



# Multi-Country Resilience Study

Listening to Local People's Voices

Exploring Capacities and Choices  
to Manage Risks, Shocks and Stresses  
at Programme and Project Level

## Case Study India

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## Abbreviations

<b>ANM</b>	Auxiliary Nurse Midwife
<b>ASHA</b>	Accredited Social Health Activist
<b>AWW</b>	Anganwadi Worker – focal point for delivery of Integrated Child Development Services (ICDS) to children and mothers
<b>CSC</b>	Community Score Cards
<b>DAO</b>	District Agriculture Officer
<b>DC</b>	District Collector
<b>DFPD</b>	Department of Food and Public Distribution
<b>DPO</b>	District Programme Officer
<b>DWCD</b>	Department of Women and Child Development
<b>WHH</b>	Deutsche Welthungerhilfe
<b>FaNS</b>	Food and Nutrition Security, Enhanced Resilience Project
<b>FAO</b>	Food and Agriculture Organisation of the United Nations
<b>FNS</b>	Food and Nutrition Security
<b>FUS</b>	Follow-up Survey
<b>GMP</b>	Growth Monitoring and Promotion
<b>Govt</b>	Government
<b>HFIES</b>	Household Food Insecurity Experience Scale
<b>ICDS</b>	Integrated Child Development Services
<b>IDDS</b>	Individual Dietary Diversity Score
<b>IEC</b>	Information, Education, Communication
<b>IFPRI</b>	International Food Policy Research Institute, Washington
<b>IMR</b>	Infant Mortality Rate
<b>IRs</b>	Indian Rupees
<b>IYCF</b>	Infant and Young Child Feeding
<b>KAP</b>	Knowledge – Attitude – Practice
<b>MAD</b>	Minimum Acceptable Diet
<b>MAM</b>	Moderate Acute Malnutrition
<b>MDD-W</b>	Minimum Dietary Diversity Indicator for Women
<b>MGNREGA</b>	Mahatma Gandhi National Rural Employment Guarantee Act
<b>NBS</b>	Nutrition Baseline Survey
<b>NFSA</b>	National Food Security Act (2013)
<b>NGO</b>	Non-governmental Organisation
<b>NRLM</b>	National Rural Livelihood Mission
<b>PLA</b>	Participatory Learning and Action
<b>PMMVY</b>	Prime Minister's Maternity Benefit Scheme
<b>RLI</b>	Resilience Learning Initiative (supported by BMZ)
<b>SAM</b>	Severe Acute Malnutrition
<b>SBCC</b>	Social Behaviour Change Communication
<b>SDG</b>	Sustainable Development Goal
<b>SEWOH</b>	BMZ's Special Initiative 'ONE WORLD - No Hunger'
<b>SHG</b>	Self-help Group
<b>SNP</b>	Supplementary Nutrition Programme
<b>SUN</b>	Scaling-up Nutrition
<b>TPDS</b>	Targeted Public Distribution System
<b>WASH</b>	Water, Sanitation and Hygiene

## Executive Summary

Crisis can be a driver of change – and **resilience** is about enhanced capacities to actively and positively manage this change, realise human rights and enable wellbeing in spite of shocks and stresses. The application of the concept of resilience has steadily become more influential in food and nutrition security projects and programmes in the last years. The reason behind is that integrating a resilience lens into project and programme design and implementation adds value in terms of increasing the impact of project activities by particularly identifying and strengthening capacities of people and communities beyond the mere capacity to absorb crises. Resilience focuses attention on the capacities to overcome the adverse long-term consequences of – acute, slow-onset, chronic and recurrent – crises and not just of their immediate effects.

In contexts of recurrent crises, while humanitarian responses remain important in acute shocks, people, societies and governments need to develop capacities and long-term solutions to anticipate, absorb and adapt to foreseeable food and nutrition crises – and to transform structures and livelihoods. This is especially important in addressing chronic undernutrition and malnutrition since high levels of stunting indicate a loss of long-term developmental potential for the whole society. In other words, **strengthening resilience** aims at generating lasting social, economic and environmental change and at empowering people and their communities to develop and create new livelihood options given the prevailing crises risks.

GIZ's 'Global Programme Food and Nutrition Security, Enhanced Resilience' has commissioned this Multi-country Resilience Study (i) to assess whether selected country packages have been contributing to improved capacities to react to food and nutrition crises and thus strengthened resilience, and (ii) to explore whether there are ways to even better react to crises at various levels. The **country package India** was selected as pilot for the study.

The **approach and methodology** constitute a coherent analysis package. It comprises – in addition to the analysis of recent background literature and secondary data – (i) defining resilience and resilience capacities, (ii) defining the scope of the study and answering the scoping questions for each context, (iii) analysing the food and nutrition security crises in the target areas, (iv) exploring bottom-up, analysing and reflecting resilience capacities at different levels using a Resilience Analysis Matrix, and (v) assessing the contribution of the country packages to improve anticipatory, absorptive, adaptive and transformative capacities to react to the crises. Conclusions are being extracted and operational recommendations provided on how to (further) strengthen resilience capacities of the target groups and how to (further) strengthen a respective strategy in the country package.

This pilot study focuses in particular on the India country package's interventions in the district of Sheopur in Madhya Pradesh. In this district, **causes and determinants of food and nutrition security crises** include unsettled land ownership, diminishing forest resources, environmental degradation, recurrent natural disasters (droughts, flooding, hailstorms), water scarcity, limited livelihood options and lack of income opportunities, seasonal labour migration as well as a lack of knowledge and practises regarding appropriate nutrition of women, children and men.

Predominant **resilience capacities** identified at **individual and household level** were absorptive and adaptive capacities: Absorptive capacities include e.g. changing of diets and switching to – diminishing – wild forest products, consuming stored grain, borrowing and lending food and money, selling labour against food or money. Absorptive capacities also include a number of harmful coping strategies, e.g. eating less quantity of food in larger intervals, borrowing money at high interest rates that is likely to lead into excessive indebtedness. The adaptive capacities



comprise among others the drying and storing of produces from nutrition gardens, the shift to drought resistant seeds, migrating for work, and women applying new knowledge and skills acquired through *Participatory Learning and Action* (PLA) to improve family nutrition. Preparedness, though, seems to be a widely unknown concept for many rural households. At **community level**, only a few absorptive capacities were identified relating to e.g. sharing and exchanging food and seeds and claiming government support in times of crises. Adaptive capacities include e.g. constructing check dams to increase ground water levels, organising and conducting joint collective actions to demand basic rights and the respective support from district administration, the fast scale-up of nutrition gardens through peer support (facilitated by the country package), and committed *Anganwadi* workers demanding the involvement of men in sharing the responsibility for family nutrition. Anticipatory capacities comprise e.g. planning, demanding and applying for support from the government – the courage and tenacity to keep demanding employment and the creation of infrastructure are decisive capacities. Nutrition gardening mainly for own consumption and the production of small livestock for income generation are also seen as measures contributing to preparedness for food and nutrition crises. Transformation was reported with regard to the way decisions are reached and implemented in the communities, e.g. through the use of *Community Score Cards*, and with regard to strengthened cohesion among women through the PLA approach. Nevertheless, anticipatory and transformative capacities still need further attention and support at individual, household and community level. At **national level**, anticipatory capacities are theoretically abounding in the form of public safety-net schemes. But these schemes are not or insufficiently delivering the expected results. Further support to the reform of the *Targeted Public Distribution System* (TPDS) and potentially other important safety-net schemes – such as the *Mahatma Gandhi National Rural Employment Guarantee Act* (MGNREGA) – are necessary. Here, political leadership is a prerequisite for the success of resilience programmes requiring multi-sectoral, multilevel and multi-stakeholder approaches.

Key **recommendations** relate to further strengthening existing capacities and developing absent capacities. One major element is to continue strengthening the current PLA for nutrition approach and develop it further to make even better use of the transformative power of PLA. This should include a new focus on migration and migrating families. The existing *Anganwadi* system in itself is a major asset for further capacity development at community level but it needs (i) further support to reach its full potential and entire target group, and (ii) the involvement of men in nutrition-related activities. Support of training and supervision of *Anganwadi* workers (AWW) is recommended along with ensuring the provision of adequate facilities and infrastructures. In order to be able to fulfil their ambitious tasks, AWW need to have basic educational qualifications and more frequent interactions with supervisors for upgraded information and awareness.

It is important to be aware of the strong dependency of a high number of crises-affected people in Sheopur on public and governmental safety-net schemes. Long-lasting alimentionation suffocates motivation, creativity, determination, responsibility and ownership. The ultimate aim should always be to lead people out of dependency to an independent and self-determined life. In pursuing community-based approaches as implemented by the project, it is essential that (i) individuals (men, women, girls and boys), households and communities themselves get support in demanding their rights and entitlements, (ii) their transformative and anticipatory capacities are strengthened, and (iii) – most important – that they own the processes.

*‘Resilience is fundamentally about transformation – changing the very basis on which individuals and households can make decisions that influence their capacity to deal with stresses and shocks.’ (ENN 2015)*

## 1. Introduction

The German Federal Ministry for Economic Cooperation and Development (BMZ) aims at making a significant contribution to the reduction of poverty and hunger. Within its special initiative *ONE WORLD – No Hunger*, GIZ has been commissioned to implement the ‘Global Programme Food and Nutrition Security, Enhanced Resilience’ – hereafter referred to as Global Programme – in twelve countries in Africa and Asia. The objectives of the programme are to improve the food and nutrition security in particular of women of reproductive age and children below two years of age, and to enhance people’s resilience to food and nutrition security crises through a food-based and multi-sectoral approach.

India is one of the countries supported by the programme. The country has made progress in improving rates of under- and malnutrition in recent years: Between 2006 and 2016, stunting in children below five years of age declined from 48% to 38% (UNICEF 2017, Govt of India 2017a). Yet, India continues to have one of the world’s highest child undernutrition rates with nearly 47 million or 4 out of 10 children being chronically undernourished (Development Initiatives 2018). Despite decades of implementing governmental programmes and interventions undernutrition and major nutritional deficiencies persist.

Within the framework of the Global Programme, the India country package ‘Digitalisation of the Indian *Targeted Public Distribution System* and Improved Food Diversity in Madhya Pradesh’ – in short ‘Food and Nutrition Security, Enhanced Resilience (FaNS) Project’ – has been established to improve the food and nutrition situation of food and nutrition insecure people, in particular of women of reproductive age, infants and young children (6 to 23 months) in the two districts of Sheopur and Chhatarpur. The aim is that target groups have sufficient supplies of healthy food at all times. The FaNS Project focuses on two areas of intervention: (1) pursuing a multi-sectoral approach to combat structural undernutrition and malnutrition, particularly among women of reproductive age, infants and young children, and (2) improving the effectiveness and efficiency of the *Targeted Public Distribution System* (TPDS) through digitalisation and reforms.

The Global Programme commissioned this Multi-country Resilience Study in order (i) to assess whether selected country packages have been contributing to improved capacities to react to food and nutrition crises and thus strengthened resilience. And (ii) to explore whether there are ways to even better react to crises at individual, household, community and governmental level. The country package India has been selected to be the pilot for the study – that includes three countries altogether. This report is part of the Multi-Country Resilience Study Report and designed to be used as a stand-alone document – therefore, some replications and recurrences with regard to the methodology are inevitable.



## 2. Pilot Study India – Objectives, Approach and Methodology

### 2.1 Objectives

The objective of the Multi-country Resilience Study is to assess whether selected country packages of the Global Programme have been contributing to improved capacities to react to food and nutrition crises and thus strengthened resilience. Also, it aims to understand the ways the Global Programme can contribute in enhancing resilience in the respective country context. Selection criteria for the country packages are vulnerability of the target group and project area to recurrent shocks, conflicts and crises and the capacity and willingness of the project team to support the mission. Since the India country package does not have the explicit objective of strengthening resilience, the aim is to learn whether the current food and nutrition interventions have an outcome and/or impact and/or the potential to build up and strengthen resilience capacities at target group and intermediary level and possibly beyond. Operational recommendations at country package level are meant to contribute to a better understanding of how to enhance resilience within the scope of food and nutrition security interventions.

The specific objectives of the country case study India are:

- to assess the situation in terms of resilience and the contribution of food and nutrition security interventions of the country package India to strengthen capacities and improve resilience strategies to react to food and nutrition crises,
- to provide operational recommendations on potential entry-points to further strengthen resilience strategies at different levels (including policy level), and
- to draw conclusions from this pilot study for Resilience studies in other country packages.

### 2.2 Approach and Methodology

Based on the experiences and learnings gathered in the BMZ supported *Resilience Learning Initiative* (RLI) (GIZ/BMZ 2016), this study includes the analysis of background literature and secondary data with recent insights in successful measures to strengthen resilience, the development of the methodology for the pilot study in India, a reflection and analysis of resilience capacities in the target areas and of the responses related to strengthening resilience of the respective country package. In brief, the study includes:

- Methodological elements (Chapters 2.2.1 - 2.2.5):
  - Defining resilience and resilience capacities
  - Defining the scope of the study – answering the scoping questions
  - Bottom-up exploration and analysis of resilience capacities at different levels
  - Data collection and analysis tools
  - Description of the course of action
- A description of the country package India (Chapter 3)
- An analysis of the food and nutrition security crises in the target area and of the contribution of the country package to improve anticipatory, absorptive, adaptive and transformative capacities to react to the crises (Chapter 4)

- Extracting conclusions and providing operational recommendations on how to (further) strengthen resilience capacities of the target groups and how to (further) strengthen a respective strategy in the country package; if relevant, recommendations for further studies and analyses (Chapters 5)

This approach constitutes a coherent analysis package. It is meant to help project staff, target group representatives and project partners to understand the interlinkages of different crises and their influences on the food and nutrition situation. In addition, it allows for effective and efficient assessment of existing and potential resilience capacities at different levels and options for further strengthening the resilience of target groups.

### 2.2.1 Defining Resilience and Resilience Capacities

This study uses the resilience definition developed by the RLI: '**Resilience** is the ability of people and institutions – whether individual, household, local communities or states – to cope with and quickly recover from shocks caused by fragile situations, crisis, violent conflict, economic crisis or extreme natural events, and to adapt to chronic stress or transform their means of living or functions without compromising their medium to long-term prospects.' (GIZ/BMZ 2016).

In this study, **crises** are understood as any events that are going (or are expected) to lead to an unstable and dangerous situation affecting an individual, group, community, or whole society (OECD 2014). This comprise shocks and stresses. **Shocks** are defined as sudden events with an important and often negative impact on the vulnerability of a system and its parts. Shocks represent significant negative (or positive) impacts on people's means of living and on the functioning of a state. **Stress** is defined as a long-term trend, weakening the potential of a given system and deepening the vulnerability of its actors (OECD 2014).

In its study on 'Building Resilience to Enhance Food and Nutrition Security' conducted in 2018 (GIZ / FaNS 2018), the FaNS Project referred to the FAO definition of resilience as '...the ability to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving livelihoods systems in the face of threats that impact agriculture, nutrition, food security and food safety.' (FAO 2013)

Broadly used resilience concepts use three **resilience capacities** to describe and analyse people's, organisations' and institutions' reaction to crises. These resilience capacities have been defined as follows:

- **Absorptive** (coping and recovery) capacities include a range of harmful to positive coping strategies that aim at maintaining people's, organisations' and systems' wellbeing at a given level in the face of shocks – with no basic changes to people's livelihoods. (RLI 2016 based on OECD DAC). Strengthening positive absorptive / coping and recovery capacities contributes to enhanced stability.
- **Adaptive** capacities enable people, organisations, and systems to manage impacts of long-term trends and change – progressive and gradual change in the structure of people's livelihoods (RLI 2016 based on OECD DAC). Adaptive capacities enable individuals, households and communities to improve their livelihoods through asset-building and income generation activities that are less vulnerable to crises. Strengthening of adaptive capacities contributes to more positive options for adjustments.



- **Transformative** capacities enable people, organisations, and systems to manage the underlying causes of shocks, stressors and change – a fundamental change in the political/power and economic status of people, and hence, the structure of people’s livelihoods (RLI 2016 based on OECD DAC). Strengthening of transformative capacities contributes to structural or systemic changes.

After a thorough review of new resilience-related research and development, the study team expanded the resilience analysis framework further by including anticipatory capacities (ODI / BRACED 2016) as a fourth analysis category. This is also in line with the FAO definition above and highlights the importance of ‘preparedness’ in the face of recurrent shocks threatening the food and nutrition security of the target groups. Thus, the three capacities as defined by OECD and the RLI have been complemented by:

- **Anticipatory** capacities, which enable people and systems to be better prepared for the eventuality of a specific shock through proactive action. This includes the ability of planning in advance and setting up ‘contingency plans’ (ODI / BRACED 2016). Strengthening of anticipatory capacities contributes to improved preparedness.

Whilst resilience and resilience capacities can be defined this way, it is necessary to recognise that in a given context women and men, communities in the target areas and relevant institutions have their own experience and ways of describing resilience and the capacities that lead to resilience. These specific perceptions have been the core of all further assessment and analysis – they need to be understood and integrated into project design and implementation in (recurrent) crises contexts.

## 2.2.2 Defining the Scope of the Study

This study also uses the Scoping Questions as developed by the RLI (GIZ/BMZ 2016). To determine the scope of this study in the context of the India country package, the Scoping Questions have been answered as follows:

- Resilience **of what?**  
-> Food and nutrition security system of people in the project area in the district of Sheopur, Madhya Pradesh
- Resilience **to what?**  
-> Food and nutrition security crises (insufficient dietary diversity, unacceptable diets of young children, insufficient access to food) resulting from acute shocks and chronic stresses, e.g. droughts, floods, earthquakes, economic crises, climate change, political unrest, social unrest, technological risks
- Resilience **for whom?**  
-> Women of reproductive age, infants and young children (6-23 months of age) in their households and communities in the project area in the district of Sheopur, Madhya Pradesh
- Resilience over **which time frame?**  
-> Until June 2020, handover for the India country package, and beyond
- Resilience **with respect to what?**  
-> Improved dietary diversity, better minimum acceptable diet, and improved access to food (correspondingly to the objectives of the FaNS Project) even in times of crisis

### 2.2.3 Bottom-up Exploration & Analysis of Resilience Capacities at Different Levels

The core of the approach is the bottom-up exploration – **listening-to-people** approach – of existing resilience capacities to withstand and deal with food and nutrition risks and crises at individual, household, community, and if possible, at district, state and/or national level. People are inherently creative: they usually have developed coping and adaptive strategies in the past and are always experimenting with new ideas and new activities. Our approach recognises existing capacities to react to crises, stress and change – in every context there will be new opportunities emerging.

The point is to listen to the affected people in their communities first to identify their capacities and how external assistance – like Government programmes, the Global Programme etc. – can strengthen these capacities to become (more) resilient towards future crises. The focus is strictly on capacities and how to strengthen them – not on gaps – so that existing needs are better met, and human rights are progressively realised.

For exploring and analysing crisis patterns and resilience capacities at different levels, **qualitative methods** had been used: six Focus Group Discussions with crisis-affected people and rural health workers (*Anganwadi* workers, AWW) were conducted in six villages in Sheopur district, and eleven key informants were interviewed at community, district, state and national level – to get their point of view to complete the information received from the community members. A briefing meeting and a workshop were conducted with staff of the implementing partner in Sheopur at the beginning and at the end of the field work.

Core of the methodology is the analysis based on the **Resilience Analysis Matrix** originally developed by the RLI and adapted by the study team. In order to explore and grasp the diverse existing capacities and to relate them to the analysis matrix, a number of **Guiding Questions** for the Focus Group Discussions and Key Informant Interviews have been developed. Additionally, secondary data has been analysed taking Nutrition Baseline Survey and Midline Survey results into consideration for interpretation of findings.



The **analysis** included:

- an assessment of crises patterns, fragility and vulnerability affecting food and nutrition security of the target groups taking Nutrition Baseline Survey and Midline Survey results of the country package into consideration for reflection and interpretation of findings,
- an assessment of existing resilience capacities to react to food and nutrition risks and crises at individual, household, community and – if possible – at district, state and/or national level using the Resilience Analysis Matrix,
- an assessment of the contribution of the country package to improve anticipatory, absorptive, adaptive and transformative capacities.

Based on the results of the analysis, **operational recommendations** on how to (further) strengthen resilience capacities of the target groups, and how to (further) strengthen a respective strategy in the country package have been extracted, and recommendations for further studies and analyses provided.

#### 2.2.4 Data Collection and Analysis Tools

The tools used for gathering and analysing the data for this study were:

- the List of Guiding Questions developed by the study team (see Appendix C)
- the Resilience Analysis Matrix (see chapter 4.3 for the short version and Appendix D for the comprehensive version)

#### 2.2.5 Course of Action

The course of action of the pilot study included the following steps (for the overall timeline and list of resource persons / key informants, see programme of the mission in Appendix A and B):

- Briefing with the FaNS project team in New Delhi
- Briefing meeting with implementing NGO staff in Sheopur
- Focus Group Discussions with women, men and *Anganwadi* workers (AWW) in their respective communities in Sheopur district, one each in the villages of:  
**Sabadi, Kakkardah, Gandhi Gaon and Ranipura** in Karahal Block,  
**Chak Banuliya and Hirapur** in Sheopur Rural Block.
- Key Informant Interviews with village authorities and representatives, government staff at district (**Sheopur**), state (**Bhopal**) and national (**New Delhi**) level, and project partners
- Workshop with the staff of the implementing NGO sharing and discussing preliminary results of the assessment and analysis
- Study team exchange, analysis of findings and drafting of report format
- Debriefing and discussion with FaNS project team on the preliminary results of the assessment and analysis
- Drafting the report



### 3. The Country Package India: The Food and Nutrition Security, Enhanced Resilience (FaNS) Project

Within the Global Programme, the FaNS Project aims to strengthen food and nutrition security by improving the dietary diversity of women of reproductive age and children (6 - 23 months) and by strengthening the national system for the distribution of subsidised food (*Targeted Public Distribution System*, TPDS) in two districts in Madhya Pradesh. The project follows a dual approach: On the one hand, the project works with non-governmental organisations (NGO) to raise awareness among the target group regarding the importance of nutritional diversity, to train AWW on nutrition diversity and to empower women with knowledge and practices on nutrition. On the other hand, the project supports streamlining, improving transparency and effectiveness of the government's TPDS – for which the implementing partner is the Department of Food and Public Distribution (DFPD) under the Central Ministry of Consumer Affairs, Food and Public Distribution. The project also works with the *Department of Women and Child Development* (DWCD) to mainstream nutrition diversity in its policies and planning.

The project's awareness campaigns at district and state level sensitise the target group and decision-makers about the importance of a nutritious and diversified diet to bring about sustainable changes concerning the availability, preparation and intake of quality food. In particular, AWW have been trained on *Participatory Learning and Action* (PLA) modules to improve their capacities and understanding on nutrition intake, diet diversity, pregnancy care, *Infant and Young Child Feeding* (IYCF) practices and increasing the availability of nutritious food through nutrition gardens.

The activities focus on the two districts of Chhatarpur and Sheopur in the federal state of Madhya Pradesh. In Sheopur district the NGO *Mahatma Gandhi Sewa Ashram* is the local partner supporting the implementation of the intervention activities by trained village based frontline workers (Anganwadi workers, AWW) of the *Integrated Child Development Services* (ICDS) scheme.

In collaboration with the *Department of Women and Child Development* (DWCD) in the federal state's capital Bhopal, an online virtual learning platform to improve ICDS implementation has been jointly developed with support from GIZ to achieve a standardised form of high-quality training for more than 3,200 Supervisors and more than 97,000 AWW in Madhya Pradesh. Additionally, various measures have been implemented to advance nutrition and dietary diversity at community level and to promote nutrition literacy and good nutritional practices at household level, e.g. the development and promotion of a nutrition calendar that highlights the importance of dietary diversity and how it can be achieved by using locally available seasonal food.





## 4. Findings

Sheopur is a district in the Northwest of Madhya Pradesh. In the state, the rate of stunting among children under five years (height for age) has decreased from 50% to 42% between 2005-06 and 2015-16 as per *National Family Health Survey* (NFHS) data, and infant mortality has fallen from 70 per 1,000 births to 51 per 1,000 births. Nevertheless, the state still lags behind regarding health and nutrition indicators: Malnutrition and anaemia among women are major public health problems. Half of the children under the age of 5 are stunted and 35% are wasted. Overall, 60% are underweight, which takes into account both chronic and acute undernutrition (Govt of India 2017b). Madhya Pradesh has the highest number of malnourished children under the age of six in India (Save the Children 2016). The state's *Child Sex Ratio* of the age group 0-6 years has alarmingly declined to 912 in 2011 whereas the national average is 940 (Govt of India 2011). Madhya Pradesh has one of the highest *Infant Mortality Rates* (IMR) in the country. According to the latest *Sample Registration System Baseline Survey* in 2014, the state has the highest IMR with 52 deaths of children less than one year of age per 1,000 live births (Govt of India 2014). Madhya Pradesh is home to the largest number of scheduled tribes who are especially vulnerable and marginalized. The *Rural Health Survey 2017* shows that within the tribal-dominated states and areas, Madhya Pradesh has a 53% shortfall of primary health care centres.

The district of Sheopur has an estimated population of 700,000. According to the last census in 2011, the district has a population density of 104 inhabitants per square kilometre, a population growth rate of 22.96%, and a literacy rate of 58.02% (Govt of India 2011).

### 4.1 Manifestation of Food and Nutrition Security Crises in Sheopur District

There are several official sources reflecting the food and nutrition security crises in Sheopur district. The *National Family Health Survey* conducted in 2015-2016 (NFHS-4) showed the following results for Sheopur: 52.1% of children under 5 years of age are stunted, more than 28.1% of children are wasted (low weight-for-height), 9% are severely wasted, and more than 55% of the children and 78% of women of reproductive age are anaemic. According to the DWCD, the development of the child sex ratio in the district is even more alarming than at state level: in 2001 the ratio was 929 girls/1,000 boys, and in 2011 it was 897 girls/1,000 boys (Govt of India, 2011).

In September 2016, reports on a high number of children dying from malnutrition in Sheopur attracted nationwide attention. A White Paper on malnutrition was announced by the minister in charge – which has not been published yet.

The FaNS Project conducted a baseline survey in its target areas in 2015 (GIZ 2016) and a Midline Survey in 2018 (GIZ 2018). The results suggest that a majority of women and children in Sheopur are not able to achieve (micro-)nutrient adequacy. The dietary diversity (*Individual Dietary Diversity Score*, IDDS) of women was assessed to be 3.4 (Baseline Survey) and 3.7 (Midline Survey) out of ten predefined food groups. The data collected for the *Minimum Dietary Diversity* indicator for women (MDD-W) showed that only 13.2% (Baseline Survey) and 26.2% (Midline Survey) of the women were able to consume the recommended five or more (out of ten) food groups. An overall low share of 12% (Baseline Survey) and 18% (Midline Survey) of the children receiving the

*Minimal Acceptable Diet* (MAD) suggest that the majority of children are receiving neither a minimum feeding frequency nor a minimum dietary diversity.

During the Baseline Survey 2015, also the severity of food insecurity at household level in Sheopur was assessed and categorised using the *Household Food Insecurity Experience Scale* (HFIES) showing the proportion of severely food insecure households was about 5% and the proportion of moderately food insecure households reached nearly 11% (GIZ 2016).

During the visit of the study team, the *District Programme Officer* (DPO) reported 4,500 SAM and 19,000 MAM cases in Sheopur district for April 2019. In the communities visited for this study, people reported that they change their food habits in times of crises, e.g. by eating less quantity of food and decreasing meal frequency (1-2 times instead of 2-3 times a day), and by eating the last available food, e.g. boiled or baked potatoes only, grounded red chillies with salt and roti only, cooked watery Gond ki laddu (a local sweet) or salt balls (roti with salt).

#### 4.2 Causes and Determinants of Food and Nutrition Security Crises in Sheopur District

The main causes and determinants of the food and nutrition security crises reported during Focus Group Discussions and Key Informant Interviews are further illustrated below. They comprise primarily: unsettled land ownership, diminishing forest resources, lack of (rain) water, limited livelihood options and lack of income opportunities, seasonal migration as well as a lack of knowledge regarding nutrition.

##### Unsettled Land Ownership

Access to land is the basis for agriculture-based livelihoods, land titles and official documentation of land ownership and use are of great importance. In Sheopur, access to land and land rights are major issues in particular among households of tribal and forest dwelling communities of whom many are landless or without land certificates. Many tribal families are yet to get their rights on land. According to information from the *District Collector* (DC) and the *District Programme Officer* (DPO), only approximately 50% of tribal households have registered land, 25% have land on paper (but do not know where it is, or the land is occupied by others), 25% are officially landless.

The FaNS project's Baseline Survey found that 65% of the households in Sheopur had access to arable land for agriculture. Large parts of the land are rocky or barren, which equally compromises cultivation and livelihoods.





The *Forest Rights Act* (FRA) of 2006 grants legal recognition to the land and livelihood rights of forest dwellers. The Act recognises the rights of the forest dwellers to live on the forest land, to gather forest resources like fruits, leaves, firewood and others, trade them, and to conserve forest resources as per their traditional practices. Also, the *Provision of the Panchayat (Extension to the Scheduled Areas) Act* 1996 (PESA) was initially issued to empower tribal and forest dwelling communities by recognising their rights over land and forest produce. But the overall scale of implementation seems to be very low.

Thus, landlessness is linked with limited employment or unemployment and limited income. Many households that have too little land without the means to overcome the dry season are forced to (seasonally) migrate seeking labour outside their community, district and state.

### Diminishing Forest Resources

Sheopur is a forest rich district with 52% of its geographical area being covered by – mainly open and moderately dense – forest (Govt of India 2017c). But forests are drying out and are being depleted by villagers and non-villagers. The latest *Forest Survey of India* shows a fast and considerable decrease in Sheopur's forest cover with a loss of 39 square kilometres of forest alone in the two preceding years (ibid.). Deforestation through unsustainable extraction, fast depleting forest resources and increased pressure on common lands have caused fuelwood scarcity, decreased livestock fodder drastically, and reduced availability of timber and non-timber forest products. With damaged plant cover and damaged vegetation, soils in forest areas have started degrading.

Many tribal communities in Sheopur are traditionally dependent on the forests for food, medicine and livelihood – gathering and selling forest products such as wood, gum, *Tendu* (leaves used for making local cigarettes known as *Bidi*), honey, *Mahua* (a local tree whose parts are being used for preparing medicines and local liquor) and medicinal herbs – but are no longer allowed to enter the forest. With the forests out of bounds, their primary source of nutrition is – legally – no longer available. The resulting unstable livelihoods and additional agricultural distress have pushed many members of tribal communities to become seasonal migrants. A study by the *Atal Bihari Vajpayee Institute of Good Governance* in 2018 found that the children of Saharia communities in Sheopur are twice as much affected by malnutrition as children from non-tribal communities (AIGGPA 2018).

### Lack of Rain or Poor and Erratic Rainfall

Sheopur is chronically drought prone. The climate is characterised by a hot summer and general aridity except during the south-west



monsoon from June to September. The district has experienced deficient rainfall for the past years. Rivers and streams that provide water frequently run dry, surplus water for ground water recharge is available only during the monsoon. The extremely rocky terrain does not hold groundwater. Another lean monsoon in 2018 brought a lack of water for drinking, farming, gardening, and livestock for the third consecutive year.

There is a strong connection between drought and malnutrition. The water scarcity has caused a distinctly decrease in crop yields of the mainly rain-fed agriculture in the last years – in some areas crops have failed completely. The sustainability of agriculture very much depends on the provision of supplemental irrigation. Without necessary productive assets and financial resources to achieve greater productivity, this sustainability will not be reached. In some villages visited, check dams have been constructed to hold back water for minimal irrigation of the main cereal (wheat, sorghum, pearl millets and maize), oilseed (mustard) and pulse (chickpeas, grams and pigeon peas) crops. Hence, less local coarse grains are being produced and people are eating less of these nutritionally rich varieties, e.g. pearl millet (Bajra), barnyard millet (Sanwa), sorghum (Jowar), finger millet (Ragi), and leafy vegetables. Additionally, more and more people turn away from their traditional nutritious diet due to other preferences and modern eating habits. Only 18% of respondents of the Baseline Survey stated that they had access to fruit (GIZ 2016). Many households have lost livestock due to water scarcity and unavailability of fodder.

Drought affected households are becoming more dependent on government safety nets and are consuming mostly wheat and rice provided by the TPDS – with the consequence of a low and inadequate food diversification which negatively affects their nutrition.

Sources of drinking water in the villages are hand pumps, open wells, ponds and bore wells. Only 2% of the people in Sheopur district have access to tap water (GIZ 2018). The FaNS project's Baseline Study reported that during the hot and dry season, the ground water level sinks, borewells and handpumps tend to dry out, the quality of drinking water deteriorates, and families rely on water coming from – in many cases polluted – streams and rivers. As reported in FGD for this study, women and older children are forced to collect water from distant places – 4 to 15km away – during times of water scarcity which affects women's and children's daily routine, increases the workload for women and reduces their time available for other duties. As a result, women lack the time to give adequate attention and care to their children which impacts the health of mothers and children. Moreover, in shortage of water, it is challenging for villagers to keep up adequate WASH practices: people stop bathing which leads to widespread skin problems, and they clean kitchen utensils only with sand which may affect food hygiene and safety.





### Limited Livelihood Options and Lack of Income Opportunities

Livelihood options are determined to a large extent by literacy and education. The general literacy rate in Sheopur is 57% (Govt of India 2011), whereas only 27% of members of the tribal communities are literate (AIGGPA 2018).

Most households in the communities visited in Sheopur who have access to land engage in agriculture on a small scale or subsistence level. But due to droughts, lack of water, lack of infrastructure and resources, it is difficult for them to earn a sufficient and reliable income from agricultural production. Governmental support schemes in agriculture are – according to the *District Agricultural Office, DAO* – mostly targeted towards farmers who have registered land and who are able to add a smaller or larger own contribution, which does not apply for most members of the rural and tribal communities.

In the face of recurrent crises and implementation problems, government schemes have not proven to be a reliable source of earnings and remuneration. The communities visited hoped for and expected reliable temporary employment through government and donor-supported safety-net and support schemes such as the *Mahatma Gandhi Rural Employment Guarantee Act* (MGNREGA) scheme to be able to cover lean seasons – and to contribute to durable community infrastructure improvement. But inefficient implementation of the schemes and long delays of payment make households fear not to be able to cope during the summer. In addition, the infrastructure constructed can apparently not be maintained by the communities themselves. Thus, existing schemes obviously do not reach all crisis-affected households and not in a sustainable manner. Since there is hardly any other labour-intensive employment available in nearby places, many people are forced to borrow money from lenders at high interest rates and/or to migrate seasonally in search for wage labour, mostly on the fields of owners of large estates.

**Seasonal migration for work** has become a regular part of the livelihoods of the households in the communities visited. According to a study conducted in 2018, for example, more than 90% of the members of the Saharia community work as migrant labourers (AIGGPA 2018). Major migration takes place in the time from February to June, and from October to November, e.g. to Gujarat (working on cotton farms for approx. 300 Rupees a day). The associated seasonal employment is characterised by low wages (especially for women), child labour, abuses and indebtedness from contractors (IRIS 2016). During FGD for this study, male community members





stated that their primary interest was to stay in their village or as close to their homes as possible for work and income generation. They also expressed their frustration about more and more manual work getting replaced by machines which makes it even more difficult for them to find work particularly in the agricultural sector.

In most cases, the whole family migrates including pregnant and lactating women and children of all ages. Older siblings drop out of school to take care of younger children. Children are carried along to workplaces, e.g. construction sites, where they often lack dignified living conditions, adequate care, sufficient and appropriate nutrition, and educational facilities.

Frequent seasonal migration is presumably directly and indirectly linked to undernutrition and malnutrition and has a significant impact on the health of migrants. Adding the fact that migrant workers are often not registered, therefore not entitled for ration cards and do not benefit from existing social schemes such as *Anganwadi Centres* – making them even more vulnerable. During times of migration, the nutrition and health status of the accompanying children usually deteriorates: Many children are reported to be (partly severely) malnourished upon return. Constant migration also hinders the process of recovery of malnourished children: Even if they return to their *Anganwadi Centre*, their attendance is interrupted by longer periods of absence, thus they miss out regular support, e.g. daily nutritious food. Another negative effect of seasonal migration is that children do not receive any kind of education and health support especially routine immunisation.

### Lack of Nutrition Knowledge

Lack of adequate parental awareness and knowledge regarding nutrition, lack of infant and young child feeding practices, hygiene and sanitation are also causes of nutrition insecurity and the high prevalence of malnutrition in Sheopur. With regard to infant and young child feeding practices, this often includes deficient knowledge on healthy feeding quantity and frequency, balanced diets, initiation of breast feeding, and initiation of complementary feeding. The lack of knowledge and awareness can lead to delayed recognition of undernutrition and delayed care seeking.

Parents' and caregivers' level of education is known to have a direct impact on nutrition and child health and is an important influencing factor. Explicitly, areas with more educated women show better health outcomes for children (Concern et al. 2009). In Sheopur, the literacy rate of



women is 44%, the literacy rate of men 69%. Sheopur district, which has the highest rate of stunting (52.1%) in the state, and the lowest percentage of women who had had four antenatal visits (18.7%), also has one of the lowest proportions (11.8%) of women who had completed 10 years of schooling (Govt of India 2017b).

In many interviews, government staff and NGO representatives mentioned that health and nutrition have a low priority among men and women of tribal villages. The narrative includes that they spend large parts of cash on locally made alcohol and tobacco, and that consumption of tobacco products and liquor are high among both men and women.

The persistence of child malnutrition also seems to be tied closely to the traditional household-internal labour division with a high workload, subsequent time constraints and expended vigour of women and mothers. In FGD, male participants stated that they lack the knowledge of the scope of women's daily workload – what all is included and keeps them busy. They also explained that they generally lack nutrition knowledge since they have never been told what good nutrition is. Most of the men never heard of the nutrition meetings under PLA except for PLA community meetings.

The AWW play a vital role in promoting nutrition knowledge. Since they are recruited from within their communities, they usually have a good overview of the nutritional status and health of mothers and children belonging to that particular community. Nevertheless, the AWW have a high workload and bear a certain responsibility. Not all of them are well trained or educated so that there is a high risk of overstretching their capacities and by this reducing the quality of the services provided. Thus, the quality of service delivery and the impact of *Anganwadi Centres* depend on the educational status of the AWW, her job status, infra-structure facilities of the *Anganwadi Centre*, logistical facilities, adequate training, frequent and supportive supervision, intersectoral coordination, and community participation.

In FGD, the knowledge of rural community members regarding indigenous (wild) food – and its nutritional value – seemed still be available to a larger or lesser extent with the potential to contribute to nutritionally complete dietary patterns. This can be of help – given their availability – to compensate micronutrient-poor diets which have spread with consumption habits shifted from highly nutritious millets to rice supplied through TPDS (DeFries et al. 2018).



#### 4.3 Resilience Capacities

Many actors at different levels react to these food and nutrition security crises. As an immediate reaction, they absorb acute shocks. In cases of repeated shocks and chronic stresses, they may adapt and transform their livelihoods. Ideally, anticipatory capacities already exist or are created to be better prepared for future crises. Table 1 presents the existing capacities at individual, household, community, federal state and national level as identified during the study together with the capacities promoted / supported by the FaNS country package (marked in **bold**).

**Table 1: Key Resilience Capacities** (please refer to Appendix D for the comprehensive version of the Resilience Analysis Matrix)

	Anticipatory Capacity	Absorptive / Coping and Recovery Capacity	Adaptive Capacity	Transformative Capacity
Individual Level	<ul style="list-style-type: none"> <li>Women save money secretly from their husbands</li> </ul>	<ul style="list-style-type: none"> <li>Using the stored grain</li> <li>Selling <i>Chia</i> seeds and other forest produce</li> <li>Collecting (by women) and eating mainly forest products – healthy but no diverse diet (lack of a variety of food groups)</li> <li>Selling wood cut and gum collected in the wood (hard work done by women)</li> <li>Selling labour against food and money</li> <li>Using water from water trucks (tanker)</li> </ul>	<ul style="list-style-type: none"> <li>Men migrating and working daily or seasonally as wage labourers on big farms of high cast people for up to 4 months/year</li> <li>Showing courage to participate in a roadblock rally in order to get water and electricity for the village</li> <li>Drying and storing vegetables and seeds</li> <li>Women applying knowledge and skills to improve family nutrition</li> </ul>	
Household Level	<ul style="list-style-type: none"> <li>Saving food and money</li> <li><b>Developing a nutrition garden with a package of seeds</b></li> </ul>	<ul style="list-style-type: none"> <li>Borrowing/lending staple food grains and money between the households to support each other</li> <li>Selling of bad quality TPDS food grains</li> </ul>	<ul style="list-style-type: none"> <li>Migrating of the whole family</li> <li><b>Planting and using fruits and vegetables</b></li> <li>Producing a second seasons of vegetables using seasonally adapted seeds and using wastewater for irrigation</li> <li><b>Starting vegetable seed banks</b></li> <li><b>Drying and storing produces from the nutrition gardens</b></li> <li>Using drought resistant seeds for cultivation</li> </ul>	



Community Level	<ul style="list-style-type: none"> <li>Community planning and demanding for support from the government for the construction of bore wells for irrigation throughout the year</li> <li>Community demanding work under the MGNREGA scheme</li> <li>Community establishing grain banks in some villages</li> <li><b>Nutrition gardening</b></li> <li>Producing livestock mainly for selling / income generation</li> </ul>	<ul style="list-style-type: none"> <li>Sharing and exchanging food and seeds</li> <li><b>Community meetings under PLA triggering government support and claiming the community's rights/ entitlements for water and food</b> -&gt; government sent water trucks -&gt; mid-term meal became more regularised</li> </ul>	<ul style="list-style-type: none"> <li>Constructing check dams for increasing the ground water level</li> <li>Conducting a joint collective action to demand basic rights (water, work, electricity)</li> <li>Raising the voice on basic issues like hygiene, sanitation, livelihood to district administration</li> <li><b>Enabled AWW delivering quality nutrition services according to PLA-protocol</b> (quality improvement and assurance still necessary) incl. capacity to demand involvement of men in sharing responsibilities with women</li> <li><b>Scaling-up nutrition gardens through peer support and linking the community with government seed distribution scheme (Below Poverty Line package)</b></li> </ul>	<ul style="list-style-type: none"> <li>Empowered women are able to make informed decisions on food and nutrition security (FNS) activities</li> <li>Strengthened cohesion among women through PLA group approach</li> <li><b>Improved transparency, accountability and performance of public services (safety nets) with regard to FNS through Community Score Cards (CSC)</b></li> </ul>
State Level	<ul style="list-style-type: none"> <li><b>Scheme for pregnant and lactating tribal women to providing 1,000 Indian Rupees (IRs)/ month for nutrition complemented by IEC on how to use the money</b></li> <li><i>Below Poverty Line</i> scheme from Ministry of Horticulture providing vegetable seed packets for nutrition gardens</li> <li>DWCD promoting 5 plants to treat malnutrition (Moringa, Mango, Guava, Amla and Papaya) under <i>Panchavati se Poshan</i></li> <li><b>MP including pulses in TPDS rations after reform</b></li> <li><b>Enhanced DWCD services</b></li> </ul>		<ul style="list-style-type: none"> <li>Madhya Pradesh joining the SUN movement</li> <li>Department of Women and Child Development (DWCD) in collaboration with GIZ FaNS project initiating an e-learning training to improve knowledge and skills of AWW in delivering nutrition services to women and children</li> </ul>	<ul style="list-style-type: none"> <li>DWCD services able to address chronic and acute food insecurity through institutionalised PLA approach and trained AWW</li> </ul>
National Level	<ul style="list-style-type: none"> <li>ICDS addressing chronic and acute malnutrition: Additional food for malnourished children</li> <li>TPDS addressing insufficient access to food: Making additional food available during officially declared disasters</li> <li>MGNREGA providing income opportunities to address chronic poverty</li> <li>PMMVY (<i>Prime Minister's Maternity Benefit Scheme</i>) for pregnant and lactating women providing 6,000 IRs for health, nutrition and wellbeing</li> <li>NRLM supporting tribal communities through SHG</li> </ul>			<ul style="list-style-type: none"> <li>Women are more independent and the voice of their community raising key issues through a dedicated programme on women empowerment and girl's education</li> <li>National Nutrition Mission</li> <li>National Nutrition Month (September every year)</li> </ul>

## Synopsis of Identified Resilience Capacities

### Individual and Household Level

Resilience capacities to react to the recurrent and expectable food and nutrition security crises at individual and household level predominantly relate to absorptive and adaptive capacities.

The **absorptive capacities** mentioned during discussions and interviews include changing diets and switching to wild forest products for own consumption and also for selling to middlemen (e.g. wood cut, gum, *Chia* seeds for low prices), consuming the stored grain, borrowing and lending food grains and money among households of a community, selling labour against food or money on the fields of better-off farmers, using water from the water trucks, and selling of TPDS food grains (which are considered of low quality).

**Adaptive capacities** comprise among others the drying and storing of produces from nutrition gardens (vegetables and seeds), the change to drought resistant and seasonally adapted seeds for cultivation in order to be able to produce two seasons of vegetables (using wastewater for irrigation), women's application of new knowledge and skills to improve family nutrition, the courage of whole households to participate in a roadblock rally (for the first time) to demonstrate for community needs and interests (water and electricity), and seasonal migration for work. Seasonal migration includes migration for a few days of individual household members working as wage labourers on large farms of better-off ('high cast') people as well as migration of the whole family to distant places for up to 4 months. With support of the FaNS project, households have started establishing vegetable seed banks, planting and using (more) fruits and vegetables.



*'I have started drying pumpkins and other vegetables, also vegetables from the forest, in the sun. This is very successful. I have the feeling that we (young women) can change our lives ourselves.'* Adolescent girl in a village

There have been only a few **anticipatory capacities** identified which relate to planning for the next dry season which includes preserving food and saving money – in some cases secretly by the women. With support of the FaNS project, gained knowledge has been applied to develop and start nutrition gardens with a package of seeds.

No transformative capacities at individual and household level were identified during FGD and interviews.

### Community Level

At community level, only a few **absorptive capacities** were identified relating to sharing and exchanging of food and seeds in times of crises and claiming government support, rights and entitlements with regard to water and food. The latter was – at least in one community successfully – triggered by community meetings under *Participatory Learning and Action* (PLA). The PLA sessions have been supported by local NGOs and self-help groups (SHG).

The following main **adaptive capacities** to better manage impacts of progressive change in the structure of people's livelihoods were identified in the communities visited: Constructing of check dams – through self-help or facilitated by government schemes – to increase the ground water level; organising and conducting joint collective actions to demand basic rights (water, electricity, employment) and the respective support from the administration; raising the voice to demand the improvement of basic issues (sanitation) to the district administration. Supported by the FaNS project, the fast scale-up of nutrition gardens through peer support and the link to the government seed distribution scheme (*Below Poverty Line* package) has obviously been successful. Committed AWW are enabled to deliver quality nutrition services according to PLA-protocol (while quality improvement and assurance is still necessary) and to demand involvement of men in sharing responsibilities with women.

**Anticipatory capacities** to be better prepared for the eventuality of a specific crisis at community level were observed in some places and included planning, demanding and applying for support from the government, e.g. for the construction of bore wells for irrigation in order to be able to cultivate crops when there is no, poor or erratic rainfall. The courage and tenacity to keep demanding work/employment and the creation of infrastructure under the MGNREGA scheme are decisive capacities of community members and whole communities to enforce own interests. As a contingency measure and supported by a local NGO, grain banks have been established in some villages where the grain is stored and given to needy people during food and nutrition security crises on a replacement policy. Also, the nutrition gardening mainly for own consumption and the production of small livestock mainly for income generation are seen as preparatory measures.

A number of **transformative capacities** contributing to structural changes in people's livelihoods were identified during FGD and interviews. In some of the communities visited, the cohesion among women has been strengthened through the PLA group approach. Empowered women are now able to make informed decisions on food and nutrition security activities. The transparency, accountability and performance of public services (safety nets) with regard to food and nutrition security has explicitly been improved through the introduction and use of *Community Score Cards* (CSC). All of this has contributed to a transformation of the way decisions are made and implemented in the respective communities.

*'We need to involve men in taking care of their children. It's a joint responsibility of mothers and fathers. We can do it! And we will make influential men in the villages participate in mobilising men for improving nutrition.'* AWW in a village in Sheopur District



## State Level

No absorptive capacities were identified at state level. As **adaptive capacity** and a contribution to positive adjustments, Madhya Pradesh's joining the SUN movement was considered.

There were some **anticipatory capacities** for the prevention of recurrent and expectable food and nutrition security crises identified which are illustrated in the design and implementation of schemes and measures that aim at preventing and preparing for potential food and nutrition security crises in advance and which include: The promotion of five plants/fruits to treat malnutrition (Moringa, Mango, Guava, Amla and Papaya) under the *Panchavati se Poshan Abhiyaan* of the DWCD, the provision of vegetable seed packets for nutrition gardens under the *Below Poverty Line* scheme of the Ministry of Horticulture, and the *Prime Minister's Maternity Benefit Scheme* (PMMVY), a special scheme for poor pregnant and lactating women under which 6,000 Indian Rupees are provided for nutrition if specific conditions (e.g. antenatal checks) related to maternal and child health are fulfilled. Also, the decision of the state government to strengthen the services of the DWCD and to reform the TPDS scheme are likewise considered as an ability of planning in advance to be better prepared for future food and nutrition security crises. With regard to the TPDS reform, among others the state government started including pulses in TPDS rations – and by this contributing to a more balanced diet and preventing protein deficiency.

Also, at state level the Department of Disaster Management and Relief is responsible for monitoring the drought situation and – if a drought is officially declared – to regulate the release of financial assistance to the districts.

As a **transformative capacity** – inducing a sustainable transformation of the community child health and nutrition service system – the study team valued the fact that the *Anganwadi* scheme has been permanently established, is in place, and the strengthened DWCD services are – to a large extent – able to address chronic and acute food and nutrition insecurity through an institutionalised PLA approach and through trained AWW.

## National Level

No **absorptive** and **adaptive capacities** were identified at national level. Instead, a number of **anticipatory capacities** were identified. These include schemes that have programmes in place to prevent or prepare for a potential food and nutrition security crisis. These include in particular: (i) The ICDS programme that addresses chronic and acute malnutrition with the provision of additional food for malnourished children, pregnant and lactating women; (ii) the TPDS that addresses insufficient access to staple food by making additional food available for officially declared disasters; (iii) the MGNREGA scheme – if functioning according to its design – providing income opportunities to address chronic poverty; (iv) the *Prime Minister's Maternity Benefit Scheme* (PMMVY) seeking to ensure that pregnant and lactating women get proper nutrition and providing 6,000 IRs for health and nutrition; and (v) the *National Rural Livelihood Mission* (NRLM) supporting tribal communities through the facilitation of SHGs.

A few **transformative capacities** have been identified at state level during the study. One is the establishment of the multi-ministerial convergence *POSHAN Abhiyaan* (*National Nutrition Mission*) under the Ministry of Women and Child Development (MWCD) with the vision of a malnutrition free India. It strives in particular for adequate nutrition of pregnant women, mothers and children, and for reducing stunting in those districts of the country that have the highest malnutrition rates. Measures are designed to improve the quality of *Anganwadi* service



delivery and the utilisation of key *Anganwadi* services. The other is the introduction of the *National Nutrition Month* being celebrated each September organised by the MWCD to spread broad awareness on issues related to malnutrition like stunting, IYCF, undernutrition and anaemia. Also, a fundamental change regarding the status of women in the communities was observed with women being empowered and girls educated – with support from external programmes – making women and adolescent girls more independent and in some cases even making them the voices of their community for raising key development issues.

For a brief introduction of Government schemes relevant for this study, see the overview in Appendix E.

## 5. Conclusions and Recommendations

Reducing food and nutrition insecurity strongly depends on availability, access and appropriate utilisation of affordable, safe and healthy food throughout the year (stability), which strongly correlates with effective resilience capacities to react to crises – acute shocks and chronic stresses – and prevent severe impacts of food and nutrition security crises at individual, household, community, district, state and national level. In this chapter, the study team points out conclusions and recommendations with regard to the respective identified capacities.

CONCLUSIONS	RECOMMENDATIONS
<p>At <b>individual and household level</b>, pre-dominant resilience capacities identified were absorptive and adaptive capacities. Preparedness for longer periods of time seems to be an unknown concept for many rural and forest dwelling people – and deserves special attention.</p> <p>At <b>community level</b>, most existing capacities relate to adaptive capacities including adjustments to traditional and customary livelihoods.</p> <p><b>Anticipatory and transformative capacities</b> regarding recurrent food and nutrition crisis are still <b>weakly developed</b> at individual, household and also at community level – and need further and particular support.</p>	<p>Anticipatory capacities need to be further systematically addressed through <b>awareness raising</b> and through <b>promotion of technical knowledge</b>, e.g. regarding storage of grains, pulses, animal feed, preparation for water supply for human beings and animals, and access to government services and transfer schemes.</p> <p>In order to be able to systematically analyse programme effects at household level, it would be worthwhile considering using the <b><i>Household Food Insecurity Experience Scale (HFIES)</i></b> for support of project and programme <b>steering</b>.</p> <p>At community level, the prevention aspect seems to need <b>convergence with a number of actors, especially those that impact household incomes, women’s education and empowerment, and nutrition sensitive and specific interventions</b>. Here, the <i>Village Secretary</i> and the <i>Sarpanch</i> play a crucial and critical role in the provision and allocation of benefits from different schemes and in channelling resources for the communities.</p>

continued (1)

CONCLUSIONS	RECOMMENDATIONS
<p>The <b>lack of employment</b> and income generating opportunities in the communities and nearby places enforce negative coping strategies. Well designed, but weakly implemented public safety-net schemes do not work for the poor.</p> <p>Regarding the MGNREGA scheme, there seem to be significant differences in the average employment demanded in crises-affected communities and the actual provision of work (CPR 2019). Many people are not confident in the scheme due to weak implementation and delayed payments. Since most people are unable to cope with day to day expenses while waiting for payment they choose or are forced to seasonally migrate.</p>	<p>Consider <b>supporting the communities to demand their entitlements in temporary employment opportunities</b> through the existing governmental support and safety-net schemes. This would help households to be able to cover lean seasons and prevent seasonal labour migration – and to contribute to durable community infrastructure improvement which then may enable local employment and income generation and stabilise agriculture-based livelihoods (see respective section below). Deploying in particular unemployed youths can be a potential source of economic strength.</p> <p>Consider promoting a similar approach as the <b>support to the TPDS reform to make the MGNREGA scheme work for people</b>.</p> <p>Monitor the outcomes and policy of the pilots currently underway to include seasonal migrants better into the scheme.</p>
<p>Employment was reported to be the main factor for <b>seasonal migration</b>. Cash-earning jobs provide immediate relief and satisfy primary needs. With increasing loss of traditional forest- and agriculture-based livelihoods, cash-earning opportunities are becoming more and more important. Periodic migration for wage labour has become a regular part of the livelihoods of many households.</p> <p>During migration, migrant workers often live under most difficult conditions out of reach of ICDS and most <i>Anganwadi Centres</i>. Seasonal migration disrupts childcare support and education and seems to decrease the nutritional status of accompanying children.</p>	<p>Consider a <b>special focus on migration and migrating families</b> – since many target group households migrate for wage labour and are not able to adequately feed and take care of their children during migration periods.</p> <p>Consider a further study to look more closely into the effects and impacts of seasonal migration with regard to food and nutrition security – in particular with regard to the nutritional status and health of children. This could also include the assessment of the effects of the piloted portability and use of ration cards by seasonal migrants outside of their home communities.</p>

CONCLUSIONS	RECOMMENDATIONS
<p><b>Participatory Learning and Action (PLA)</b> is a key <b>success factor</b> for further adapting livelihoods, anticipating future crises and for systemic transformation. Its transformative potential empowers in particular women through knowledge transfer, joint reflection and relevant actions to improve the nutrition of families in a self-help-oriented manner. As a human rights-based approach it may work as a means for people to claim their rights and entitlements through tools such as <i>Community Scorecards</i> (CSC).</p> <p>Increasing the participation of marginalised groups can only be achieved if this is an explicit part of the programme strategy.</p>	<p><b>Continue strengthening the current PLA approach</b> which should include:</p> <ul style="list-style-type: none"> <li>▪ supporting AWW and Supervisors to ensure a high PLA quality,</li> <li>▪ starting to pilot men's and <i>Gram Sabhas</i>' (Village Assemblies') involvement in regular nutrition IEC,</li> <li>▪ continuing the respective collaboration and partnership with DWCD at district and state level,</li> <li>▪ considering the following suggestions for strengthening the transformative power of PLA by <b>developing the current approach further</b> by: <ul style="list-style-type: none"> <li>– streamlining the current sessions and reducing the number and duration of PLA to a one-year-cycle or 12 sessions – considering specifically the migration periods and respective absence periods of villagers,</li> <li>– using the growth charts as communication tool to strengthen community level monitoring, planning and action to improve FNS; meetings of the <i>Gram Sabha</i> could be important entry points,</li> <li>– ensuring separate IEC sessions for men (and other important decision-taking and influencing people, e.g. mothers-in-law) to strengthen their responsibility for and involvement in actions to improve FNS thus supporting the household-level transformative capacities,</li> <li>– integrating (a) session(s) on migration and its consequences for nutrition, health and education of children with an adaptive and a preparedness perspective,</li> <li>– systematically ensuring IEC on FNS-related entitlements into sessions and use <i>Community Scorecards</i> (CSC) for the respective monitoring.</li> </ul> </li> </ul> <p>Pursuing this participatory advancement of the current PLA would need to involve GIZ, WHH, the implementing local NGOs and other partners that were involved in developing the actual PLA framework and its sessions. As a precondition, it is necessary to have the time and capacities available to conduct thorough trainings on the advanced PLA, peer learning among AWW and supervisors, and quality assurance of action, e.g. correct weighing and plotting of growth charts as basis for appropriate <i>Growth Monitoring and Promotion</i> (GMP).</p> <p>The <b>concept of Social Auditing</b> should be encouraged and initiated by communities for maximum utilisation of ICDS services.</p>



CONCLUSIONS	RECOMMENDATIONS
<p>The <b>Anganwadi system</b> in itself is a major asset to community health and nutrition. The AWW contribute much to reduce child malnutrition in their respective communities. But not all AWW are well trained or educated – so there is a high risk of overstressing their capacities – and by this reducing the quality of the services provided and increasing the risks of irregularities (as reported from some remote villages). Additional tasks such as getting acquainted with the use of online technologies for monitoring the nutrition status of children will add to their already substantial job description.</p> <p>Additionally, the infrastructure of <i>Anganwadi Centres</i> is often not adequate which hampers essential service delivery. Improvements in <i>Anganwadi Centres'</i> infrastructures and logistic facilities are inevitable for delivering quality services to beneficiaries. However, quality of services still needs to be evaluated.</p>	<p>A <b>regular training and supportive supervision of AWW</b> is recommended along with ensuring the provision of adequate facilities and infrastructures. AWW need to have a basic educational qualification for successfully performing their tasks such as the assessment of growth and minor health issues of children. Frequent interactions among AWW and their supervisors should be ensured and followed-up upon for upgraded information and awareness.</p> <p>In cases of irregularities, this needs to be openly addressed and the AWW supported to make them capable of fulfilling their tasks and securing the quality of services.</p> <p>Regarding gender roles and the responsibility for household-internal food and nutrition security, it is essential that AWW change their own concept and approach to address malnutrition: Men need to be included in nutrition-related activities. Feasible ideas – as mentioned in FGD – include e.g. the organisation of separate meetings with men (at other places than the <i>Anganwadi Centre</i>) to engage men in nutrition-related measures.</p>
<p>The <b>lack of knowledge regarding nutrition</b> – in particular regarding the need for a dietary diversity – contributes to malnutrition.</p>	<p>Continue <b>promoting nutrition gardens</b>.</p> <p>Strengthen basic <b>conservation and transformation as well as storage</b> of vegetables, fruits, grains and seeds.</p> <p>Consider including the diversity of nutritionally rich indigenous foods and the transgenerational knowledge of their uses to address malnutrition within the community. Support and advocacy for their increased consumption can be an important supplementary strategy to improve nutrition. The respective information can be incorporated into nutrition education at community level.</p>

continued (4)

CONCLUSIONS	RECOMMENDATIONS
<p>There is a <b>lack of infrastructure</b> and a lack of support for creating infrastructure for drought mitigation, for storing water for drinking, sanitation and hygiene, for irrigating arable land (e.g. through bore wells, check dams, irrigation schemes) at community level. Due to the high dependence on rain-fed agriculture, weather-related shocks are key risks – and the ability to anticipate risks early and take appropriate action in a timely manner is essential.</p>	<p>Consider further <b>promoting and encouraging rain-water harvesting, groundwater recharge and water conservation activities</b> to improve the sustainable availability of water.</p> <p>Community resilience can be advanced through the development, creation and rehabilitation of productive assets, including gardens, water management structures and road construction. Public investment in irrigation systems would have a direct impact.</p> <p>Therefore, support to the communities to effectively demanding community infrastructure for drought mitigation including water storage structures and productive assets for agriculture – e.g. through public safety-net schemes such as the MGNREGA scheme – should be considered. The construction of ferro-cement tanks is a long-lasting low-budget technology to store water for household and public use.</p> <p>Creating agriculture-related infrastructure through governmental safety-net schemes has the potential for a dual effect: providing short-term employment and income opportunities and creating lasting structures to stabilise agriculture-based livelihoods and to increase agricultural production.</p>

CONCLUSIONS	RECOMMENDATIONS
<p>There is increasing evidence of the specific contribution that <b>social transfers</b> can make in reducing undernutrition and building resilience. At national level, there is a number of government safety-net schemes which seem to be strong in design but are often not or insufficiently delivering expected results for the poor – due to irregularities and weaknesses in implementation. Also, the TPDS as a social safety net scheme can help address inequalities and household poverty.</p> <p>Although considerable efforts have already been made to improve the efficiency and targeting of the <b>TPDS</b>, there are continuing irregularities at the expense of eligible beneficiaries. Moreover, many people seem to trade benefits for money in order to be able to buy other essential items or services, e.g. ration cards are being mortgaged with the local ration shop owners.</p> <p>Particularly young men seem to have difficulties to get own ration cards when they leave their parent's house. As a consequence, they cannot open a bank account of their own since the ration card is required as collateral – and without bank account they do not get access to grants, such as the 1,000 IRs <i>State Nutrition Grant</i> for tribal families.</p> <p>For seasonally migrating households and individuals, it is difficult or impossible to claim their entitlement during absence from their home community. Most ration shop owners and distribution points presently seem not to be aware that migrating people also have an entitlement to get their rations outside the place they are registered.</p>	<p><b>Continue supporting the TPDS reform</b> by a dual approach:</p> <p>(1) support the government in delivering quality services to eligible households and individuals including during periods of seasonal migration, and</p> <p>(2) support villagers in claiming their rights, entitlements and respective services including during periods of seasonal migration. Here, community monitoring activities and improving awareness on the <i>National Food Security Act 2013</i> (ensuring food as a right for its citizens) can be helpful.</p> <p>Additionally, TPDS can possibly also be used as a channel to deliver nutrition-specific actions, e.g. distributing food supplements to mothers and young children.</p>



## General Conclusions and Remarks

In general, it can be stated that the design and approach of the FaNS project contributes to strengthen people's and civil society organisations' capacities as well as government's services at all levels. In addition, the FaNS project has been the first in the region that addresses dietary diversity. The project succeeded in convincing the government of the benefit of working with ten food groups.

Integrating a resilience approach does not replace or relabel established risk- and conflict-management concepts. Instead, integrating a resilience lens to programme and project design and implementation adds a value in terms of increasing the impact of project activities by particularly identifying and strengthening resilience capacities of people and communities beyond the mere capacity to absorb shocks (such as natural disasters).

Still, it is important to be aware of the strong dependency of a growing number of crises-affected people in the district on public and governmental safety-net schemes. Long-lasting – or permanent – alimentionation suffocates motivation, creativity, determination, responsibility and ownership. The ultimate aim should always be to lead people out of dependency to an independent and self-determined life. In pursuing community-based approaches, it is essential that the communities themselves own the processes. Efforts to involve communities in development planning must be backed by a transparent and responsive institutional set-up.

By using the *Resilience Analysis Matrix* as a basis for discussion and for communicating and sharing results, a mutual understanding and a shared commitment of different stakeholders at different levels may be reached. Thus, project resources can be used efficiently by multi-sectoral cooperation across multiple or institutional, civil society and development cooperation actors, breaking traditional operational silos. Eventually, sustainable hand-over scenarios can be developed at the end of the project by combining multi-sector vulnerability reduction activities with resilience capacity-building that lead to structural changes in household and community livelihood systems. Successful nutrition and/or resilience interventions in one place may not be completely replicable in other contexts. All interventions require in-depth understanding of communities' and individuals' existing capacities and strategies, food systems and nutritional needs, the environmental and social system. These results of the India case study thus also confirm previous learnings related to resilience-building of various actors at different levels of the society (RLI 2016).

## Appendix A: Itinerary Country Package India (Sheopur, Bhopal, Delhi)

12 April 2019 Friday	Meeting with and briefing of Mr Gerrit Qualitz, Project Director <i>Food and Nutrition Security, Enhanced Resilience</i> Project (FaNS) and team, including Dr. Archana Sarkar, Dr. Tapan Ghope, Ms Neha Khara, Mr Pradeep Yadav, Ms Nadine Bader, Ms Nidhi Ralhan, New Delhi  Finalisation of schedule for village visits and key informant interviews.
13 April 2019 Saturday	Travel to <b>Sheopur</b> via Sawai Madhopur by train and car  Briefing Workshop with the team of the implementing NGO <i>Mahatma Gandhi Sewa Ashram</i> introducing the objectives, approach and course of action, discussing details of the guiding questions for FGD and Key Informant Interviews
14 April 2019 Sunday	Visiting two villages (split in 2 groups):  <b>Sabadi village</b> (Karahal Block): FGD with women, FGD with men, village transect walk  <b>Kakardha village</b> (Karahal Block): FGD with women, FGD with men, FGD with AWWs (from neighbouring villages) and their Supervisors  Study team: Exchange and preliminary analysis of findings using the Resilience Analysis Matrix
15 April 2019 Monday	Visiting two villages (split in 2 groups):  <b>Gandhi Gaon village</b> (Karahal Block): FGD with women, FGD with men  <b>Chak Bamuliya village</b> (Sheopur Rural Block): FGD with men, FGD with AWWs (incl AWWs from neighbouring villages) and their Supervisors in AWW-Centre  Key Informant Interviews with District Collector Mr Basant Kurre, District Food Supplies Officer (responsible for PDS) Mr Pujya Gujre, and District Horticulture Officer Mr Pankaj Sharma.  Study team: Exchange and preliminary analysis of findings using the Resilience Analysis Matrix.
16 April 2019 Tuesday	Visiting two villages (split in 2 groups):  <b>Hirapur village</b> (Sheopur Rural Block): FGD with women, FGD with men,  <b>Ranipura village</b> (Karahal Block): FGD with women, Interview with Village / Panchayat Secretary  Key Informant Interview with District Programme Officer Mr. Ratan Singh Gundiya.  Visit of Training on E-Learning for AWW Supervisors.  Study team: Exchange and preliminary analysis of findings using the Resilience Analysis Matrix.
17 April 2019 Wednesday	Workshop with the team of the implementing NGO in Sheopur getting the views of the staff on resilience capacities and reflecting jointly preliminary findings of the assessment.  Travel to Bhopal, state capital of Madhya Pradesh, via Gwalior by car and train.

18 April 2019 Thursday	<p>Meeting / Key Informant Interviews at state level in <b>Bhopal</b>, state capital of Madhya Pradesh, with</p> <ul style="list-style-type: none"> <li>– Mr Suresh Tomar, Joint Director, IEC, Dr. Nisha Jain and Mr. Ashutosh, IEC section-incharge, Department of Women and Child Development (DWCD), state level counterpart</li> <li>– Ms Prathiba Rajiv Srivastava, State Co-ordinator, Welthungerhilfe (WHH) Bhopal, INGO responsible for implementing the activities in two districts of Madhya Pradesh including Sheopur</li> </ul> <p>Travel back to Delhi by flight</p>
19 April 2019 Friday	Exchange and preliminary analysis of findings
20 April 2019 Saturday	Analysis of findings and drafting of report format
21 April 2019 Sunday	Start drafting the India Case Study report
22 April 2019 Monday	<p>Meetings and Key Informant Interviews with</p> <ul style="list-style-type: none"> <li>– Mr Rajeev Ahal, Director, Natural Resource Management, GIZ India, New Delhi</li> <li>– Ms Nivedita Varshneja, Country Director India, WHH New Delhi, and Mr Philippe Dresrüsse, Programme Advisor, WHH New Delhi</li> <li>– Mr K.L.M. Khalsa, Deputy Secretary, Department of Food and Public Distribution, Ministry of Food, Civil Supplies and Consumer Affairs, New Delhi</li> </ul> <p>Debriefing meeting with Mr Gerrit Qualitz and the team of the GIZ FaNS Project, New Delhi</p>





## Appendix B: List of Resource Persons and Key Informants

GIZ India, New Delhi	Mr Gerrit Qualitz, Project Director 'Food and Nutrition Security, Enhanced Resilience' (FaNS) Dr. Tapan Ghope, Component Manager Targeted Public Distribution System FaNS Dr. Archana Sarkar, FaNS Advisor Research, Monitoring & Evaluation Ms Neha Khara, Nutrition Expert FaNS Mr Pradeep Yadav, WASH Expert FaNS Ms Nadine Bader, Junior Adviser FaNS Ms Nidhi Ralhan, Junior Project Coordinator FaNS Mr Rajeev Ahal, Director, Natural Resource Management
Villages of Sabadi, Kakardha, Gandhi Gaon, Ranipura (all Karahal Block), Chak Bamuliya and Hirapur (both Sheopur Rural Block) Sheopur District	Villagers, <i>Anganwadi Workers</i> and their supervisors, village secretaries participating in focus group discussions and being available for key informant interviews
District Administration Sheopur	Mr Basant Kurre, District Collector (DC) Mr Ratan Singh Gundiya, District Programme Officer (DPO) Mr Puja Gujre (In-charge), District Supply Officer (DSO) Mr Pankaj Sharma, District Horticultural Officer (DHO) Mr Puja Gujre, District Agricultural Officer (DAO)
Implementing NGO <i>Mahatma Gandhi Sewa Ashram</i> , Sheopur, Madhya Pradesh	Mr Jai Singh Jaudaun (Manager) Mr Amit Kumar (Project Coordinator) Mr VS Gautam (Lead Trainer) Ms Shabnam Afgani (Lead Trainer) Ms Jyoti Rajak Mr Matadeen Mr Radhaballabh Ms Arti Sharma Mr Chhagan Nagar Mr Veeramdev Mr Neeraj Shrivastav Mr Sandeep Bhargav
Department of Women and Child Development, DWCD, Bhopal, Madhya Pradesh	Mr Suresh Tomar, Joint Director, Information, Education and Communication (IEC) Dr Nisha Jain, IEC section in charge Mr Ashutosh, IEC section in charge
<i>Welthungerhilfe</i> , WHH, India, New Delhi and Bhopal	Ms Nivedita Varshneja, Country Director India, Delhi Mr Philippe Dresrüsse, Programme Advisor, Delhi Ms Prathiba Srivastava, State Co-ordinator Madhya Pradesh
Ministry of Food and Public Distribution, New Delhi	Mr KLM Khalsa, Deputy Secretary, Department of Food and Public Distribution (DFPD), Ministry of Food, Civil Supplies and Consumer Affairs, New Delhi

## Appendix C: Guiding Questions Used for Focus Group Discussions and Key Informant Interviews

### Sheopur District

**Aim: Understanding people's perception of resilience and their resilience capacities at various levels.**

#### Guiding Questions:

- 1) What were / are the main **crises** – acute shocks and chronic stresses – that affect(ed) your food and nutrition security (FNS) / the FNS of people in the target areas in the last years?  
What was / is their influence on the FNS situation?
- 2) What have you done to **react** to this?  
*(...in the last five years max. and with regard to every single crisis mentioned before)*  
What has your household done to react to this?  
What has your community done?  
Were there other actors (influencers) who also reacted and what have they done?  
*(to be adapted to the resource persons and context of interview / discussion)*
- 3) Why were you / they in a position to react like this on the crisis?  
*(with regard to every single crisis mentioned before)*  
(Which abilities / capacities allowed you / them to react like this)?
- 4) What would have enabled you / them to react better / in another way?
- 5) What are the main **surprises** – positive and negative – that you (people) perceived as a reaction to the FNS crisis (shock or stress)?  
What did you not expect?
- 6) Once the FNS crises (mentioned under question 1) is over:  
What will / would you do to **prepare** for the next FNS crisis?  
What do you think you actually can do to prepare?
- 7) Who else needs to react?  
What concretely should this person / organisation do?

#### ... for Key Informant Interviews:

- 8) What are you / is your organisation doing to **support** people to better react to crises?  
...to be better prepared for crises?
- 9) What are you or your organisation doing to enable people to make an **informed decision** to better react to FNS crises and to be better prepared?

## Appendix D: Comprehensive Resilience Analysis Matrix Sheopur

	Anticipatory Capacity	Absorptive / Coping and Recovery Capacity	Adaptive Capacity	Transformative Capacity
<b>Definition</b>	<i>...enables people and systems to be better prepared for the eventuality of a specific shock through proactive action – ability of planning in advance and setting up ‘contingency plans’ (ODI / BRACED 2016)</i>	<i>...includes a range of harmful to positive coping strategies that aim at maintaining people’s, organisations’ and systems’ wellbeing at a given level in the face of shocks – no basic changes to people’s livelihoods (RLI 2016 based on OECD DAC)</i>	<i>... enables people, organisations, and systems to manage impacts of long-term trends and change – progressive and gradual change in the structure of people’s livelihoods (RLI 2016 based on OECD DAC)</i>	<i>...enables people, organisations, and systems to manage the underlying causes of shocks, stressors and change – a fundamental change in the political/power and economic status of people, and hence, the structure of people’s livelihoods (RLI 2016 based on OECD DAC)</i>
<b>Result</b>	Strengthening contributes to improved <b>preparedness</b>	Strengthening contributes to enhanced <b>stability</b> – if coping is positive <i>Documented negative/harmful coping strategies</i>	Strengthening contributes to more positive options for <b>adjustment</b>	Strengthening contributes to structural <b>systemic changes</b>
<b>Individual Level</b>	<ul style="list-style-type: none"> <li>Women save money secretly from their husbands</li> </ul>	<ul style="list-style-type: none"> <li>Malnourished children up to 6 years, pregnant and lactating women using the increased portions supplied by the government <i>Supplementary Nutrition Programme (SNP)</i> by the State Department of Women and Child Development (DWCD) after the drought 2016</li> <li><i>Collecting water from a neighbouring village (4km to 15km away, mostly women) -&gt; increased workload for women / less time available for other duties</i></li> <li>Using <i>(and in one village even fighting with each other for the)</i> water from the water trucks (tanker) – organised by local NGO</li> <li>Using the stored grain</li> <li>Selling Chia seeds and other forest produce, e.g. <i>Gond (at a – too – low price)</i></li> <li><i>Not bathing (skin problems)</i></li> <li><i>Cleaning kitchen and other utensils with sand only instead of water – leading to hygiene problems</i></li> <li>Collecting (by women) and eating mainly forest products (e.g. <i>Mahua longifolia</i>, <i>Tendu</i> fruits = persimmons) – healthy but not a diverse diet (lack of a variety of food)</li> </ul>	<ul style="list-style-type: none"> <li>Showing courage to participate in a community-organised roadblock to claim and enforce community interests to get water and electricity in the village</li> <li><b>Drying and storing vegetables</b> (e.g. pumpkin, bottle gourd, Cucurbita family vegetables, green leaves vegetables) – idea came up through PLA</li> <li><b>Storing dried vegetable seeds</b> (e.g. pumpkin, gourd, beans)</li> <li>Starting small businesses through SHGs with the help of local NGOs – but failed</li> <li><b>Women applying knowledge and skills to improve family nutrition</b></li> </ul>	



		<p>groups); but depleting forest produces because of logging / wood cutting by other communities and others</p> <ul style="list-style-type: none"> <li>• <i>Adaptation of food habits, e.g. boiled or baked potatoes only, grounded red chillies with salt with roti only, cooked watery Gond ki laddu (local sweet), salt ball (roti with salt)</i></li> <li>• <i>Eating less quantity of food and lower frequency (1-2 times instead of 2-3 times), sometimes due to water scarcity</i></li> <li>• Selling wood cut and gum collected in the wood (hard work done by women) -&gt; <i>increased workload for women -&gt; less time available for other duties</i></li> <li>• <b>Selling labour against food and money, e.g. participating in the check dam construction: receiving food for work for a declared drought – opportunity provided as emergency support</b></li> <li>• Men migrating and working daily or seasonally (March to June, up to 4 months) as wage labourers on big fields/farms of high-cast people (during harvest season of cotton, mustard, peanut, lentils etc), industries, construction work for 100-300 IRs/day with private employers in neighbouring villages, districts and states, e.g. Gujarat, Jaipur (wage of one month work is sufficient for family needs for 2 to 3 months, the monsoon season),</li> </ul>		
<b>Household Level</b>	<ul style="list-style-type: none"> <li>• Saving food and money</li> <li>• <b>Developing a nutrition garden with a package of seeds</b></li> </ul>	<ul style="list-style-type: none"> <li>• Borrowing/lending staple food grains and money between the households to support each other in times of hardship</li> <li>• Migrating of the whole family working as wage labourers on the big fields/farms of high cast people in neighbouring villages, districts and states -&gt; <i>with negative consequences of missing government services such as SNP, immunisation, PDS rations, health services; also: health, nutrition and education of their children is not taken care of -&gt; with long-term consequences of FNS</i></li> <li>• Selling of bad quality TPDS food grains to e.g. buy wheat from other than TPDS shops</li> <li>• Using drought resistant seeds for cultivation (e.g. millet)</li> <li>• Borrowing money <i>from lenders (at a high interest rate), sometimes from village secretaries</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Planting gardens and using Moringa and other fruits / vegetables</b></li> <li>• <b>Drying and storing produces from the nutrition gardens (mainly green vegetables)</b></li> <li>• Using drought resistant seeds for cultivation (e.g. millet)</li> <li>• <b>Starting vegetable seed banks</b> -&gt; reduction of malnutrition through the produce of nutrition gardens</li> <li>• Producing a second seasons of vegetables using adapted seeds and using wastewater for irrigation (in some villages)</li> <li>• Borrowing land for cultivation against payment in kind or cash</li> </ul>	

<p><b>Community Level</b></p>	<ul style="list-style-type: none"> <li>• Planning, demanding and applying for support from the government for the construction of 10 to 12 bore wells in their fields for irrigation throughout the year to enable up to 3 harvests per year – along with own financial contribution (writing a letter, participating of village representatives in the public hearing of the district collector)</li> <li>• Demanding work under the MGNREGA scheme to e.g. deepen ponds, digging wells, bore well recharge, check dams to address water crises</li> <li>• Establishing grain banks (in 10 villages): stored grains to be given to needy people on a replacement policy (supported by NGO)</li> <li>• <b>Nutrition gardening</b></li> <li>• Producing livestock (goat, poultry) mainly for selling / income generation</li> </ul>	<ul style="list-style-type: none"> <li>• Sharing and exchanging food and seeds</li> <li>• <b>Community meetings under PLA triggering government support and claiming community's rights for water and food</b> -&gt; government sent water trucks, -&gt; mid-term meal became more regularised</li> </ul>	<ul style="list-style-type: none"> <li>• Constructing check-dams that hold back rainwater and increase ground water level, so wells keep water for a longer time</li> <li>• Gaining experience and confidence by organising and conducting a joint collective action of the whole village to demand basic rights (water and electricity) -&gt; road blockage (being prepared to stay days)</li> <li>• Raising the voice on basic issues like hygiene, sanitation, livelihood to the district administration (District Collector)</li> <li>• Actively asking / requesting the Village Secretary for more construction work (road, dam etc) nearby to enable income opportunities for villagers</li> <li>• <b>Enabled AWW delivering quality nutrition services according to PLA-protocol</b> (quality improvement and assurance still necessary)</li> <li>• AWW demanding involvement of men in sharing responsibilities with women in improving the FNS situation</li> <li>• <b>Scaling-up nutrition gardens through peer support and linking with government seed distribution scheme (Below Poverty Line package)</b></li> <li>• Organising small group savings and credits as SHG among female members (at lower interest rates)</li> <li>• Recognising women with well-nourished children (positive deviance) being celebrated e.g. at International Women's Day</li> </ul>	<ul style="list-style-type: none"> <li>• Empowered women through PLA are able to make informed decisions on family nutrition with a focus on IYCN and nutrition of women of reproductive age</li> <li>• Strengthened cohesion among women through PLA group approach, e.g. community practice of drying vegetables, demanding access to water</li> <li>• <b>Improved transparency, accountability and performance of public services (safety nets) with regard to FNS through Community Score Cards (CSC)</b>, e.g. 200 non-performing AWW were replaced, ranking of Sheopur District in MP state improved in terms of delivery of ICDS services from the last one to one among the first five</li> <li>• Using digitalisation for nutrition IEC and e-learning</li> </ul>
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State Level	<ul style="list-style-type: none"> <li>• <b>Scheme for pregnant and lactating tribal women providing 1,000 IRs/month for nutrition complemented by IEC on how to use the money</b></li> <li>• <i>Below Poverty Line</i> scheme providing vegetable seeds for nutrition gardens (one package is sufficient for up to 10 families)</li> <li>• DWCD promoting of 5 plants to treat malnutrition: Mango, Moringa, Guava, Amla, Papaya</li> <li>• <b>TPDS reforms strengthening capacity development of AWW and their supervisors</b></li> <li>• <b>MP including pulses in TPDS rations after reform</b></li> </ul>		<ul style="list-style-type: none"> <li>• <b>State of Madhya Pradesh joining the SUN movement</b></li> <li>• <b>IDEA by DWCD staff: Adapting supplementary food rations and THR to the diversity of food habits and locally available food</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>IDEA by DWCD staff: to analyse the concept of 'Husband Schools' (idea from African countries) to integrate men in FNS responsibilities and activities</b></li> <li>• <b>IDEA by DWCD staff: Consulting with AWW how to include/integrate men in FNS activities and responsibilities</b></li> <li>• DWCD services able to address chronic and acute food insecurity through institutionalised PLA approach and trained AWW</li> </ul>
National Level	<ul style="list-style-type: none"> <li>• ICDS addressing chronic and acute malnutrition (AWW): Additional food for severely &amp; acute malnourished children</li> <li>• TPDS addressing insufficient access to food / food insecurity through grains (and newly introduced pulses depending on state's decision) at highly subsidised prices: Additional food made available in case of officially declared disasters</li> <li>• MGNREGA providing income opportunities to address chronic poverty.</li> <li>• <i>Prime Minister's Maternity Benefit Scheme</i> providing 6,000 IRs for pregnant and lactating women</li> <li>• <i>National Rural Livelihood Mission</i> under the Ministry of Rural Development supporting tribal communities through SHG (e.g. soap, stitching)</li> </ul>			<ul style="list-style-type: none"> <li>• Dedicated programme / scheme on women empowerment and girl's education bringing a change to make women more independent and making them the voice of community on raising key issues (example of young woman in one village benefitting from the scheme – becoming a role model)</li> <li>• National Nutrition Mission</li> <li>• National Nutrition Month</li> </ul>



## Appendix E: Brief Introduction of Government Schemes Relevant for this Study

Under the **National Food Security Act** (NFSA) adopted in 2013, the Government of India aims to ensure food and nutrition security for the most vulnerable through its associated schemes and programmes. There are several government-owned social safety net and support schemes in place targeting approximately two thirds of India's population. The NFSA sets the framework for those programmes which include e.g. the *Midday Meal Scheme*, the *Integrated Child Development Services* (ICDS or *Anganwadi Services*) scheme, the *Antyodaya Anna Yojana* scheme and the *Targeted Public Distribution System*, and it recognises maternity entitlements.

The **Targeted Public Distribution System** (TPDS), one of the world's largest food-based safety-net programmes, has been established under the Ministry of Consumer Affairs, Food, and Public Distribution for the allocation of food and non-food items at affordable prices to people living below the poverty-line. It is jointly managed with state governments which are also responsible to formulate and implement secure arrangements for identification of those eligible and entitled to benefit, for delivery of food to *Fair Price Shops* (also known as *Ration Shops*) and for its distribution in a transparent and accountable manner. Under the TPDS, a family below the poverty line can receive 10kg of cereals per family per month at specially subsidized prices. Major commodities that are being distributed include wheat, rice, sugar, salt and kerosene.

The **Anganwadi** system is a public service system for mothers, infants and young children of vulnerable households to promote an integrated approach to early child development in nearly every community of the country. It forms the backbone of India's *Integrated Child Development Services* (ICDS) scheme – the world's largest community-based programme for child development. *Anganwadi* (Hindi for *courtyard shelter*) centres have been established in the communities since 1975. The ambitious objective is to deliver high-quality services to improve the nutritional and health status of children in the age-group 0-6 years, to reduce the incidence of mortality, morbidity, malnutrition and school dropout, to achieve effective co-ordination of policy and implementation amongst the various departments to promote child development, and to enhance the capability of mothers to look after the health and nutritional needs of their child. An *Anganwadi Centre* is supposed to provide community nutrition and health education, supplementary feeding, breastfeeding and infant and young child feeding practices, immunisation, contraceptive counselling and supply, health check-ups and referral services as well as non-formal pre-school activities.

The design and theoretical set-up of the *Anganwadi* system are commendable and the scheme has contributed to progress over the years – but there are a number of challenges: the scheme suffers institutional weaknesses and not all groups have benefited equally as a recent study disclosed (Avula et al./IFPRI 2018): Women and children from the poorest households have lower access to the scheme. The reasons behind may include poor delivery, difficulty of access to remote regions, and social divisions such as caste.

The Ministry of Women and Child Development has laid down guidelines for the responsibilities of *Anganwadi Workers* (AWW) that include in particular references for health and nutrition education to pregnant women and for educating parents about child growth and development. AWW have recently also been tasked with additional responsibilities such as early childhood education and self-help group formation and training – neither of which they are trained for. The

AWW are ideally supported by *Anganwadi Helpers*, *Auxiliary Nurse Midwives*, and *Accredited Social Health Activists* (ASHA) who is a community health advocate and provides services like first aid, special needs referrals, and reproductive health counselling.

The AWW and the *Anganwadi Helpers* are paid a fixed honorarium per month and provided a uniform every year. In addition, monthly performance-linked incentives are being paid to *Anganwadi Helpers* to facilitate the functioning of the *Anganwadi Centres*. Additional remuneration can be paid by the state government. The AWW are supported by the *Mukhya Sevika* supervisors. One supervisor looks after 40 to 65 AWW providing them with on-the-job trainings, keeping track of malnourished community members, guiding the AWW in assessing and documenting children's weight and growth, demonstrating effective methods of providing health and nutrition education, and maintaining statistics on *Anganwadi Centres* and AWW to determine what can be improved. A recent IFPRI study on equity and extent of coverage of ICDS found that the proportion of respondents using ICDS had increased substantially from 2006 to 2016. However, the poorest sections of the population were still left out, especially in states with high levels of malnutrition (Avula et al./IFPRI 2018).

Despite their relatively high level of workload and responsibility being at the frontline in the community, AWW and ASHA are not formally recognized as civil servants and are not having access to the respective benefits. Vacancy rates are reported to be high. In recent years, both AWW and ASHA workers have staged large-scale protests claiming to be underpaid, over-worked and undertrained.

In Madhya Pradesh, there are approximately 97,000 *Anganwadi* and so-called *Mini-Anganwadi Centres*. Still, many of them lack basic infrastructures such as kitchen facilities, toilets, basic seating arrangements and electricity. In Sheopur, one *Anganwadi Centre* is responsible for up to 1,000 people, one *Mini-Anganwadi Centre* is responsible for 500 people. In around 15 districts of the state, over 1,100 posts of AWW and 1,300 posts of *Anganwadi Helpers* are vacant which impairs the functioning of the centres in those districts.

Additionally, Madhya Pradesh has launched different other schemes to prevent, control and manage the needs of women and children. One of them is the 2010 introduced *Atal Bal Aarogya Evam Poshan Mission*, short **Atal Bal Mission**, to systematically reduce child malnutrition. The mission's objectives include integrated planning by multiple government departments from various sectors including women and child development, public health, rural development, tribal welfare, food and civil supplies, engineering, school education, and finance (Das et al./IFPRI 2014).

The **Mahatma Gandhi National Rural Employment Guarantee Act** (MGNREGA) scheme is widely known and one of the largest public works employment programmes in the world. It aims at rural poverty reduction by improving the income situation of rural households granting every rural household who demands work a legal right to wage employment of up to 100 days per year in public works programmes. According to the scheme guidelines, wages must be paid within 15 days of work completion and closure of the muster roll. The scheme also aims at regenerating the environment through the creation of productive assets such as water tanks, ponds, bunds, check dams and through afforestation programmes.

## References

- ACF, 2016: Preliminary Assessment Report on WASH and Nutrition in Sheopur District of Madhya Pradesh. By Vivek Yadav, Nutrition & Health Programme, ACF / Action Against Hunger, March 2016  
[https://reliefweb.int/sites/reliefweb.int/files/resources/acf-report-on-wash-nutrition-sheopur-district\\_v2.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/acf-report-on-wash-nutrition-sheopur-district_v2.pdf)
- AIGGPA, 2018: Study of Malnutrition Among Under-6 Children of Sheopur District with Special Focus on Saharia Tribe. Atal Bihari Vajpayee Institute of Good Governance & Policy Analysis, Project Report.  
<http://www.aiggpa.mp.gov.in/images/files/pdf/reports/Study%20Report-Study%20of%20malnutrition%20among%20under-6%20children%20of%20Sheopur%20district%20with%20special%20focus%20on%20Saharia%20tribe.pdf>
- AIGGPA, 2017: Roles, Responsibilities and Functions of District Collectors in Madhya Pradesh. Atal Bihari Vajpayee Institute of Good Governance & Policy Analysis, Project Report.  
<http://www.aiggpa.mp.gov.in/images/files/pdf/reports/Study%20on%20Roles,%20Responsibilities%20and%20Functions%20of%20District%20Collectors%20in%20Madhya%20Pradesh.pdf>
- Avula, R., E. Sarswat, S. Chakrabarti, P.H. Nguyen, P. Mathews, P. Menon, 2018: District-level Coverage of Interventions in the Integrated Child Development Services (ICDS) Scheme During Pregnancy, Lactation and Early Childhood in India – Insights from the National Family Health Survey-4. POSHAN Data Note 4. New Delhi, India: International Food Policy Research Institute (IFPRI)  
<http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/132803>
- Bose, V., S. Batra-Dua, S. Menon, S. Mathur, G. Sharma, and K. Chauhan, 2014. A Landscape Analysis of Nutrition Initiatives in Madhya Pradesh: Policies, Actors and Networks. IFPRI: Delhi, India, Report No. 4, March 2014.  
<http://ebrary.ifpri.org/utis/getfile/collection/p15738coll2/id/128207/filename/128418.pdf>
- Concern Worldwide / Deutsche Welthungerhilfe / IFPRI 2009: The Global Hunger Index 2009 – The Challenge of Hunger: Focus on Financial Crisis and Gender Inequality. By: K. v. Grebmer, B. Nestorova, A. Quisumbing, R. Fertziger, H. Fritschel, R. Pandya-Lorch, Y. Yohannes. Bonn, Washington D. C., Dublin, October 2009  
<https://www.globalhungerindex.org/pdf/en/2009.pdf>
- CPR - Centre for Policy Research / Accountability Initiative, 2019: Budget Brief: Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Govt of India, 2019-20. Delhi, Vol 11 / Issue 9  
<https://www.cprindia.org/research/reports/budget-brief-2019-20-mahatma-gandhi-national-rural-employment-guarantee-scheme>
- Das, P., M. Dwivedi, S. Sharma, N. Ramnani and A. Ranu, 2014: Toward Improved Nutrition: The Atal Bal Arogya Evam Poshan Mission. POSHAN Implementation Note 7. New Delhi, India: International Food Policy Research Institute (IFPRI)  
<http://ebrary.ifpri.org/utis/getfile/collection/p15738coll2/id/128465/filename/128676.pdf>
- DeFries R., A. Chhatre, K.F. Davis, A. Dutta, J. Fanzo, S. Ghosh-Jerath, S. Myers, N.D. Rao, M.R. Smith, 2018: Impact of Historical Changes in Coarse Cereals Consumption in India on Micronutrient Intake and Anaemia Prevalence. Food and Nutrition Bulletin 2018, Vol. 39(3) 377-392  
<https://journals.sagepub.com/doi/pdf/10.1177/0379572118783492>



- Department of Women and Child Development, Government of Madhya Pradesh, : Atal Bal Aarogya Evam Poshan Mission – Vision Document 2020
- Development Initiatives, 2018: 2018 Global Nutrition Report: Shining a Light to Spur Action on Nutrition. Bristol, UK: Development Initiatives, November 2018  
[https://reliefweb.int/sites/reliefweb.int/files/resources/2018\\_Global\\_Nutrition\\_Report.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/2018_Global_Nutrition_Report.pdf)
- ENN, 2015: Nutrition and Resilience. A Scoping Study by L. Gostelow, G. Desplats, J. Shoham, C. Dolan, P. Hailey. Version 1.0, Emergency Nutrition Network (ENN)  
<https://www.enonline.net/attachments/2450/Resilience-report-final.pdf>
- FAO / IDS, 2017: Social Protection and Resilience. Supporting Livelihoods in Protracted Crises and in Fragile and Humanitarian Contexts. FAO Position Paper. United Nations Food and Agriculture Organisation & Institute of Development Studies:  
<http://www.fao.org/3/a-i7606e.pdf>
- FAO, 2018: The State of Food Security and Nutrition in the World (SOFI) – Building Climate Resilience for Food Security and Nutrition.  
<http://www.fao.org/3/CA1354EN/ca1354en.pdf>
- FAO, 2014: Strengthening the Links between Resilience and Nutrition in Food and Agriculture – Operational Recommendations to maximize the Nutritional Impacts of Resilience-building Interventions. A Discussion Paper.  
<http://www.fao.org/3/a-i3777e.pdf>
- FAO, 2013: Resilient Livelihoods – Disaster Risk Reduction for Food and Nutrition Security Framework Programme. United Nations Food and Agriculture Organisation, 2013 Edition  
<http://www.fao.org/3/i2540e/i2540e00.pdf>
- FSIN – Food Security Information Network, 2019: Global Report on Food Crises 2019 – Joint Analysis for Better Decisions. April 2019  
<http://www.fsinplatform.org/global-report-food-crises-2019>
- GIZ, Global Programme Food and Nutrition Security, 2019: Progress Review 2018-2019 of the Country Package India ‘Digitalisation of the Indian *Targeted Public Distribution System* and Improved Food Diversity in Madhya Pradesh’
- GIZ, Food and Nutrition Security, Enhanced Resilience (FaNS) Project, 2018: Building Resilience to Enhance Food and Nutrition Security in Sheopur District of Madhya Pradesh – A Formative Study. By Archana Sarkar. New Delhi, November 2018 (not published)
- GIZ, 2018: Midline Study Report – Evaluation of the Intervention Strategies of the ‘Food and Nutrition Security, Enhanced Resilience’ (FaNS) Project. By EY India, September 2018
- GIZ, 2016: Nutrition Baseline Survey India for the Global Programme ‘Food and Nutrition Security, Enhanced Resilience’. By Aarati Pillai, Judith Kuchenbecker. Bonn, January 2016
- GIZ / BMZ, 2016: Boosting Resilience in Fragile Contexts – A Field-tested Approach of the Resilience Learning Initiative. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf of the German Federal Ministry of Economic Cooperation and Development (BMZ) Bonn/Berlin 5/2016
- GIZ / Ministry of Rural Development (Govt of India), 2013: Environmental Benefits and Vulnerability Reduction through Mahatma Gandhi National Rural Employment Guarantee Scheme. Synthesis Report.  
<https://www.giz.de/de/downloads/giz2013-en-environmental-benefits-vulnerability-reduction-india.pdf>

- Government of India, 2017a: National Family Health Survey (NFHS-4) 2015-16. Ministry of Health and Family Welfare & International Institute for Population Sciences (IIPS), December 2017  
<http://rchiips.org/nfhs/NFHS-4Reports/India.pdf>
- Government of India, 2017b: National Family Health Survey (NFHS-4) 2015-16, District Fact Sheet Sheopur, Madhya Pradesh. Ministry of Health and Family Welfare & International Institute for Population Sciences (IIPS)  
[http://rchiips.org/NFHS/FCTS/MP/MP\\_FactSheet\\_418\\_Sheopur.pdf](http://rchiips.org/NFHS/FCTS/MP/MP_FactSheet_418_Sheopur.pdf)
- Government of India, 2017c: State of Forest Report 2017. Forest and Tree Resources in States and Territories: Madhya Pradesh.  
<http://fsi.nic.in/isfr2017/madhya-pradesh-isfr-2017.pdf>
- Government of India, 2014: Sample Registration System Baseline Survey 2014.  
[http://www.censusindia.gov.in/vital\\_statistics/BASELINE%20TABLES08082016.pdf](http://www.censusindia.gov.in/vital_statistics/BASELINE%20TABLES08082016.pdf)
- Government of India, 2011: Census 2011. Analytical Report on Primary Census Abstract: Chapter 2, Sex Ratio and Child Population:  
[http://censusmp.nic.in/censusmp/Data/PCA\\_DATA/004%20-%20chapter%20-2-%20sex%20ratio%20&%20child%20Populaton.pdf](http://censusmp.nic.in/censusmp/Data/PCA_DATA/004%20-%20chapter%20-2-%20sex%20ratio%20&%20child%20Populaton.pdf)
- Government of Madhya Pradesh, 2012: Status Report on Children in Madhya Pradesh. State Planning Commission  
<http://mpplanningcommission.gov.in/international-aided-projects/pmpsu/publication/Status%20report%20on%20children%20in%20MP.pdf>
- Government of Madhya Pradesh, 2012: District Profile of Sheopur District. Ministry of Women and Child Development, Madhya Pradesh
- Hoddinott, John, 2014: Understanding Resilience for Food and Nutrition Security. 2020 Conference Building Resilience for Food & Nutrition Security. Conference Paper 8, May 2014  
[http://www.fsincop.net/fileadmin/user\\_upload/fsin/docs/resources/2020resilienceconfpaper08.pdf](http://www.fsincop.net/fileadmin/user_upload/fsin/docs/resources/2020resilienceconfpaper08.pdf)
- IRIS, 2016: Seasonal Migrations of Marginalised (Tribal) Communities in Madhya Pradesh and Rajasthan: Foresight Analysis and Scenarios by 2020. IRIS – Institut de Relations Internationales et Stratégiques, Humanitarian and Development Programme, September 2016  
<https://www.iris-france.org/wp-content/uploads/2016/11/ENG-Observatoire-Pro prospective-Huma-Seasonal-Migration-India-Septembre-2016.pdf>
- ODI / BRACED, 2016: How Can Social Protection Build Resilience? Insights from Ethiopia, Kenya and Uganda. Working Paper by M. Ulrichs and R. Slater, December 2016  
[www.odi.org/sites/odi.org.uk/files/resource-documents/11123.pdf](http://www.odi.org/sites/odi.org.uk/files/resource-documents/11123.pdf)
- OECD, 2014: Guidelines for Resilience Systems Analysis – How to Analyse Risk and Build a Roadmap to Resilience. OECD Publishing  
<https://www.oecd.org/dac/Resilience%20Systems%20Analysis%20FINAL.pdf>
- Office of the Registrar General & Census Commissioner, 2013: Madhya Pradesh Annual Health Survey 2012-2013 Fact Sheet. Ministry of Home Affairs, Govt of India.  
[http://www.censusindia.gov.in/vital\\_statistics/AHSBulletins/AHS\\_Factsheets\\_2012-13/FACTSHEET-MP.pdf](http://www.censusindia.gov.in/vital_statistics/AHSBulletins/AHS_Factsheets_2012-13/FACTSHEET-MP.pdf)
- Oxfam, 2017: The Future is a Choice – Absorb, Adapt, Transform – Resilience Capacities. By H. Jeans, G.E. Castillo, S. Thomas. Oxfam International, January 2017  
<https://oxfamlibrary.openrepository.com/bitstream/handle/10546/620178/gd-resilience-capacities-absorb-adapt-transform-250117-en.pdf?sequence=4&isAllowed=y>

Peng, N. et al, 2019: Changes in Child Nutrition in India: A Decomposition Approach.  
International Journal of Environmental Research and Public Health, MDPI, Basel/  
Switzerland, May 22, 2019  
<https://www.mdpi.com/1660-4601/16/10/1815/pdf>

Save the Children, 2016: Malnutrition in India Statistics State Wise, June 2016:  
<https://www.savethechildren.in/articles/malnutrition-in-india-statistics-state-wise>

UNICEF, 2017: Reducing Stunting in Children Under Five Years of Age: A Comprehensive Evaluation of UNICEF's Strategies and Programme Performance – India Country Case Study.  
Evaluation Office, New York, March 2017  
[https://www.unicef.org/evaldatabase/files/Stunting\\_Evaluation\\_India\\_Case\\_Study\\_final\\_report\\_2017-001.pdf](https://www.unicef.org/evaldatabase/files/Stunting_Evaluation_India_Case_Study_final_report_2017-001.pdf)

World Bank, 2018: Evaluating Integration in the ICDS: Impact Evaluation of an AWC-cum-creche pilot in Madhya Pradesh. World Bank, September 2018  
<http://documents.worldbank.org/curated/en/493951537776051558/pdf/Impact-Evaluation-of-an-AWC-cum-creche-pilot-in-Madhya-Pradesh.pdf>

