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FACILITATION GUIDE

Participatory Learning And Action

Improving Nutrition Outcomes In Rural Livelihood Programmes In South Asia

LANN+

by Welthungerhilfe

Nutrition Smart Village

IMPROVING NUTRITION OUTCOMES IN RURAL LIVELIHOOD PROGRAMMES IN SOUTH ASIA

FACILITATION GUIDE

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FOREWORD

Dear Reader,

This manual is trying to fill the critical gap between livelihood or agriculture interventions and actual nutrition outcomes among the target communities and families of such intervention. Much has been debated about the "missing link" for instance in the Lancet Series of 2013. Under the heading "unlocking the potential of nutrition-sensitive programs", it is noted that: "Evidence suggests that targeted agricultural programmes are more successful when they incorporate strong behaviour change communications strategies and a gender-equity focus. Although firm conclusions have been hindered by a dearth of rigorous programme evaluations, weaknesses in programme design and implementation also contribute to the limited evidence of nutritional outcomes so far".

And yet, we have realized in our own endeavors to link agriculture, natural resource management and nutrition (LANN) that surprisingly little practical tools are available to incorporate behavioural change communication and gender into agriculture or natural resource management interventions or provide clear guidance on how such interventions could be designed. This PLA attempts to be very practical, very simple to use and very effective when it comes to providing nutrition outcomes. It is based on

tested models of PLA cycles and puts the community in the centre of the learning and action process, while the facilitator only gives facilitation support to the community. The approach is based on earlier work of Welthungerhilfe and other international organisations in Cambodia and Laos on the LANN approach, which emerged there in the last 5 years. It is also based on Ekjuts work on a PLA cycle for mother and child health, which has found recognition in The Lancet in 2010 for its effectiveness in decreasing neo-natal mortality. The cycle has been designed to bring together the more male domain of providing income, food and making decisions with the female domain of caring for the family and the children. The cycle addresses both women and men and contributes to a common understanding and common decision making in the family. Due to the large evidence that caring practices as well as access to health services highly contribute to the burden of malnutrition in South Asia, the cycle looks at those practices intensively. Further, the cycle takes a livelihood approach into consideration and acknowledges the changing livelihood patterns of the poorest people of South Asia. Wage labour plays a larger and larger role, while smallholder agriculture and common resources show

a worrying trend as diversity of food, agro-biodiversity and the state of natural resources are on a downward trend. That trend needs to be reversed as agriculture and the commons could and should continue to provide a diversity of healthy food on a sustainable basis. This is the first version of the PLA cycle. It has been tested in terms of efficiency of the single sessions, but the overall effectiveness is still to be evaluated in the coming years. If you use this manual, we would appreciate your feedback.

Please contact us at *info.India@welthungerhilfe.de.*

Joachim Schwarz, Regional Director, Welthungerhilfe, 2014

PREFACE

This manual is based on the principals of building knowledge and skills among communities to maximise the use of the existing resource to fight undernutrition and poverty as more and more people are going hungry and have joined the ranks of the chronically undernourished in countries around the world.Struggling with multiple forms of malnutrition that are propelled by not being able to understand the drivers of malnutrition and linkage of nutrition to agriculture, natural resource management, WASH, income and knowledge, vulnerable communities have unknowingly got engulfed in the cycle of poverty and malnutrition.

Linking of agriculture and natural resource management towards nutrition security is a multisectoral approach centred around family nutrition and has an explicit focus on integrating nutrition-sensitive sectoral elements that address underlying and basic causes of malnutrition in order to achieve nutrition security at the household level. It is short for "Linking Agriculture and Natural Resource Management towards Nutrition Security". Mindful of the rural context of communities and their dependence on the local natural resources for a variety of essential materials – e.g. food and water, livelihoods, fuel – LANN+ gives precedence to the interaction between communities, the local natural environment and local food systems to improve nutritional outcomes. With the specific aim of promoting sustained behaviour and practices conducive to improving nutrition security among rural communities who have limited access to markets and quality health services, the LANN+ approach supports households to pursue a higher convergence of feasible nutrition-sensitive strategies across five key elements and its linkages:

Agriculture,
Natural resources,
WASH,
Income and nutrition education.

The primary goal of LANN+ is to achieve nutritional security in remote regions of the world. LANN+ links the goal of Zero Hunger to the five key areas of agriculture, resource management, water, sanitation and hygiene (WASH), alternative incomes and knowledge about nutrition.

This LANN+ Facilitation Guide is a user manual for the community volunteers and facilitators. The manual also serves as training module for the master trainers and the volunteer/community facilitator. The

manual has essentially three sections;

a) An introduction to the LANN+ concept, the PLA concept and the qualities of a good facilitator besides the roles and responsibilities of the CBO/women's group/any institution and the facilitators in the PLA process.

b) Herein is a series of meeting cycles spread across four phases. Each meeting has a different objective, methodology and output. This section describes each meeting in detail. At the end of each meeting is a summary that serves the take home message for participants of the meeting.

c) Some additional information for facilitators comes in the form of annexures with detailed information on specific topics.

ABBREVIATIONS

AWC	Anganwadi Centre (India)
AWH	Anganwadi Helper (India)
AWW	Anganwadi Worker (India)
CSC	Community Score Card
FAO	Food and Agriculture Organisation
FYM	Farm Yard Manure
IFA	Iron Folic Acid (Tablet/Syrup)
IYCF	Infant and Young Child Feeding
LANN	Linking Agriculture, Nutrition and Natural Resource Management
MUAC	Mid-Upper Arm Circumferance
NRM	Natural Resource Management
ORS	Oral Rehydration Salt/Solution
PLA	Participatory Learning Action (approach)
PRA	Participatory Rapid Appraisal
SAM	Severe Acute Malnutrition
SHG	Self Help Group
WHO	World Health Organisation
WASH	Water And Sanitation for Health/Water Sanitation and Hygiene
VWSC	Village Health & Sanitation Committee
HH	Household
SLWM	Solid and Liquid Waste Management
PHED	Public Health Engineering Department
RWH	Roof Water Harvesting

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PHASE 4

ANNEXURES

01 INTRODUCTION

OVERVIEW

This manual aims at making community interventions nutrition-sensitive by incorporating nutrition outcomeswith agriculture and natural resource management practices through a Participatory Learning and Action (PLA) approach.

The manual has been developed as a handbook for facilitators to plan and conduct meetings in the community to help them develop an understanding of how jutrition is linked to natural resource management and agricultural practices. Using Participatory Learning Action as an approach, the facilitator guides the community members to discuss issues that are relevant in this context and identify and prioritise those that they think are most important in their area. Through this process, they also understand the underlying causes for these problems, plan and implement strategies using locally available resources and evaluate their own actions.

WHAT IS LANN+

LANN+ is a multisectoral approach centered around family nutrition and has an explicit focus on integrating nutrition-sensitive sectoral elements that address underlying and basic causes of malnutrition in order to achieve nutrition security at the household level. It is short for “Linking Agriculture and Natural Resource Management towards Nutrition Security”. Mindful of the rural context of communities and their dependence on the local natural resources for a variety of essential materials – e.g. food and water, livelihoods, fuel – LANN+ gives precedence to the interaction between communities, the local natural environment and local food systems to improve nutritional outcomes. With the specific aim of promoting sustained behaviour and practices conducive to improving nutrition security among rural communities who have limited access to markets and quality health services, the LANN+ approach supports households to pursue a

higher convergence of feasible nutrition-sensitive strategies across five key elements and its linkages:


the linkages between agriculture and nutrition,


the linkages between natural resources and nutrition,


the linkages between WASH and nutrition,


the linkages between income generation, markets and nutrition,


the linkages between nutrition education and nutrition practices.

Origins and Development

Initially dubbed "LANN" which stood for Linking Agriculture, Natural Resource Management and Nutrition, LANN+'s predecessor was developed by a consortium of nine NGO's in 2009 as a basic food-based nutrition training package in Laos for remote upland minority communities where high levels of malnutrition persisted. It was delivered through a cascade training method and was intended to target women with limited literacy skills through a combination of role-plays, small group activities and visual tools. The LANN training package was a response to a lack of suitable food-based approaches and nutrition education materials in the region.

Training topics revolved around four pillars:

- linkages between food consumption and nutrition
- linkages between agriculture and nutrition
- linkages between natural resource management and nutrition – particularly with regard to forests as a direct source for uncultivated food for communities
- linkages between income generation, markets and nutrition

Since LANN's inception, Welthungerhilfe has applied LANN training and its concept across various programs in South East Asia, South Asia and Africa. The use of LANN in different projects, socio-cultural and political settings and natural environments led to a proliferation of interpretations and adaptations of the concept. The approach was elaborated in several ways beyond simple training and the original basic pillar linkages. Examples of adaptations from various programs included integration of water, sanitation and hygiene linkages; a focus on supporting specific segments of the community to meet specific nutritional requirements (for example, for pregnant and lactating women and young children); recognition that gender, resource or

other equity and rights issues thread through sectoral linkages, the application of the LANN concept to a Participatory Learning and Action (PLA) learning framework, to name a few. In addition, a diverse range of extension activities were implemented including home gardening, rainwater harvesting, healthy snack selling income generation activities and weight monitoring of children under five, to address specific challenges and gaps in the particular context.

LANN+ represents a revised and elaborated LANN approach but one that is still evolving. Shaped by Welthungerhilfe's experiences with LANN in Asia and Africa, and Welthungerhilfe's broader SFNS work globally, LANN+ affirms the food-based character of the approach and its original core elements, but calls for deeper interlinkages of the key sectors, for example through local food systems, to maximize nutrition security outcomes. Also, in recognition of the fact that barriers to behaviour change are not limited to knowledge and skills constraints, the LANN+ framework is not limited to a training approach per se. LANN+ is a holistic approach that most definitely includes some level of knowledge and skills enhancement, but may encompass a range of different interventions and methods to promote and to create an enabling environment for sustained behaviour change and sustainable access to nutritious food sources.

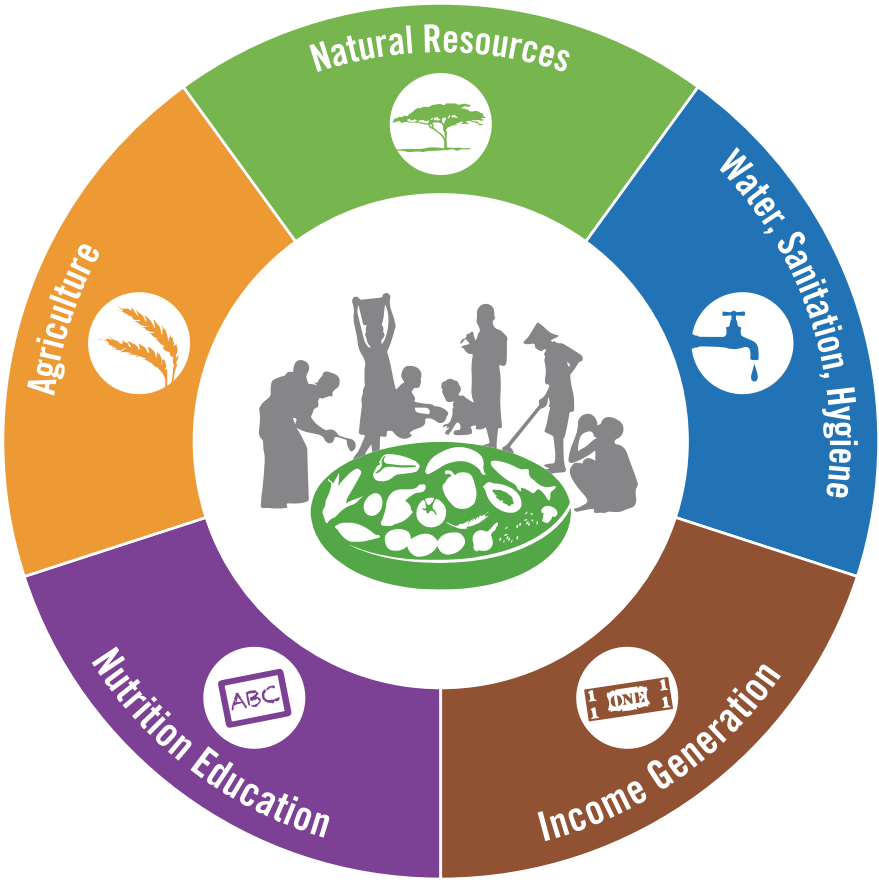
The LANN+ objectives and purpose

The purpose of the LANN+ approach is to make use of the complementary intersectoral linkages between agriculture, natural resource management, nutrition education, WASH, and income generation.

With the specific aim of promoting behaviours at household and community level to improve nutrition security, the LANN+ approach seeks to empower rural households to plan for and sustainably practice nutrition-sensitive strategies particularly with regard to accessing adequate and healthy food, a sanitary environment as well as relevant care practices with a specific focus on vulnerable family members.

HOW DOES PARTICIPATORY LEARNING AND ACTION (PLA) HELP?

- The community learns to link nutrition with good agricultural practices and proper management of natural resources available to them.
- Community discussions will help the community understand the manifestation of undernutrition and its causes and effects and how it can be measured.



- The community gains an understanding of the intergenerational transfer of undernutrition, and how it can be broken by addressing nutritional needs of different age groups including infants and young children, adolescent girls, pregnant women and lactating mothers.
- The community discusses infant and young child feeding (IYCF), overall child caring practices, the importance of balanced food in their regular diet, healthy cooking practices, hygiene and sanitation.
- Plans are prepared for improving availability of and diversity of food through growing nutrition gardens, integrated farming, promotion, utilization and conservation of uncultivated food and making optimal use of the available natural resources.
- Entitlements related to food, health and livelihoods are discussed in the community and strategies are prepared on how to avail of these provisions to break the chain of malnutrition.

FRAMEWORK OF THE MANUAL

	Mtg No.	CONTENT	Objective	METHODS	Materials/Tools used in meeting	Key issues covered
PHASE I ASSES SITUATION	01	Introduction to the PLA Cycle and Inequity Issues	To introduce facilitator and participants; To introduce the LANN PLA cycle; To understand the need to include all sections of the community.	Discussion Power walk game.	Questions for game as given in manual.	Understanding issues of inequity in the community; Sensitizing the community and frontline Government providers about why some people are not able to access services and get left out/ are at a higher risk of undernutrition and ill health; Looking at ways to reach out to the excluded persons/ communities for improving nutritional outcomes.
	02	Under-standing underlying causes for under nutrition.	To develop an understanding of the intergenerational under-nutrition cycle; To explain the linkages between illness and under-nutrition.	Discussion on cycle of under-nutrition. Discussion on how to break the cycle.	Flex for depicting intergenerational under nutrition cycle.	Under nutrition is intergenerational but the cycle can be broken; Discrimination against the girl child, Under nutrition in adolescent girls, pregnant and lactating mothers; Repeated and/or prolonged episodes of illness leads to under nutrition.
	03	Assessment tools and current status of under nutrition.	To understand the growth chart / growth monitoring and other tool for measuring under nutrition; To develop an understanding of local practices and beliefs related to (nutrition and Natural Resource Management – NRM).	Demonstrating the use of growth chart. Sample weighing of children at AWW/ Health centre. Discussion on local practices	Growth chart, MUAC tape (where applicable), and weighing machine (at Health Centre). Questions for exploring local practices.	Importance of regular growth monitoring; Sensitizing the community about the need for regular growth monitoring and seeking appropriate advice from frontline workers' (pertaining to different country set ups); Understanding of existing practices.

PHASE I ASSES SITUATION	04	Locally available food and balanced diet.	To understand the importance of food groups and a 'balanced diet'; To map locally available food groups; To prepare seasonal food calendar.	Demonstration and mapping of locally available food Interactive discussion	Participants to bring locally available food and place in appropriate food groups. Participatory preparation of seasonal food calendar.	That different varieties of food are available locally. That nutritionally rich food can be prepared at the village/household level with the existing food stuff. That a variety of food is available round the year from different cultivated and uncultivated sources.
	05	Available resources in the community	To identify the status of available resources and practices related to NRM; To identify the status of available land (fallow, forest, agriculture) and water resources; To identify best nutrition gardens	Transect walk. Mapping of resources.	Chart paper.	Understanding the current status of natural resources in the village Knowing the gaps. Planning for appropriate utilization of land with a focus around improving nutrition.
	06	Understanding the effects of open defecation on community health & nutrition	Understand importance of safe disposal of human excreta and need for construction of toilets for families.	Open defecation mapping and discussion on effects of open defecation.	White chalk powder, 1 small ball, 1 small toy hen/duck/cow, turmeric powder, mug of water.	How humane excreta is transported from environment to the mounth. How water body is contaminated by open defecation.
	07	Personal hygiene directly impacts nutritional status	Understanding the importance of personal hygiene and how to maintain good hygiene.	Discussion and demonstration of hygiene tools; Demonstration of steps for hand washing.	Tooth brush, tooth paste, Neem/ Subabul stick, soap, bucket, mug, nail cutter, comb, clothes line, pegs, slippers, Sanitary napkins, anti-lice medication, etc.	Identification of current personal hygiene practices, what are the ideal practices and what changes are possible in the community
	08	Identifying and prioritising nutrition related problems	To identify food and nutrition related problems in the community; To find out how common they think the problem is.	'What is it?' game; 'Voting' game.	Problem picture cards, Pebbles for voting.	Community identifies symptoms of the problems (under nutrition and related issues); Prioritises problems based on how common they are.

PHASE II DECIDE ACTION	09	Finding causes and solutions related to health & nutrition problem.	To find underlying causes for problems related to health and under nutrition in their community; To arrive at solutions to deal with the problems.	Story-telling; 'But why?' game.	Story developed by facilitators; Picture cards to go with the story.	Communities understand the different causes for under nutrition (both immediate and underlying causes which links with agriculture and natural resources management practice); Communities learn to find feasible/community based solutions to the problems.
	10	Finding causes and solutions to problems related to WASH	Community finds the links between current WASH practices and it relation to nutrition.	Game and Discussion on the good and bad practices	Snake and Ladder game	Learning and identification of good and bad habits related to WASH.
	11	Finding and choosing feasible strategies	To identify strategies arising out of the solutions from the previous meeting.	'Bridge' game	Bricks, wooden planks, strips of white paper	Community tries to develop strategies by overcoming barriers for implementation through optimal use of resources.
	12	Undertaking resposibilities	To undertake responsibilities for implementing the strategies.	Discussion formats	Format	Each one in the group has a responsibility 1. That together they can track the progress; 2. The need to incorporate all stake holders at village level to implement the strategies.

Village Interface Meeting

- Meeting with different stakeholders and soliciting their support to implement strategies.
- Discussing different entitlements in local context and how to avail these entitlements
- Prepare score card of available services

PHASE III TAKE ACTION	13	Timely initiation of complementary feeding and improved IYCF practices	To understand the importance of timely introduction of complementary food; To understand importance of "enriching" the food.	Demonstration of different semisolid food Hand washing technique Engaging community in a ceremony on timely introduction of semisolid food Discussion on energy dense food recipes for infants	Soap and water Plate and spoon with locally made food using cereals, greens and vegetables.	Importance of introducing complementary foods at the completion of 6 months of age (180 days); Importance of hand washing before feeding; Inclusion of energy dense/nutritive food to enrich the diet; Importance of age–specific frequency, quality and quantity of food.
	14	Recipe demonstration	To demonstrate local recipes and good cooking practices; To discuss about food preservation methods.	Demonstration of recipes	List of some local recipes and ingredients	Enriching diet with a variety of foodstuffs (such as oil, seasonal vegetables and fruits, lentils, animal protein) with attention to frequency and quality of meals. Encouraging inclusion of locally available cultivate and uncultivated food for daily diet.
	15	Strategies to prevent under nutrition in the community	To identify and implement possible strategies for improving nutrition and growth of adolescents and mothers.	"Choosing the appropriate circle" game.	Picture cards, material related to practices like feeding bottle, soap, packet of pesticide, vegetable basket, bednet, etc.	Recognising doable strategies for improving nutrition and growth.
	16	Reinforcing strategies to prevent under nutrition	To find the underlying causes for problems related to under-nutrition To implement strategies to deal with the problem	'Chain' game	Ribbons in four colours, Dummy of baby, Story and picture cards.	Understand the underlying causes of under nutrition related to feeding practices, cultural practices, illness management and lack of access to entitlements). Identify doable strategies for improving child under nutrition.

	17	Nutrition gardens	To understand the importance of nutrition garden for family food diversity; Discussions on how to develop nutrition garden, type of plants, bio fencing use of organic manure, etc.; To discuss strategies to develop a nutrition/ homestead garden.	Story telling Visit to a nutrition garden	Story	Family is able to plan and develop a nutrition garden
	18	A. Reinforcing Learnings	Making drinking water and water for household consumption safe	Discussion on doable actions using cards	Picture cards and materials for Matka filter	Skill development of community on safe storage of drinking water; protection of sources of drinking water; protection of other water bodies; and, rain water harvesting.
		B. Safe water for drinking, cooking and bathing		Demonstration of low cost water filter (Matka filter)		
		C. Solid and liquid waste management	Understand the importance of recycling of waste and removal of non-bio degradable material from environment	Choosing appropriate coloured (blue/ green) bins	Green drum/bin, blue drum/bin, picture cards, waste materials	Segregation of organic and inorganic waste; recycling of waste and reduced use of harmful materials.
	19	Uncultivated food	To reinforce importance of uncultivated food as a rich source for dietary diversity and critical for food security; To map available uncultivated food and discuss about their utilization, conservation and promotion.	Preparing a seasonality chart for available uncultivated food	Discussion	Learning about Importance of uncultivated food; Learn to preserve/store these for use in lean seasons; and, Learn to conserve, protect and regenerate them.

	20	Crop planning	To improve net yield (quantity and diversity) of a unit of agricultural land based on local conditions.	PRA – Seasonality Group planning	Different colour powders, small quantity of seeds of local crops, drawing sheets, pens etc.	Community has had a discussion on how to plan crops for different seasons for good yield.
PHASE IV EVALUATION	21	Evaluation of PLA cycle	To share experiences of the PLA cycle; Phase-wise evaluation of the cycle; To evaluate the impact of their activities; and, To plan for the future	'Voting' Game	Discussion Pebbles	The participants recognise their achievements and how it has impacted the community; Are encouraged to continue with good practices.

Note : Meeting number 15 and 16 are both on reinforcing learnings and must be conducted.

Relevance

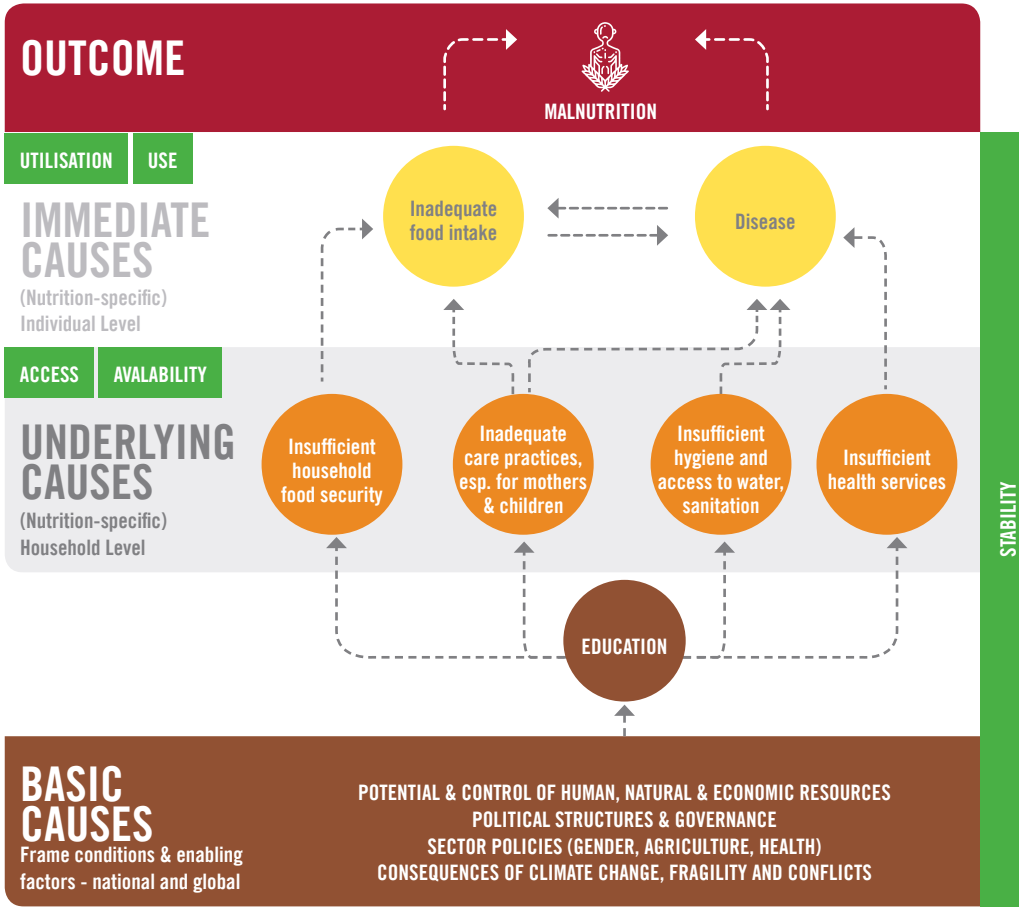
Undernutrition continues to be a major challenge faced by countries in South Asia and Sub-Saharan Africa, leading to almost half of the deaths of children under five years of age (Black R E, et al, 2013). Hunger and food scarcity are two major contributing factors towards malnutrition, and much of the current debates today are around how to make agriculture more nutrition sensitive (Ruel M T et al, 2013, Braun J, 2011, Dorward, 2013).

It is being increasingly recognised that addressing undernutrition needs a multi-pronged strategy that addresses the immediate underlying causes, and other social determinants (CSDH, WHO, 2010). Different determinants that affect nutritional status include food security at household level, access to food within households, living conditions and mordibity, home care practices and access to quality health care. Gender, education, economic conditioon, political situation are significant factors that determine how the other determinants play out (CSDH, WHO, 2010; UNICEF, 1990). Needless to say, an approach encompassing complementatry sectors like agriculture, education, livelihood, water and sanitation, social security nets, early childhood development and health care is needed for addressing the situation of malnutrition (Ruel M T et al, 2013). While results of interventions of impacting nutrition through different pathways of home production, general development or market processes have been mixed and inconclusive due to insufficient research (Berti P R et al, 2003), women empowerment has been identified as a critical componentfor improving the nutritional status (Ruel M T et al, 2013, Haddad L, 2013; Berti PR et al, 2003).

This manual has tried to look at how agriculture and natural resource management and neutral can be linked together through a community mobilization process that will help communities prioritise their own nutritional needs prepare strategies using available resources and take action for solving problem. Knowledge on LANN can improve family eating practices, including the selection, purchase, preparation, intra household distribution and use of food. it can also contribute to crop diversification, promote the use of indigenous foods, and protect biodiversity and traditional culinary practices.

The PLA manual is presented through a process of nutrition education known as Participatory Action for Learning, that will empower individuals and societies to adopt healthy eating practices and lifestyles that respects local food habits and the natural environment, resulting in improved nutrition and better health. it

CAUSAL MODEL OF MALNUTRITION



also focuses on addressing the underlying causes of malnutrition, namely access to food through improve availability and utilisation; care of mothers and children; improving uptake of health and nutrition services and entitlements; and changes in practices related to hygiene and sanitation. The process of participatory learning and action is a bottom-up approach that empowers women and addresses to fundamental social determinants of gender inequity and poverty (Victoria CG and Barros FC, 2013).

For which type of interventions can this PLA cycle be used?
We believe that the manual can add substantial nutrition outcomes to numerous types of interventions, for instance:

- In interventions supporting smallholder agriculture: This manual was developed for a programme that promotes integrated farming systems in South Asia. This PLA cycle connects effective and sustainable production and greater diversity in the farm with actual nutrition practices of the family and especially children.
- interventions supporting natural resource management, for instance watershed projects, community forestery or forest right interventions. Hear the PLA cycle can provide the link between protecting the environment and improving nutrition practices.
- in water sanitation and hygiene interventions, the PLA cycle can contribute extending the behavioral change activities towards nutrition outcomes.
- In livelihood and income generation programmes, the PLA cycle can add critical aspects, so that better or more diversified income could actually translate into better nutrition of the family.
- In health of Nutrition specific interventions, for instance strengthening governance of primary health systems, the PLA cycle could also contribute to linking such interventions back to the realities and practices related to nutrition in the villages.

The PLA cycle could become a valuable add-on in many interventions, but it could also be the main intervention in a programme leading to first nutrition outcomes and behavioral change, improved knowledge about entitlements and increased demand for government services, while other activities, for instance strengthening local service providers, would be complementing the PLA cycle.

02

GETTING READY

4 Phases of PLA

The Participatory Learning and Action Cycle uses a variety of adult learning methods that community members can easily relate to, particularly in areas with low literacy. These methods include games, storytelling, pictorial display, practical demonstrations, participatory discussions etc. for facilitating the discussions. The duration of the meetings are approximately 1.5 to 2 hours, and the group members decide the time and venue of the next meeting.

The meeting cycles are designed in four phases:

Phase-1: Assessing situation

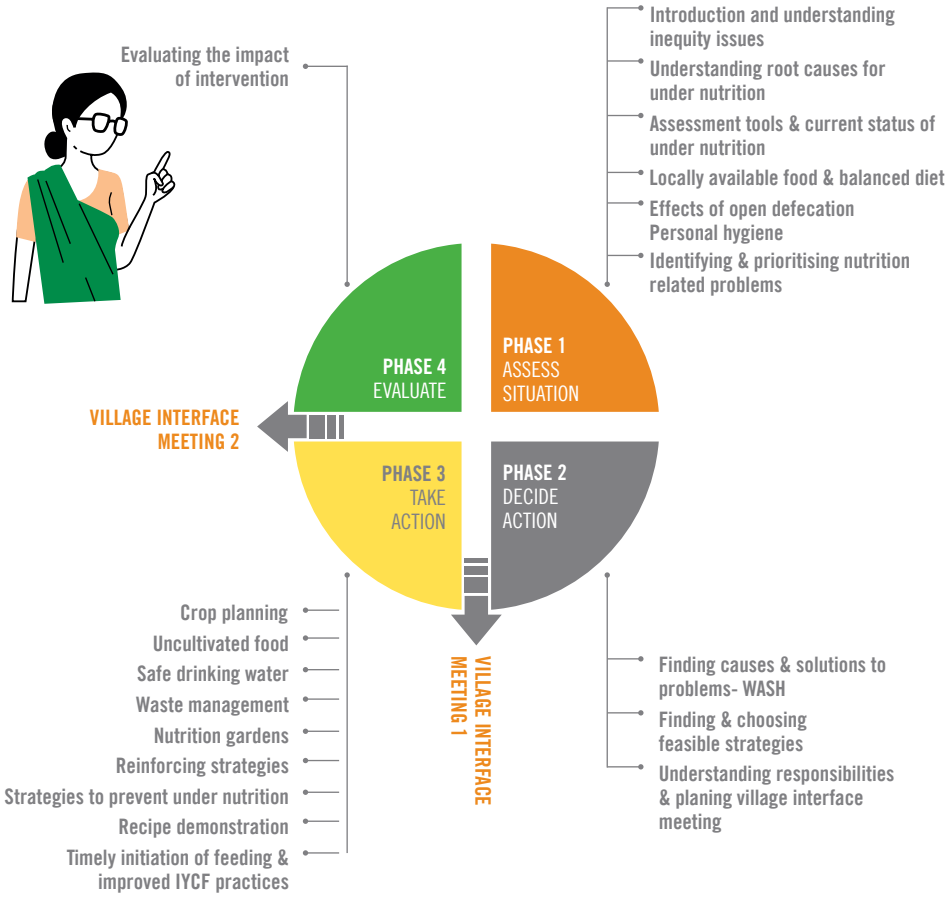
This phase, comprising of six meetings, will enable assessment of problem status related to nutrition, agriculture and natural resource management in the community and identification and prioritisation of common problems.

Phase-2: Deciding action

In this phase (meeting 7-9), the community will decide which strategies to adopt for each of the prioritised problems. At the end of phase-2, groups organize a larger community meeting involving other members of the community and frontline workers, where they share the problems they have identified and the strategies they plan to implement in order to seek their support for proper implementation of the strategies.

Phase-3: Taking Action

This phase (meeting 10-16) has specific meetings focusing on actions to be taken to support good nutritional, agricultural and NRM practices. During this phase, the group members also review the strategies that they have been implementing and discuss their



progress. This will be followed by a second interface meeting with the larger community to assess the impact of the intervention.

Phase-4: Evaluating progress.
This phase is marked by one final meeting (meeting 17) where group members evaluate their progress regarding the strategies they have chosen.

The Facilitator and the Community Groups – Roles and Responsibilities

Who can be a Facilitator?

Facilitating these meetings needs an understanding of the local dialect and context. It is therefore recommended that the facilitator be chosen from the same area where this PLA will be implemented.

A facilitator should have

- good communication skills
- minimum literacy for record keeping (12 years of schooling)
- mobility to be able to move in the area, so cycling or driving would be an additional skill requirement.
- acceptability with a pleasant demeanor and
- willingness to learn new things.

Such persons can be identified through organising village meetings and/or through personal interviews.

What are the Roles of a Facilitator?

A facilitator is expected to:

- Map and select existing community groups for the programme.
- Where no groups exist, s/he will form small community groups.
- S/he will identify the most marginalized communities within the village and encourage their participation in the meetings.
- S/he will encourage other family members (including male members) to join the meetings.
- S/he will conduct regular meetings of the community groups, and help them identify and prioritise problems related to their crop diversity, growing toxic-free nutritious food throughout the year and accessing food from the common resources; and, develop strategies on how to address these issues and guide them for implementing the strategies.

Community Groups

Both men and women members have a role to play in improving nutritional outcomes in a family. Community group therefore means a group of both, men and women members of the families residing in the area.

Generally, a PLA community group covers a population of about 500-700 for best results. A facilitator must ensure members of marginalised and vulnerable families are included in the meetings.

Role of Community Groups

The community groups will be the focal point for galvanising any action on under-nutrition. It is expected that members attend the meetings regularly and encourage other members of the community as well to join the meetings. Since the entire process is based on community decisions, the members need to take responsibility for planning, implementing and evaluating the strategies in their area.

Members of the most vulnerable and marginalized communities are encouraged to attend the meetings. The meetings encourage the participation of government frontline functionaries, so that they can share information on different government programmes related to nutrition that could be of help to the communities and facilitate their access to different services.

This will also include liasioning with other stakeholders, bringing in non-members and mobilise all available resources for implementation of the plans.

Who Should Attend?

The PLA cycle places importance on the care of pregnant women and young children; a mothers' nutrition and the nourishment, protection against illness, and care giving practices. By taking action, families can help mothers and young children get the best start.

Members of the most vulnerable and marginalized communities are encouraged to attend the meetings. The meetings also encourage the participation of government frontline functionaries, so that they can share information on different government programmes related to nutrition that could be of help to the communities and facilitate their access to different services.

Training of Facilitators

The facilitators need to be trained on PLA cycle in three phases with an interval of about six months, over a period of two years. Contents of five to six meetings will be covered in each training lasting for approximately three days.

The implementing organization needs to collect information about relevant government schemes with respect to nutrition, NRM and agriculture, technology resource agencies in their local area; and orient the facilitators about these on an ongoing basis. It is also recommended that review meetings are conducted with facilitators on fortnightly or monthly basis to provide ongoing handholding support for field related problems.

03

PLA MEETINGS

At the start of the first meeting, the facilitator should introduce himself/ herself, and encourage all participants to introduce themselves, while ensuring that no one is left out.

The facilitator can play some ice breaking game to initiate the discussions. Each facilitator can decide for himself/herself how s/he would like to introduce himself/ herself to the community and explain their role in the project.

The facilitator will then explain that he/she is a FACILITATOR and not an INSTRUCTOR or TRAINER or HEALTH WORKER. She/ he will encourage the community to discuss what could be the difference between the two roles.

Some important differences between a facilitator and an instructor/ trainer, include:

- Facilitators do not take a directive role instead they adopt the role of a listener, i.e. they facilitate the identification of the problem and planning processes rather than direct the participants.
- Facilitators listen and learn from the community, i.e. facilitators can learn from some groups and can share this information with other groups when they feel it may be beneficial to another group.
- The facilitator will also ask the group to discuss what they think makes a good facilitator. Some examples include:
    - Having a good relationship with all the participants
    - Encouraging all members to participate in discussions, do not just let a few people dominate the discussion
    - Being able to listen and learn from the women's group members
    - Using local language and words with which the participants are familiar and understand
    - Having a good knowledge of local culture

Facilitators listen and learn from the community, i.e. facilitators can learn from some groups and can share this information with other groups when they feel it may be beneficial to another group.

Ask the group to discuss what they see as their role as members of a group, and again encourage a discussion about this. Some examples include:

- Attend meetings voluntarily
- Help each other as well as the wider community
- Share their knowledge and experiences with others
- Listen to and respect the opinions of others
- Make their own decisions
- Work together to solve problems

AT THE START OF EACH MEETING, THE FACILITATOR WILL ...

1. Informally chat with the participants and other members of the community
2. Encourage the participants to sit together in a circle
3. Welcome the participants and thank them for coming
4. Explain the purpose of the meeting
5. Discuss about progress of implementation of prioritised strategies

AT THE END OF EACH MEETING, THE FACILITATOR WILL ...

1. Summarize the learning from the meeting
2. Confirm the date, time and meeting place of the next meeting
3. Inform the group about the content of the next meeting
4. Informally chat with the participants and other members of the community
5. Thank the participants for attending the meeting and encourage them to bring more people for the next meeting
6. Make sure all the necessary information is entered in the register

Phase 01

Phase 2 - p49
Phase 3 - p64
Phase 4 - p93

Picture credit - FIVDB Bangladesh

MEETING

01

INTRODUCTION TO THE PLA CYCLE AND INEQUITY ISSUES

OBJECTIVES

Session 01
Introduction to LANN PLA cycle

Session 02
To understand the need to include all sections of the community

METHODOLOGY

Disucussion

Power Walk Game

DURATION

1.5 HRS

MATERIALS

Chart Paper & Pens

Session 1: Introducing PLA Cycle on LANN

The facilitator will start with familarising participants with the objectives of the project, i.e. 'Linking Agriculture, Nutrition and Natural Resource Management". It is important for them to understand that nutrition will be the underlying theme and will be discussed throughout the meeting cycle along with issues concerning harmful agricultural practices and management of natural resources and how these affect nutrition and what could be done to improve nutritional outcomes.

Process of implementation of the project

- About 16-20 meetings will be conducted in the village regularly.
- The meetings will be held once every fortnight or every month, depending on what is agreeable to the participants. The meetings are broken down into the following four phases:
- In the first phase of the cycle, group members will identify the problems mothers and their children face related to nutrition, availability of natural resources and harmful agricultural practices and discuss how they currently perceive these problems and are responding to them. This will help them prioritize problems they would like to tackle as a group.
- In the second phase, the participants will try to learn how undernourished children can be identified using different anthropometric measurements and also try to understand the immediate and underlying causes for under nutrition, discuss possible solutions and strategies to overcome these problems. A community meeting will help to provide feedback to the community about what they have been learning and focusing on for the last few months.
- In the third phase, group members will undertake responsibilities to implement the strategies.
- In the fourth phase, group members will discuss what they have done well and what they could do better in the future, so that they can learn from the process.

Meeting Summary

Before going to the next session ask the participants if they have understood the topics discussed so far. Encourage the group members to participate actively. The facilitation can be done by asking questions relating to the topics, like:

- What are the objectives of the project?
- How many meetings will be held during the project?
- What will be discussed in these meetings?
- What is the PLA cycle?

Session 2: Developing an Understanding on the Need to include all Sections of the Community

Poor and disadvantaged people are at a higher risk of under nutrition and mortality. They are not able to access the services and entitlements provided by the government for various reasons. Both community members and frontline workers need to understand why some people get left out, or face multiple barriers in accessing the services. A game will help in identifying those who get left out, understand why they get left out and encourage those present to think what could be done to include them.

Method for conducting the 'Power walk' game.

- Facilitator will choose any six members from the group.
- S/he will explain the game to them before the meeting starts.
- Each of them will be given a chit with a character she will be representing.
- The six members will be asked to keep their role/character a secret.
- To start the game, ask the six persons to stand in the centre of the group in one line and move forward one step at a time depending on the questions asked.
- Facilitator will ask a few questions aloud so that everyone can hear them clearly.
- Facilitator will request all the participants to listen to the questions carefully.
- It is advisable that the characters are rehearsed prior to the meeting for better participation of the characters and for making the game more interactive. While planning for the game each character is also given directions on when to stop while playing the game.

CHARACTERS FOR THE PLAY (EXAMPLES OF SIX CHARACTERS GIVEN BELOW. (THE FACILITATOR CAN ALSO INCLUDE MORE CHARACTERS, RELEVANT TO THE PROJECT AREA.)

Character 1: Landless pregnant woman in late pregnancy with two children working as an agriculture worker and residing in 'hard-to-reach' area

Character 2: Pregnant woman in late pregnancy residing near health centre / in regular contact with the health worker

Character 3: Daughter-in-law of the village leader

Character 4: Marginal farmer who migrates seasonally

Character 5: Casual laborer (man) with less than one acre of upland

Character 6: Ecological farmer (a farmer who uses locally/ home produced agriculture inputs- renewable seeds, organic manure, bio-pesticides etc)

Questions to be asked by the facilitator and the responses

	Questions	Possible Responses
01	How many of you have got 4 ANC services from the health centre? Please take one step forward	Landless pregnant woman in late pregnancy with 2 children working as an agriculture worker and residing in 'hard-to-reach' area (Character 1) will remain standing, others will take one step
02	How many of your children have completed their full immunization? Please take one step forward	Marginal farmer who migrates seasonally (Character 4) will remain standing, others will take one step
03	How many of you have irrigation facility to grow your own vegetables?	Casual laborer (Character 5) with less than 1 acre of upland will remain and others will take one step
04	How many of you have had the following items in their diet at least twice in the last one week? mix of cereals, pulses, greens, fruits, oil, and meat/ fish, egg	Ecological farmer and daughter in law of the village leader will take one step (Character 3 and 6)
05	How many of you have been counseled on family planning, breastfeeding and taking care of newborn baby during your postnatal visit? Please take one step forward	Daughter in law of the village leader (Character 2) will take one step


Picture credit - FIVDB Bangladesh

Questions for discussion with the community:

- Who are those that have come to the front? Why are they at the front?
- Who are the people that were left behind and why?
- How can we make sure that the voices of marginalized along with all community members are included in the community processes? Why is this important?
- How can we make sure that everyone in the community reaches the end line?

These questions are then discussed with the characters of the role-play.

Meeting Summary

- Discussions will be around nutrition along with natural resource management and agriculture over the entire period
- There are four phases to the cycle, between 17-20 meetings in all
- Meetings will be held at regular intervals, every 15 days or monthly, in agreement with the community
- There are different and multiple barriers preventing people in a community from accessing services.
- Those who get left out are generally at a higher risk of under-nutrition and ill health.
- It is the collective responsibility of the community to reach out to the excluded people and help them in accessing the services and resources for better health and nutritional outcomes

MEETING

02

UNDERSTANDING UNDERLYING CAUSES OF UNDER NUTRITION.

After welcoming participants, facilitator will ask members to recount the discussions and learning of the previous meeting.

OBJECTIVES

Session 01
To develop an understanding of the inter-generational under-nutrition cycle

Session 02
To understand the linkages between illness and under-nutrition

METHODOLOGY

Discussion on cycle of under-nutrition

Discussion on how to break the cycle

DURATION

1.5 - 2 HRS

MATERIALS

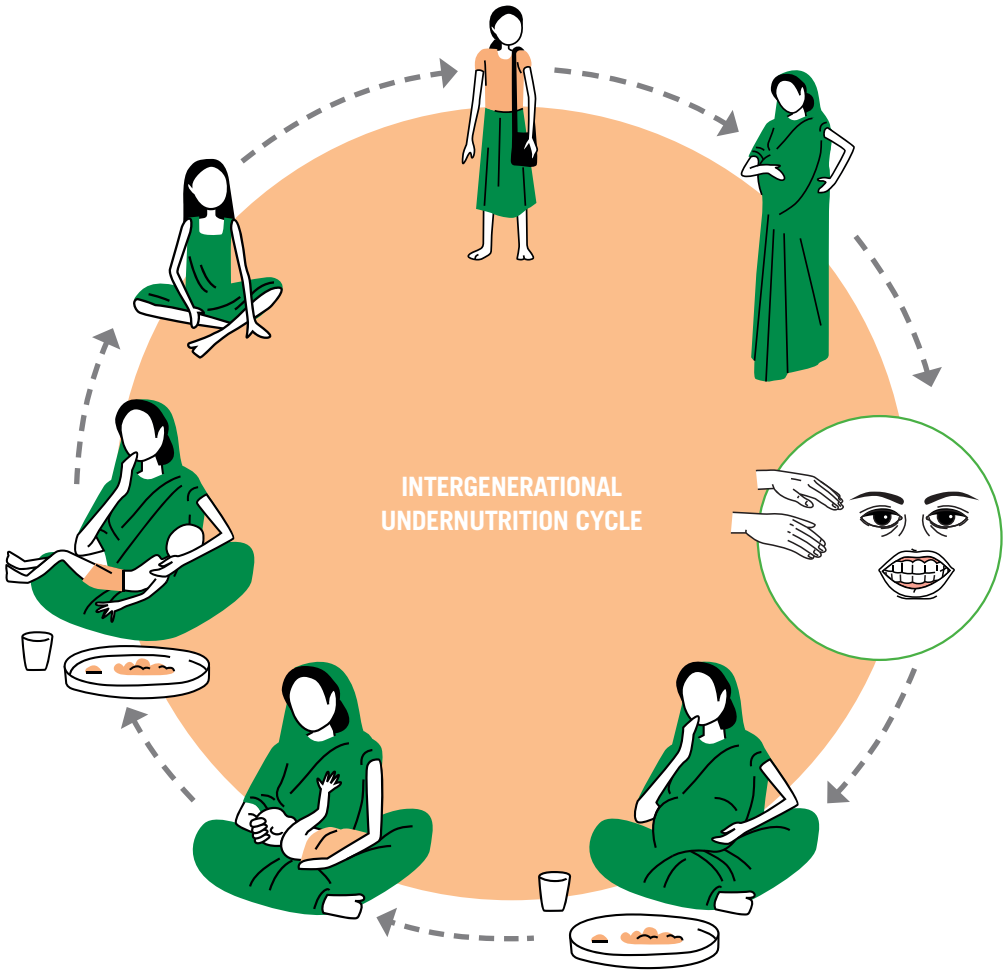
Flex for depicting intergenerational under Nutrition Cycle, Chart Paper, Pen, Notebook

Session 1: Understanding of the Intergenerational Undernutrition Cycle

- Facilitator will show the participants a Poster depicting under-nutrition cycle.
- S/he will ask the participants what they understand from the chart.
- Using the observations from the participants, the facilitator will explain how under-nutrition runs in an intergenerational cycle. Young girls who grow poorly become short and weak women and who are more likely to give birth to low birth weight babies. If the baby happens to be a girl child, she is likely to continue the cycle by being short in adulthood. Adolescent pregnancy increases the risk of low birth weight babies. Good nutrition in all these stages of life — at birth, infancy, childhood, adolescence and adulthood — especially for girls and women is essential to break this cycle.
- The facilitator will now show the life cycle approach on the poster, and encourage a discussion on each phase of the life cycle. The facilitator will make an effort to sensitize the community to address under-nutrition and anaemia much before girls reach the reproductive age through this approach.
- It is important to first identify the under-nutrition cycle to break it. Encourage the participants to discuss the various causes of under-nutrition in their village.
- Ask the participants if they agree that the cycle can be broken.
- Facilitator will tell the participants that in future meetings, they will, TOGETHER, identify strategies to try to break this cycle.

Session 2: Understanding the Linkages between Illness and Undernutrition.

- Facilitator will explain the linkages between under nutrition and repeated illnesses – sick children are more likely to become undernourished and undernourished children are more likely to become sick. An under-nourished child is more like to die of respiratory infections, diarrhea, malaria, measles and other infectious diseases and repeated illnesses further increases the risk.
- Facilitator will ask the participants to share some reallife stories where they have seen the linkages.
- S/he will also make a note of the responses which will be used in future meetings.



Meeting Summary

- Under-nutrition can be carried on from one generation to the next, if the intergenerational cycle is not broken.
- Good nutrition at all these stages — infancy, childhood, adolescence and adulthood — especially for girls and women is essential to break this cycle.
- Sick children are more likely to be undernourished and undernourished children are more likely to be sick.
- Under-nutrition increases the susceptibility to diseases and increases the risk of death and repeated illness can be a major cause for under nutrition

MEETING

03

ASSESSMENT TOOLS AND CURRENT STATUS OF UNDERNUTRITION

OBJECTIVES

Session 01
To understand the growth chart / growth monitoring and other tool for measuring under nutrition

Session 02
To develop an understanding of local practices and beliefs related to (nutrition and NRM)

METHODOLOGY

Demonstrating the use of growth chart

Sample weighing of children at AWW/health centre

Discussion on local practices

DURATION

1.5 - 2 HRS

MATERIALS

Growth chart, weighing scale (at Health Centre), Questionnaire for exploring local practices

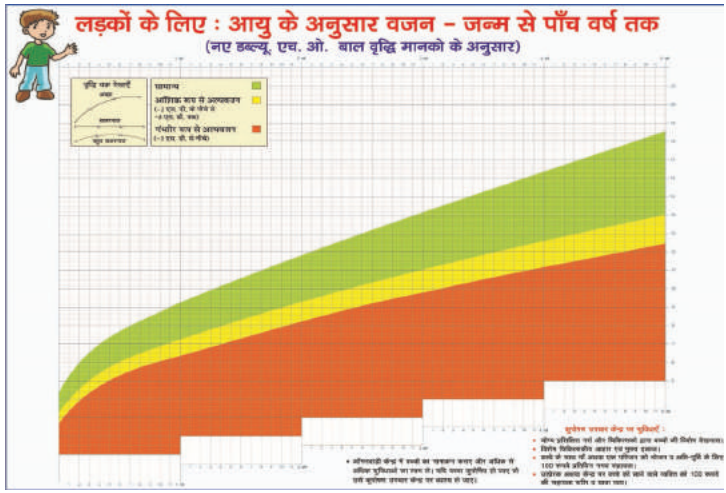
After welcoming participants, the facilitator will ask participants to recount the discussions and learning of the previous meeting. Facilitator will start by saying that they have discussed about under-nutrition in the previous meeting and it is now important for them to know about the methods for identifying under-nutrition and then lead them to the agenda of this meeting.

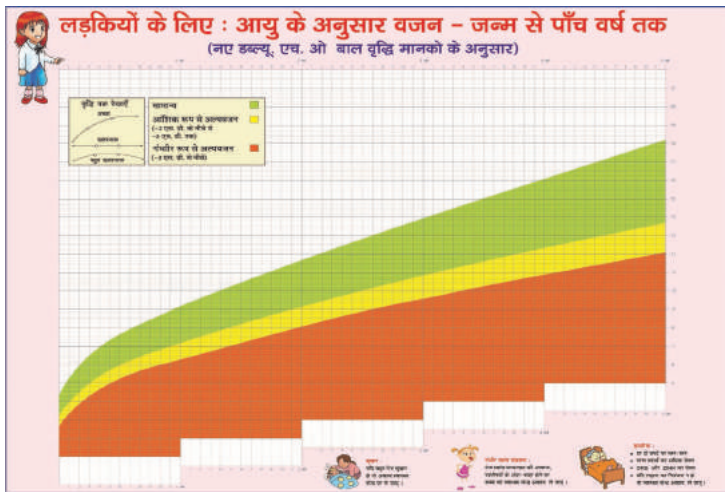
Session 1: To Understand the Growth Chart / Growth Monitoring and Other Tools for Measuring Undernutrition

IMPORTANT NOTE: The facilitator will not train community members on growth measurements, rather this meeting aims at helping mothers understand the importance of the measurements and follow it up with the regular government health and nutritional services.

Discussions about the importance of the growth chart and measurement of a child's weight for age

- All growth charts have a weight for age graph printed on one side, separate for boys and girls. This graph can be used for the first five years.
- The charts reflect the health status of a growing child
- It is important is to see that the curve follows a trend that indicates that the child is growing.
- Good feeding practices – both before the child is six months old and after complementary feeds have been introduced. – These can help prevent growth faltering in both weight and length.
- A dot is marked on the chart each time the child is weighed. Connecting the dots for each visit forms the growth line for an individual child.
- Any change in trend (the child's curve going upward or downward





from its normal track) should be investigated to determine its cause and necessary action taken.

- A flat line indicates that the child is not growing. This is called stagnation and may also need to be investigated.
  [Using the growth charts the significance of different colours can be discussed, depending on the local area]

Other tools for measuring under-nutrition

(a) Mid Upper Arm Circumference (MUAC)

This screening tool is used for measuring reduction in muscle mass and is used for identification of SAM (Severe Acute Malnutrition) children at the community level and appropriate referral for treatment at the health facility. This tape can be used for children aged 6 months to 59 months. MUAC makes

it easy to understand how children are classified and whether they will qualify for treatment.

(b) Another measurement which can be used is length (less than two years old) or height (more than two years old). A child who is undernourished for a long time will show slow growth in length or height. This is referred to as stunting or short height for age.

Meeting Summary

Before going to the next session, ask the participants if they have understood the topics discussed so far. Encourage the women to participate actively. The facilitation can be done by asking questions relating to the topics, like:

- What will you see in a growth chart?
- How will you know if the child is growing well?
- What are the other tools to know that a child is undernourished or not?
- What do you understand by stunting?

Session 2: To Develop an Understanding of Local Practices and Beliefs Related to Nutrition, Agricultural Practices and Natural Resource Management)

- Facilitator will once again refer to the life cycle poster and encourage discussion on each phase of the life cycle. The discussion should focus on addressing causes of under-nutrition during pregnancy and moving through birth, infancy, early childhood, adolescence and lactation.
- Facilitator will ask the group about the current practices in women and children during pregnancy and lactation, feeding of infants, introduction of complementary feeding, feeding during adolescence.
- Encourage the group to discuss the various causes of under-nutrition that they observe in their village.

Facilitator can use the questions below as a guide for facilitating discussion and keep the group focused on these issues:

Questions on nutrition:

- What are the food restrictions during pregnancy and lactation?
- What is the first feed given to a newborn? What is done with the first milk (colostrum)? Is anything given to the baby before initiating breastfeeding? Why?

- When is complementary feeding normally introduced to the baby? What food is given to the baby once complementary feeding starts and how frequently?

Questions on agricultural practices:

- How many main crops are normally grown in a year?
- Is the village self-sufficient in terms of growing vegetables/ cereals/oil seeds?
- How often are pesticides used in the agricultural field?
- What are the problems in getting these foods from their agriculture and nutrition garden/ common resources/ market?

Questions on natural resources:

- How much are they dependant on the local forest for their livelihood needs?
- What are the common problems they face?

The facilitator will inform the group that in the next meeting they will try to understand about balanced diet and will request the members to bring any locally available raw food items from their houses to the meeting.

Meeting Summary

- The importance of monitoring growth of children every month. Weight for age is a commonly used tool for monitoring the growth of children. Other tools for identifying under-nutrition are MUAC and weight for height.
- Plotting the weight of child on WHO growth chart - if the dot is in the yellow region of the chart, the child is moderately under-nourished; if the dot falls in the red zone, the child is severely under-nourished. Both yellow and red zones need investigation and appropriate referral to health facility for advice.
- An upward going graph is normal, but if the line goes flat, or turns downward, it is a risky situation and, investigation and corrective action are required.
- Understanding existing practices help in identifying the harmful practices related to nutrition, agricultural practices and natural resources management and these can be improved.

MEETING

04

LOCALLY AVAILABLE FOOD AND BALANCED DIET

OBJECTIVES

Session 01
To understand the importance of food groups and a 'balanced diet'

Session 02
To map locally available food groups

Session 03
To prepare seasonal food calendar

METHODOLOGY

Demonstration and mapping of locally available foodstuffs

Interactive discussion

DURATION

1.5 - 2 HRS

MATERIALS

Chart Paper, Pen; Participants to bring locally available Foodstuffs

After welcoming participants, the facilitator will ask participants to recount the discussions and learnings from the previous meeting.

Session 1: Mapping of locally available food for improving diet through "food grouping" game

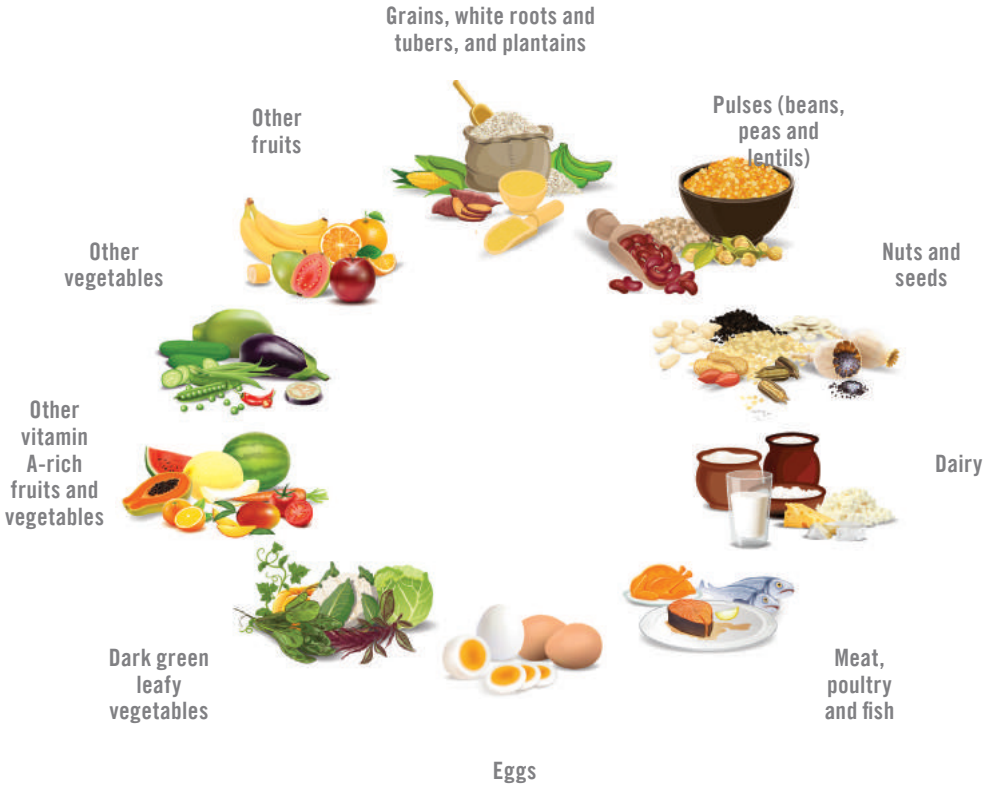
[Prior to the meeting the members are requested to bring any locally available raw food items from their houses to the meeting]

- The facilitator will ask the members to put the food items collected by them on the floor/ mat and ask about other food items which are available in the village but for some reason could not be collected for the meeting e.g. seasonal fruits and vegetables. S/he will write the responses in a small paper-chit and place it near the food items.
- Using the chart with the food groups, the facilitator will emphasize the importance of getting adequate portions from all locally available food groups. The main food is placed in the centre, with the three groups of HELPER FOODS – Energy foods, body building foods and protective foods around it.
- Facilitator will encourage discussion on each of the food groups

Picture credit - WHH India Partners

using examples of the different varieties of food items to help the members understand the nutrient categories different types of foods belong to. S/he will also discuss with the group what nutrients different foodstuffs contain – substances which the body uses for growing and functioning. Food gives us energy to move, think and work. Food also contains important substances which keep our body strong and healthy, help to boost our immune system and protect us from infections.

- The facilitator will draw 10 squares on the ground/floor to represent the ten food groups and keep the ten pictures/ cut outs representing each of the squares as a food grouop. S/he will ask the members to pick one food item at a time and put them under the appropriate category.
- S/he will ask the rest of the group to say whether they are correct. This process is continued till all the available items brought by the members have been completed.
- The facilitator will then ask members to think about other food item that have not been brought/ and /or available in other seasons and write them on blank chits and ask them to put it under appropriate food group.
- After all the food items and chits are put under appropriate category the facilitator will encourage the members to include each of the food group in their daily dietary intake for enriching their food during pregnancy and lactation, and include all items in the child's daily diet.
- The facilitator will specifically talk about the need to add oil in each meal to increase the density of complementary food for children aged 6-59 months. S/he will emphasize that dietary diversity is important, especially the intake of iron, calcium and folic acid rich foods. Therefore, the family foods should be enriched with a variety of colourful foods such as orange/red vegetables and fruits, green leafy vegetables, eggs, beans, lentils or peanuts in adequate amounts. Children should be also fed animal foods (meat, liver, chicken, and fish) and given milk and milk products whenever available, as these would make the child grow healthy and strong.
- During the discussions on food groups, the facilitator will also encourage discussions on myths and food restrictions during pregnancy, lactation and feeding of children younger than three years of age and try to dispel these beliefs.
- The facilitator will stress the point that there is availability of all



food groups at the village level and most of them can be either grown locally or collected round the year for a balanced diet. Some food may also be purchased from the market.

The ten food groups are:

1. Grains, white roots and tubers and plantains
2. Pulses (beans, peas and lentils)
3. Nuts and seeds
4. Dairy
5. Meat, poultry and fish
6. Eggs
7. Dark green leafy vegetables
8. Other vitamin A-rich fruits and vegetables
9. Other vegetables
10. Other fruits

Session 2: Preparing a Seasonal Food Calendar

The facilitator will use a matrix to map the different uncultivated foods that can be collected throughout the year. S/he may facilitate the group to prepare a seasonality chart as shown below. The elders and women in the village need to be encouraged to contribute to the listing. It may also be done as a focused group discussion.

* Options: i) agricultural fields and / or home gardens, ii) village commons including water bodies, iii) forest, and iv) market, including the fair price shops

Followed by this classification, the group members need to be invited to share their knowledge, experiences and concerns about the uncultivated food that were available and collected and are now disappearing and if they have thought of ways of protecting/ conserving or regenerating them. The faciliatator will enquire about the preservation practices that help to retain its nutritive values (e.g. drying fish, mushrooms, etc).

Name of the food items and number of varieties	Summer	Rainy	Winter	
	Name of the food and source*	Name of the food and source*	Name of the food and source*	Name of food that are disappearing/ vanishing
Cereals				
Pulses				
Nuts				
Vegetables				
Yellow/orange vegetables				
Roots & tubers				
Leafy vegetables				
Spices				
Oil seeds				
Fish				
Egg				
Milk & Milk products				
Poultry & meat				
Other Fruits				
Yellow/orange fruits				
wild foods (mushroom, bamboo shoots, flowers and seeds etc.)				

Meeting Summary

- Our body needs different varieties of food to grow and to keep us healthy and strong.
- Wide varieties of food are available locally – some are grown or collected or even bought from the market. We need to include the different varieties of food in our daily diet.
- Family food should have a range of colours by including fruits and vegetables that are orange, red, yellow, green etc. in adequate quantities.
- Children should also be fed animal foods (meat, liver, chicken and fish) and milk and milk products whenever available.
- Women need nutritious food in more amounts during pregnancy and lactation. Apart from cereals and pulses, their food should also include food rich in iron and folic acid (e.g., green leafy vegetables, amla) and calcium (eg milk, egg, fish, meat).
- Locally available uncultivated food (like food from the forest, honey or fish from the river/stream) is an important and critical source of food and nutrition and it can be preserved and the younger generation could be motivated to learn to regenerate, protect and conserve them.

MEETING

05

MAPPING AVAILABLE RESOURCES IN THE COMMUNITY

OBJECTIVES

Session 01
To identify the status of available natural resources like available land (fallow, forest, agriculture) and water.

Session 02
To identify best nutrition gardens

METHODOLOGY

Transect walk

Mapping of resources

DURATION

1.5 - 2 HRS

MATERIALS

Chart Paper

After welcoming participants, facilitator will ask participants to recount the discussions and learnings from the previous meeting.

SESSION 1:

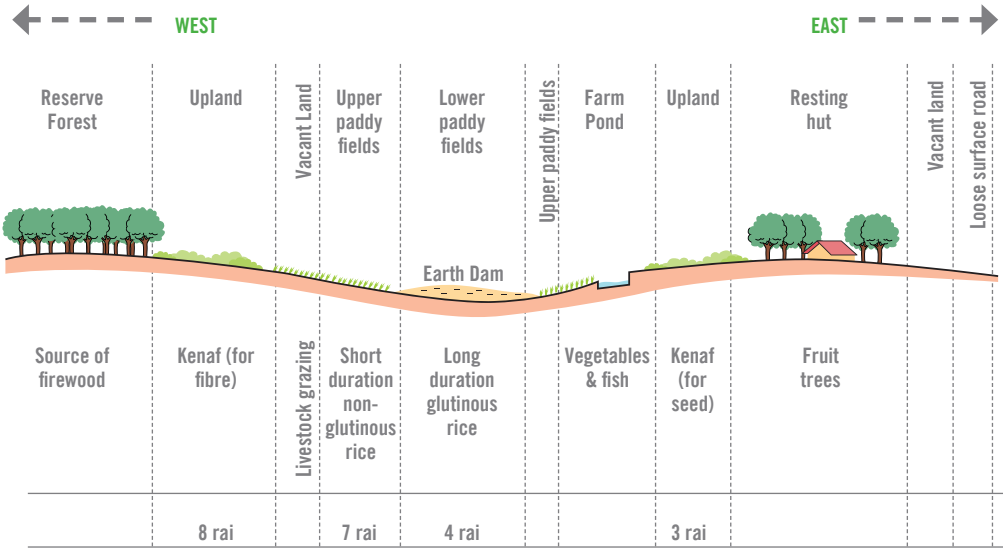
Identifying Status of Available Natural Resources (including Forests, Agricultural Land and Water)

- The facilitator along with the group members will go around the village and ask them to observe what they see on the way with a focus on the condition of agricultural and natural resources of the village.
- S/he will ask the members to locate the agriculture fields, homestead and village common areas, where food crops can be grown by individual households and collectively as well.
- S/he will ask the members to also locate water bodies.
- The facilitator will try to encourage discussion on identifying strategies through pointed and open-ended questions, enabling the community to address the issues related to agriculture and nutrition. This serves as a strong trigger to bring out hidden thoughts associated with nutrition among the community. (Facilitator will make notes on responses made by the members during the walk).
- Suggested questions during visit:
  - Where are main foods – cereals, pulses, oil seeds grown? [Visit and observe the area]
  - Where and how are vegetables grown?
  - What kind of agricultural inputs do people use (- seeds, fertilizers, pesticides etc)? From where is it procured?
  - What are the leafy vegetables, fruits grown in homestead gardens in the community?
  - What are the types of uncultivated food they find in different seasons and from where?
  - What is the community's main source of drinking water?
  - Where do people shower and wash their utensils?
  - Which areas in the village are used for defecation purposes?
  - What are the available water sources for agriculture?

- Facilitator will draw attention to the fallow land which can be used for growing food.
- S/he will ask and discuss with the members how often they use forest produce.

The following illustration will give an idea of what a transect map looks like. . The facilitator needs to draw the track that the community will be walking in, noting the details of each ecological setup as mentioned in the illustration below. For details, see Annex 4.

Do's	Don'ts
• Be curious. Walk slowly, observe carefully. • Try to include as many villagers (specifically, village elders). • Give positive reinforcements for initiatives observed in the village during the transect	• Do not lecture or ask questions that will not be used. • Do not avoid the ill maintained kitchen-gardens. • At any point, do not pass judgment on the community.



Note: 1Rai = 0.16 Hectares

Discussion based on transect walk

At the completion of the transect the participants will be able to understand their food and nutritional status with regard to their forest, nutrition garden, agriculture fields and / or crop diversity, production problems and some possible solutions, and areas or plots

where changes can be initiated. The members will together prepare a plan based on the findings while referring to the notes made during the transect walk. This plan will help them to decide on strategies in future meetings.

For example, if they find that their nutrition gardens are lying fallow or have only a few varieties of vegetables and/or do not have a proper fence around they will then try to diagnose the underlying reasons for the garden lying fallow. The probable reasons could be lack of water and / or lack of seeds and / lack of time to work there and / or no proper fence etc. The facilitator will then have to creatively plan based on the locally available resources including the knowledge and skills.

Niches	Reserved Forest	Upland	Upper paddy fields	Lower paddy fields	Farm pond	Upland	Resting Hut	Vacant land	Road
Soil type									
Food Grown									
Food collected									
Water use									
Any good practice noted									
Ownership									
Defecation practices									

Meeting Summary

- Family's daily diet should include a variety of food like vegetables, fruits, cereals, millets, oil, animal protein in adequate quantities.
- Most food groups are locally available round the year
- Uncultivated food and foodstuffs from forests are also a critical source of food
- Available natural resources can be optimally utilised for improving nutritional status at the levels of the family and the community.
- Best use of natural resources can be made through systematic planning.

MEETING

06

UNDERSTANDING THE EFFECTS OF OPEN DEFEACATION ON COMMUNITY HEALTH AND NUTRITION

OBJECTIVES

Session 01
Importance of safe disposal of human excreta.

Session 02
Need for construction of toilets for the family

METHODOLOGY

Open defecation mapping

Discussion on effects of open defecation

DURATION

2 - 2 ½ HRS

MATERIALS

White Chalk Powder, One Small Ball, One Small Toy Hen/Duck/Cow, Turmeric Powder, Mug Of Water

Session 1:

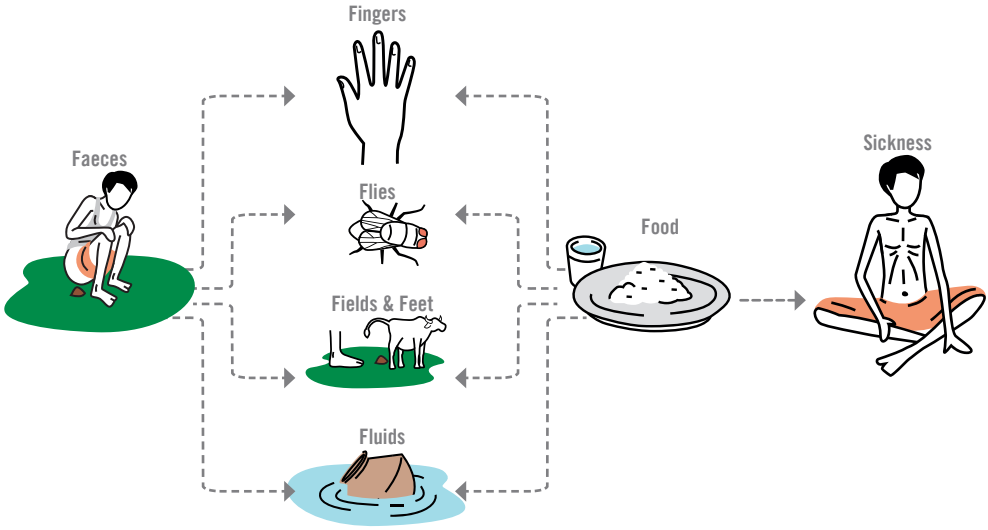
Game to sensitize and start discussion on contamination caused to water sources and to food by open defecation. The game will demonstrate that open defecation is a threat to people not using toilets as well as those using toilets. So, to ensure own safety one must ensure the entire village safely disposes faeces.

Methodology:

The facilitator will invite some children randomly who are ready to play a game. The parents and elders will watch the game from the outer circle.

1. Facilitator walks around the village with the children and adolescents
2. The facilitator helps the children to draw the village map, including all residential areas, marshy land, farmland, school, ponds, fallow /unused land, etc.
3. The facilitator shows the ball and the animal toys and asks if children use these in the village.
4. The facilitator asks the children to demarcate their houses and those that of their friends
5. The facilitator then asks the children to mark the house which

Picture credit - WHH India Partners



have toilets and those that do not have a toilet.

6. Now they are asked to put a pinch of turmeric powder on the spots/places they or their friends and other villagers usually defecate at.
7. After this is completed, the facilitators says' "…and suddenly it starts raining" and sprinkles water over the village map.
8. The yellow turmeric powder mixes with water and starts flowing from one place to another. The facilitator then asks the players as well as the community what they see now.
9. Then, the facilitator rolls the ball and puts the toy animal (moving toys) which hops around the villages over the yellow water
10. This will help the facilitator to lead into a discussion on how faeces travel from one place to another, from animal to humans and from hand to mouth.

Meeting Summary

- If we do not safely dispose the faeces it will come back to our houses, hands and food.
- Chronic Amoebiasis and repeated loose motions can cause growth failure in children
- Worm infestation is one of the causes of anaemia.
- Mothers with anaemia give birth to low birth weight babies

MEETING

07

PERSONAL HYGIENE DIRECT IMPACTS NUTRITIONAL STATUS

OBJECTIVES

Session 01
Understanding the importance of personal hygiene and how to maintain good hygiene

METHODOLOGY

Discussion and demonstration of hygiene tools

Demonstration of Steps for hand washing

DURATION

2 HRS

MATERIALS

Toothbrush, Toothpaste, Neem/ Subabul Stick, Soap, Bucket, Mug, Nail-Cutter, Comb, Clothes' Line, Pegs, Slippers, Sanitary Napkins, Anti-Lice Medication, etc.

Session:
Discussion on cleanliness

Distribute the items used for personal hygiene and encourage discussion. Discuss handwashing the importance of following the eight steps of handwashing: Follow these 8 steps to clean hands: (1) palm to palm; (2) in between fingers; (3) the back of hands; (4) base of thumbs; (5) back of fingers; (6) fingernails; (7) wrists and (8) rinse and dry

- Conduct a discussion on menstrual hygiene
- Discuss about washing clothes, bathing and dental care
- Discuss about treatment of lice
- Discuss drying clothes in the sun

Meeting Summary

- Hand washing with soap following the eight steps of handwashing is mandatory
- Personal hygiene/cleanliness keeps infections away
- Sun is the best disinfectant, so all clothes should be sundried, including cloth used during menstruation
- All bedding should be sundried at least once a year
- Disposable sanitary napkins can be used. Cellulose gel-based sanitary pads should be discouraged as these are not biodegradable. Reusable sanitary pads can be easily made at home. Reusable sanitary pads should be washed with soap and dried in the sun.
- Brush teeth twice a day.
- Avoid ear infection. Get treatment for ear infection.

MEETING

08

IDENTIFYING AND PRIORITISING NUTRITION-RELATED PROBLEMS

After welcoming participants, the facilitator will ask participants to recount the discussions and the learnings from the previous meeting

Session 1: To identify Food and Nutrition-related Problems in the Community

The facilitator will explain that s/he is going to introduce them to problems using a game called "What is it?

- The facilitator will circulate the problem picture cards, one at a time, to the participants and ask whether they understand what has been shown in the picture. S/he will ask them to discuss amongst themselves the problem that the picture on the card conveys. If they have not understood any of the pictures, she will explain what the picture denotes and, will make a note of any local name/term that the community has for the problem depicted in the picture.
- Next, place all the picture cards on the ground, face downwards, and ask the group members to form pairs (partner 1 and partner 2).
- The first member (partner 1) will pick up any card and pin it to the back of her partner (partner 2 - who has not seen the particular card or its contents). The facilitator would then ask the remaining participants to carefully look at the card.
- Partner 2 will try to guess the issue/topic written on the card while taking help from the remaining group members by asking several questions, e.g. Is the problem related to child, maternal health? Is it a disease? Is it something that helps prevent a problem? Is it related to food/nutrition? Is it about agriculture? Is it related to forest? The group members will enact the issue/problem (without speaking) depicted on the card till partner 2 has guessed correctly.
- Repeat the process until all the pairs have completed the game and all the picture cards are covered.
- Keep one blank card to include any problem that the community thinks is not included among the cards.

The above process allows the participants to get actively involved and also helps them to identify the picture cards that can be related to nutrition of mothers and children, both directly and distantly.

OBJECTIVES

Session 01
To identify food and nutrition related problems in the community

Session 02
To find out how common they think the problem is

METHODOLOGY

'What is it?' game

'Voting' game

DURATION

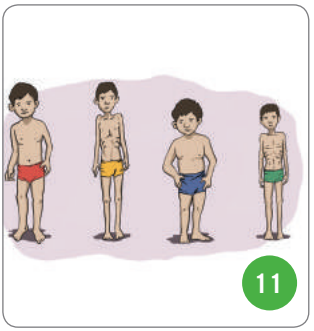
1.5 - 2 HRS

MATERIALS

Problem picture cards (with causes and symptoms mentioned on the other face of the card), Pebbles for voting

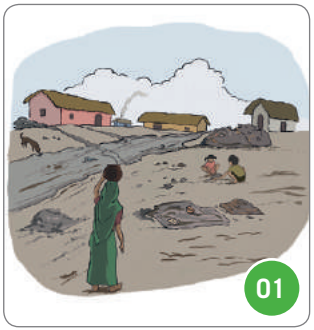
List of Problem Cards:

1. Anaemia
2. Food Restriction during pregnancy
3. Exposure of pregnant / lactating women to pesticide or chemical fertilizers.
4. No dietary diversity
5. Food scarcity
6. Reduced forest food diversity
7. Unsafe food
8. Unsafe food consumption
9. Unhygienic food handling
10. Worm infestation
11. Under-nutrition
12. Unkept nutrition garden



List of cards to be used in the game

1. Unhygienic Settlement (card)
2. Uncovered Potable Water (card)
3. Polluted River (card)
4. Untreated Pollutants (card)
5. Pollution through Domestic Work (card)
6. Polluted Drinking Water (card)
7. Open Defecation (card)
8. Two empty cards



Session 2: Prioritising the Problems Related to Nutrition

Facilitator will explain that they will be playing another game called the 'voting' game:

- The facilitator will take each problem picture card in turn and remind the participants what the problem is (using the local name for it) and ask the participants to describe the symptoms. Next, the facilitator will place the card on the ground, picture facing upwards, in the middle of the circle so that all can see it clearly.
- Once all of the problem cards have been laid out – explain that they will be chosing problems they think are more important and they would like to be addressed. They may want to consider how common the problem is in their community and how serious it is. Also, how feasible is it for them as a group to address these problems.
- Give each of the participants six pebbles.
- Ask the participants to place three pebbles against the problem card they consider to be the most important, two on the next most important and one on the third most important problem. Ask the group members to think carefully before they put pebbles against the card, and that they should not be guided by others in the group in this particular exercise.
- Ask them to place the pebbles beside the picture cards, so that the picture is clearly visible to others.
- After every member has put the pebbles, ask one of the members to add up the pebbles on each card and write down the number on a paper next to each problem card.
- The card with the maximum number of pebbles is the first priority, and so on. Inform the group about the order of their prioritized problems.
- Choose the first 4-5 prioritized problems depending on what the group wants and take a consensus from the group –the facilitator may consider prioritising some more problems if s/he sees that some problems are interrelated.

Discussion of the local practices and beliefs on the problems prioritised

Facilitator will discuss with the participants about all the prioritised problems. An example of such facilitation for a problem like anaemia is provided below:

Symptoms	Causes	Management	Prevention
Facilitator will ask how participants will know it is anaemia.	Why do women/ children become anaemic?	What do you do when they are anaemic?	What do you do to prevent anaemia?

Or if the problem is reduced diversity in the daily diet

Symptoms	Causes	Management	Prevention
Facilitator will enquire how the participants feel that the problem is a reduced diversity in the daily diet.	Why do they grow/eat less diverse food?	What do you do when the daily food intake becomes less diverse?	What do you do to improve the food diversity?

The facilitator will read out from the other face of the picture cards only about causes and symptoms of the problems. Participants will be informed that these issues will be discussed in further details in the forthcoming meetings.

Facilitator will make a note of the responses from the participants to be used later when stories will be written.

Meeting Summary

- This meeting will help the community to understand what the problems are pertaining to under nutrition
- They will prioritise the problems they feel are most important for them and understand its symptoms and causes.

Phase 02

Picture credit - WHH Nepal

MEETING

09

FINDING CAUSES OF AND SOLUTIONS TO THE PROBLEM

OBJECTIVES

Session 01
To find immediate and underlying causes for problems related to health and under nutrition in the community

Session 02
To arrive at solutions to deal with the problems

METHODOLOGY

Story-telling

'But why?' game

DURATION

1.5 HRS

MATERIALS

Story developed by facilitators, picture cards (drawn by facilitators themselves) to go with the story

After welcoming participants, the facilitator will ask members to recount the discussions and learning of the previous meeting.

Session 1: Finding Immediate and Underlying Causes for Prioritized Problems Related to Undernutrition and Natural Resource Management

The facilitator will employ storytelling and the use of picture cards to help group members understand the causes and effects of the problems they have prioritized. The causes will include both, the immediate and underlying causes along with those that include social, medical, natural resources and agriculture.

Stories should have a single theme that is clearly defined (e.g. under-nutrition), characterization should have a local flavour (learning from the cultural practices from the earlier meetings), pictures that highlight the causes leading to the problem, the plot should have a dramatic ending to have an impact on the listeners.

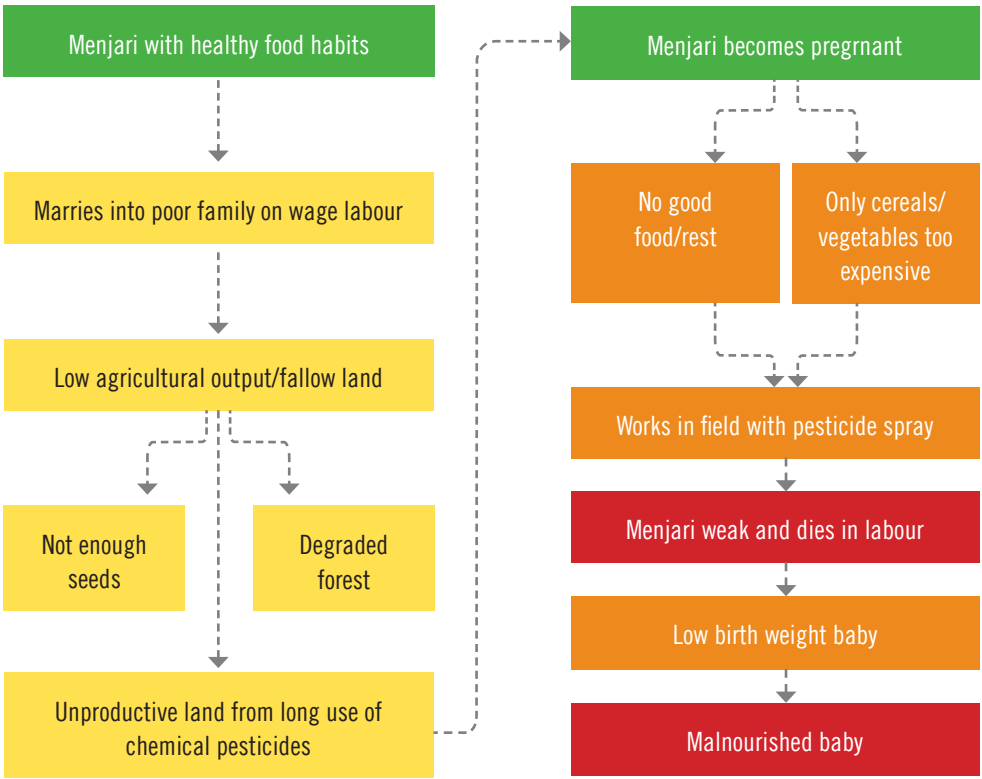
Understanding the cause and effect of the problem:
This meeting allows the facilitators to develop a story that weaves through the underlying and structural causes of under nutrition.
The stories are prepared based on the problems prioritised in the previous meeting. Since the facilitators are new to the idea of story-telling, they will need the following to make their stories:

- Context/background – since the facilitators are local they would understand the local cultural practices related to under nutrition, e.g. not giving colostrum, not giving ORS, not taking advise from Community Health worker, no food diversity, consumption of toxic food produce, etc – findings that were captured during the 2nd and the 3rd meetings
- Symptoms of the condition – these are written on the reverse of the problem picture cards
- What causes the condition – these are also written on the reverse of the problem picture cards (both possible immediate and underlying)
- How the condition affects the family – either undernourished

mother /child or death of either. This is to generate concern in the participants and to encourage them to attend future meetings where the solution to the problem will be discussed

Using the above, the facilitator will develop a story where the protagonist is a person from the village and goes on to tell her story using the background, symptoms, causes and effects. The story would reflect real life settings. The underlying and socioeconomic causes of the problems should be woven into the story in such a way that the listeners internalize the causes leading to the said problem. The facilitator would use local terminologies and dialect to draw attention to the story.

Flow chart to understand the causes leading to death of mother and malnourished child. Picture drawings will be based on the boxes in the flow chart.



The facilitator would also make hand drawn pictures of the immediate and underlying causes while preparing the stories. These pictures will be laid on the floor as the story is told.

Example:
A story focusing on childhood under nutrition

Menjari lived in village next to a forest and where they grew diverse crops (cereals, pulses, other legumes, oil seeds, roots and tubers, spices and vegetables). As a child she loved to go to the forest to collect fruits, mushrooms, green leafy vegetables, and roots etc. and other forest produces that she learned from her parents.

She was married into a poor family and the main source of income was wage labour. They grew food on a part of their land and left the rest as fallow. When she asked her husband why they did not use all their land for cultivation he said, "we do not have enough seeds for the entire land and the land has become highly unproductive." He further added that this might be due to prolonged use of chemical inputs. She further wanted to know from him as to why they did not collect food from the forest. Her husband said that the neighbouring forest which used to be a rich source of nutritious food has now.
Menjari became pregnant after a few months. She requested her husband to get her vegetables and animal protein because she had seen her sister-in-law taking a variety of food during her pregnancy. Her husband responded helplessly, saying, "things are different in your village, where villagers have optimized your land to grow a variety of cereals, lentils, fruits and vegetable and even kept domestic animals to provide for your nutritional requirements. Our situation is different because we grow only rice/ wheat / corn with the seeds procured from the market. We cannot afford to buy green vegetables from the market as they are very expensive. So, you need to adjust to our situation. I know it will affect our child. But I am afraid I cannot do much."

Menjari compromised with her situation and therefore could not take adequate food and the required rest. She also had to work in other people's field where a lot of pesticides were used and with the passage of time, she became. In the 9th month, she delivered a low birth weight baby daughter. Menjari was too weak to even look after her child and she died within a few months. Her child was very weak and by the time the child was one year of age, she had become very under nourished and had to be admitted in hospital.

After narrating the story, the facilitator will ask any group member to repeat the story using the picture cards to remind them of the main causes leading to under nutrition.

Session 2: Solution-finding Process for Problems Related to Health, Nutrition and Natural Resource Management

Facilitator will explain that they will be playing a game called 'But why?'

- Allow the picture cards to remain on the ground after the story-telling session.
- Encourage all participants to take part in this exercise.
- Facilitator will ask the group to discuss why the child was under-nourished and so on, until all the causes to the problem have been covered.
- To arrive at the solutions, the facilitator will ask '*what could have been done*' to prevent the problem from happening and note down all the responses for using it later on.

The facilitator will summarize the causes at the end of the 'but why?' game by recalling all the causes that led to the problem of under nutrition.

To arrive at the solutions s/he will now ask the participants, 'but what?' can be done to prevent the problem from happening and note down all the solutions in the register for use in later interactions.

The "But why?" game.....

What happened at the end of the story?
The child was admitted in the hospital
But why was the child admitted in the hospital?
Because the child had become under nourished

But why did the child become under nourished?
Because the child could not be looked after by the mother and was born low birth weight

But why was the child not looked after by the mother?
Because the mother had died

But why did the mother die?
Because the mother was weak and anaemic

But why was the mother weak?
Because the mother did not get proper food and rest; not enough vegetables, lentils and animal protein to eat during pregnancy and lactation

But why did the mother not get proper food and rest during pregnancy and lactation?
Because she had to work hard and the family could not afford and they did not grow any vegetables or fruits nor reared any domestic animals
But why could the family not afford?
Because they worked as wage labourers and also did not grow their own crops, vegetables

or fruits, nor rear domestic animals

But why did they work as wage labourers and not grow their own vegetable garden?
Because they did not have their own seeds of various crops and a part of them became unproductive due to prolonged use of synthetic chemical inputs and could not collect any forest produce because the forest was now degraded

What were the other reasons for the child's low birth weight?
Because Menjari continued to work without proper food and the family could not provide her with nutritious food as they could not afford to buy from the market nor could they grow as a part of their land became unproductive due to prolonged use of synthetic chemical inputs

Meeting Summary

- Nutrition, Agriculture and Natural Resource Management are interlinked in many ways.
- Problem of malnutrition has different immediate and underlying causes that need to be addressed.
- Understanding these causes is important to find feasible community-based solutions.
- Community can draw from own resources as well as from external resources and Government programmes to find solutions to these problems.

MEETING

10

FINDING CAUSES AND SOLUTIONS TO THE PROBLEMS RELATED TO WASH

OBJECTIVES

Session 01
Find the links between current WASH practice and in relation to Nutrition

METHODOLOGY

Game

Discussion on the good and bad practices

DURATION

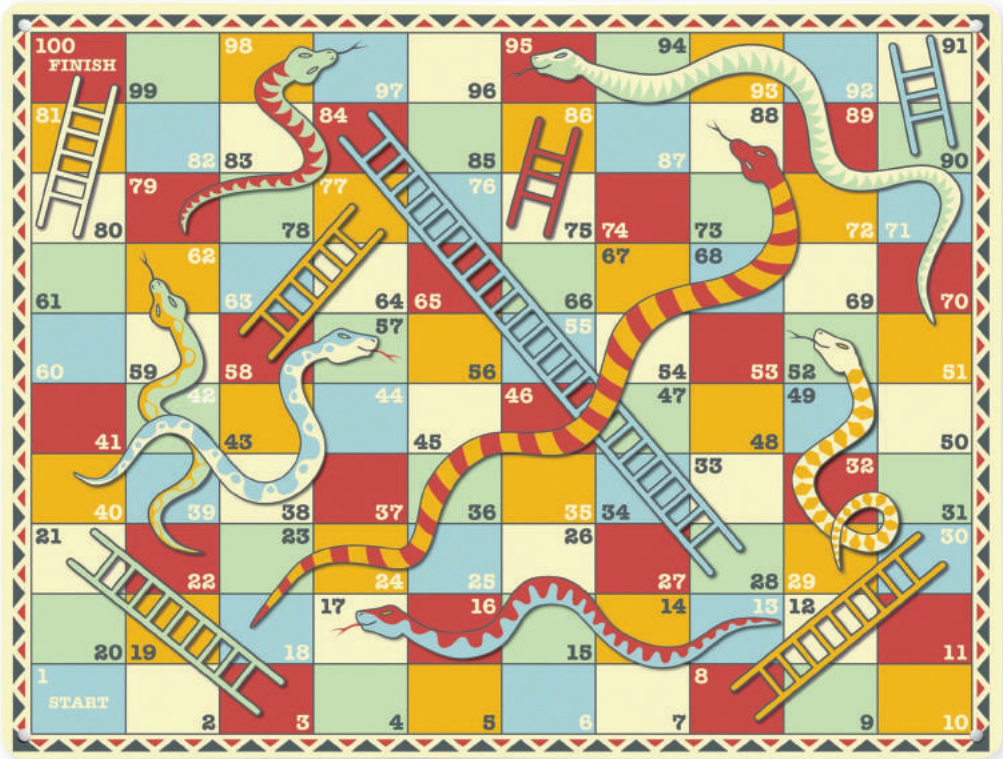
2 HRS

MATERIALS

Snake and Ladder Game

Session 1: Snake & Ladder game

Good practice – Ladder – Climb Up		Bad practice – Snake – Go down	
Action	**Impact**	**Action**	**Impact**
Wash hands with Soap	No transfer of infection from hand to mouth	Unsafe disposal of faeces of children	Infection from child to adult
Use Toilet	No diarrhoea/ Cholera	Animal and human bathing in same pond	Bacterial infection from animal to Human- diarrhoea/ amoebiasis/ anaemia
Construction of platforms and soak pits around handpump	No breeding place for mosquito	Open defecation	Contamination of drinking water and bathing water- diarrhoea/ amoebiasis
Use Filter	Safe drinking water	Dipping hands in drinking water	Bacteria transfer from hand to drinking water- diarrhoea/ amoebiasis
Disposal of organic waste in pit	Production of compost	Discard plastic packets & containers indiscriminately	Undissolved plastic in soil causes cancer in human body
Segregate waste	Less chemical contamination of nature	Uncovered food	Contamination by flies- diarrhoea/ amoebiasis
Use Sanitary pads during menstrual periods	Less Reproductive Tract Infection	Walk bare foot	Worm infestation- Anaemia
Regular Deworming	Good growth & less disease	Unclean teeth, hair and skin	Tooth ache, scabies and lice



Session 2: Discussion with the community on what can be done to reduce the bad practices.

Meeting Summary

- Open defecation causes infection and worms
- Hand washing with soap can reduce contamination and disease
- Safe disposal of waste will keep environment clean and provide free compost for farming
- Use of sanitary pads will reduce reproductive tract infection and help to pursue normal activities during menstrual periods
- Safely managed /stored drinking water will reduce infection of digestive tract
- Deworming required for all ages
- Personal cleanliness reduces parasite infestation
- Clean drinking water, use of toilet, hand washing with soap and personal hygiene will improve family Nutrition.

MEETING

11

CHOOSING FEASIBLE STRATEGIES

OBJECTIVES

Session 01
To identify strategies arising out of the solutions from the previous meeting

METHODOLOGY

'Bridge' game

DURATION

1.5 HRS

MATERIALS

Bricks, Wooden Planks, Strips Of White Paper

After welcoming participants, facilitator will ask members to recount the discussions and learning of the previous meeting.

Session 1: Identifying and Prioritising Strategies after Understanding the Opportunities and Barriers to the Implementation of the Strategies

The facilitator will explain how to play 'the bridge game'. This is a practical and visual exercise to help participants understand the process between the present situation "they are now in", with regard to health and nutritional problems of women and children and "where they would like to be".

- Ask the participants to imagine they are standing on one bank of the river. This represents their current situation regarding health of women and children in their community. Place one brick on the ground.
- Place another brick a little apart that represents the other bank of the river and also, the situation that the community would like to be in regarding health of women and children.
- The river is the barrier that is preventing them from reaching where they want to be.
- To overcome the barriers they need to build a bridge that represents the strategies that will need to be implemented.
- Place two long pieces of stick across the bricks. These represent the strengths of the groups and they will provide the supportive base to implement strategies.
- Place shorter planks crossing these two. Each of these planks represents a strategy.

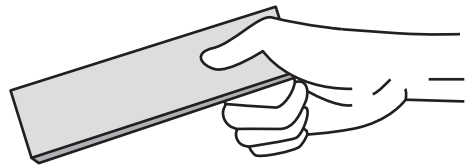
Once you have shown the final bridge and described what each represents, start from the beginning and have a discussion about each aspect, reminding the participants about the discussions during the previous meetings:

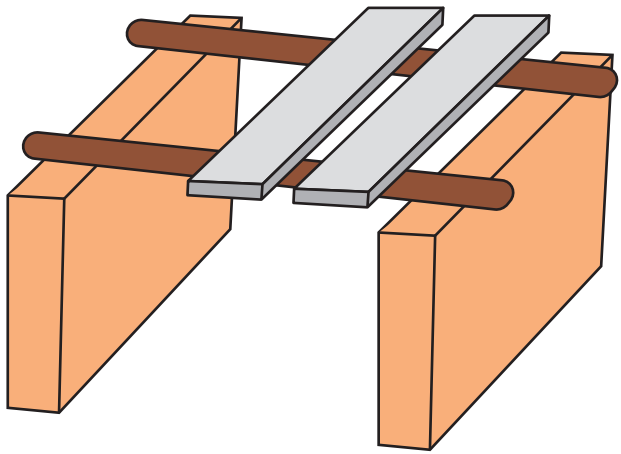
(1) The first brick = where are we now? (e.g. under nutrition in children and women)
(2) The second brick = where do we want to be? (e.g. healthy family/

(3) The river = the barriers we face (e.g. consumption of toxic food products, no food diversity, shortage of water resource, cultural barriers to starting of semi-solid food, etc.)
(4) The two long sticks = the strengths we have as a group (e.g. active savings group, helpful village leader, dedicated Community Health Workers, unity among group members, etc)
(5) The shorter planks = the strategies the group proposes to come up with. They need to decide what these will be now…

To identify strategies, the facilitator will ask 'but how?' e.g. **But how** can you ensure that the child is given diverse food? **But how** can you ensure that we give non-toxic food to the child? **But how** can you ensure that the child is fed properly during illness? **But how** can you make the land more productive? **But how** can you grow vegetables in your garden? etc.

- Keep prompting for as many suggestions as possible.
- For each strategy, discuss the barriers they face and the strengths they have as a group and discuss whether it is a feasible strategy.
- Once the group has decided they want to implement a strategy and that it is feasible for them, place a short plank on the bridge.
- Similarly, carry on the discussion till all the strategies are taken





up and the bridge is completed.

- As the strategies are being finalised they are put under 4 broad headings – a) Nutrition b) Agriculture c) Natural resources and, d) Behaviour

Facilitator will summarize all the discussions with the help of the participants. S/He will tell the participants that now they know the problems, the causes and the solutions to the problems and have now decided on the strategies that they will be implementing together for preventing the prioritized problems.

Village	Prioritised Problem	Prioritized Strategy			
		Nutrition	Agriculture	Natural Resource	Behavior

Meeting Summary

- Community is facilitated to develop strategies by overcoming barriers for implementation through optimal use of available resources.

MEETING

12

TAKING OVER RESPONSIBILITIES

OBJECTIVES

Session 01
To undertake responsibilities for implementing the strategies.

METHODOLOGY

Discussion on formats

DURATION

1.5 HRS

MATERIALS

Formats

After welcoming participants, facilitator will ask members to recount the discussions and strategies prepared in the previous meeting.

Session 1: Discussing Strategy Implementation Process and Taking over Responsibility thereof

The facilitator will take up each strategy to be implemented and ask how the groups plan to implement them.

- For each strategy discuss the following in details:
  - When do they want to start the implementation?
  - What actions / activities are necessary?
  - Who will take responsibility for its implementation?
  - Do they want / need to involve non-group members? How feasible is this? Who will take responsibility for interacting with them?
  - What should they do if they experience any problems while implementing the strategies?
- Each person will be assigned a role; the group will discuss how they will proceed to ensure that they have enough support and guidance from other members or non-members.

The facilitator will keep a record using a table like the one given below and also ensure that any one group member also maintains this record. The facilitator will summarize all the discussions with the help of the participants. S/he will remind the participants about all the responsibilities they have undertaken to be able to implement the strategies well.

Session 2: Planning for the interface meeting

The facilitator will inform the group that in the next meeting will be an interface meeting with the larget community to share their experiences. S/he will encourage the group members to select their methods of dissemination. The following should be considered:

- The facilitator will discuss the need to have a community meeting: to take responsibility for implementing the strategies.
- The facilitator will find out from the group:

Village	Problem	Strategy to be implemented	Person(s) responsible	Progress of Implementation	Remarks

- When do they want to have the community meeting? (time, date)
- Where do they want to have it? (Place/venue – school premises/ open area etc.)
- Who would they like to invite for the meeting? (Frontline government staff and other healthstaff, village leaders, village elders, nearby villagers, teachers, etc.)
- Who will take responsibility for the invitation?
- What will be the mode of invitation? (Letter, traditional methods etc.)
- What are the resources required? (Seating arrangements, food, water, etc.) How will they obtain these?
- What will be the method of dissemination of their learning with the community?
- What kind of help will they need from the facilitator? (Preparation of script, help with practicing the play, discuss the previous meetings etc.)

- The facilitator will encourage group members to participate and take up responsibilities.
- The method of presentation should be made simple so that everyone can understand. The presentation should be in the local language.
- The facilitator will help the groups to pactice for the play in advance (characters in the play should be dicided and they should reherse for their voice to come out loud and clear, etc.)
- The facilitator will help the group to decide the venue and the seating arrangements (where the stage is to be set, the place for the audience, etc.)

Meeting Summary

- Some strategies can be implemented at individual or household level, like change in practice, while others need a community effort.
- The community can implement the strategies together.
- Each one in the group has a responsibility and a role to play.
- Members need to take responsibilities for organising the interface meetings. There is a need to include all stak eholders at village level to implement the strategies.

VILLAGE INTERFACE MEETING 01

OBJECTIVES

Session 01
Meeting with different stakeholders and soliciting their support to implement strategies.

Discussing different entitlements in the local context related to nutrition, health, agriculture, resource management and how to avail these entitlements

Prepare Score Card of available services.

To undertake responsibilities for implementing the strategies.

METHODOLOGY

Discussion on formats

DURATION

1.5 HRS

MATERIALS

Formats

After welcoming participants, the facilitator will ask members to recount the discussions and strategies prepared in the previous meeting.

Some useful tips prior to holding the interface meeting:

- The group members will summarize their activities over the past few months during the meeting. They will also share the prioritized problems and strategies with the larger community and key stakeholders, e.g. village headmen, government officials, village development field workers, health workers and others who have not attended the meetings.
- Street plays, puppetry and storytelling are some of the innovative approaches that can be used by the group members for dissemination of the prioritized problems and their underlying causes.
- Stakeholders (especially the frontline health staff) can be requested to inaugurate the function so that their role in the community can be acknowledged.
- During the preparation for this meeting the facilitators will help the members in script writing, acting, etc. and rehearsals.
- The members can use locally available resources like 'saris/ sheets' as back drop, leaves for decorations, and jute woven mattresses for seating the attendees, etc, as locally appropriate. The group members can voluntarily contribute money for the logistic arrangements like food, microphones, etc.
- Any group member is encouraged to preside over the meeting with the facilitator's help.
- Prepare the group on conducting the meeting, on penning down and singing a welcome song etc.
- Make a minute-to-minute schedule for the meeting.

Process:

- The meeting can start with a welcome song followed by thanking the audience for taking out the time to be able to attend the meeting and briefing them about the day's proceedings.
- The meetings conducted so far should be discussed briefly to help the audiences understand the process.
- Group members will then present the method they have selected for disseminating the prioritized problems, barriers identified,

strategies selected to overcome the problems and the local resources they have. While sharing the information the members will identify the stakeholders who will be able to help them with the implementation of strategies.

- The group, depending on the situation, might also think of a community score card on a relevant service. Refer Annex 9 for the details.
- Towards the end of the community meeting the stake holders should be asked to share their experiences. These experiences can be recorded by the facilitator to be quoted later. The facilitator can use the following format for keeping a note of meeting findings:

Name of the group	Dissemination Method	Total Female Participants	Total Male Participants	Designation of the stake holders	Feedback/comments of the stake holders

Community Meeting Format

There is no single way of conducting this meeting; however, the following points can be useful:

- The community meeting should be held with enthusiasm, like a festival in the community.
- The members can pin up the picture cards used in the earlier meetings on a sari/ bedsheet to attract the crowd and to make them understand what the stories were about.
- Arrangements should be such that everyone present can listen to the discussions clearly and will be able to understand.
- Ensure that everyone is comfortably seated to be able to see and hear the discussions.
- Make sure that the meeting is simple to understand and not too lengthy.
- Stick to the minute-to-minute schedule you have prepared.
- The audience should have a good mix of adolescent children, mothers of children between 0-5 years of age, pregnant and lactating mothers, and they should be encouraged to sit in the front.
- Encourage the pregnant and lactating mothers, mothers of children 0-5 years of age to share their views.
- Invite people from the audience to share their views on under nutrition with the community.
- The relevant decisions at the meeting should be noted down by any group member.

Phase 03

Picture credit - FIVDB Bangladesh

MEETING

13

TIMELY INITIATION OF COMPLEMENTARY FEEDING AND IMPROVED IYCF PRACTICES

OBJECTIVES

Session 01
Review of Village Interface Meeting.

Session 02
To understand the importance of timely introduction of complementary food

Session 03
To understand importance of "enriching" the food.

METHODOLOGY

Demonstration of hand washing technique

Engaging community in a ceremony on timely introduction of semisolid food

Discussion on energy dense food recipes for infants

DURATION

2 HRS

MATERIALS

Soap and water, food prepared by mothers for introducing complementary feeding

After welcoming participants, facilitator will ask members to recount the discussions and learning of the previous meeting.

Action Required Prior To This Meeting:

- Preparing a list of all infants who are 5-6 months old to be able to invite them for the 'Introduction of complementary food (annaprash)' ceremony.
- Meeting mothers with infants aged 5-6 months and discuss with them the ceremony and ask them to bring some food for their children for the ceremony. Also, invite the mothers with infants aged 7-9 months, whose children may not have started on complementary foods.
- Meeting with Community Health Workers to enquire about the possibility of organising the 'Introduction of complementary food' ceremony at the Community centre (or as appropriate in local context).

Session 1: Review of the Village Interface Meeting

Facilitator will praise the group members for having organized the community meeting at the Village/ Village cluster (as applicable in local context) level and proceed to ask the following:

- What did the group think about the community meeting - What went well? What could have been improved?
- How many people attended? Who attended? What were their reactions? Did they receive any feedback from members of the community? If yes, what feedback did they receive? (Prompt for reactions specifically from other married women of reproductive age, adolescent girls, mothers-in-law, men.) Did they receive any feedback from any key stakeholders? If yes, what feedback did they receive?
- Was it a good idea to have a community meeting at the village level? If so - why? If not – why not?

- How was the discussion on score cards received by the community?
- What did they like? Why do you think they liked what you think they liked?

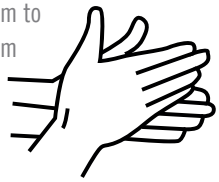
Facilitator will again praise the group members for managing to organise the event

- Discussing the progress of implementation of strategies:
- Facilitator will ask the members about the progress of strategies implementation since the last meeting.
- For each person allocated a responsibility, the facilitator will ask – how is it going? Are they facing any problems in trying to collect information or while implementing the strategies? If yes, what are these problems? Are there any issues which they would like to discuss? The facilitator will keep a note of these concerns.
- Facilitator will encourage the group to keep on implementing the strategies and discuss its progress in every meeting.

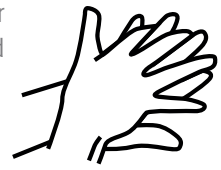
Session 2: Demonstration of Hand Washing Method and Celebratory Ceremony for Introduction of Complementary Food

The facilitator will help mothers whose children would start complementary (children above six months of age) food that day/week to wash their hands and the utensils for feeding the child with soap **(by demonstrating the actual method of hand washing)**.

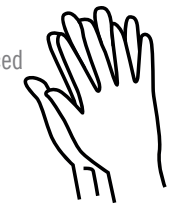
Palm to palm



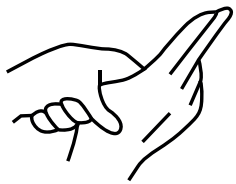
Right palm over left dorsum and left palm over right dorsum



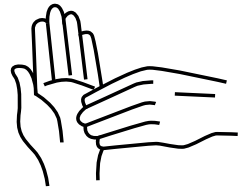
Palm to palm fingers interlaced



Rotational rubbing of right thumb clasped in left palm and vice versa



Backs of fingers to opposing palm with fingers interlocked



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

It is the time when parents begin to gradually introduce foods other than breast milk to their baby's diet.

- The facilitator will start the meeting by asking the mothers of those infants to start feeding their children with the food using a bowl and a spoon they have brought for this occasion. The children who are in the age group of 7-9 months and not yet started on complementary foods are also given the cooked food either brought by their mothers or prepared by the Community Health Worker.
- The facilitator will ask the mothers whose children have started having semisolid food that day to continue breastfeeding along with complementary feeding.
- After the ceremony, the facilitator will initiate a discussion on the importance of timely introduction of complementary food. It is the time when parents begin to gradually introduce foods other than breast milk to their baby's diet. Specially prepared solid/ semi-solid foods should be introduced after six months of age.

Session 3: Understanding the Importance of "Enriching" Food

- The facilitator will first wash hands and the utensils with soap (and demonstrate the actual method of hand washing).
- The facilitator will ask the members about the different recipes that are normally prepared for this particular occasion and keep a note of it. She will ask the mothers to demonstrate the preparation of the food which they had brought and encourages a discussion on how it can be enriched or how it can be made more nutritious, by adding a spoon of oil, vegetables, mashed potato, etc.
- The facilitator reminds the members about the frequency / quantity / quality of feeding for different age groups. [6 to 9 months - 2-3 times, 9 to 12 months - 3-5 times, 12 months to 5 years - 3-5 times a day].
- The facilitator with help from the Community Health Worker will keep a list of all the babies who will be completing six months of age and are due for introduction of complementary food in the subsequent months. These mothers can be encouraged to attend future group meetings where this ceremony can be repeated or alternatively, if appropriate, the ceremony can be held at the Community Centre every month on a pre-specified date.

Meeting Summary

- It is important to introduce complementary food to babies after they are six months old. Though exclusive breastfeeding until the baby is six months old is recommended; breast milk alone does not provide baby with adequate nutrients, particularly iron and calories that solid foods provide after six months. Hence, complementary foods provide the child a nutritional balance for proper growth and development.
- Babies consume very little amounts at a time. They need to be fed small servings repeatedly. As they grow old, the quantity of food per serving also has to increase.
- Keep breastfeeding the child along with complementary feeding at least till two years of age.
- Always wash hands with soap before cooking, and before feeding the baby. This prevents infections like diarrhoea.

MEETING

14

RECIPE DEMONSTRATION

Phase 1 - p22
Phase 2 - p49
Phase 3 - p64
Phase 4 - p93

OBJECTIVES

Session 01
Understanding good cooking practices through demonstration of local recipes.

Session 02
To discuss about food preservation methods

METHODOLOGY

Demonstration of recipes

DURATION

2 HRS

MATERIALS

List of some local recipes and ingredients

After welcoming participants, facilitator will ask members to recount the discussions and learning of the previous meeting.

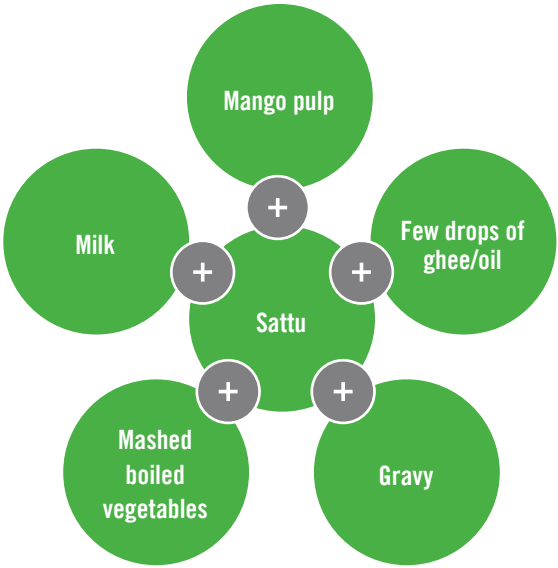
Session 1:

- While relating to the previous meeting the facilitator will ask the mothers if they have continued to give their young children semisolid food. She will tell them that s/he will discuss about the different types of food/ recipes that the child can be given in this meeting.
- S/he will then discuss some recipes that are prepared in the community (recipes of foods like the rice pudding, rice porridge, pan cakes, commonly used snacks, etc.). S/he will begin by asking the members how these recipes are usually prepared and then discuss how these recipes can be enriched or made more nutritious. She will remind the members about the food groups discussed in the earlier meeting and encourage members to refer to the list/mapping of the locally available food.
- Babies can be given steamed rice cakes or pan cakes by adding different vegetables, powdered maize, ground nuts, or seeds of sesame, melon, pumpkin, jackfruit etc. while making the dough or along with rice while being ground.
- Encourage feeding yellow-flesh fruit and vegetables and dark-green leafy vegetables.
- Any new food should be introduced one at a time. The facilitator will advice on use of an alternative that contains similar nutrients

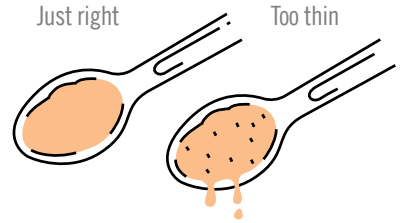
Examples of enriched recipes

Red lentil (masoor dal) or Yellow lentil (moong dal) and Bengal gram (channa dal) can be roasted, powdered and stored in a jar and given to the baby as a complementary food along with jaggery and water or milk.

The children can be given sweets made from ground nuts, sesame seeds and jaggery (Gur badam) as a snack.



Diagramatic representation of enriching a commonly used snack



Thickness: the food should be thick enough so that it does not slide off spoon.

A growing child needs 2-4 meals a day plus 1-2 snacks if hungry: a variety of food should be given

if the child is allergic to a particular food.

- She will ask the members to play an enriching food game for which she will:
  - Keep "Mixed sattu" (which is provided by the AWW for babies) in a bowl.
  - Remind the members about the list of locally available foods which they had identified/mapped in the earlier meeting.
  - S/he will ask members to use the food materials and chits for enriching the recipe (adding sugar, or oil or juice of seasonal fruits).
  - Once again, discuss the frequency / quantity / quality of feeding for different age groups using picture card number 62 **(Instructions for the designer -- picture card no 62 must be depicted here)**. [6 to 9 months – at least 2-3 times, 9 to 12 months - at least 3-5 times, 12 months to 5 years - at least 3-5 times a day while continuing breast feeding till the child is 2 years of age]

Note for Facilitator: Please refer to Annex 10 for additional recipes

Session 2: Food Preservation Methods

The facilitator will first find out the about the methods that are locally used for preserving food and then discuss about the other ways that it can be done

(1) Drying is one of the oldest techniques using the power of the sun. Vegetables and fruit can be naturally dried by the sun and wind. The fire in the kitchen can provide the heat to dry fruits, vegetables, green leafy vegetables and herbs and even meat cut into thin strips. Salt can be added to prolong its life.
(2) Refrigeration preserve foods by slowing down the growth and reproduction of micro-organisms
(3) Salting (curing) – meat can be preserved
(4) Sugar as a preservative – fruits, ginger, citrus fruits can be heated with sugar
(5) Smoking – for meat/fish, fruits, spices, mushrooms, etc
(6) Pickling – usually in salt, vinegar, alcohol, vegetable oil
(7) Jugging (stewing) – meat or fish cut into small pieces in a tightly covered earthenware with salt water and stewed

After the discussion the facilitator will encourage the participants to use the above methods if they are not in use.

Meeting Summary

- A good complementary meal must have rice or another cereal, green leafy vegetables, pulses and a red or yellow piece of fruit. Whenever possible serve food from an animal source (preferably once a day).
- If the diet is mainly cereal based, encourage the mother to make the cereal thick, not dilute, and add some fat (for example, oil) to increase energy density.
- Keep breastfeeding the child along with complementary feeding at least till 2 years of age.
- Always wash hands with soap before cooking, before feeding the baby. This prevents infections like diarrhea.
- Food can be preserved in any season to be used in future by reconstituting it. However, it may alter the character of the food and loss of some nutrient that fresh food can give because of the process involved in preservation.

Note: facilitator can encourage members to discuss about preparation of locally available recipes

MEETING

15

STRATEGIES TO PREVENT UNDERNUTRITION IN COMMUNITIES

OBJECTIVES

Session 01
To identify and implement possible strategies for improving nutrition and growth of adolescent girls and mothers

METHODOLOGY

"Choosing the appropriate circle" Game

DURATION

1.5 HRS

MATERIALS

Picture cards, material related to practices like feeding bottle, soap, packet of pesticide, vegetable basket, bednet, etc.

After welcoming participants, facilitator will ask members to recount the discussions and learning of the previous meeting.

Session 1: Discussing Possible Strategies for Preventing Undernutrition in Women and Adolescent girls through "Choosing the Appropriate Circle" Game

Familiarizing members with the picture cards (prepared by the facilitators themselves) and materials.

- The facilitator will take all the picture cards and pass them around the circle so that all get a good look at each card.
- The facilitator then places the cards on the floor, and encourages participants to discuss each of these cards by asking them to select the card they would like to discuss first.
- On each of the card she asks them to describe what they see in the picture and helps them understand what the card shows.
- After a detailed discussion on each of the cards the facilitator will show some of the materials to be used for the game like, the food plate, soap, bowl and spoon, etc.
- The above process allows the participants to get actively involved and also helps them to identify the picture cards and the materials.

Playing the Game:

- The facilitator will draw two circles on the floor/ground, each circle large enough for some participants to stand in. She will put the pictures of undernourished woman next to one circle and the picture of a wellnourished woman next to other circle.
- The facilitator will distribute all the cards and the materials among volunteering for this game. She will refer to anyone holding the picture/ material and ask the other members of the group which circle she should belong to. The rest of the group members can decide to which circle that particular person belongs and the person holding the picture/ material will go that circle. Example: Pointing to the person holding a soap she will ask, where will the family be if his/ her mother uses soap before feeding. This process will be repeated till all the picture cards/ materials are covered.
- The facilitator will discuss with each circle in turn about and prompt

a discussion on why they think that is the appropriate circle for that particular picture/ material.

- The facilitator will now encourage the participants to come up with possible strategies for bringing those standing in the undernourished circle towards well nourished circle.
- Facilitator will keep a note of all the responses and encourage them to follow these simple steps for preventing Under nutrition in mothers and adolescents and children.

Identifying the possible strategies for implementation and review implemented strategies:

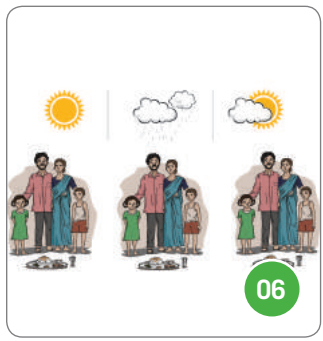
- Encourage all participants to take part in this exercise.
- The facilitator will ask the group to discuss possible strategies that they would like to implement for reducing under-nutrition.
- The group members will think of various possibilities and discuss these openly. The facilitator must keep prompting the group for as many suggestions as possible.
- For each strategy, the group must discuss the barriers they face and the strengths they have as a group and whether it is a feasible strategy.
- Once the group has decided they want to implement a strategy and they think it is feasible for them to do so, the strategies are finalized and written on the strategies progress note.
- At the end, the facilitator keeps a record of the progress of strategies implementation and encourages the group to keep on implementing the strategies.

Meeting Summary

- Early marriage leading to early childbearing can be risky for both, mother and the child, and the risk of delivering a low birth weight baby increases considerably.
- Many customs and superstitions prevent consumption of nutritious food especially vegetables and animal products during pregnancy and lactation, resulting in undernutrition in mothers and babies.
- There are special food needs during adolescence; since they grow fast in this age, they require higher quantities of iron and calcium rich food along with other foods. A well-balanced diet is very important for this age group too.
- Prevention of illnesses leads to good health. Use of bed-nets, washing hand with soap, drinking boiled water, maintaining cleanliness around house, having a well ventilated that allows sunlight inside the house are some ways of preventing illness.

List of cards to be used in the game

1. Early marriage – a young girl getting married (card)
2. Girl having IFA tablets in her school (card)
3. Adolescent girl working with her mother in field (card)
4. Food restriction during pregnancy – a pregnant mother having only rice (card)
5. Pregnant women exposed to pesticides – pregnant women working in field with men spraying(card)
6. No food diversity – a family having very little food diversity on their plate (card)
7. Seasonal fruits and vegetables basket – Including seasonal fruits and vegetables in baby's, pregnant and lactating women's diet (Material)
8. Food during illness – (card)
9. Soap – Mother using soap regularly for washing her hands (Material)
10. Eating once a day during postpartum and lactation – (Card)
11. Unsafe food handling – (Card)
12. Bed net – Having the family sleep under bed nets (Material)
13. Mother having milk products, fish/ poultry product. (card)
14. Homestead garden (Card)
15. Pesticide packet (Material)
16. Intra-family food discrimination(Card)

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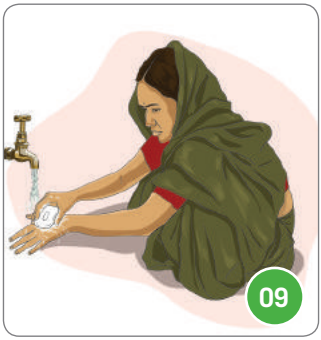
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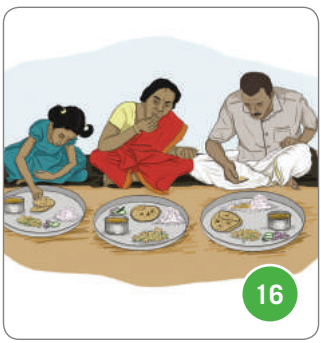
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1. Drying clothes in the sun to remove germs (card)
2. Wash vegetables before cutting them (card)
3. Promoting handwashing in school (card)
4. Washing hands with soap(card)
5. Keep neat and clean premises to protect community from diseases (card)
6. Employ proper water management system to reduce wastage (card)
7. Ensure appropriate disposal of solid and liquid wastes to avoid diseases in community (card)
8. For better management of solid waste material segregate the degradable and non-degradable (card)
9. Cut and keep clean nails to ensure personal hygiene (card)
10. Brush teeth twice a day to ensure dental hygiene (card)
11. Use sanitary napkins for menstrual hygiene (card)
12. Reuse waste water- divert used water to kitchen gardens or soak pits (card)
13. Low cost filters ensure safe drinking water. (card)
14. Keep village premises neat and clean (card)
15. Avoid contamination through flies by covering all food. (card)
16. Ensure proper storage and handling of drinking water to avoid contamination. (card)


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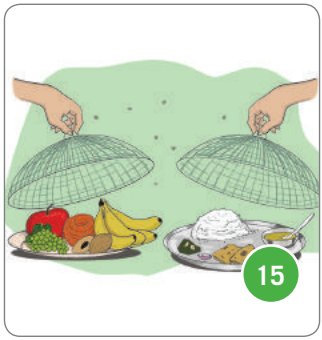
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16

MEETING

16

REINFORCING STRATEGIES TO PREVENT UNDER-NUTRITION

After welcoming participants, facilitator will ask members to recount the discussions and learning of the previous meeting.

Session 1: Discussing Causes and Possible Solutions for Preventing Childhood Undernutrition

- The facilitator will use the following story with picture cards to help the members understand the causes of childhood under nutrition.
- The facilitator will ask one of the members to repeat the story using the picture cards, advising the members to leave the picture cards on the ground.
- The facilitator will explain that they will play 'the chain game' to help them identify solutions for preventing childhood under nutrition. This is a practical and visual exercise to help participants understand and analyze the causes of under nutrition and thereby look for ways they already know for preventing this.
- All the causes listed can be put under 4 main headings:
  - Nutrition (green color) – having to do with nutrition and food
  - Cultural Practices (yellow color) – having to do with people's attitudes, behaviour, customs, beliefs, etc.
  - Illness (red color) – caused by virus, bacteria, parasite, etc
  - Entitlements (blue colour) – where they were deprived of their entitlements
- The facilitator uses paper bands or ribbons of four different colors to represent the four major categories. S/he will explain what each of the colors represents to the members.
- The facilitator will remind the group about the causes mentioned by them and tell them that all the causes can be listed under the above four categories
  - The facilitator will use a dummy/cut out of a child for this game and put it up against the wall/ tree at a high level.
  - The facilitator will randomly distribute the colored ribbons/ bands among the members. Each time the facilitator mentions

OBJECTIVES

Session 01
To understand the underlying causes of childhood malnutrition and identifying possible strategies for its prevention.

METHODOLOGY

'Chain' game

DURATION

1.5 HRS

MATERIALS

Ribbons in four colours (yellow, blue, green , red), dummy of baby, story and picture cards

a cause, the members will reflect under which category it would fall and the one having the correct colored ribbon will consult the other members before tying the ribbon on the dummy's leg. For each subsequent cause a new ribbon is tied to the existing one in the form of a chain.
  - The chain/shackle gradually increases in length to show how the child can be burdened with all the causes leading to the problem of under-nutrition
  - The members are allowed to interact and discuss amongst themselves.
- Sometimes the causes can be categorized under more than one heading and this allows for a discussion amongst themselves which then must be resolved or directed by the facilitator

Identifying Possible Strategies

For breaking the chain/shackle the facilitator will now ask "what can be done" to break/remove this chain. The facilitator encourages the members to think of the strategies discussed in the previous meetings for dealing with the problem of under nutrition. The group members think of various possibilities and discuss them. As they decide upon the strategies they keep opening the ribbon (chain) one by one. The facilitator will keep a note of all the strategies.

Example: A Story Focusing On Under Nutrition

Bamai married early into a poor family and became pregnant soon after her marriage. She did not take care of her food intake during her pregnancy, as a result of which she became anaemic and weak. She did not receive iron tablets from the Health Centre as the only time she had visited the Health Centre for the tablets, the worker said that there was no stock. She gave birth to a baby with low birth weight. She was herself under-nourished and her mother in law gave her one meal a day, therefore she had insufficient breast milk to feed the baby. Her mother-in-law advised her to give goat's milk for 2 days and not to give the thick yellow first milk, and later on asked her to bottle-feed. When Bamai took her child for immunization, she was told to come another day because the worker had to attend a meeting. She did not go to the Health Centre after that. When the child was about 10 months old he had fever with rashes all over the body and he was not given adequate feeds during illness. The child however recovered with medicines, but the condition became worse and he became very weak and his legs and hands became thin and he had a withered look with skin hanging loose. The child had grown up to be a small and under nourished.

Picture credit - WHH India Partners

Meeting Summary

Undernutrition in a child could result from a combination of different factors, like wrong feeding practices, cultural practices, poor illness management or lack of access to available government services and entitlements. Appropriate action is needed at each level, at household and community level to break this chain of factors.

MEETING

17

GROWING NUTRITION GARDENS

OBJECTIVES

Session 01
To understand the importance of nutrition garden for family food diversity

Session 02
Discussions on how to develop nutrition garden, type of plants, bio fencing use of organic manure, etc.

Session 03
To discuss strategies to develop a nutrition/ homestead garden.

METHODOLOGY

Story telling

Visit to a nutrition garden

DURATION

1.5 HRS

MATERIALS

Story on importance of Nutrition Garden

After welcoming participants, facilitator will ask members to recount the discussions and learning of the previous meeting.

Session 1: Discussing the Importance of Nutrition Gardens to Combat Undernutrition

Facilitator will narrate a story on the importance of nutrition/kitchen garden:
The facilitator will discuss the story with group and try to extract the understanding of the group from the story. S/he will facilitate the group to understand the importance of kitchen/nutrition garden.

The facilitator will ask the group member if anyone wants to volunteer themselves and show their kitchen/nutrition garden for others.

Session 2: Discussing Implementation of Nutrition Garden

Facilitator will ask the group members how they plan to implement the nutrition garden. The following should be discussed in detail:
Discuss the following in details:

- When do they want to start the implementation?
- What actions / activities are necessary? How will they do it?
- Whether they would like to do in smaller groups, helping each other?
- Whether they would like to sit once again after this meeting to strategize how to start – with construction of live fence, or collection of planting materials, day and time etc.
- Who will take responsibility to follow up on how each household develops homestead gardens? How/where they can seek expertise needed for any of the intervention?
- What should they do if they experience any problems while implementing the strategies?

Discuss as a group how they will proceed to ensure that they have enough support and guidance.

Note for Facilitator: Please refer to Annex 11, 12 and 13 for additional information

Story of Sombari

Sombari spent her childhood in a village. Her family never experienced food crisis because they grew different kinds of fruits and vegetables themselves. They also reared cattle that provided milk and they could obtain other milk products that she loved eating. Her teachers were always happy with her because she performed well in her class.

With the passage of time, Sombari was married in a nearby village. Sombari became pregnant within two years of her marriage. But she did not get fresh vegetables or fruits because they did not grow either fruits or vegetables in their garden. Neither could they afford to buy fruits and vegetables from the market. When her child was seven months old she gave her child food but was not happy about not being able to include fresh vegetables in the child's diet. Her child became sick and Sombari took him to the health centre where the baby's weight and MUAC appeared in the yellow zone. The doctor counseled Sombari on improving her child's food intake and maintaining hygiene during food preparation and storage.

Sombari decided that she would pay more attention to her child's diet and not allow his weight to reduce further. She decided that she would start growing vegetables and plant fruit trees in the space available using the waste water from her house. She had seen this in her parental home as a child. In the space of a few months, she was able to grow some green vegetables that she included in her family's food.

Sombari also inspired her neighbors and others in the village to grow vegetables in their own kitchen gardens. She and her husband initiated a movement where they and the people in the village started a community garden and in a few years this became a large scale business and they even had a poultry farm and even bought cattle and gradually the economic, health and nutrition conditions of the village improved.

Notes for Facilitator: Drumstick, curry leaves, custard apple, papaya, shoe flower, begonia, basak, etc can be grown as the fence itself. Plants like Cassiasima, Neem, tamarind etc. can be grown in between which would serve as poles for the fence. Once these plants grow up to around 2 mts, can be branched off and used as fodder or compost materials. These trees will support the creepers like velvet bean, ivy gourd, ridge gourd. Facilitator may also refer to Annex 9 for Living Fence.

Meeting Summary

- Nutrition gardens can be an important resource to supplement diversity in the family's nutrition.
- By making a good choice of plants, it can be a source of fruits and vegetables, fodder plants and even animal proteins (like poultry, fishes etc).
- Household kitchen waste can be used as compost for these gardens.

MEETING

18A REINFORCING LEARNINGS

OBJECTIVES

Session 01
Reinforce knowledge and Discuss duable actions

METHODOLOGY

Prioritise problems and formulation of action plan

DURATION

2 HRS

MATERIALS

Picture Cards

Session 1: Discussion on picture cards

After welcoming the participants, the facilitator will ask them to recount the discussions and the learning from the previous sessions on WASH.

The participants will discuss what they see in the picture cards and select those cards that are relevant to the village. After segregation, they will plan actions to change the situation depicted on the cards.

Session 2: Preparation of action plan for next 3 months.

Sl no.	Problem	Action to be taken	Time line	People responsible to monitor

Meeting Summary

- Identification and prioritisation of problems related to WASH in the village
- Solutions to problems should start from the community using available resources
- WASH committees should be strengthened to ensure everyone follows the decisions taken to improve WASH practices

MEETING

18B

SAFE WATER FOR DRINKING, COOKING AND BATHING

OBJECTIVES

Session 01
Making drinking water and water for HH consumption safe

METHODOLOGY

Discussion using cards

Demonstration of low-cost water filter (Matka Filter)

DURATION

2 HRS

MATERIALS

Picture cards and materials for Matka filter

Session 1: Discussion with adults and adolescent girls using cards to identify unsafe hygiene practices in the village and what can be done to rectify the practice.

Method:

1. The facilitator distributes picture cards to groups of two (use 4-5 cards, select card based on the facilitators observation of hygiene practices in the village).
2. The groups get two minutes to see the picture and discuss the topic.
3. One by one the facilitator asks each group to share what they see in the card and comment about the status in the village.
4. Encourage others also to comment on the situation of that particular theme. Ask if it a Good or Bad practice.
5. Finally help the community to take a 'oath' on which 1-2 practices they will change in the next one month.

Photo credit - WHH Nepal

Picture cards

- Unsafe transportation, storage and handling of drinking water
- Improper drainage of waste water
- Use of unclean pond water for washing and cooking
- Excess use of underground water for agriculture
- Destruction of natural water drainage systems
- Connecting toilets to ponds/ water bodies – for disposal of faeces, detergents, chemicals

Session 2: Demonstrate the Matka Filter

Meeting Summary

- Source of drinking water must be safe
- Maintain safe storage & drawing of drinking water at home
- Water contamination also happens from chemicals, detergents and animal faeces
- Water logging contaminates all water sources, so the water should have enough drainage routes and natural drainage should not be blocked
- Excess extraction of underground water will lower water layer affecting agriculture, biodiversity and humans.

MEETING

18C

SOLID AND LIQUID WASTE MANAGEMENT

OBJECTIVES

Session 01
Solid and liquid wastes, if not disposed properly, will cause health hazards to the community. On the other hand, when waste material is converted to compost, it becomes a boon to food production and food safety.

METHODOLOGY

Circle Game

DURATION

2 - 2 ½ HRS

MATERIALS

Chalk, picture cards, waste materials

Session 1: Discussion on the different types of waste generated in the community

Collect and display the different types of waste materials for a discussion on how each of these affect human and animal health and nutrition.

- Plastic packets
- Plastic containers, furniture, toys, pipes, etc.
- Glass bottles/containers
- Metal containers/wrappers- tin, aluminium, iron, etc.
- Farm residue; straw, dry paddy stubs, husks, etc.
- Cow dung, goat shit, chicken & bird droppings, etc.
- Dry leaves/twigs
- Household food left overs
- Vegetable skins
- Paper
- Cloth; cotton and Nylon
- Wooden furniture
- Chemicals runoff; diesel, paint, etc.

Section 2:

Draw 2 circles. Circle A for waste that can be reused. Circle B for wastes that is injurious to the community's health. Ask the community to pick up one item from the displayed materials and choose a circle. The community member is asked "why did you choose this circle?". Encourage the community to discuss the issues and let them decide which circle the individual should belong to. After all the items have been picked up and there are some people standing in the Circle B, ask community how they can come to Circle A. The discussion will be around "what needs to be done" for the movement to happen from Circle B to Circle A. Note down the suggestion. Ask "when should be start to take action?"

Encourage community to identify possible action points for next 15 -30 days

Sl no.	Problem	Action to be taken	Time line	People responsible to monitor

Meeting Summary

- Organic Waste should be segregated from inorganic waste
- Organic waste from animals, kitchen and farm should be reused as compost
- Accumulation of waste water is a source of infection, so, it should be drained in to pit or used for kitchen garden
- Diesel and paint runoff from cars and machinery is harmful to aquatic life
- Waste food and water from School MDM should be used in school gardens.

MEETING

19

UNCULTIVATED FOOD

OBJECTIVES

Session 01
To reinforce importance of uncultivated food as a rich source for dietary diversity and critical for food security.

Session 02
To map available uncultivated food and discuss about their utilization, conservation and promotion.

METHODOLOGY

Preparing a seasonality chart for available uncultivated food

DURATION

1.5 HRS

MATERIALS

Discussion

After welcoming participants, the facilitator will ask members to recount the discussions and learnings from the previous meeting.

Session 1: Identifying Uncultivated Food and its Seasonal Availability

(1) Through a discussion, the participants will list the uncultivated food items being consumed by the local population in different seasons.
(2) They will next discuss the storage practices and different recipes for using these uncultivated food items. They will also identify the possibilities of value addition.
(3) Lastly, they will collectively identify uncultivated food that are disappearing and discuss the reasons for this while also planning for their regeneration, protection and conservation.

The facilitator will use a matrix to map the different uncultivated foods that are collected throughout the year. S/he may facilitate the group to prepare a seasonality chart as shown below. The elders and women in the village need to be encouraged to contribute in this process. It may be done as a focused group discussion.

* Options: i) agricultural fields and / or home gardens ii) village commons including water bodies, iii) forest and iv) market- including the fair price shops

After this classification, the group members need to be invited to share their knowledge, experiences and concerns about the uncultivated food they were used to collecting and are / were available in their area. S/he will enquire about the storage practices that help to retain its nutritive values (e.g. drying fish, mushrooms, etc.).

The facilitator will conclude by highlighting the fact that locally available uncultivated food is an important and critical source of food and nutrition and that it can be stored and the younger generation could be motivated to follow these. It is also important to regenerate, protect and conserve these.

Name of the food items and number of varieties	Summer	Rainy	Winter	
	Name of the food and source*	Name of the food and source*	Name of the food and source*	Name of food that are disappearing/ vanishing
Cereals				
Pulses				
Other legumes				
Green vegetables				
Roots and tubers				
Leafy vegetables				
Spices				
Oil				
Animal protein				
Fruits				
Others (mushroom, bamboo shoots, and seeds etc.)				

Meeting Summary

- Uncultivated food items form a rich source of food diversity and food security in difficult weather conditions.
- It is important to identify and preserve these resources.
- There can be seasonal scarcity of food. Therefore, it is important to preserve and store these food items for consumption during lean season.

MEETING

20

CROP PLANNING

OBJECTIVES

Session 01
To improve net yield (quantity & diversity) of a unit of agricultural land based on local conditions

METHODOLOGY

PRA – Seasonality

Group planning

DURATION

2 HRS

MATERIALS

Different coloured powders, small quantity of seeds of local crops, drawing sheets and pens etc.

After welcoming participants, the facilitator will ask members to recount the discussions and learning of the previous meeting. (Facilitators must ensure that elderly men and women participate and contribute to the meeting.)

Session 1: Discussion on Current Cropping Practices

- The facilitator will discuss with the group about the crops being grown by them in different seasons in their fields.
- S/he may draw a matrix with illustrations on different seasons (summer, rainy and winter), land types based on local classification and crop groups (cereals, pulses, oil seeds, spices, roots tubers, and vegetables etc). (See Annexure 14 for Matrix)
- The facilitator will encourage each participant to discuss about the crops they grow in their field in different seasons. Some guiding questions that the facilitator can ask:
  - Why these up and / or medium and / or low land are lying fallow in a given season?
  - Is it part of the local land use practice or a few factors responsible for the fallow period?
- The facilitator needs to facilitate the group to analyze the factors responsible for the fallow period, if that were the case and explore local solutions.
  - Are there locally appropriate (that can be grown in local climatic conditions, part of the local food culture and / or can be used as fodder for local livestock and / or socially acceptable by local communities) crop varieties (food and / or fodder and / or cover crops), which may be grown during the fallow period?
  - Are there ways to extend the present sowing and harvest period?
  - Amend the land use pattern during the fallow period etc.
- The facilitator needs to engage the elders in exploring crop varieties, which can be sown and harvested beyond the present sowing and harvest period. The group may also have a discussion on the prevailing and traditional crop varieties, which can be sown along with the crops being grown by them to increase the quantity and diversity of the total yield out of a unit of land.


Photo credit - WHH Bangladesh

Phase 3 - p64
Phase 4 - p93

Knowledgeable people in the community should be invited to contribute.

Session 2: Discussing Crop Planning

- Facilitator will encourage group members to plan crops based on the day's discussion. S/he can use matrix (Annex 6,15) to help in this discussion.
- The facilitator should ensure the contribution of women in the planning process and ensure that the changes suggested by them are made to address concerns of food and nutrition and sustainable management of their agriculture fields.
- The facilitator will conclude by highlighting the fact that based on the local climatic conditions, land type, food culture and land use pattern appropriate crop planning needs to be done to improve net yield (quantity and diversity) of a unit of agricultural land to get access to more food and nutrition at household level.

Meeting Summary

- Crop planning is essential to improve net yield (quantity and diversity) of a unit of agricultural land based on local conditions.
- A mix of different crops can be planted based on local conditions.
- It is important that women and elders also be involved in planning process and suggested changes are made to include concerns about nutrition.

Phase 1 - p22
Phase 2 - p49
Phase 3 - p64

Phase 04

Picture credit - WHH Nepal

MEETING

21

EVALUATION OF PLA MEETINGS AND LANN CYCLE

OBJECTIVES

Session 01
To share experiences of the PLA cycle

Session 02
Phase wise evaluation of the cycle

Session 03
To evaluate the impact of their activities

Session 02
To plan for the future

Phase-wise evaluation of the cycle through 'Voting Game'

DURATION

2.5 HRS

MATERIALS

Pebbles

Score cards

After welcoming participants, the facilitator will ask members to recount the discussions and strategies prepared in the previous meeting.

Some useful tips prior to holding the community meeting:

- The group members will summarize their activities over the past one year and share the prioritized problems and strategies to the larger community and key stakeholders, e.g. village headmen, government officials, health workers and others who have not attended the meetings.
- Street plays, puppetry and storytelling are some of the innovative approaches that can be used by the group members for dissemination of the prioritized problems and their underlying causes.
- Stakeholders (especially the frontline health staff) can be requested to inaugurate the function so that their role in the community can be acknowledged.
- During the preparation for this meeting the facilitators will help the members in script writing, acting, etc. and rehearsals, etc.
- The members can use locally available resources like 'saris/ sheets' as back drop, leaves for decorations, and jute woven mattresses for seating the attendees, etc, as locally appropriate. The group members can voluntarily contribute money for the logistic arrangements like food, microphones, etc.
- Any group member is encouraged to preside over the meeting with help from the facilitator.

Process:

- The meeting can start with a welcome song followed by thanking the audience for being able to attend the meeting and briefing them about the day's proceedings.
- The meetings conducted so far should be discussed briefly to help the audiences understand the process.
- Group members will then present the problems prioritized, how they planned their strategies and how they implemented of these

strategies. They will present what resources they were able to access. While sharing the information, the members will make a special mention of the stakeholders who helped with the implementation of strategies.

[Facilitator to support and encourage the members for conducting the meeting smoothly]

Towards the end of the community meeting the stake holders should be asked to share their experiences. These experiences can be recorded by the facilitator and later be used as quotes.

Session 1: Recapitulating the Meeting Sequence

Ask the group members to recall and list out the important issues they discussed and the different approaches that were used in the past year. Encourage each member to share. After the group has finished sharing, the facilitator will summarise the meeting sequence as follows:

- Identifying & prioritizing Phase: Introduction to the group members, LANN and the project, sharing of personal and others' experiences and discussion of problems related to health, nutrition, agriculture, natural resources using picture cards as well as local practices related to it.
- Planning Phase: Understanding the underlying and immediate causes of the prioritised problems and identifying individual, family, group and community strengths. Enumerating and prioritizing themes for intervention keeping in mind the strengths.
- Implementing Phase: Planning and implementing strategies for improving the health of mothers and children. Discussing strategies to improve nutritional status of the community and to enhance the density and diversity of complementary foods using locally available food and practicing crop planning and developing homestead gardens to increase diversity of foods.

Session 2: Experience Sharing

- Facilitator will ask each of the members to share one memorable experience.
- After going through the intervention, S/he will enquire whether there was any event or experience that was special that would always be remembered; something that has touched the hearts or has been a turning point in their lives.

- S/he will ask each participant to share briefly keeping in mind the following:
  - What happened at that point in time?
  - Who all were present?
  - How did you feel?
  - Who helped you and how?
  - What did you do?
  - What is it that made the experience memorable?
- The community will be encouraged to pose questions to the participants of the LANN meetings to dispel any doubts that they might have.
- Facilitator will keep a note of it and thank the members for sharing their valuable experiences

Session 3: Phase-wise Evaluation of the Cycle

Facilitator will prepare a chart with pictures representing each of the meetings covered in the course of the three phases and the community meeting. Each community member attending the meeting will be given a stone and asked to put the stone on the chart against the meetings they preferred in each phase including the community meeting. After all the members have finished, the facilitator will ask the group:

- Why did the member like that particular meeting?
- What did they learn from the meeting?
- Has the learning helped in changing the behaviour of the members? If so, in what ways.

For those meetings with maximum number of stones, processes 1-3 should be repeated in each phase (I, II, & III) and in the community meetings

Session 4: Evaluation of the Activities by the Groups and the Impact of Intervention

The facilitator will evaluate the impact of the intervention by asking the following questions:

- Has attending the group influenced the behaviour of the members (probe for practices, attitude, and confidence)? If so, how? What facilitated ad what prevented their behaviour from getting influenced?
- Do they think they have influenced the behaviour of others in their community? If so, how? What facilitated and what prevented this
- How many of them have regularly been involved in the cycle?

What interested them the most and why?
- What were the prioritized problems?
- What strategies did they make?
- Were they able to implement the strategies? Who all (stakeholders) did they receive support from?
- Were they able to utilize available government resources/ schemes/ programmes? (participants can fill score card to assess what changes.)
- How successful/ unsuccessful was the strategy to address the identified problem?
- What else needs to be done? What does the community think they can do together in future?

Session 5: Planning for Interface Meeting

The facilitator will inform the group that in the next meeting they will be having an interface meeting with the larger community to share their experiences. S/he will encourage the groups to select their methods of dissemination. The following should be considered:

- The facilitator will discuss the need to have a community meeting and to identify participants to shoulder different responsibilities for the implementation of the strategies.
- The facilitator will find out from the group about the following:
  - o When do they want to have the interface meeting (date and time)?
  - o Where do they want to have it (place/venue – school premises/ open area etc.)?
  - o Who will they like to invite for the meeting (Frontline government staff and other health staff, village leaders, village elders, nearby villagers, teachers, etc.)?
  - o Who wil take responsibility for the invitation?
  - o What will be the mode of invitation (letter, traditional methods, etc.)?
  - o What are the resources required (seating arrangements, food, water etc.)? How will they obtain these?
  - o What will be the method of dissemination of their learning within the community (story-telling, street play, role play, puppet show, picture cards, songs, etc.)
  - o What kind of help will they need from the facilitator (preparation of script, help with practicing the play, discuss about the previous meetings, etc.)?
- The facilitator will encourage group members to participate and

take up responsibililties.

- The method of presentation should be made simple so that everyone can understand. The presentation should be in the local language.
- The facilitator wil help the groups to practice for the play in advance (suitable characters in the play, the delivery of their scripts should be loud and clear, etc.).
- The facilitator will help the group to decide the venue and the seating arrangements (where the state is to be set, place for the audience, etc.).

Session 6: Future Plan

The facilitator will summarize all the good work that the groups have done and encourage the groups to continue their good work as s/he will be unable to attend anymore.

- Facilitator will discuss with the group and enquire from them whether they want to continue to meet together as a group.
- Facilitator will discuss the feasibility of having one of the group members take over the role of the facilitator

Encourage the group to continue implementing strategies to improve the status of under nutrition among women and children in their communities – remind them that they can make a difference with all that they have learnt from the meetings!

VILLAGE INTERFACE MEETING 02

OBJECTIVES

Session 01
To share experiences, good practices adopted, successes and impact of the PLA meetings over the last one year

Session 02
To share future plans of action

METHODOLOGY

Discussion along the lines of the formats

DURATION

1.5 HRS

MATERIALS

Formats

Some useful tips prior to holding the interface meeting:

- Group members will summarise their activities over the past year during the meeting. They will also share the prioritised problems and strategies with the larger community and key stakeholders, e.g. village headmen, government officials, health workers and others who have not attended the meetings.
- Street plays, puppetry and story-telling are some of the innovative approaches that can be used by the group members for dissemination of the prioritised problems and their underlying causes.
- Stakeholders, especially the frontline staff of different government schemes that are concerned with mother and child nutrition at the village level, can be requested to inaugurate the function. This will help acknowledge their role in the community.
- The facilitators will help the members with writing the script, acting, rehersal etc. during the period of preparation for this meeting.
- The members can use locally available resources like saris or sheets as backdrop; leaves for decoration; and, jute woven mattresses for seating the attendees. The group members can voluntarily contribute money for the logistical arrangements (like microphones etc.) and for food or refreshments.
- A group member will be encouraged to preside over the meeting with help from the facilitator.

After welcoming the participants, the facilitator will ask thestakeholders and other villagers to recall the first Village Interface Meeting.

Process:

- The meeting can start with a welcome song followed by thanking the audience for being able to attend the meeting and briefing them about the day's proceedings.
- The meetings conducted so far should be discussed briefly to help the audience understand the process.

- Group members will then present the problems prioritised and explain how they planned and implemented the strategies. They will present what resources they were able to access. While sharing the information, the members will acknowledge the stakeholders who helped with the implementation of the strategies. The improvement in service scores using score cards can also be shared with the larger audience.

[The facilitator will support and encourage the members in order to conduct the meeting smoothly]

Towards the end of the community meeting, the stakeholders should be asked to share their experiences. These experiences can be recorded by the facilitator for later use and reference.

Community Meeting Format

Name of the group	Dissemination Method	Total Female Participants	Total Male Participants	Designation of the stake holders	Feedback/comments of the stake holders

The facilitator will summarise all the good work that the group has done and encourage the group to continue their good work as s/he will be unable to continue attending.

S/he will thank all the stakeholders for their support and express hope for their continued cooperation for implementing strategies to improve the status of undernutrition among women and children in their community.

It is important for the facilitator to emphasise that they can, together, make a difference with all what they have learnt from the meetings.

ANNEXURES

ANNEX 1: WHAT IS UNDERNUTRITION? (MEETING 2)

Under-nutrition is a state when the body does not get enough nutrients either because:

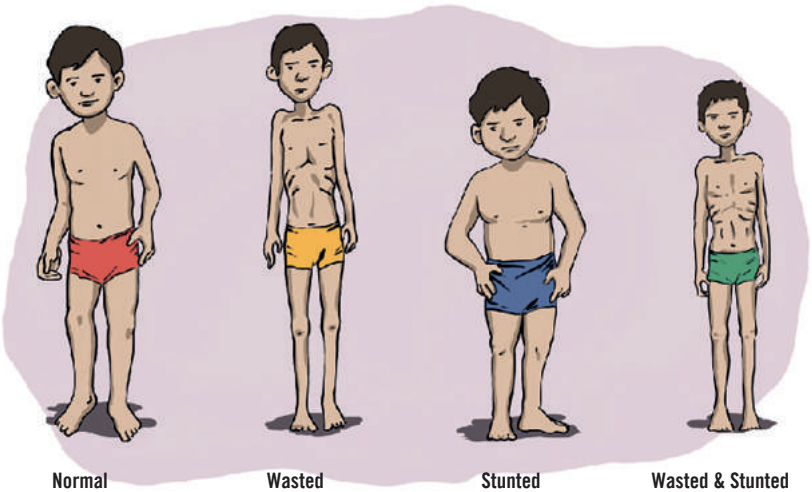
- there is not enough to eat,
- or not eating the right things,
- or when the body is not able to absorb the food consumed.

Under such conditions, the persons find it difficult to carry out normal daily activities and frequently falls sick due to lowered resistance to diseases. In children, under-nutrition leads to growth failure.

The three common types of malnutrition or growth failure in children are:

Wasting: Too thin for height. This can happen in case of inadequate nutrition that is of sudden and short term onset (from food inadequacy or episodes of illness), leading to rapid weight loss or failure to gain weight normally. The body's response to infection is reduced leading to increased chances of death.

Stunting: Too short for age. This situation happens when inadequate nutrition over long period of time leads to failure of linear growth (inability to grow in height in accordance to age). Chronic



Normal	Wasted	Stunted	Wasted & Stunted
Normal weight & height	Thinner than normal	Shorter than normal	Thinner & shorter than normal

Source:

http://www.unicef.org/nutrition/training/2.3/25.html

UNICEF; Basic Concepts in Nutrition in Emergencies –Types of under nutrition: micronutrient deficiencies;

malnutrition, or stunting, is another form of growth failure and often appears to be normally proportioned but is actually shorter than normal for his/her age. Stunting starts before birth and is caused by poor maternal nutrition, poor feeding practices, poor food quality as well as frequent infections which can slow down growth.

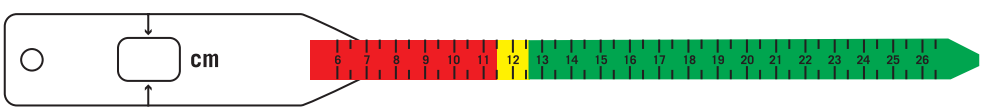
Underweight: low weight for age. This results from both chronic (long term) and acute (sudden and short term) under nutrition.
If a child also presents odema (swelling) in both legs, the condition could be serious and will need immediate medical attention.

ANNEX 2: MID UPPER ARM CIRCUMFERENCE (MEETING 3)

MUAC is the circumference of the left upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow (acromium – the outermost point of the spine of the shoulder blade and Olecranon process – tip of the elbow bone). Child folds the left arm at a 90 degree angle to the elbow with the palm facing up. The facilitator will stand behind the child and locate and mark the two points with a pen and measure the length of the upper arm. The distance between the 2 points is measured and by dividing this a horizontal line is marked as the midpoint for reference.
The facilitator will demonstrate measuring of mid upper arm circumference

- The child's arm should hang in a relaxed position
- The arm circumference comprises the skin, fat, muscles, and bone of the upper arm
- Ensure that the muscle of the arm is not flexed or tightened
- The tape should lie flat over the arm without compressing the skin or underlying tissue
- The facilitator takes this reading to the completed 1 mm

Measures: 0-11.5 cm (Red), 11.6 – 12.5 cm (Yellow), 12.6 – 25 cm (Green)



ANNEX 3: TEN FOOD GROUPS & MEASURING WOMEN'S DIETARY DIVERSITY (MEETING 4)

Women of reproductive age (WRA)1 are often nutritionally vulnerable because of the physiological demands of pregnancy and lactation. In many resource-poor environments, diet quality for WRA is very poor, and there are gaps between intakes and requirements for a range of micronutrients (Arimond et al., 2010; Lee et al. 2013). The indicators Minimum Dietary diversity of Women in reproductive age is used to measure the adequacy of micronutrients in women's diets.

Food group descriptions	
GROUP 1 – GRAINS, WHITE ROOTS AND TUBERS, AND PLANTAINS - "starchy staples". These foods provide energy. Common examples from this group include all types of breads and flatbreads, stiff porridges of maize, sorghum, millet or cassava (manioc), pasta, potatoes, white-fleshed sweet potatoes, white yams, yucca and plantains.	**GROUP 2 – PULSES (BEANS, PEAS AND LENTILS) -** includes members of the plant family such as beans, peas and lentils. Common examples from this group include common bean (black, kidney, pinto), broad bean (fava, field bean), chickpea (garbanzo), pigeon pea, cowpea, lentil and soybean/soybean products or other legume products.
GROUP 3 – NUTS AND SEEDS - comprises mostly tree nuts but also includes groundnut (peanut) and may include certain seeds when consumed in substantial quantities. Common tropical tree nuts include cashew, macadamia and Brazil nut; common nuts grown in more temperate zones include almond, chestnut, hazelnut, pecan, pistachio and walnut. Peanut/ groundnut cultivars are grown in a wide range of climates. Commonly consumed seeds include sesame, sunflower, pumpkin/squash/gourd and pine nuts.	**GROUP 4 – DAIRY -** Dairy foods are easily understood as a group. It includes almost all liquid and solid dairy products from cows, goats, buffalo, sheep or camels. However, butter, cream and sour cream, ice cream, sweetened condensed milk and processed/ packaged "yoghurt drinks" are excluded. Butter, cream and sour cream are classified with fats and oils because of their high fat content and most typical culinary uses. Ice cream and sweetened condensed milk are classified with sweets.
GROUP 5 – MEAT, POULTRY AND FISH - "flesh foods". All meats, organ meats, poultry and other birds and fresh and dried fish and seafood/shellfish are included. Wild birds and mammals ("bush meat"), snakes, frogs and other reptiles and amphibians are also included.	**GROUP 6 – EGGS -** eggs from any type of bird (domesticated poultry and wild birds) but not fish roe, which are classified with small protein foods.
GROUP 7 – DARK GREEN LEAFY VEGETABLES -all medium-to-dark green leafy vegetables are vitamin A-rich. Commonly consumed leaves vary widely by country and region, and include many wild and foraged species, as well as the green leaves of other food crops (e.g. cassava leaves, bean leaves, pumpkin leaves, amaranth leaves and others).	**GROUP 8 – OTHER VITAMIN A-RICH FRUITS AND VEGETABLES -** vitamin A-rich fruits and a small but diverse group of vitamin A-rich vegetables other than leafy greens. The most common vitamin A-rich fruits are ripe mango and ripe papaya; others include red palm fruit/pulp, passion fruit, apricot and several types of melon.

GROUP 9 – OTHER VEGETABLES - vegetables not counted above as dark green leafy vegetables or as other vitamin A-rich vegetables. This group includes legumes when the fresh/green pod is consumed (as in fresh peas, snow peas, snap peas or green beans). In general, the "Other vegetables" group follows the culinary definition of a vegetable, not the botanical definition. It includes stems, fruits and flowers of plants when generally consumed in savory dishes and considered as vegetables in culinary systems. So, for example, cucumber, tomato and okra (all fruits in botanical terms) are included as "Other vegetables"	**GROUP 10 – OTHER FRUITS -** most fruits, excluding vitamin A-rich fruits. As with vegetables, commonly consumed fruits vary widely with geography and can include foraged as well as cultivated fruits.

To know:

http://www.fao.org/3/a-i5486e.pdf

MDD-W is a dichotomous indicator of whether or not women 15–49 years of age7 have consumed at least five out of ten defined food groups the previous day or night. The proportion of women 15–49 years of age who reach this minimum in a population can be used as a proxy indicator for higher micronutrient adequacy, one important dimension of diet quality.

ANNEX 4:MAPPING RESOURCES AFTER TRANSECT WALK (MEETING 5)

Steps in drawing a transect

1. Clarify soil types.

The agro-ecosystem transect is best used after a mapping exercise. It is mainly a tool for capturing and sharing the large amount of information that was elicited during the mapping exercises. You will often have more information than can be drawn clearly on a map!

- Visit each agro-ecological niche and confirm its local name and characteristics.
- Ask questions about the soil types within the niche and what they are called.
- Ask about the water resources.
- Don't forget to check for seasonality.

2. Generate a list of species.

Remember to include crops, trees, animals, fish, forages and vegetables. The list of species that are cultivated, gathered or

otherwise utilized is put together in two parts:

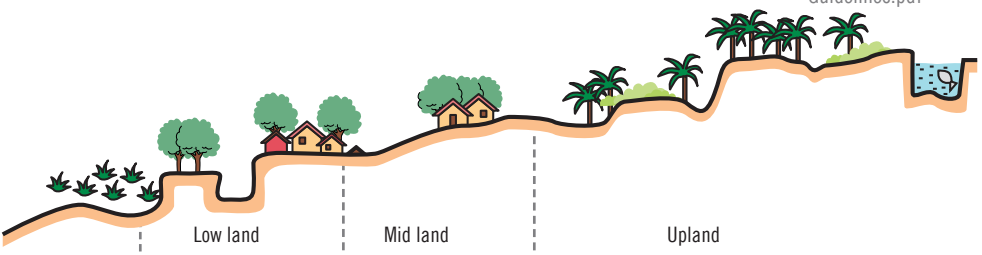
- Farmers are asked to identify the species that can be seen during the field visit.
- This list is expanded to include species that are cultivated at other times of year (seasonality).

3. Sketch the topographical cross-section of the landscape.

Demonstrate the idea of a topographical cross-section by drawing an example on the ground. Once the idea is understood, let the farmers design and draw their own cross-sections. Use symbols for the important species or enterprises conducted across the section. The drawing should also show land features, like terraces. The transect is then assembled using individual sketches of each agro-ecological niche.

To know more:

http://www.icra-edu.org/objects/anglolearn/Maps_&_transects-Guidelines.pdf



Soil Type	Loam	Sandy Loam	Sandy Loam	Sandy & Stony	
Water Source	Irrigated (from dam)	Irrigated from Dam	Rain Water	Rain Water	
Crops	Rice-Rice-Cash Crops (Soybean, Mungbean, Corn), Rice-Rice-Rice	Banana, Papaya, Vegetables, Cassava, Sweet Potato Jackfruit, Rice (in rainy season)	Rice-Rice-Corn; Chilli, Soybean, mungbean, cassava	Corn	
Livestock		Goat, Buffalo, Cattle, Chickens & Ducks			Fish
Fodder	Grass, Sesbania sp. on the bund		Grass, Sesbania	Elephant grass	
Problems	Poor water distribution management; Pests & diseases on rice	Manure not much used for field crops	Canal not cleaned	Drought & shortage of water	
Opportunity		Make compost fertiliser, use manure for rice; increase off-farm activity.	Improving irrigation for growing crops; using pump machine to irrigate (from river); develop wells		

The order of niches along the transect does not have to be the order in which they were visited, or in which they actually exist in the landscape. Farmers can choose to order the agro-ecological niches in a way that makes most sense to them. Convention, however, places the highest elevation in the landscape on the left and the lowest on the right. Conventionally, each agro-ecological niche is drawn only once no matter how often it occurs on the map or in the landscape, to make the diagram simpler.

4. Construct a matrix to explain the transect

Under each agro-ecological niche, write information which is relevant to the inquiry. Typically, this might include soil type, water resources, crops, vegetables, forages, trees and animals, as well as actual and potential use and problems encountered in each agro-ecological unit. Make a note of any seasonal variations in the enterprises (seasonal information might be better displayed using seasonal calendars). Conventionally, this information is displayed as a matrix:

ANNEX 5: GOVERNMENT PROGRAMMES RELATED TO NUTRITION IN INDIA (MEETING 11)

To know:

- National Food Security Act 2013, Gazette of India, http://indiacode.nic.in/acts-in-pdf/202013.pdf
- Kishori Shakti Yojana, Ministry of Women and Child Development, Government of India http://wcd.nic.in/KSY/ksyintro.htm
- An Integrated Programme for Street Children, Ministry for Women and Child development, Government of India http://wcd.nic.in/streetchildscheme.htm
- National Rural Health Mission, Government of India http://nrhm.gov.in/
- Government Notification on WIFS, National Rural Health Mission, Government of India http://pib.nic.in/newsite/erelease.aspx?relid=82516
- National Rural Health Mission, Government of India http://nrhm.gov.in/nhm/nrhm/guidelines/nrhm-guidelines/adolescent-reproductive-and-sexual-health-arsh.html
- National Programme for Adolescent Girls, Department of Women and Child Development, Government of India http://wcd.nic.in/npag/npag.htm
- School Health Programme, RMNCH+A, National Rural Health Mission, Government of India http://nrhm.gov.in/nrhm-components/rmnch-a/adolescent-health/school-health-programme-shp/background.html
- Rashtriya Bal Swasthya Karyakram, National Rural Health Mission, Government of India http://nrhm.gov.in/nrhm-components/rmnch-a/child-health-immunization/rashtriya-bal-swasthya-karyakram-rbsk/background.html
- Mid Day Meal Scheme Guidelines http://www.righttofoodindia.org/mdm/mdm_glines.html
- Rajeev Gandhi National Creche Scheme for Children of Working Mothers. Department of Women and Child Development http://wcd.nic.in/SchemeChildren/RajivGandhiCrecheScheme.pdf
- Indira Gandhi Matritva Sahyog Yojana (IGMSY)- a Conditional Maternity Benefit (CMB) Scheme, Department of Women and Child Development http://wcd.nic.in/SchemeIgmsy/scheme_igmsy.htm#

ANNEX 6: SAMPLE RECIPES FOR COMPLEMENTARY FEEDING (MEETING 14)

1. Wheat Mix

Ingredients:

Wheat flour (Whole)	100 g.
Bengal gram (Roasted & de-husked)	30 g.
Groundnut (Roasted)	20 g.

Method of preparation:

1. Roast wheat flour,
2. Remove the skin of groundnuts.
3. Make powder of roasted Bengal grams and groundnut. mix with Wheat flour thoroughly.
4. Store in a dry airtight container.

Nutritive Value Per 100 gms:

Calories	377
Protein	16.1 g.
Iron	5.54 mg.
Carotene	41.93 µg.

3. WHEAT & GREEN GRAM MIX

Ingredients:

Whole wheat	25g.
Whole moong (green gram)	10g.

Method of preparation:

1. Clean whole wheat & whole green gram properly.
2. Roast wheat & green gram separately in hot sand.
3. Griend these individually, and mix together.
4. Fill the prepared instant food mix in a dry and air tight bottle.

Nutritive value per 100 gms:

Calories	343
Protein	15.3 g.
Iron	5.3 mg.
Carotene	72.59 µg

4. WHEAT SOYA MIX

Ingredients:

Whole wheat	80 g.
Whole soyabean	20 g.

Method of preparation:

1. Clean whole wheat & soyabean separately.
2. Roast wheat and soyabean in hot sand.
3. Grind these separately and mix together.
4. Store the prepared instant food in an air-tight container.

Nutritive value per 100 gms:

Calories	363
Protein	18.1 g.
Iron	6.3 mg.
Caratene	136 µg.

9. CHIDWA MIX (RICE FLAKES)

Ingredients:

Chuda (Rice Flakes)	100 g.
Moong dal	30 g.

Method of preparation:

1. Roast Chidwa and Moong dal separately.
2. Grind the ingredients individually and mix thoroughly.
3. Store in a gry container.

Nutritive value per 100 gms:

Calories	346
Protein	10.73 g.
Iron	16.28 mg.
Carotene	38 µg.

16. RAGI MIX

Ingredients:

Roasted Ragi Powder	100 g.
Roasted Bengal gram Powder	50 g.

Method of preparation:

1. Mix the powdered ingredients thoroughly.
2. Store in dry airtight container.

Nutritive value per 100 gms:

Calories	341
Protein	12.36 g.
Iron	5.76 mg.
Carotene	65.66 µg.

20. MAIZE FOOD MIX

Ingredients:

Maize	100g.
Lentil	30 g.
Groundnut	20 g.
Sugar	50 g.

Method of preparation:

1. Clean and roast maize, lentil and groundnut seeds separately.
2. Griend individually to a fine powder.
3. Mix all these ingredients with powdered sugar.
4. Store in dry airtight container.

Nutritive value per 100 gms:

Calories	379
Protein	11.93 g.
Iron	2.59 mg.
Carotene	85.5 µg.

21. JOWAR MIX

Ingredients:

Roasted Jower Flour	45 g.
Roasted Bengal gram Powder	20 g.
Roasted Groundnut	10 g.
Sugar	25 g.

Methos of preparation:

1. Mix all the ingredients thoroughly.
2, Add powdered sugar and store in air tight container.

Nutritive value per 100 gms:

Calories	388
Protein	11.80 g.
Iron	4.06 mg.
Carotene	43.75 µg.

Source:

Nutritious Recipes for Complementary Feeding of Infants and Young Children; Food and Nutrition Board, Ministry of Women and Child Development, Government of India, 2008

23. BAJRA FOOD MIX

Ingredients:

Bajra	50 g.
Green Gram dal	20 g.
Til seeds	10 g.
Sugar	20 g.

Method of preparation:

1. Clean and dehusk bajra.
2. Roast and powder Bajra, green gram dal and til seeds separately.
3. Mix all the powders together adding powdered sugar.
4. Store in dry and airtight container.

Nutritive value per 100 gms:

Calories	385
Protein	12.53 g.
Iron	5.71 mg.
Carotene	82 µg.

ANNEX 7: LIVING FENCES (MEETING 17)

Home gardens need to be protected from domestic animals, birds etc. Most fences made today tend to be, ineffective or hard to maintain or costly. Sometimes living plants are used for fencing, but the fence itself does not contribute much to production. A well designed fence can yield food, and medicine etc. It can also help soil erosion control and act as a windbreak. Additionally, it can be a source of leaf and stems etc. for mulching, green manuring, composting etc. LIVING fences can also produce fuel wood and support climbing plants.

Advantages

If plants are carefully selected, the trees, shrubs, climbers etc. used to make fences can become a source of food in the dry season, especially when seasonal vegetables are difficult to grow. The fence

can reduce damage to soil and plants by regulating the flow of water and strong winds. The fence plants can also provide vertical support for climbing plants.

Limitations
If plants on the fence have dense foliage or spreading branches, they can block light from reaching other garden plants. Living fences can take some time before they can provide effective protection against small animals. In the initial stages some of the fence-plants themselves may need to be protected. If fence plants are not selected carefully they may compete with plants inside for nutrients and water

Examples: A tentative list can be adapted as per the local context
Lower level: Agave, Pineapple…
Lower middle level: Zizyphus, Thorny acacias, Hibiscus…..
Upper middle level: Erythrina, Wild lemon, Zizyphus…..
Highest level: Sesbania grandiflora, Betel nuts……
Climbing plants: Sponge gourd, Basella, Dolichos Beans

Sources:

- Multifunctional Living Fences, http://www.themodernhomestead.us/article/Multifunctional+Living+Fences.html
- The many benefits of planting a living fence http://www.decodedplants.com/many-benefits-planting-living-fence/892
- Westley S B, Living Fences: A close up look at an agroforestry technology, Agroforestry Today (Kenya) 1990 Vol. 2 No. 1 pp. 11-13, http://cabdirect.org/abstracts/19916775556.tml;jsessionid=F052C22B3A73FE1A5024F0BE927FB489
- The Permaculture news. Org http://www.permaculturenews.org/resources_files/farmers_handbook/volume_4/10_living_fence.pdf

ANNEX 8: BIO-REPELLENT (MEETING 17)

Simple preparation of Biopestrepellent

Seasons: All places and all seasons
How to make:
Plants that are aromatic - such as herbs and spices, plants that have bitter taste - such as neem, nirgundi (vitex negundo); and plants that have a milky sap often possess anti-feed-ant, anti-fungal or anti-bacterial properties. We often crush these plants, soak them overnight in equal volume of water; strain them through cloth and then dilute them with 5 - 6 times mild soap water. Such solution is sprinkled on the crops/ vegetables, usually in the afternoon; once in 10 day or whenever the pest density justifies.

Relevance:
Locally available plant extracts are used, that can be made easily at home and sprinkled with care around sunset when pests become active and bees/ other pollinators, even human or livestock are not harmed. Sprinkling wood-ash also helps to prevent plants from harm from foliage-chewing insects. Non-edible oil cakes of Neem, Mahua etc are often mixed with compost and incorporated in top-soil to combat soil-borne diseases and nematodes etc.

Crop combinations and rotations

To reduce the pest and disease attacks on the crops, it is always suggested not to plant crops of same family nearby. The vegetable crops can be categorized into following families –
Pumpkin family – Bottle gourd, pumpkin, ash gourd, ridge gourd, bitter gourd etc

- Cotton family – ladies finger, roselle etc.
- Tomato family – tomato, capsicum, chilly, brinjal, potato etc.
- Amaranth family – amaranthus
- Corrianndar family – coriander, carrot etc.
- Mustard family – mustard, raddish, cauliflower, cabbage, salgum
- Onion family – onion, garlic etc.
- Ipomoea family – Ipomoea, sweet potato etc.
- Jute family – sweet jute, bitter jute, roselle etc.
- Beet root family – Beet root, spinach, Bathua sag etc.

Similarly, some of the crops are called companion crops, combination of these crops help in repelling the pests and diseases –

a. Tomato / chilly / brinjal + onion / garlic
b. Raddish / salgum + carrot /beet / French beans
c. Ladies finger + Guar + amaranths
d. Mustard + any of the legumenacea

ANNEX 9: ORGANIC COMPOST (MEETING 17)

Vermi-composting

Season: All spaces; especially dry season

Idea: Most of the Agro-waste can be recycled as animal droppings/ urine sometime by facilitating absorption in suitable media such as coir dust.

Description:
As water-logging is a problem in this area, vermicompost is preferred and can be made on a raised platform after pre-digestion in a hole for 5-6 weeks. Chopped up water hyacinth can be the main ingredient, and chicken / duck/ goat manure could be mixed along with kitchen waste to attain a carbon - nitrogen ratio of 25-30:1.
Once semi-decomposed manure is heaped up to 50-60 cm on raised bamboo platform which is shaded, any quick multiplying type of earthworm could be released. The heap needs to be kept wet for rapid decomposition. Depending on the number of earthworm added, the vermi-compost should be ready for use in 8 to 12 weeks.

Advantage:
Composts supply some nutrients, but are even more important as soil-amendments, which is very important to reduce bulk density of heavy soils and also as buffer to salinity.

Preparation of liquid manure

Seasons: All seasons and spaces

Idea: Making of liquid manures for maintaining soil fertility, either used to treat seeds/ seedlings; or sprinkled on leaves [foliar application], or added to top-soil at regular intervals.

Details:
Several types of manure or compost teas are made either from raw manure or from ready compost. For treating seeds, concentrates are often made by mixing cattle dung with equal volume of urine, and fermented with 5 parts water for 8-10 days. The mixture is stirred twice everyday for 5 - 10 minutes and when applying, strained and diluted with water 1:1, for soaking seeds @ 2 -2.5 ltr/kg of seed.
For application to crops, mother solution is often made by mixing cattle manure with equal volume of urine and crushed leaf or kitchen waste. This is diluted by mixing with 10 - 12 times water and allowed to ferment for 10 - 14days with 2 - 3 times a day stirring. Before application on leaves, it is diluted by mixing with 2 litres water and for soil application, equal volume of water. [Rate about 2.0 - 2.5 litre for a 9 square meter area, once a week]
There are several other types of solution, but stirring regularly is essential, and ready solution can be kept for about 10 - 14 days, in case of chicken/duck/ goat manure, fermentation period is reduced up to 4 - 5 days.
If ready compost [made at high temperature] is used, only about

1.0 - 1.5 litre of compost needs to be immersed in 50 litres of water and a hand full or two of liquid jaggery is added. The solution is artificially aerated, for up to about 24 hours, and then the solution is applied, roughly @ 1 lit/4 – 5 square meter area.

Relevance:
All these are micro-biological solutions, made at home after some basic training. These can easily reduce the need for synthetic fertilizers and even large quantities of farmyard manure (FYM). Bacterial or fungal cultures available in market can also be applied, mixing 4 - 5 packets [800-1000 grams], in 5 kg of vermicompost for application on a 1 acre plot.
Such methods work better when the field is ploughed to a shallow depth, and mulched on the surface. They can fertilize and also control soil-borne diseases.

Preparation of high temperature compost

Idea: Composting is the perfect recycling activity to help to grow crops.

Detail steps

1 Clear a corner of the backyard by the fence or near the edge of the garden for compost pile or bin. It should be close to a water source and easy to reach, but out of the main traffic flow. It should be out of the direct summer sun, but away from buildings.
2 Construct or place your compost bin, if you choose to confine your compost. You can use a variety of materials, such as untreated wood pallets, wire mesh, snow-fencing or concrete blocks to make a simple structure for your compost
3 Add “browns” and the “greens.” Browns are fallen leaves, evergreen needles, woody matter, including bark, twigs and branches, sawdust, wood chips and other materials that contain carbon, such as shredded cardboard and paper. Greens are grass clippings, green garden waste, vegetable scraps, coffee grounds, eggshells, fruits and other kitchen waste. These items release nitrogen as they break down.
There are different methods of combining the materials. One is to mix brown and green stuff together, tossing kitchen or yard waste into the bin or onto the pile as you collect it. The other is to alternate layers of carbon-rich and nitrogen-rich materials, starting with a 6-inch layer of brown stuff topped by 3-inch layer of green stuff, which is topped by another 3-inch layer of

brown stuff, and so on.

4 Do not compost meat, bones or fish scraps (they will attract pests), perennial weeds (they can be spread with the compost) or diseased plants.

5 Add safe animal manures to the compost heap, if available. Use manure from grass, grain and hay eaters, such as horses, rabbits, cows and chicken.

6 Moisten the pile periodically as you add to it. Sprinkle a shovel or so of healthy garden soil over the compost materials to add live microorganisms that will begin to break down the trimmings and scraps.

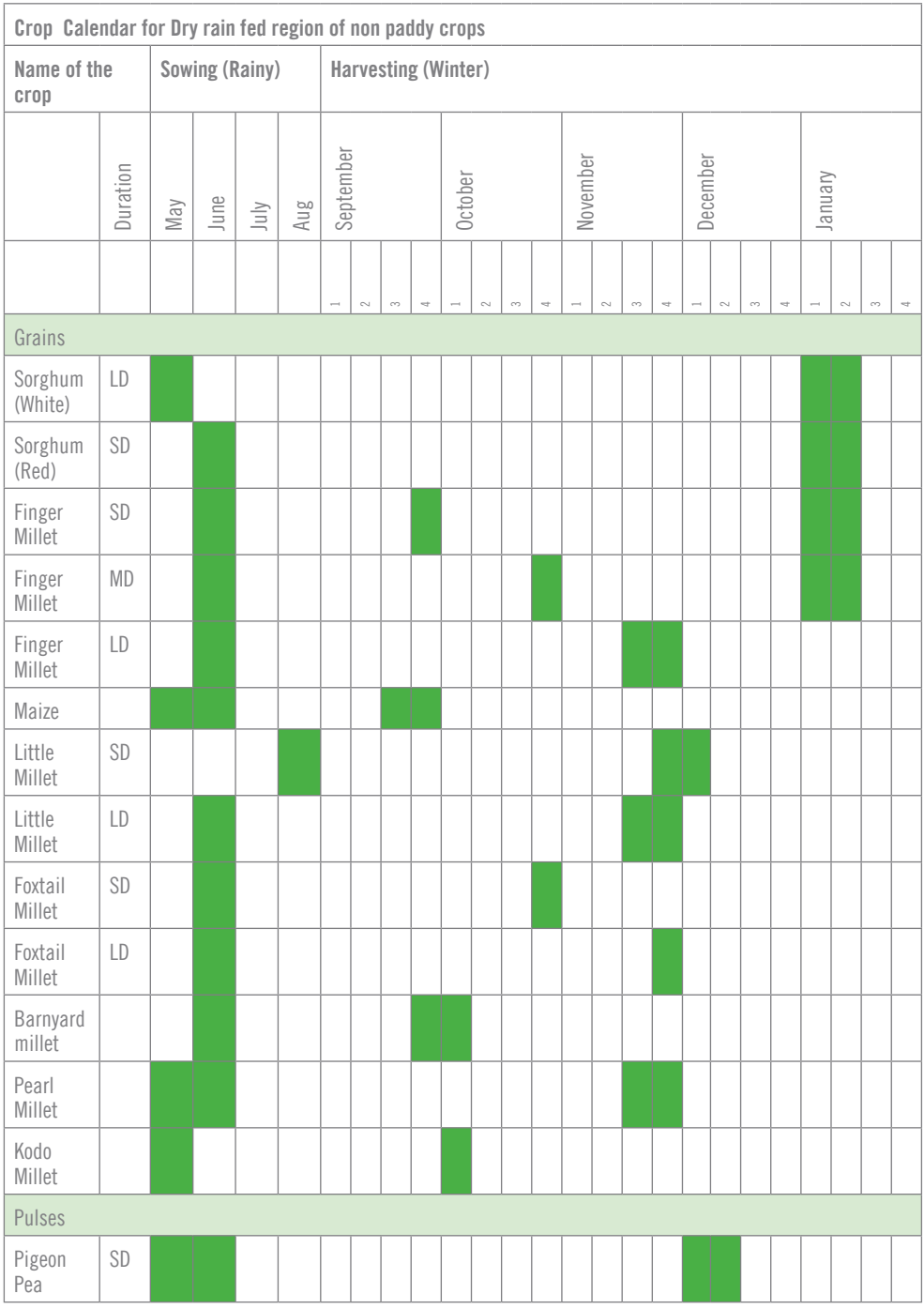
7 Watch for the pile to settle, a sign that the composting is working. Natural decomposition does the work of transforming the materials, heating up the pile

8 Check for signs that the compost is finished in one to four months, if you layer material and regularly turn it, or two months to two years if you don't. Your compost is ready to use when all the materials turn into a clean-smelling, crumbly, earth-like brown substance. Use it to enrich your garden soil or outdoor potted plants.

ANNEX 10: MATRIX FOR MAPPING EXISTING CROPS GROWN (MEETING 20)

Seasons			
	Summer	**Rainy**	**Winter**
Land Types			
Upland	Cereals	Cereals	Cereals
	Pulses	Pulses	Pulses
	Oil seeds,	Oil seeds,	Oil seeds,
	Spices,	Spices,	Spices,
	Roots & tubers,	Roots & tubers,	Roots & tubers,
	Vegetables	Vegetables	Vegetables
Medium Land	Cereals	Cereals	Cereals
	Pulses	Pulses	Pulses
	Oil seeds,	Oil seeds,	Oil seeds,
	Spices,	Spices,	Spices,
	Roots & tubers,	Roots & tubers,	Roots & tubers,
	Vegetables	Vegetables	Vegetables
Lowland	Cereals	Cereals	Cereals
	Pulses	Pulses	Pulses
	Oil seeds,	Oil seeds,	Oil seeds,
	Spices,	Spices,	Spices,
	Roots & tubers,	Roots & tubers,	Roots & tubers,
	Vegetables	Vegetables	Vegetables

ANNEX 11: CROP PLANNING (MEETING 20)



Crop Calendar for Dry rain fed region of non paddy crops																													
Name of the crop		Sowing (Rainy)				Harvesting (Winter)																							
	Duration	May	June	July	Aug	September				October				November				December				January							
						1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Pigeon Pea	LD																												
Cow pea																													
Rice bean																													
Horse gram																													
Black gram																													
Green gram																													
Oilseed																													
Sesame																													
Niger																													
Mustard																													
Castor																													
Tubers																													
Tapioca																													
Yam																													
Elephant foot yam																													

LD- Long Duration; MD- Medium Duration; SD- Short Duration

ANNEX 12: NUTRITION SENSITIVE AGRICULTURE (MEETING 17 & 20)

Interventions for different agro climatic zones are given below. However, the facilitator in collaboration with group members needs to adapt it to the local context.

Integrated Soil Fertility Management			
	Agricultural implements and system	**Change in land shaping and cultural practice**	**Change in organizational and other practices**
Kitchen garden or Irrigated upland	Application of fertiliser like compost tea, vermi-compost, high temperature compost, natural lime, stone dust, and bone dust etc.	Preparation of double digging bed, circle bed etc. and crop rotation (Pulses, legumes, leafy vegetables, fruits, cereals, tubers and oilseeds etc.)	Production of bio-gas and application of the slurry as fertilizer.
Uplands of drought prone areas (rain fed agriculture)	Application of leguminous cover crops. heap compost, green leaf manure, lime, decomposed leaf, manure, oil cakes, and bio fertilisers etc.	Planting rows of fast growing leguminous	Keeping cattle in enclosures and making arrangements for collecting their urine and dung.
Lowland or waterlogged land	Application of green manure, Azola, Blue Green Algae , Bio fertilisers , Natural Lime, Different mineral dust etc.	Arranging for group cultivation of mixed crops	Developing community bio gas plant and community compost pit etc.

Integrated Soil and Water Management			
	Agricultural implements and system	**Change in land shaping and cultural practice**	**Change in organizational and other practices**
Kitchen garden or Irrigated upland	• Covering / mulching the soil with fragments of hay, shedded leaves, crop residues, and uprooted weeds etc. • Making arrangements for pitcher irrigation. • Mixing residual plants of the harvested paddy plants or charcoal in clayey soil and pond slurry in sandy soil. • Applying plenty of high temperature compost or heap compost in soil	• Preparation of double digging bed, circle bed etc. and introduced mixed plantation of both shallow and deep rooted crops. • Making arrangement for drip irrigation by laying underground bamboo pipes or any other locally appropriate arrangements.	• Using waste water logged around tube wells and dug wells for growing saplings. • Making arrangements for collecting rain water from the roof top and harvesting it in small ditches , soak pits and drums etc.

Uplands of drought prone areas (rain fed agriculture)	• Reusing soap water after filtration through sand + charcoal + limestone beds. • Introducing mixed cropping and mulching the soil with cover crops. • Covering the soil around large trees with pebbles, gravels or brick bats. • Applying plenty of high temperature compost or heap compost in soil	• Selecting drought tolerant crops & varieties and making arrangements for light irrigation at critical moments. • Cutting small square trenches or building semi circular bunds for harvesting rain water to be used for cultivation of crops and trees (agro forestry).	• Renovating ponds for harvesting rain water • Organising group cultivation of vegetables on trellises built on ponds excavated step wise.
Lowland or waterlogged land	• Applying plenty of high temperature compost or heap compost in soil. • Cultivating green manure on fields and applying branches of immature or premature trees. • Cultivating paddy on beds by phased irrigation.	• Using residual moisture of soil to do relay cropping • Excavating shallow ditch at one corner of the field and using the stored water for irrigation	Using treadle pumps

Integrated Pest and Disease Management			
	Agricultural implements and system	**Change in land shaping and cultural practice**	**Change in organizational and other practices**
Kitchen garden or Irrigated upland	• Foliage application of solutions prepared from neem leaves and seeds etc. • Application of extracts from garlic, and chilly etc. on plant body and leaves. • Foliage application of wood ash + kerosene • Application of oil cake neem / karanj/mahua/castor etc on soil • Use of light traps, glued ribbons ,and other traps • Plantation of aromatic plants like garlic, onion, and coriander etc intermittently within rows of main crops as pest repellants • Use of scare crows.	• Growing dense and multistoried live fences. • Arranging for mixed cultivation of a variety of vegetables. • Selecting varieties on the basis of agro climatic conditions and growing vegetables as per the season.	• Selecting well nourished and disease free seeds and store them properly. • Making arrangements for burning the pest ridden or infected plants.

Uplands of drought prone areas (rain fed agriculture)	• Application of organic manure, vermi compost and bio fertilizer in soil • Use of predator insects and micro organisms • Sterilization of seeds with warm (60 degree Celsius) cow urine solution . • Growing pest repellant plants like marigold, basil, etc on live fences. • For example - I). diverse crops act as a deterrent for the spread of pests/ diseases; ii) trap crops such as ambadi, , bhendi, , seaseme , etc. attract pests/ insects and protect other crops; iii). Marigold and other flowers inhibit the spread of pests/ diseases; iv). friendly insects, birds, etc. feed on pests that are harmful for crops • Selecting disease resistant varieties for cultivation	• Mixed cropping of cereals, oil seeds and pulses • For example – It may have a combination of i– barnyard millet, maize , varieties of fox tail millet ,little millet , finger millet, , pearl millet, sorghum, little millet,black gram, horse gram, rice bean, white bean, amaranthus, multiple varieties of cow pea, pigeon pea, pigeon pea, niger, sesame, castor, and local varieties of short and medium duration paddy etc. • Use of predator insects and micro organisms • Making row of leguminous (alley cropping) within the rows of cereals. • Selecting crops and varieties suitable for local area	• Putting up social barriers in order to create the movement of cattle. • Masking of fields free of rodent by collective efforts.
Lowland or waterlogged land	• Application of limestone dust, dust gathered by burning snails, and bio gas slurry etc. on soil. • Making perches in the field for hunting birds • Releasing hunting insects and micro organisms in field • Foliage application of solution made out of cow urine, cow dung and raw turmeric. • Rearing ducks, predator fish, frogs etc in or around crop fields • Collecting seeds from healthy and disease free plants	• Promoting integrated farming with rice + fish + duck and plantation of trees on farm ridges. • Collecting seeds from healthy disease free plants.	• Learning to identify and preserve rat eating snakes instead of killing them. • Organising collective effort for weed control (learning to identify beneficial/ harmful insects and weeds.)

Species and Varieties Selection			
	Agricultural implements and system	**Change in land shaping and cultural practice**	**Change in organizational and other practices**
Kitchen garden or Irrigated upland	• Growing a mix of some leafy vegetables, some shoots, a few pods and legumes, some fruits and some spices in every season. • Selecting better varieties from native livestock and making suitable changes in the environment for rearing these.	• Constructing multistoried trellises and fences.	• Generating awareness regarding the qualities and use of less known crops. • Establishing seed bank and nursery for indigenous plant varieties
Uplands of drought prone areas (rain fed agriculture)	• Planting drought tolerant trees that have the capacity to withstand coppicing on permanent fallows. • Cultivating fodder (drought tolerant bushes/creepers) on seasonal fallows.	• Promoting integrated farm with components like pig/goat, palm/date palm-cassava/sweet potato-pigeon pea/ roselle etc. and making use of biogas unit etc.	• Designating some common property as food forest, and / or protected area as shelter and nesting place for birds
Lowland or waterlogged land	• Cultivating aquatic plants that grow fast while floating-plants that may be used as food for humans, animals and fishes. (e.g. water chestnut, and azolla, etc.	• Promoting integrated farming through innovative land shaping. • Cultivating different vegetables etc. on trellises constructed on the banks of irrigation canals, ponds and other water bodies.	• Protecting the water bodies from chemical pollution, industrial wastes and over-utilization. • Creating agro -forestry on common lands with the help of marginalized groups and for the benefit of them.

Sources:

- Nutrition Sensitive Agriculture and Food Based Approach, Food and Agriculture Organisation (FAO), http://www.fao.org/food/nutrition-sensitive-agriculture-and-food-based-approaches/en/
- Entry Points to Nutrition Sensitive Agriculture, http://link.springer.com/article/10.1007%2Fs12571-013-0293-5
- Production and Processing of Foods as core aspects of nutrition sensitive agriculture and sustainable diets. http://www.bioversityinternational.org/e-library/publications/detail/production-and-processing-of-foods-as-core-aspects-of-nutrition-sensitive-agriculture-and-sustainabl/
- Nutrition Sensitive Agriculture, Leveraging Agriculture for Nutrition in South Asia http://lansasouthasia.org/content/nutrition-sensitive-agriculture-0
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- Agriculture for improved nutrition and health. CGIAR Research Programme http://www.cgiarfund.org/sites/cgiarfund.org/files/Documents/PDF/crp_4_Proposal.pdf
- Synthesis of Guiding Principles on Agriculture Programming for Nutrition http://www.spring-nutrition.org/sites/default/files/synthesis_of_ag-nutr_guidance_fao_issuepaper_draft_summary.pdf

ANNEX 13: RAINWATER HARVESTING (MEETING 18)

What it is?

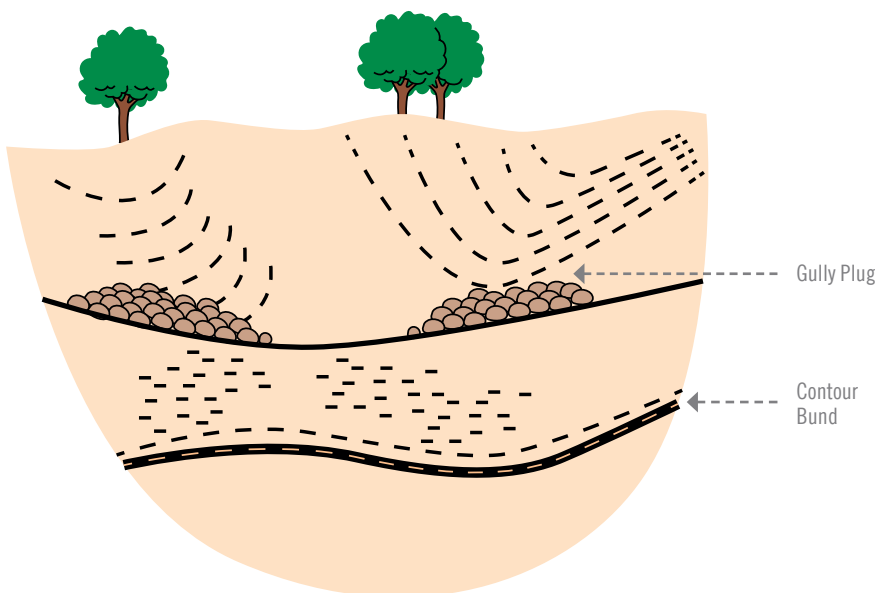
The rainwater which is not harvested and stored mostly runs off the land surface and gets wasted without proper use. Where the rains are intense and continuous over some days, the run-off turns into flood inundating vast tracts of land and damages life and property. When the rainfall is scanty, part of it gets lost by interception by tree canopy, evaporation and run off, leaving very little of it for storage and future use. Although water is renewable, it is a finite commodity. Therefore, rainwater harvesting and storage becomes imperative in either case, for effective use by people, livestock and nature.

How can it be done?

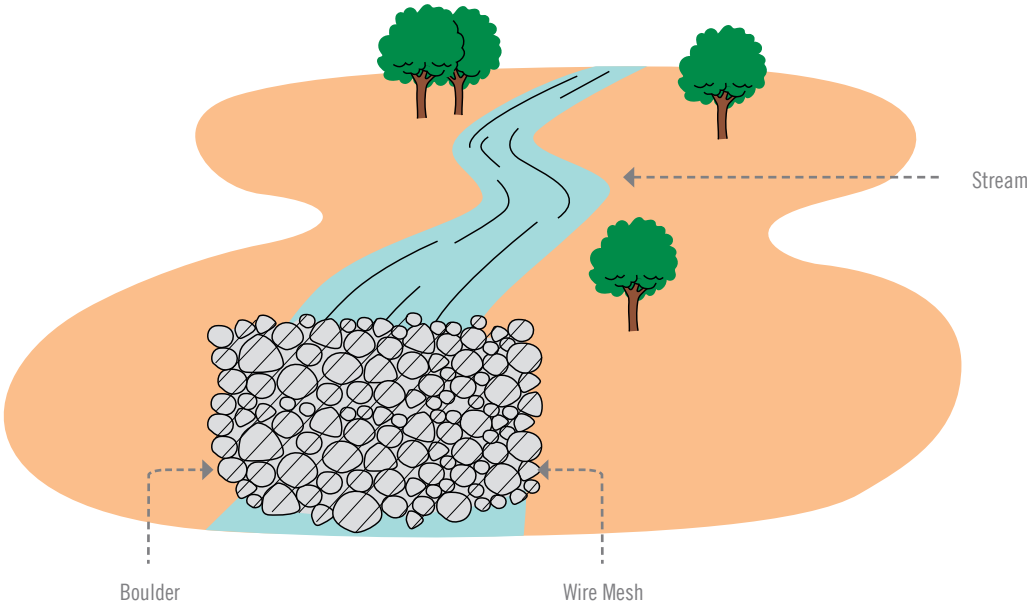
In rural areas, rainwater harvesting is taken up considering watershed as a unit. Following techniques may be adopted to save water going waste through slopes, rivers, and rivulets.

(i) Rainwater Harvesting through Gully Plug using local stones, clay and bushes across small gullies and streams running down the hill slopes carrying drainage to tiny catchments during rainy season.

RAIN WATER HARVESTING THROUGH GULLY PLUG AND CONTOUR BUND



RAIN WATER HARVESTING THROUGH GABIAN STRUCTURE



(ii) Rainwater Harvesting through Contour Bund, which are suitable in low rain fall areas where monsoon run off can be impounded by constructing bunds on the sloping ground all along the contour of equal elevation.

(iii) Rainwater Harvesting through Gabion Structure, which is a kind of check dam commonly constructed across small streams to conserve stream flows with practically no submergence beyond stream course. A small bund across the stream is made by putting locally available boulders in a mesh of steel wires and anchored to the stream banks. The height of such structures is around 0.5 m and is normally used in the streams with width of less than 10 m.

(iv) Rain Water Harvesting through Percolation Tank, which are generally not more than 60 x 60 x 60 cm pits, (designed on the basis of expected runoff as described for settlement tanks), filled with pebbles or brick jelly and river sand, covered with perforated concrete slabs wherever necessary.

(v) The need for water harvesting in high-rainfall areas in a hygienic condition is more pronounced in high-rainfall areas, where it is more feasible to store water in containers for direct use, rather than for recharging the groundwater. Generally, in small domestic systems, mud pot, tank, ferrocement tanks are used to store water.

To Know more:

- Rainwater Harvesting, Centre for Science and Environment http://www.rainwaterharvesting.org and http://cseindia.org/node/657
- http://www.yourarticlelibrary.com/wp-content/uploads/2013/12/clip_image0082.jpg)

ANNEX 14: HUMAN WASTE AND DISEASE TRANSMISSION (MEETING 18)

Bacterial pathogens in human excreta		
Bacteria	**Diseases**	**Reservoir**
Escherichia coli	Diarrhoea	Human
Salmonella typhii	Typhoid fever	Human
S. paratyphii	Paratyphoid	Human
Other salmonellae	Food poinsoning and other salmoellioses	Human
Shigella spp	Bacilliary dysentry	Human
Vibrio cholera	Cholera	Human
Other vibrions	Diarrhoea	Human, Animals
Yarsinia enterocolitica	Diarrhoea and septicimia	Human, Animals

Helminthic pathogens in human excreta			
Helminthis	**Common name**	**Diseases**	**Transmission**
Ancyclostoma duodenale	Hookwoorm	Hookworm	Human-soil-human
Ascaris lumbricoides	Roundworm	Ascariasis	Human-human-soil
Taenia saginata	Beef worm	Taeniasis	Human-cow-human
T. solium	Pork Taperworm	Taeniasis	Human-pig-human
Trichuris trichura	Whiworm	Trichuriasis	Human-soil-human

ANNEX 15: USE OF LOWCOST WATER FILTERS (MEETING 18)

Matka (Earthen Filter)

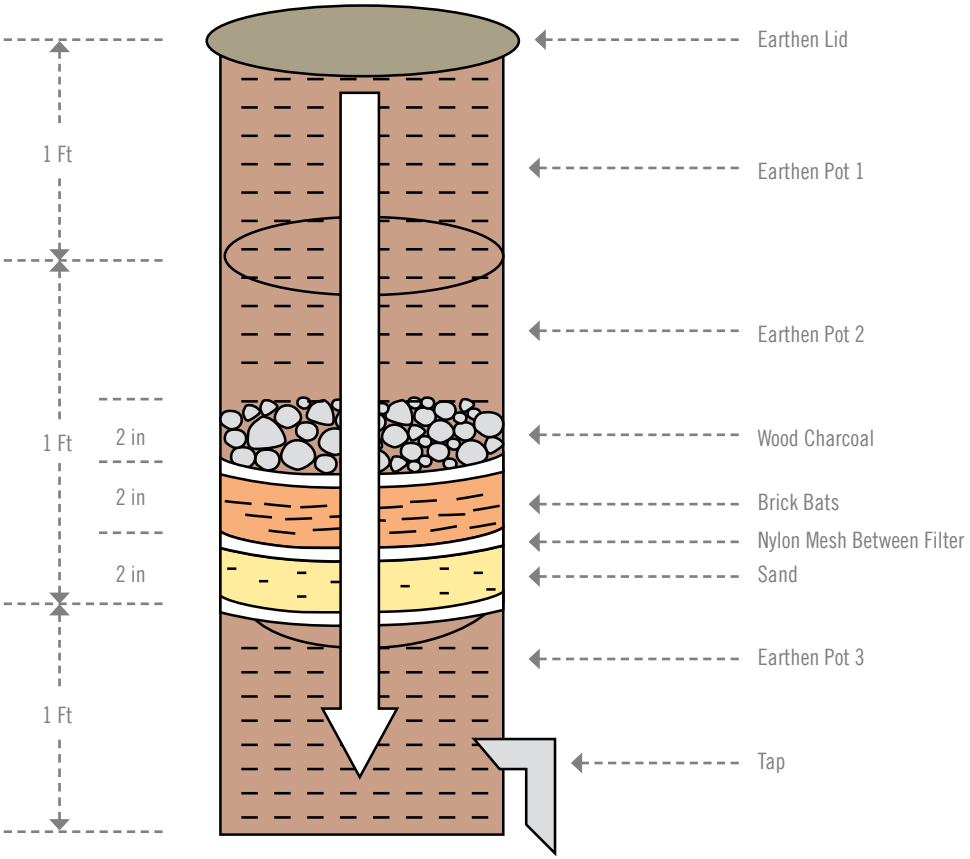
Matka filter's construction can be divided into two parts.

1. Construction of outer body of matka filter

This is completed in two stages

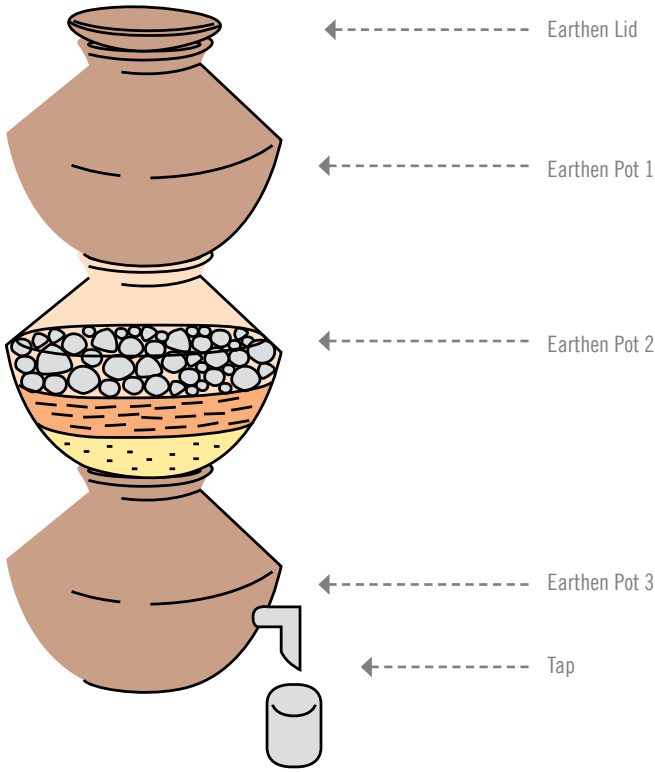
Shaping the body- the artisan shapes the filter manually and this done in the following order:

Construction of filter:



Materials required- clay, fine sand, and hay or saw dust.
Required proportions- 1:1:5 (1 part saw dust/hay, 1 part fine sand, 5 parts clay)
Process- Take the above materials in the 1:1:5 ratio and mix well using water. During this the mixture should be carefully searched for hard particles like small stones etc. A fine mixture is prepared so that earthen vessels can be molded out of it.
After preparing the mixture, three pots (matkas) shaped like a hollow spindle are molded of similar dimension- diameter 10 inches, height 1 foot and wall thickness 0.59 inch.

As illustrated in the figure, a hole is bored at the bottom of the first two pots and another hole on the side wall of the lowest pot to fit a tap in it. The top most pot is filled with iron contaminated water which passes through the middle pot and gets filtered. Iron free water trickles down to the lowest pot from where it can be drawn using the tap. The two pots on the top are moulded with a 0.59-inch broad



semi-circular mouth so that one sits perfectly on the other when placed on top. A lid is also moulded for covering the top most pot. This completes the outer body of the matka filter and the entire setup comprises a single unit. The unit is left to dry for some time.

Construction of Klin and banking process:

Materials required- Dried cow dung cakes (for fuel), paddy straw and clay.

Baking method- The moulded pots are set in a kiln and covered with a paste of clay and paddy straw so that the heat from the fire spreads uniformly over the pots. The pots are fired in the kiln for two days and then removed. The lowest pot with a hole on the side wall is then fitted with a tap using cement. With this the outer body of the matka filter is ready.

2. Construction of other parts of matka filter

As illustrated in the Figure 2, the filtration component is constituted of three layers, each separated by a nylon mesh. A nylon mesh is placed inside the middle pot and two-inch-thick layer of fine sand is spread on it and the cloth is tied. The sand before being placed on the mesh is washed to remove clay and clay present in it. Another

nylon mesh is placed on the sand layer and a two-inch layer of brick bat is placed over it and the mesh is tied. This is followed with a new nylon mesh and now a two-inch-thick layer of wood charcoal is spread on top and a similar approach is adopted with the mesh. The filtration medium is finally covered with a nylon mesh. This completes the filtration section of the matka filter. This design developed by MPA has pots with a 10-inch diameter and wall thickness of 0.59 inch. The filter is 1 foot high and has a capacity of 15.69 litres.

How to use - Iron contaminated water in poured in the top most pot which gets filtered through the filtration medium placed in the middle pot. Iron free water gets collected in the lowest pot and is removed using the tap

Precaution

i)The lid must be placed back in its position after filling the pot.

ii) The water should be removed from the lowest pot using the tap only.

iii) The filter should be placed at a higher position so that it is easy to remove water using the tap at the bottom.

iv) The materials used in the filter (sand, wood charcoal and chipped bricks) must be checked and cleaned to maintain the quality of water

3. Advantages of matka filter:

a) It is made from locally available materials.
b) It is inexpensive.
c) Production and use of this filter also provides employment to potters.
d) Due to the transpiration from the earthen material of the filters, the water stored in it remains cool.
e) This filter is an indigenous solution to obtain iron free drinking water.
f) The percentage of cost components for the production of these filters are low and can be done under schemes like MNREGA which benefits the community as well. Apart from the two designs described above, MPA has also designed a matka filter made of bamboo based on people's requirement and convenience.

ANNEX 16: PURE AND SAFE DRINKING WATER (MEETING 18)

Parameters for safe drinking water (GOI) guidelines

Water is defined as safe if it is free from biological contamination (guinea worm, cholera, typhoid etc.) and within permissible limits of chemical contamination (excess fluoride, brackiness, iron, arsenic, nitrates etc) as per IS 10500:2012.

Analysis of water requirement

At the end of household survey, all the facilitators will sit together and compile the information. The village action plan template will be completed, and the following analysis will be conducted. The purpose of this analysis is to identify the present situation, water demand and gap, with probable solutions as offered by the community. This information will be put on a large chart by the facilitators and will be shared with the community during the village meeting.

a) Total nos of households in the village as per survey

b) Total nos of households which does not have water security for drinking water in a complete year. What is the gap (For how much days the water security is not available)? And if the house is pucca, the area of roof in sq.m.

Sl.No.	Water Quality Parameter	Allowable Limit
1	Appearance	Colourless
2	Odour	None
3	Turbidity	No Turbidity
4	pH	6.5-8.5
5	Alkalinity (Maximum)	600 mg/l
6	Hardness (Maximum)	600 mg/l
7	Chloride (Maximum)	1000 mg/l
8	Fluoride (Maximum)	1.5 mg/l
9	Iron (Maximum)	1.0 mg/l
10	Residual Chlorine (Minimum)	0.2 mg/l
11	Total dissolved solids (Maximum)	2000 mg/l

c) Total nos of households which do not have water security for other purposes in a complete year. What is the gap (For how much days the water security is not available)? And if the house is pucca, the area of roof in sq.m.
d) Total nos of water sources available in the village as per survey
e) Nos of functional water sources available in the village as per survey
f) Nos of non-functional water sources available in the village as per survey
g) How many of the non-functional sources can be repaired/ rejuvenated
h) Nos of water sources affected by water quality parameter and cannot be used for drinking purposes. Individual water source to be analysed for which parameter or parameters of water quality is not under permissible limits. Can this water source can be treated for water quality problem?
i) Nos of traditional water sources available in the village, how many out of them are presently being used, for which purpose, how many out of them are not being used but can be revived, what is the quality of water?
j) Total nos of institutions and their individual pucca area
k) Water availability for complete village combined (Drinking and other purposes) as well as separate (Drinking and other purposes) and gap as per the survey
l) Probable solutions as offered by the community in percentage and as per priority.
m) Topography sheet showing habitations, streets, position of existing water sources and slopes is to be prepared. This will help community in selecting options.

Household water security plan survey					
S.No	**Particulars**			**Details**	
A	**Primary Information**				
1	No. of habitations				
2	Population				
3	No. of families				
B	**Source**	Whether working or defunct	Whether water supplied a) regularly b)sometimes c) irregular	Whether all communities use this resource	Quality of water Good/ Bad
4	No. of public water sources				
	a) Hand Pump				
	b) Dugwell				
	c) Street Stand Post (PWS)				
	d) HH Connection				
	e) Others				
5	No. of private water sources				
	a) Hand Pump				
	b) Dugwell				
	c) Others				
6	No. of families using public water sources				
7	No. of families using private water sources				
8	No. of families using PWS				
9	No. of families using protected water supply (Sanitary risk <5)				
10	a) No.of water sources accessible within 100 m - 200m				
	b) No. of water sources accessible within 200 m - 500m				
	c) No. of water sources accessible > 500 m				

11	Frequency of water collection per day(No. of families)	
	a) one time	
	b) two times	
	c) more than 2 times	
12	No. of families taking time to collect water of	
	a) less than 30 min	
	b) above 30 min	
	c) below 60 min	
	d) above 60 min	
13	No. of families getting water round the year	
C	**Water requirement for HH consumption**	
14	Consumption of water in L	
	a) Drinking/ cooking	
	b) Washing Utensils	
	c) Other purposes	
	d) Total	
15	a) No of families using HP as drinking water source	
	b) No. of families using DW as drinking water source	
	Whether water available throughout the year (a) Parts of the year (b) Stops during Summer	
	Common causes cited for water supply disruption a) Poor Maintenance b) Power supply c) Source has gone dry d) Reduced water availability e) Lack of staff f) Contaminated water g) Irregular staff h) Population increase i) Financial Crunch	
	c) No. of families using PWS as drinking water source	

	d) No. of families using pond water as drinking water	
	e) No. of families using HP as drinking water source	
	f) No. of families using DW as drinking water source	
	g) No. of families using PWS as drinking water source	
	h) No. of families using pond water as drinking water	
16	No. of families getting adequate water	
17	Additional Demand L	
	a) Drinking/cooking	
	b) Other purposes	
D	**Household Water management**	
18	No. of families have HH level water storage facility	
19	No. of families aware about the place of filter availability	
20	No. of families having water filters	
21	No. of families regularly using water filter	
22	No. of families interested to procure filter	
23	No. of families aware about linkages between water quality and health	
E	**KAP**	
24	No. of households covering containers with lid	
25	No. of HH using long handle ladder/tap to take out water	
26	No. of HH keeping water at higher platform	
F	**O&M**	
27	No. of families willing to contribute money for O&M	
G	**Water quality and disease burden**	
28	No. of families aware about the quality of water	
29	Incidences of water borne diseases in last three months (No. of cases)	
	a) Diarrhea	
	b) Cholera	

	c) Malaria	
	d) Jaundice	
30	Medical expenses (No. of families) for last three months	
	a) Below Rs 100	
	b) Above Rs 100	
31	No. of HH having toilets	
32	a) No. of families washing hands with soap before taking food	
	b) No. of families washing hands with soap before after defecation	
33	No. of HH having RWH	
34	No. of families willing to construct RWH	
35	Water quality and sanitary score (as per lab report)	
	a) Safe	
	b) Unsafe	
	i) Chemical	
	ii) Bacteriological	
	c) Sanitary risk score >5	
36	Water Budget	
	a) Requirement of water for the village	
	b) Availability of water for the village	
	c) Balance requirement of water for the village	

ANNEX 17: COMMUNITY BASE MANAGEMENT OF WASH (MEETING 18)

Village Water and Sanitation Committee (VWSC)

In the rural areas as per the instruction/guideline of National Rural Drinking Water Programme (NRDWP), once a Rural Water Supply Scheme is completed and commissioned, the operation and maintenance of the scheme is to be handed over to the VWSC. The VWSC should comprise of about 6-12 members including:

- Members of the Gram Panchayat
- 50% Women
- Representatives of all habitation
- Representatives of SCs, STs and poorer section of the village.

The VWSC acts as a standing committee of the GP. The President of the VWSC can be Sarpanch/President of the GP or an elected member as decided by the Gram Sabha.

Responsibilities of VWSC are:

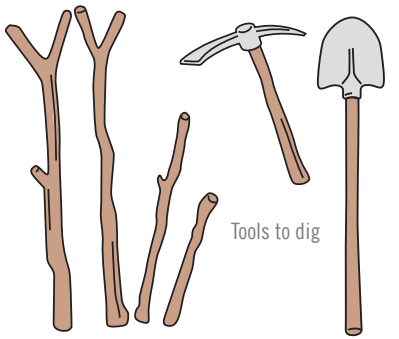
- Operation and maintenance of Water Supply Schemes.
- Monitoring of Water Quality
- Collection of Water cess
- Interact with PHED as and when required.

ANNEX 18: MENSTRUAL HYGIENE (MEETING 18)

Majority of females have very limited or no knowledge about menstruation and the importance of personal hygiene while menstruating. Maintaining adequate hygiene during menses is necessary to stay away from infections as well as for general comfort and easy mobility. Due to this lack of knowledge, many women follow very unsafe practices such as using coir and unsanitary cloth pads during their menses.

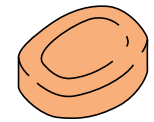
Practice	Health risk
Unclean sanitary pads/materials	Bacteria may cause local infections or travel up the vagina and enter the uterine cavity
Changing pads infrequently	Wet pads can cause skin irritation which can then become infected if the skin becomes broken
Insertion of unclean material into vagina	Bacteria potentially have easier access to the cervix and the uterine cavity
Using highly absorbent tampons during a time of light blood loss	Toxic Shock Syndrome (see right).
Use of tampons when not menstruating (eg to absorb vaginal secretions)	Can lead to vaginal irritation and delay the seeking of medical advice for the cause of unusual vaginal discharge.
Wiping from back to front following urination or defecation	Make the introduction of bacteria from the bowel into the vagina (or urethra) more likely.
Unprotected sex	Possible increased risk of sexually transmitted infection (see below) or the transmission of HIV or Hepatitis B during menstruation
Unsafe disposal of used sanitary materials or blood	Risk of infecting others, especially with Hepatitis B (HIV and other Hepatitis viruses do not survive for long outside the body and pose a minimal risk aspect where there is direct contact with blood just leaving the body).
Frequent douching (forcing liquid into the vagina)	Can facilitate the introduction of bacteria into the uterine cavity
Lack of handwashing after changing a sanitary towel	Can facilitate the spread of infections such as Hepatitis B or Thrush.

ANNEX 19: BUILDING YOUR OWN TIPPY TAPS (MEETING 18)

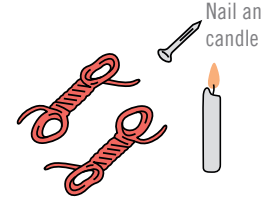


2m forked sticks x2
1m straight sticks x2

Gravel



Soap

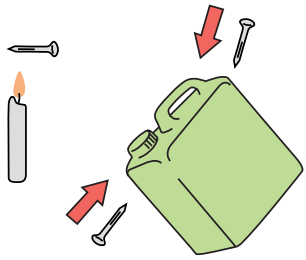


String

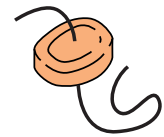
1. Dig two holes 18in deep and about 2ft apart

2. Place the forked sticks, ensure they are level

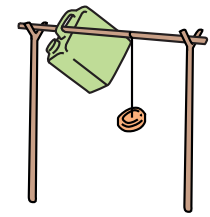
3. Fill holes with soil & rocks, and pack tightly



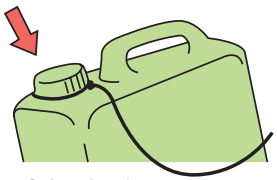
3. Heat the nail and make holes in the water container



4. Make a hole in the soap and thread string



5. Hang container & soap and fill with water



6. Attach string to water container

7. And to foot level stick

8. Use gravel as basin to collect water

ANNEX 20: SOLID AND LIQUID WASTE MANAGEMENT (MEETING 18)

House Hold Level Waste Management Framework
Waste Segregation awareness need to be done at various level, i.e.at household , panchayat institutions etc. The people should be educated to realize the importance of segregation of wastes. The wastes should be treated as resource and should be recycled and re-used.

1. Awareness and Information Campaigns
An important step to motivate and engage the community is via continuous public awareness campaigns based on a public IEC strategy. Activities will, for instance, include promotion of the basic principles of Solid Waste Management 1) 4Rs: Refuse, Reduce, Reuse and Recycle

- Refuse: Do not buy anything which we do not really need.
- Reduce - Reduce the amount of garbage generated. Alter our lifestyle so that minimum garbage is generated.
- Reuse - Reuse everything to its maximum after properly cleaning it. Make secondary use of different articles.
- Recycle – Keep things which can be recycled ore to be given to rag pickers or waste pickers. Convert the recyclable garbage into manures or other useful products

4R-slogan – can impart in school through awareness and orientation camp, advertisement on publicity boards, in local newspapers, as well as workshops, exhibitions, lectures, street plays, etc. In addition, eco-clubs at schools and youth groups together with volunteers will be encouraged to take an active part in the intervention.

2. Segregation at source: -
'Two bins, One bag' formula for the segregation of garbage at source need to initiate. All garbage generators, including individual homes, need to segregate waste they generate into three parts - hazardous, biodegradable wet waste and dry waste. The Green bin was for organic/food waste, the Red bin was for Reject or non-recyclable waste and the bag was for dry/recyclable waste. The colour coding will help in standardization and ease of understanding for all stakeholders in the process. There will be a strict ban on the use of plastic in garbage segregation. Each household will have two bins - one red and

one green, in addition to a bag, made of some recyclable material, for the dry waste. This will make it easier for garbage collectors to keep the waste separate and transport it to the final destination.

3. Composting of Biodegradable Waste- methodology that will be followed:

At House hold level, all biodegradable waste will be composted either in aerobic composts or in the more costly vermi-composts. Aerobic composting refers to a process where biodegradable waste is biologically decomposed under controlled conditions by microorganisms (mainly bacteria and fungi) under aerobic conditions. The product, compost, can effectively be utilised as an organic fertiliser to rejuvenate soils. A key risk associated with composting relates to the product; i.e. compost that is free from environmental hazards. If composting is not based on segregation at source, the product risks becoming contaminated. Composting is a low-cost option, which can be implemented on different levels of scale, thus adapted to a semi-urban specific context. Vermi-composting is based on the digestion of waste by earthworms. A pre-composting phase is necessary where waste is left to decompose partially and thereafter fed to the worms. The worm casting is harvested as vermi-compost.

4. Recycling of Non-Biodegradable Waste

The non-biodegradable waste will be segregated by category at the site. The recyclable waste will then be sold to the vendors to recycle the material properly. If something cannot be reused then recycling is a good option. Many types of materials can be recycled; glass, paper, metals, electronics, various types of plastic. You should check with your local waste facility which types of waste they accept for recycling.

- Use plastic bottle instead of bricks
- Use bottles for hanging plants
- Use sal leaf plates instead of thermocol
- Use plastic bags as planters for kitchen garden
- Use news paper bags instead of plastic bags
- Use cloth bags instead of nylon bags
- Using green coconut shells, ripe coconut shells, egg shells, etc in nursery as sapling planters.

5. Established Nutrition Garden in each household through use of organic manures

A nutritional garden transforms this backyard garden into a multi-

tier ar¬rangement of trees, bush, shrubs, and creepers, runners of different heights and root depths placed to optimally utilize the given space, sunlight and soil nutrient. The key focus in a nutritional garden is the diverse combination of vegetables and trees of different families which allows the farmer to harvest the products all throughout the year. Thus, a well-developed nutrition gar¬den ensures that all the family members particularly women and children of the farming household consume at least 150-200 gm of green vegetables/ fresh fruits per person per day round the year. A sustainable and small scale farming intervention ensuring enhanced food and nutritional security to small and marginal households.

6. Installation HH level biogas unit by linking house hold with existing Govt scheme.

Some household has sufficient biodegradable waste, which can possible to use in small biogas unit. Biogas can use as domestic fuel purpose and slurry can be used for making compost or vermi compost.

ANNEX 21: FOOD FOREST (MEETING 19)

The Permaculture Research

Institute http://permaculturenews.org/2011/10/21/why-food-forests/

What is a Food Forest?

A food forest typically is comprised of seven layers, the uppermost layer being the canopy layer. The canopy layer is comprised of tall trees — typically large fruit and nut trees. Between the tall canopy layer trees, there is a layer of low growing, typically dwarf fruit trees. The combination of trees and plants include trees, shrubs, perennial vegetables, herbs (also often called weeds!) and climbers, all interacting in a natural way which minimises direct competition and also pest problems. It is imitating a productive natural young forest system. Food Forests create a fantastic habitat for wildlife, and because they consist of mostly perennial plants, there is none of that back-breaking planting, mulching and weeding that goes along with annual cropping. As there is a huge diversity of species in a small area, pests do not tend to be a problem. A good habitat will support birds and spiders which prey on most garden pests and keep their numbers down. Weeds are not a problem; in fact, they make up a large part of the food forest! Most weeds in fact have an edible or medicinal use, and as there is no bare soil, there is no opportunity for a vigorous weed to come in and dominate. And the system mulches itself! There is no need for digging, as the plants themselves break

up the soil with their roots, and the mulch from their leaves adds all the nutrients they need.

These form living mulch protects the soil, reduces water loss to evaporation, and prevents weeds growing. We can still go a level deeper to the rhizosphere, or root zone, the underground level which is occupied by all our root crops, such as potatoes, carrots, and ginger, etc. Then there is upright vertical space. This is filled by climbers and vines, which can be run up, trees or any other vertical support. This category includes climbing beans and many other species that love to climb.

What we do about it

Rural communities collectively negotiate with the local administration or the concerned departments of the government in order to take common properties like vested lands, fallow lands, degraded grass lands; pond bank lands etc. on a short term lease and plant different types of drought-tolerant agro-eco specific plants. They are encouraged to plant a sensible combination of various multipurpose trees, shrubs, bushes, creepers/climbers, grass, and runners etc. of many different species and different heights, root depths and shapes that give food, fuel and fodder. Food and fruit trees, firewood trees, strategic crops, seasonal vegetables, pulses are cultivated. Apart from mitigating the food crisis, efforts need to be made to create scope for a supplementary income of the group members.

The village group/s will be motivated to create a Food Forest. The trees to be planted will be selected by the group in accordance with their needs. Vegetables, pulses, oilseeds etc will be cultivated as interim-crops. The saplings need to be protected and nurtured by the group. The surplus may be sold in market. The bio mass may be used as fuel and fodder.

Zone Wise Tree/Crop/Herb List (suggestive list; to be modified as per local conditions)

Type	Semi- Arid/Sub-Humid	Humid	Arid
Multi-purpose Tree	Cutch tree (Acacia catechu Wild), Bauhinia , Neem (Azadiracta indica A . Juss), Mahua (Madhuca indica), Mulberry (Moras alba), Indian beech (Pongamia pinata Pierre) , Gliricidia [Gliricidia sepium Jack Tamarind (Tamarindus indica L.), Subabul, Coconut (Cocos nucifera), Drumstick (Moringa oleifera Lam), Bhumal Jamun [syzygium cuminii (L)], Arjun [Terminalia arjuna,], Minjiri (Cassia siamea), Raintree (Samanea saman Merrill), Banyan [Ficus beng], walnut (Aibizzia sp), Nepal Ebony Persimmon (Diospyrus tomentosa Roxb.), Cashew nut (Ana cardium occidentale L.), and Tamarind (Tamarindus indica L),	Jack fruit (Artocarpus heterophyllus Lam.), Mango (Magifera indica L.), Guava (Psdidium guajava L.), Neem (Azadiracata indica), Bamboo, Jamun [Syzygium cuminii Skeels] Tamarind (Tamarindus indica L)	Date sugar palm (Phoenix sylvesrtis Roxb.), Indian jujube (Ziziphus mauritiana Lam) Kummat , Neem (Azadiracta indica) ,Israel Babool, (ingdusis sp,) , Vilayati Babul (Parkinsonia aculeata L), Date palm (Phoenix dactyliferaL.), Jangal Jalebi (Pithecellobium sp)
Fruit Trees	Custard apple (Annona squamosaL) ,Indian jujube (Ziziphus mauritiana Lam.), Karonda , Mango (Mangifera indica L.),Guava (Osidium guajava L.),Jamun, Tamarind (Tamarindus indica L.), Mandarian Orange (Citrus reticulata Blanco) Lemon [Citrus limon(L) Burm .f.], Papaya (Carica papaya L.), Banana (Musa paradisiaca L), Drumstick (Moringa oleifera Lam). Sapota (Acharas zapota L.), Indian Gooseberry (Embilica officinalis Gaernt.), Jack fruit (Arocarpus heterophyllus lam.) ,Lichi [Litchi chinensis (Gaertn Sonn.], Mulberry, Bael (Aegle marmelos correa ex Roxb.), Pomogrante (Punica granutum L), Falsa ,Cashew nut [Anacardium occidentale L.), Elephant apple Curry leaves [Murraya koenigii (L) Speng.], Figs (Ficus hispida L.f.)	Mandarin Orange (Citrus reticulate Blanco), Lemon [Citrus limon (L) Burm.f.], Papaya (Carica papaya L), Banana (Musa paradisiacaL) Lichi [Litchi chinensis (Gaertn Sonn.], Jack fruit (Artocarpus heterophyllus Lam.), Pear [Pyrus pyrifolia (Burm.f.) Nakaiavar. culta (Makino)Nakai] Sapota (Achras zapota L), Mango (Mangifera indicaL.),	Indian jujube (Ziziphus mauritiana Lam) , Karonda (Carissa carandas L.) Jamun [Syzygium cuminii (L) skeels] ,Date palm (Phoenix dactylifera L.), Bael (Aegle marmelos)
Cereals	Paddy(Oryza sativa), Wheat (Triticum aestivum) ,Kado millet ,Ramdana , Foxtail millets(long & short duration) ,Barnyard millet, Maize(Zea mays L.) , Fox tail millet, Little millet (long and short duration) ,Finger millet((Eleucine coracana Gaertn) (short, medium and long duration) , Pearl millet(Pennisetum typhoides)(short and long duration), Sorghum9 long and short duration), Black gram , Horse gram ,Rice bean , White bean, Amaranthus , Cow pea, Pigeon pea(short and long duration), Niger ,Sesame , and Castor etc.,	Paddy (Oryza sativa), Wheat (Triticum aestivum), Maize (Zea mays L.), and Oat, etc	Pearl millet (Pennisetum typhoides), Wheat (Triticum aestivum), Barley, Maize (Zea mays L.) Sorghum, and Ramdana etc.

Oil seeds	Sesame (Sesaum indicum L.), Linseed (Linum usitatissimum L.), Ground nut (Arachis hypogaea L.), Mustard (Brassica junces), Soyabean (Glynine max. Merrill) Safflower (Carthaus tinctorvus L.), Cotton, Coconut, Sunflower ,(Helianthus annuus L.), Niger (Guizotia abyssinica Cass.) Castor, Purging nut (Jatrapha curcasL.), Rozal Roselle (Hibiscus sabdarffa L.),	Rapeseed (Brassica campestris), Mustard (Brassica juncesa), Groundnut (Arachis hypogaea al.), and Sunflower (Helianthus annuus L.) etc.	Mustard (Brassica juncea), Sesame (Sesaum indicum L.), Castor (Ricinus communis L.), Groundnut (Arachis hypogaea L.), Sesame (Seasum indicum L.), Niger (Guizotia abyssinica Cass), Safflower (Carthamus tinctorvus L.)
Pulses	Pigeon pea [Cajanus cajan L], Black gram (Vigna Mungo (L) Happer) ,Green gram (Nigna Radiata (L) Wilczek), Cowpea (Vigna catang Walp), Chick pea, Mothbean [Nigna aconitifolia], Beans , Horse gram (Dolichos biflorus L.), Pea (Pisum sativum L.), Lentil (Lens culinaris Madic.), Razma (Vica faba L.), and Khesari (Lathyrsus sativus).	Black gram(Vigna mung (L.) Hepper) , Green gram (vigna radiata (L.) Qilczek), Lentil (Lens culinaris Medic.) and Khesari (Lathyrus sativus).	Green gram(Vigna radiata (L.) Wilczek Cowpea(Vigna catiang walp), Chick pea, Mothbean, [Vigna aconitifolaia (Jacq.) Marechal], Black gram (vigna mungo (L.) Hepper), Pegeon pea [Caganus cajan (L.) Millsp.), Cluster bean (Cyamopsis tetragonoloba (L.) Taub.),
Root / tuber crops	Sweet potato (ipomoea batatas (L.) lam.), Radish (Raphanus sativus L.), Carrot (Daucus carota L. var), Onion (Allium cepa L.), Garlic (Allium sativum L.), Ginger, Haldi (Curcuma sp) Tapioca , Taro (Colocasia esculenata (L)) ,Potato (Solanum tuberosum L.), Ground nut (Aarachis hypogaea L .), Yam [Pachyrhizus erosus (L) Urban turnip (Brassica rapa L,), Ginger (Zingiber officinale Rosc), Beat root (Beta vulgaris L.) Elephant foot Yam (Amorphophallus campanulatus)	Colocassia sp, Patato Yam, Cassava, Radish ,and Carrot	Onion, Radish, Carrot, Sweet potato, Cassava / Tapioca, and Dioscorea sp
Spices	Chilli ,Ginger (Zingiber officinale Rosc,), Turmeric (Curcuma domesticavaleton),Garlic (Allium sativum L) , Coriander(Corindrum sativum L .) Fenugreek , Onion ,and Pudhina etc.	Garlic, Turmeric, and Ginger	Cumin (Cuminum cyminum L .), Fenugreek (Trigonella foenum graecum L.), Isabgol, Coriander (Coriandrum satvum L.), fennel Ashwagandha Guggal , Sonamukhi , Aloe vera , Tumba Dhatura , Lawasonia alba Tulsi, Drumstic(Moringa oleifera Lam), Soanum sp Onion (Allium cepa L.),

ANNEX 22: COMMUNITY SCORE CARD (VILLAGE INTERFACE MEETING 1)

To know more:

http://www.care.org/sites/default/files/documents/FP-2013-CARE_CommunityScoreCardToolkit.pdf

The Community Score Card (CSC) is a two-way and ongoing participatory tool for assessment, planning, monitoring and evaluation of services. The Community Score Card brings together the demand side ("service user") and the supply side ("service provider") of a particular service or programme to jointly analyze issues underlying service delivery problems and find a common and shared way of addressing those issues. It is an exciting way to increase participation, accountability and transparency between service users, providers and decision makers.

WHAT is NOT part of the Community Score Card?

- It is NOT about finger-pointing or blaming.
- It is NOT designed to settle personal scores.
- It is NOT supposed to create conflict.

Community Score Card is ususlly done in 4 phases, can be modi fied according to the need and capacity.

1. Planning and Preparation: Discuss with the community about the process, prioritising and selecting the issue
2. Conducting CSC with the community
   - Identifying Expectations of the Service

Indicator	Full mark	Given Mark	Cause	Remarks
Building	10	0	No Centre building	For theboth centre one centre building should be given.
Regularity of the worker	10	7	Centre is opening timely and regularly, but some days the worker is not coming in time.	The worker is coming timely or not we do not know exactly because we are not visiting the centre regularly.
Regularity of the helper	10	7	Every day the helper cooked food and distributed, but she carelessly prepared the food.	The helper is coming timely or not we do not know exactly because we are not visiting the centre regularly.
Nutritional food supply	10	7	No vegetables, no oil, no turmeric powder, the dal is not good to eat.	Dal should be prepared good quality
Fast aid box	10	5	No Box in 1 centre.	Fast aid box must be in the centre.
Breakfast	10	0	No breakfast is supplied.	Breakfast should be given
Mother's committee monitoring	10	3	No regular monitoring is there	We should monitor properly to the centre,

- Selecting Performance Indicator
- Assigning Scores for each Performance Indicato

3. Score card with the service provider
4. Interface meeting (Service Providers and the Community)

The Interface meeting is a single meeting in which both service providers and community members meet face-to-face and discuss both the matrix together. Coming together face-to-face in the Interface Meeting and listening each other's presentation respectfully is the main idea of interface meeting. Both of them come together and try to come up with a joing action plan.

Example of an action Plan

For following up, the below format may be use afterwards in a repeat session.

Example of a scoring table (Child care centre of 0~6 years)

Indicator	Full mark	Given Mark	Reason	Remarks
Centre Building	10	0	No AWC Building	At least one Centre building should be constructed for the two Centers.
No Water filter	10	0	Using pot instead of Filter	We ask to the CDPO for filter.
No toys in Centre No-2	10	5	Children are not getting the toys.	Toys should be provided
Regularity of worker	10	10	Except immunization day and meeting every day we are conducting the pre-school	We are doing our duty regularly.
Regularity of helper	10	10	We do our duty every day from 8 o'clock in the morning till 2 o'clock afternoon	We are doing our duty regularly.
Nutritional Food supply	10	8	We regularly distribute food if the stock is available	Block ICDS office should provide regular stock of food in time.
Fast aid box	10	5	No fast aid box in centre-2	We should provide the box from the budget of Gaon Kalyan Samiti within a short time
Breakfast to the pre-school children	10	5	No breakfast supply to the centre-2	I am not receiving the money of breakfast so I try my best to solve this problem.
Monitoring	10	2	Parents are not cooperating with us. They are not at all interested to attend meetings.	They should monitor the standard of pre-school and attend the meetings.

Example of a score card				
Indicator	**Full Mark**	**Remarks**	**Responsibility**	**Time**
Centre Building	0+0 Demand for centre building to the DSW.	Demand generated for centre building to the DSW, collector.	All the beneficiaries and service provider	At least one Centre building should be constructed for the two Centers.
Nutritional food supply	7+5	Now oil, vegetables should be added in making of dal	Anganwadi worker.	From tomorrow
Pre Schooling	10+7	The pre-school aspect is good. But regularity should be maintained.	AWW, AWH	From tomorrow
Breakfast	10+5	From tomorrow I can give the breakfast (centre no.2)	AWW	From tomorrow
Mothers committee		The mothers committee will regularly attend the meeting and monitor the preschool by visiting the Centre and take the responsibility to send their child timely to the centre.	All the parents of the pre-school child	From tomorrow
Fast aid Box	5+5	Fund should given from the Gaon Kalyan Samiti and a fast aid box should be brought to the centre-2	Members of the Gaon Kalyan Samiti, Ananwadi worker	Within One week
SHG group monitoring	3+2	Now we all monitor the centre everyday two members from us can visit the centre	Members of SHG.	From tomorrow

Example of an action Plan				
Indicator	**Scores as per the previous assessment (centre-1 and Centre-2)**	**Scores as per the new assessment**	**Changes**	**Suggestion.**

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