



AN ASSESSMENT OF THE SOURCES OF FOOD SECURITY IN MADHYA PRADESH & BIHAR

SUSTAINABLE DEVELOPMENT GOAL-2



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TABLE OF CONTENTS

I. INTRODUCTION

- Executive summary
- Background
- Objectives of the survey

II. METHODS

- Research Design
- Study Area and categorization of family
- Methodological Framework: Classification of Indicators
- Indicator based ranking
- Setting of inclusion and exclusion indicator

III. RESULTS

- Summary of food-insecure families in the overall project area
- Non-access indicators causing food insecurity
- District-wise findings
- Comparison of Baseline survey

IV. WAY FORWARD

INTRODUCTION

BACKGROUND

The purpose of this assessment is to assess how to measure food security and how to communicate the results of activities that have improved food security as a goal. There are many challenges in measuring and communicating food security results. Food security is a multidimensional concept that involves a whole range of different factors such as social inequalities and environmentally sustainable food systems. In the definition of food security, access to food is the core component. Food security consists of the four pillars; availability, physical and economic access, utilization, and stability. Finding appropriate indicators to measure food security has been difficult. In this regard, measuring processes and not only results is a new challenge. The SDGs provide an opportunity for new and better food security indicators. The SDG2 on zero hunger sets out to measure the agricultural area under sustainable production, and FAO is currently working on finding appropriate sustainability indicators. This means that both the access by different socio-economic groups and the stability pillars of the food security definition could be better covered if appropriate indicators are developed through the SDG process.

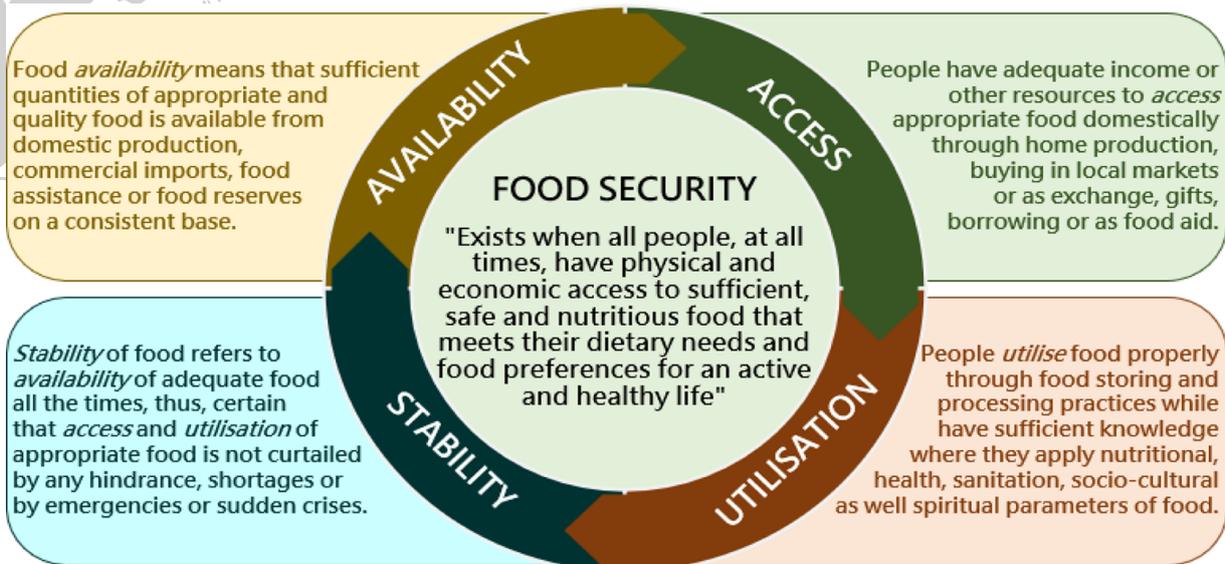
Food security and nutrition are closely interlinked. Food insecurity can lead to different manifestations of malnutrition. Food security dimensions refer to the:

Availability – This dimension addresses whether or not food is actually or potentially physically present, including aspects of production, food reserves, markets and transportation, and wild foods.

Access – If food is actually or potentially physically present, the next question is whether or not households and individuals have sufficient access to that food.

Utilization – If food is available and households have adequate access to it, the next question is whether or not households are maximizing the consumption of adequate nutrition and energy. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, dietary diversity, and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the nutritional status of individuals.

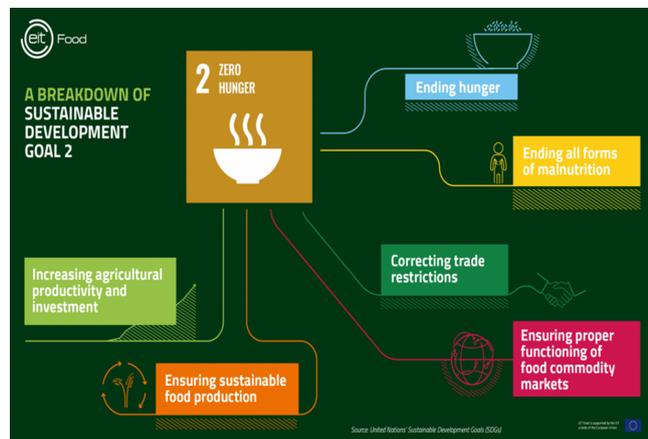
Stability – If the dimensions of availability, access and utilization are sufficiently met, stability is the condition in which the whole system is stable, thus ensuring that households are food secure at all times. Stability issues can refer to short-term instability (which can lead to acute food insecurity) or medium- to long-term instability (which can lead to chronic food insecurity). Climatic, economic, social and political factors can all be a source of instability



BROADER CONSISTENCE WITH THE SDGS

Strive To Achieve SDG-2

Goal 2 of the Sustainable Development Goals addresses food security or, more precisely, sets out to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture (UN 2015).



End Hunger, Achieve Food Security and Improved Nutrition and Promote Sustainable Agriculture

IMPLICATIONS AND FACTORS OF FOOD INSECURITY

- Urgent need to undertake intensive assessments/action research for gathering micro- level information for formulating result-based strategies within the broader framework of Sustainable Development Goals (SDGs) in general and SDG2 in particular.
- Measuring and communicating food security results is fraught with multiple challenges.
- Food Security is a multidimensional concept that involves a whole range of different factors such as social inequalities and environmentally sustainable food systems.

OBJECTIVE OF THE STUDY

- Identification of families afflicted with food insecurity.
- Gain insight into real-time factors of food insecurity and relate them with its manifestations and impact on the suffering population.
- Line-listing the name-based food-insecure families in terms of priority process indicators.
- Develop a sound basis for micro-and macro-level intervention planning for taking the affected families out of the web of food insecurity.
- Analyze the effects of food insecurity on health indicators among under-five children and adolescent girls.

METHODOLOGY

- The following method was adopted to identify the families
- Categorizing parameters for identifying the severe, moderate and normal food-insecure families
- Developed a questionnaire for collecting the information from the field
- Online data collection in the six field areas of Madhya Pradesh and Bihar by the existing field team which will help them to track those families in the future
- Analysis of the data collected and prepared
- Follow-up and link the identified families with an integrated approach

The categorizations of the families were done as below:

Food insecurity was constructed as a variable (food secure/mildly food insecure; moderately food insecure; severely food insecure). An experience-based food security scale is used to produce a measure of access to food at different levels of severity that can be compared across contexts. It relies on data obtained by asking people, directly in surveys, about the occurrence of conditions and behaviors that are known to reflect constrained access to food.

- Severely insecure:- where all of the food security dimensions do not match
- Moderately insecure: - more combos of the food security dimensions do not match
- - Mildly food insecure: - a few combos of the food security dimension do not match but still toward food secured
- Normal:- food secured families

Each family from the survey were enlisted in the above-shown categories and was indexed as per the below table:

Methodological Framework: Classification of Indicators

Natural Resources - Ownership	Land and Land with Irrigation
Resources for Production	Forest Produce
	Milk Production and Livestock
	Poultry and Goat Rearing
	Kitchen Garden
Livelihood Resources	Livelihoods Security for 8+ Months
	Government of Private Job
	Government Employment scheme (MGNREGA)
Food and Nutrition Benefits	Targeted Public Distribution System
	Integrated Child Development Services & MDM

Category	Indicator	Rank	Classifications
Natural Resources - Ownership	No land	0	Families are fully dependent on other sources of food security
	Less than 2.5 acres of non-irrigated land	6	Family is food secured for 4 months approximately
	Between 2.5 to 5 acres of non-irrigated land	8	Family is food secured for nearly 1 year
	More than 5 acres of non-irrigated land	14	Family is food secured for More than 1 year
	Less than 2.5 acres of irrigated land	12	Family is food secured for 8 months approximately
	Between 2.5 to 5 acres of irrigated land	16	Family is food secured for more than 1 year
	More than 5 acres of irrigated land	28	Family is adequately Food secured for years.
Livelihood Resources	8 months of livelihood	8	Family is food secured for a minimum of 8 months approximately agriculture, construction, informal labour
	Traditional business	5	The family business is uncertain and seasonal therefore their dependency is more on other sources for their daily food requirements (handicrafts, items prepared from bamboo, etc)
	Govt./Pvt. Jobs	20	Family is adequately Food secured for years due to job sustainability
	MGNREGA	5	Family is food secured for 4 months approximately
Food and Nutrition Benefits	Public Distribution System	6	On average the family is food secured for less than 4 months however, the family is receiving the monthly entitlement. Even the family has to be dependent on other sources for other daily food requirements (for ex. Oil, vegetables, condiments & seasoning etc.)
	ICDS & MDM Schemes	2	The scheme does not cover the supplementary not catering to all family members of the household
Resources for Production	Forest	5	A family who is dependent on the forest produce is uncertain and seasonal therefore their dependency is more on other sources for their daily food requirements
	Milk Production	5	Supplementary support the daily food consumption and can also be an income generation activity
	Poultry	4	Supplementary support for the daily food consumption
	Kitchen Garden	4	Supplementary support for the daily food consumption
Total		148	

Phase Number	Phase	Description
1	Generally Food Secure	More than 80% of households can meet basic food needs without atypical coping strategies
2	Borderline Food Insecure	For at least 20 percent of households, food consumption is reduced but minimally adequate without having to engage in irreversible coping strategies. These households cannot fully meet livelihoods protection needs.
3	Acute Food and Livelihood Crisis	At least 20 percent of households have significant food consumption gaps OR are marginally able to meet minimum food needs only with irreversible coping strategies such as liquidating livelihood assets. Levels of acute malnutrition are high and above normal.
4	Humanitarian Emergency	At least 20 percent of households face extreme food consumption gaps, resulting in very high levels of acute malnutrition and excess mortality; OR HH households face an extreme loss of livelihood assets that will likely lead to food consumption gaps. Extreme loss of livelihood assets that will likely lead to food consumption gaps.
5	Famine/Humanitarian Catastrophe	At least 20 percent of households face a complete lack of food and/or other basic needs and starvation, death, and destitution are evident; and acute malnutrition prevalence exceeds 30% ; and mortality rates exceed 2/10000/day

Source: IPC 2017.

Hence, referring to the IPC 2017 scale and through the upper indexing method, all the surveyed families were ranked. These rankings were done, to sum up, the total rank (marking) as “148” or “Food secured families”. The families were ranked to mention the severe, moderate, mild, and normal categories and found that the highest ranking was 73 (hence rounded to 75 points), they are further categorized on the food insecurity severity scale as:

Food Insecurity Severity Scale			
0	1-25	26-60	50 and above
Severe	Mild	Moderate	Normal

- **Severe (immediate) - 0** (Where all of the food security dimension do not match)
- **Moderate (short-term) - 1 and between 25** (Most combos of food security dimensions are uncertain)
- **Mild (mid-term) - 26 and between 50** (Few combos of food security dimensions are uncertain)
- **Normal (long term) - 51 and above** (Food Secured with all 4 dimension)

The Integrated Food Security Phase Classification (IPC), which includes specialists from humanitarian agencies, including FAO and WFP, as well as leading non-governmental organizations (NGOs) and government aid agencies, have developed the scale (IPC 2017):

Category	Inclusions indicators	Exclusions indicators
Severely food insecure (immediate): ranking score (0)	No access to any ration card or coupons of AAY and PH under the Public Distribution System	None
	Non-availability of any land size	
	Non-availability to any traditional business received from a family member	
	None of the family members has any government or private job	
	None of the family members receiving regular employment through MGNREGA	
	No access/provision for the kitchen garden, milk production, poultry farm and forest product	
	No access to ICDS/MDM Scheme	
Moderately food insecure (short-term): ranking score (between 1-25)	Non-receipt of regular employment till 8 months from irrigation and labour	Having land size below 5 acres of irrigated or non-irrigated
	Family members receiving regular employment through MGNREGA	Receipt of regular employment till 8 months from irrigation and labour
	Access/provision for the kitchen garden, milk production, poultry farm and forest product	
	Access to any ration card or coupons of AAY and PH under the Public Distribution System	
Mild food insecure (short-term): ranking score (between 26-50)	Having land size below 5 acres of irrigated or non-irrigated	Having land size above 5 acres of irrigated or non-irrigated
	Having traditional business	Having no land
	The family have access to ration cards or coupons of AAY and PH under the Public Distribution System	Family members having government or private job
	Access/provision for a kitchen garden, milk production, poultry farm and forest product	
	Access to ICDS/MDM Scheme	
Normal food insecure (long-term): ranking score (51 and above)	Having land size above 5 acres irrigated or non-irrigated	All negative indicators
	Having regular employment till 8 months from irrigation and labour	
	Family members having government or private job	
	The family have access to ration cards or coupons of AAY and PH under the Public Distribution System	
	Access/provision for the kitchen garden, milk production, poultry farm and forest product	
	Access to ICDS/MDM Scheme	

KEY FINDINGS

Summary of food-insecure families

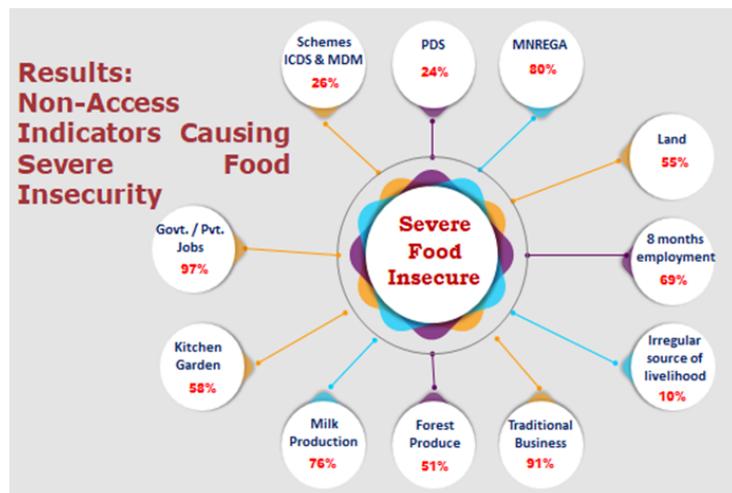
Sno.	District	Total Surveyed HH	Severe families (score=0)		Moderate families (score = 1-25)		Mild families (score=26-50)		Normal families (score = above 51)		% age of total insecure families (severe + moderate + mild)	
			in (#)	in (%)	in (#)	in (%)	in (#)	in (%)	in (#)	in (%)	in (#)	in (%)
1	Panna	3820	38	1%	2899	76%	744	19%	139	4%	3681	96%
2	Satna	3820	3	0%	1857	49%	1637	43%	323	8%	3497	92%
3	Rewa	3180	2	0%	1547	49%	1542	48%	89	3%	3091	97%
4	Umaria	3431	6	0%	1429	42%	1497	44%	499	15%	2932	85%
Total MP		14251	49	0%	7732	54%	5420	38%	1050	7%	13201	93%
5	Jehanabad	2259	59	3%	2058	91%	138	6%	4	0%	2255	100%
6	Sitamarhi	2990	165	6%	2558	86%	237	8%	30	1%	2960	99%
Total Bihar		5249	224	4%	4616	88%	375	7%	34	1%	5215	99%
Project Total		19500	273	1%	12348	63%	5795	30%	1084	6%	18416	94%

The above table shows a gist of the food insecure families as 18416 (94%) under the severe, moderate and mild categories. The final data information sheet has been colour coded with “Red” as Severe, “Orange as Moderate, “Yellow” as Mild and “Green” as Normal.

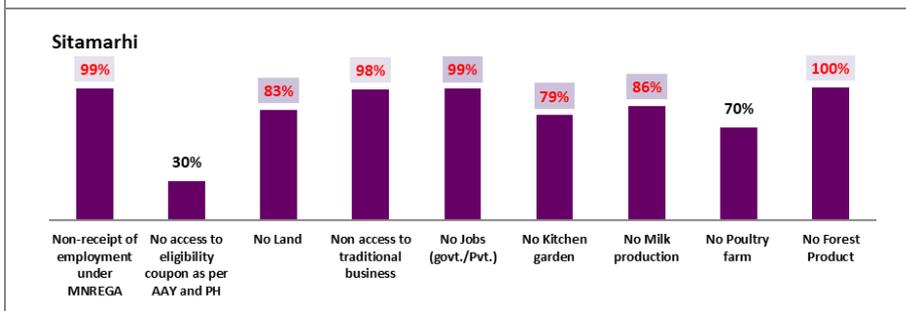
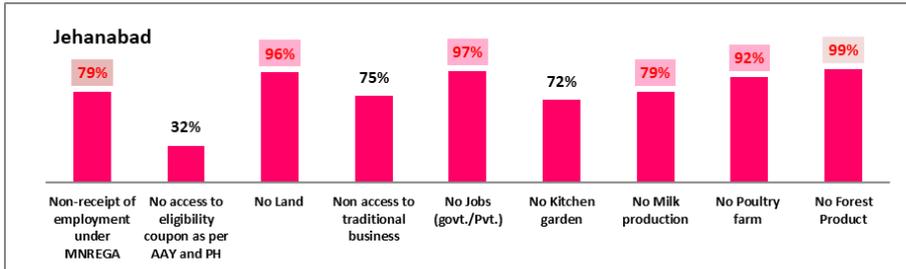
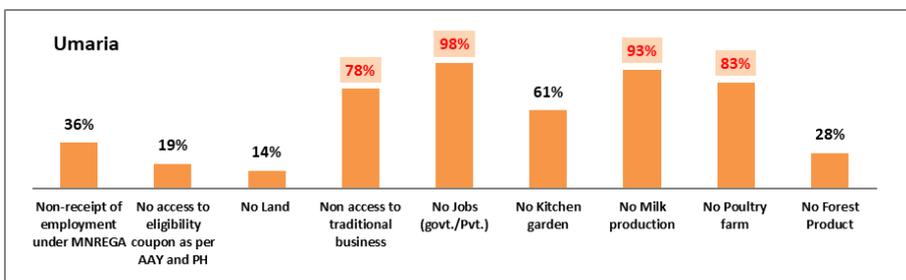
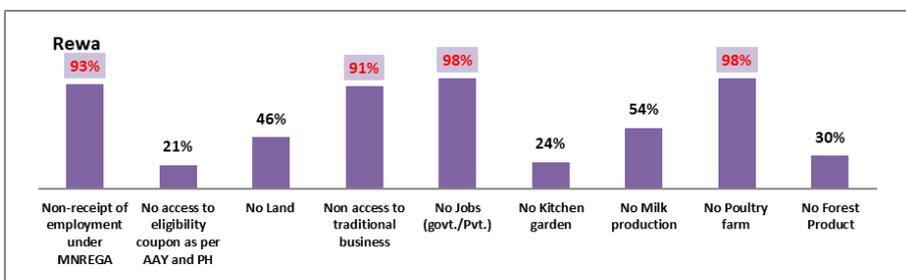
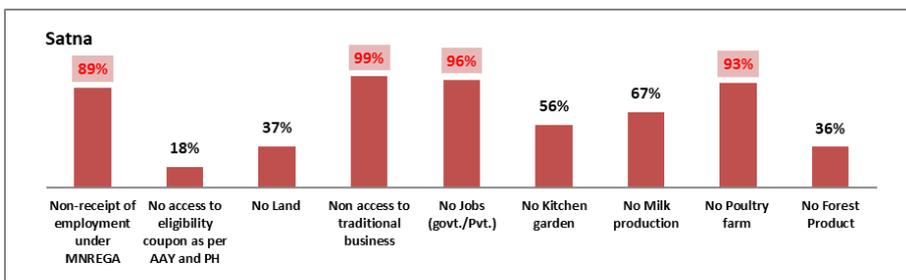
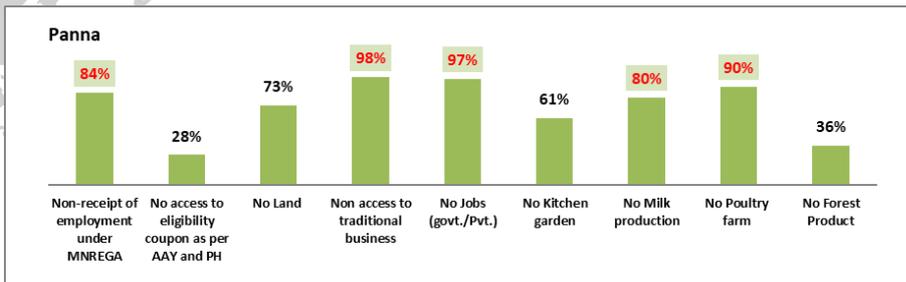
The following findings show details of the above categorized insecure dimensions.

Families under the severe food insecure category

Below are the indicators in which the severely food insecure is mapped which consist of the negative indicators or the non-availability of the four pillars of food security.

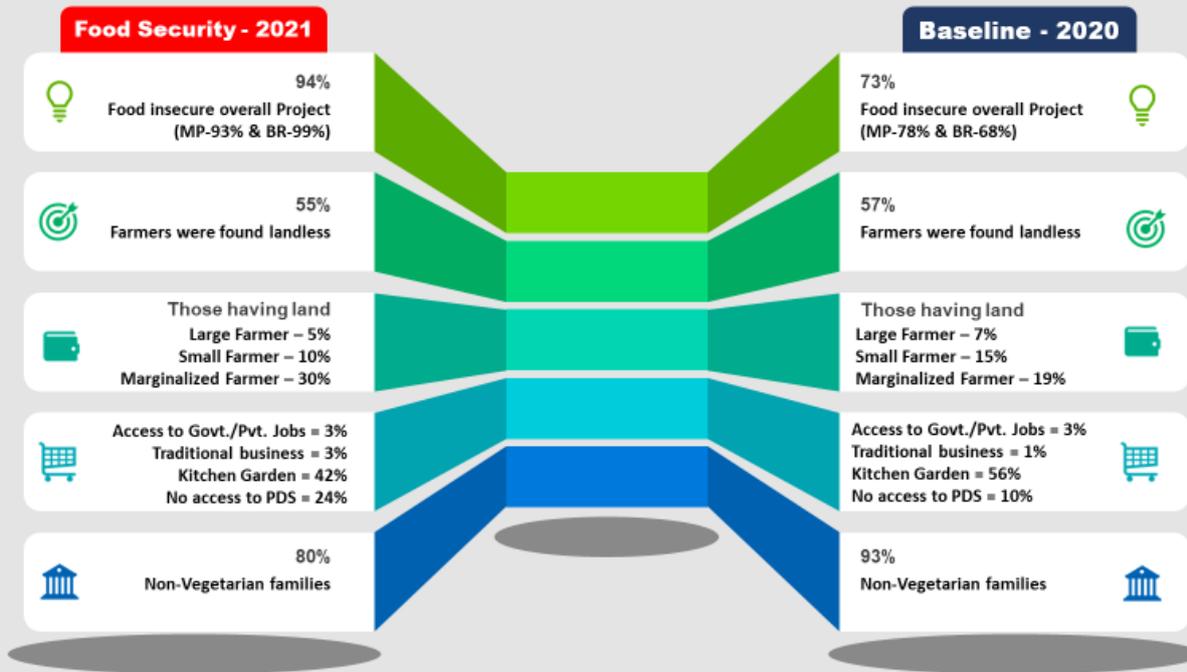


District-wise findings



Comparison with the Baseline Study

Findings were compared with the Baseline study conducted in 2020 as below:



Gaps are observed for a few indicators where the placement of the question or the formulations of the questions were different, however, in most of the indicators, the findings are around in-line.

WAY FORWARD

The survey has helped to identify and prepare a name-based list of food-insecure families. These families will be further tracked through an integrated approach in the following ways:

Support will be provided in linking these families to the different government schemes if found eligible

Through an integrated approach to promoting alternative food production, these families will become a targeted beneficiaries for a sustainable livelihood

The nutritional and health status will also be focused and targeted to these food-insecure families through tracking the growth monitoring of the children under under-five age and the BMI status of the adolescent girls.

Children, youth, adolescent girls and women of these food-insecure families will be linked with different community groups for securing their livelihood

Efforts for capturing the occurrence of improvements in these families will be held yearly so as to track the changes.

As a monitoring strategy, all home visits by the state and district level team will be focused on these food-insecure families with the data information sheet coded in red and yellow.