Nos.)									
21		Total Value (17*18)									
22	Meat	Total Output (Kg)									
23		Self-cons - Qty (Kg)									
24		Sale - Qty (Kg)									
25		Value (Rs./Kg)									
26		Total Value (22*23)									
27	Fish	Total Output (Kg)									
28		Self-cons - Qty (Kg)									
29		Sale - Qty (Kg)									
30		Value (Rs./Kg)									
31		Total Value (27*28)									
32	By-products (Rs.)										
33	Sale of animal (Rs.)										
34	Other receipts (Rs.)										
35	Total (Rs.)										

2.3 Home Garden Details (For the last 12 months)

2.3. 1 Total Home Garden Area (Sq feet/ Cent) _____

S.No	Item	Code	Expenses (Rs.)									Receipts								
			Seeds/Seedling/plt.matl.	Manure	Fertiliser	Pesticides/ Insecticides (Organic)	Pesticides/Insecticides (Inorganic)	Irrigation	Infrastructure (eg. Fence)	Other expenses	Total (5+6+7+8+9+10)	Output (Kg)	Mkt Value (Rs.)	Total Value (12*13)	Self-cons (Kg)	Value (15*13)	Qty - Sold (Kg)	Price/ Kg (Rs.)	Value (17*18)	Total Value (16+19)
(1)	(2)	(3)	(4)	(5a)	(5b)	(6a)	(6b)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

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Schedule 3: Household Food Consumption Pattern

Dist Name……………………….. Dist Code__ __ __   Village Name………………..……. Village Code__ __ __ __   HH ID __ __ __ __   Date of Interview__ __ /__ __ /__ __

No. of Adult Members……………   Quarter _____ to _____(months)

No. of Children …………….   Total CU __ __ . __ (Please enter this from Schedule 1)

S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g)		Purchased from PDS	Home grown		Purchased from market		Collected from other sources		Market Price (Rs./Kg)
				Per HH/Day	Per CU/Day	Qty (Kg/Ltr)	Qty (Kg/Ltr)	Ref Per	Qty (Kg/Ltr)	Ref Per	Qty* (Kg/Ltr)	Other source code	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Cereals and Millets	1001											
1	Rice												
2	Wheat												
3	Rice Flakes												
4	Semolina												
5	Puffed rice												
6	Ragi												
7	Sorghum												
8	Bajra												
9	Foxtail Millet												
10													
11													
12													
13													
	Pulses and Legumes	1002											
14	Bengal gram Whole												
15	Bengal gram dhal												

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g)		Purchased from PDS	Home grown		Purchased from market		Collected from other sources		Market Price (Rs./Kg)
				Per HH/Day	Per CU/Day	Qty (Kg/Ltr)	Qty (Kg/Ltr)	Ref Per	Qty (Kg/Ltr)	Ref Per	Qty* (Kg/Ltr)	Other source code	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
16	Bengal gram roasted												
17	Blackgram dhal												
18	Greengram whole												
19	Greengram dhal												
20	Pigeon pea												
21	Peas green												
22	Rajmah												
23	Soybean												
24													
25													
26													
27													
28													
29													
	Leafy Vegetables	1003											
30	Curry leaves												
31	Coriander leaves												
32	Amaranthus												
33	Spinach												
34	Radish leaves												
35	Fenugreek leaves												
36	Drumstick leaves												

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g) Per HH/Day	Raw amounts consumed (g) Per CU/Day	Purchased from PDS Qty (Kg/Ltr)	Home grown Qty (Kg/Ltr)	Home grown Ref Per	Purchased from market Qty (Kg/Ltr)	Purchased from market Ref Per	Collected from other sources Qty* (Kg/Ltr)	Collected from other sources Other source code	Market Price (Rs./Kg)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
37													
38													
39													
40													
41													
42													
43													
	Roots and Tubers	1004											
44	Carrot												
45	Colocasia												
46	Beetroot												
47	Onion big												
48	Onion small												
49	Potato												
50	Radish												
51	Sweet potato												
52	Tapioca												
53	Yam												
54													
55													
56													
57													

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

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S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g) Per HH/Day	Raw amounts consumed (g) Per CU/Day	Purchased from PDS Qty (Kg/Ltr)	Home grown Qty (Kg/Ltr)	Home grown Ref Per	Purchased from market Qty (Kg/Ltr)	Purchased from market Ref Per	Collected from other sources Qty* (Kg/Ltr)	Collected from other sources Other source code	Market Price (Rs./Kg)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
58													
59													
60													
	Other Vegetables	1005											
61													
62													
63													
64													
65													
66													
67													
68													
69													
70													
71													
72													
73													
74													
75													
76													
77													
78													
79													

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

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S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g)		Purchased from PDS	Home grown		Purchased from market		Collected from other sources		Market Price (Rs./Kg)
				Per HH/Day	Per CU/Day	Qty (Kg/Ltr)	Qty (Kg/Ltr)	Ref Per	Qty (Kg/Ltr)	Ref Per	Qty* (Kg/Ltr)	Other source code	Market Price (Rs./Kg)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Nuts and Oil seeds	1006											
80	Coconut fresh												
81	Coconut dry												
82	Mustard seeds												
83	Groundnut fresh												
84	Groundnut roasted												
85	Niger seeds												
86	Gingelly seeds												
87	Cashewnut												
88													
89													
90													
91													
	Condiments and Spices	1007											
92	Asafoetida												
93	Chillies dry												
94	Coriander												
95	Cumin seeds												
96	Fenugreek seeds												
97	Garlic dry												

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g)		Purchased from PDS	Home grown		Purchased from market		Collected from other sources		Market Price (Rs./Kg)
				Per HH/Day	Per CU/Day	Qty (Kg/Ltr)	Qty (Kg/Ltr)	Ref Per	Qty (Kg/Ltr)	Ref Per	Qty* (Kg/Ltr)	Other source code	Market Price (Rs./Kg)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
98	Ginger												
99	Pepper dry												
100	Tamarind												
101	Turmeric												
102													
103													
104													
105													
106													
	Fruits	1008											
107	Amla												
108	Grapes green												
109	Guava Country												
110	Orange												
111	Banana Ripe												
112	Dates fresh												
113	Jackfruit												
114	Lemon												
115	Papaya												
116	Seethapal												
117	Tomato ripe												
118													
117													

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g)		Purchased from PDS	Home grown		Purchased from market		Collected from other sources		Market Price (Rs./Kg)
				Per HH/Day	Per CU/Day	Qty (Kg/Ltr)	Qty (Kg/Ltr)	Ref Per	Qty (Kg/Ltr)	Ref Per	Qty* (Kg/Ltr)	Other source code	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
118													
119													
120													
121													
122													
123													
124													
125													
126													
	Fishes and Sea Foods	1009											
127													
128													
129													
130													
131													
	Meat and Poultry	1010											
132	Egg duck												
133	Egg chicken												
134	Fowl (chicken)												
135	Goat meat												
136	Snail small												
137													
138													

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

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S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g) Per HH/Day	Raw amounts consumed (g) Per CU/Day	Purchased from PDS Qty (Kg/Ltr)	Home grown Qty (Kg/Ltr)	Home grown Ref Per	Purchased from market Qty (Kg/Ltr)	Purchased from market Ref Per	Collected from other sources Qty* (Kg/Ltr)	Collected from other sources Other source code	Market Price (Rs./Kg)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
139													
140													
141													
	Milk and Milk products	1011											
142	Milk Buffalo												
143	Milk Cow												
144	Milk Goat												
145	Curd												
146	Khoa												
147													
148													
149													
	Fats and Oils	1012											
150	Butter												
151	Ghee cow												
152	Vanaspathi												
153	Cooking oil Specify :_____												
154													
	Sugars	1013											
155	Sugar												
156	Jaggery date palm												
157	Jaggery cane												
158	Jaggery coconut palm												

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

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Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

S.No	Food Group	Food Code	Frequency of consumption (Code)	Raw amounts consumed (g) Per HH/Day	Per CU/Day	Purchased from PDS Qty (Kg/Ltr)	Home grown Qty (Kg/Ltr)	Ref Per	Purchased from market Qty (Kg/Ltr)	Ref Per	Collected from other sources Qty* (Kg/Ltr)	Other source code	Market Price (Rs./Kg)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
159	Sago												
160													
161													
	Beverages	1014											
162													
163													
164													
165													
166													
167													
168													
	Salt	1015											
169	Salt crystal (Iodized)												
170	Salt crystal (Non Iodized)												
171	Salt Crystal Powder (Iodized)												
172	Salt Crystal Powder (Non Iodized)												
173	Salt Powder Free flowing (Iodized)												
174	Salt Powder Free flowing (Non Iodized)												
	Others												
175													
176													

Code for Col (4) – Frequency of Consumption
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6
Code for Col (9), Col (11)
Daily=1; Twice /thrice a week=2; Once a week=3; Once in fifteen days=4; Once in a month=5; Occasionally=6

Code for Col(13)
Forest=1; Relatives/friends=2; Agriculture land=3; ICDS=4; Any other =5
* Total quantity collected during the last quarter

Name of the Investigator and Signature :_____

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Schedule 4: 24-hr Diet Recall

Dist Name……………………….. Dist Code__ __ __   Village Name………………..…….. Village Code__ __ __ __   HH ID __ __ __ __   Date of Interview__ __ /__ __ /__ __

Individual ID					101	102	103	104	105	106	107	108	109	110		Remarks
Name																
Age																
Gender (M=1; F=2)																
Physiological Status																
Physical Activity																
Consumption Units																
Meal Pattern	Type of preparation	Food Stuff	Raw Amount (g)	Total Cooked Quantity	Individual Intake										Left Over	

Individual ID					101	102	103	104	105	106	107	108	109	110		Remarks
Meal Pattern	Type of preparation	Food Stuff	Raw Amount (g)	Total Cooked Quantity	Individual Intake										Left Over	

MSSRF
Science for Sustainable Development

LANSA
Leveraging Agriculture for
Nutrition in South Asia

Food Compilation Sheet

Dist Name……………………….. Dist Code__ __ __   Village Name……………………….. Village Code__ __ __ __   HH ID __ __ __ __   Date of Interview__ __ /__ __ /__ __

Individual ID				101	102	103	104	105	106	107	108	109	110	
Name														
Age														
Gender (M=1; F=2)														
Physiological Status														
Physical Activity														
Consumption Units														
Name of Food Stuff	Local Name	Food code	Total Qty (Raw)	Quantity of raw food stuff (gms/ml)										Left Over

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Name of Food Stuff	Local Name	Food code	Total Qty (Raw)	101	102	103	104	105	106	107	108	109	110	Left Over

The column headers for the individual IDs span 101–110. The header "Quantity of raw food stuff (gms/ml)" spans the ID columns.

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Schedule 5: Nutrition Assessment

Dist Name……………………….. Dist Code__ __ __   Village Name…………………….…. Village Code__ __ __ __   HH ID __ __ __ __   Date of Interview__ __ /__ __ /__ __

S.No	Particulars									
1	Individual ID									
2	Name									
3	Gender (M=1; F=2)									
4	Age*									
5	D.O.B (mm/dd/yyyy)									
6	Physiological Status									
7	*Anthropometry*									
7.1	Height (Cms)									
7.2	Weight (Kgs)									
8	*Clinical signs of nutritional deficiency(Code)*									
8.1	1									
8.2	2									
8.3	3									
8.4	4									
8.5	5									
9	*Short Term Morbidity(Code)*									
9.1	1									
9.2	2									
9.3	3									
10	*Long Term Morbidity(Code)*									
10.1	1									
10.2	2									
10.3	3									

 # Please fill S.No 1 to 6 from Schedule 1   *Age in completed years; Up to the nearest month in case of children below 5 years of age

Code for Row (8) – Clinical signs of nutritional deficiency

NAD (No Abnormality Detected)=0; Oedema=1; Emaciation=2; Marasmus=3; Night blindness (XN)=4; Conjunctival xerosis (X1A)=5; Bitot spot (X1B)=6; Corneal xerosis (X1B)=7; Keratomalacia (X3)=8; Corneal scar (XS)=9; Angular stomatitis=10; Glossitis=11; Dental flurosis=12; Caries=13; Thyroid gland palpable=14; Thyroid gland visible=15;   Any Other (Specify)=16

Code for Row (9) – Short term morbidity (during the last 15 days)

Fever = 1; Cold/Cough = 2; Diarrhoea/Dysentery = 3; Body ache=4; Head ache=5; Malaria=6; Jaundice=7; Dengue=8; Any Other (Specify)=9

Code for Row (10) – Long term morbidity (for the last 12 months)

Tuberculosis (TB)=1; Hypertension=2; Heart Disease=3; Diabetes=4; Leprosy=5; Cancer=6; Asthma=7; Polio=8; Paralysis=9; Epilepsy=10; Any Other(Specify)=11