



Integrating nutrition into crop and livestock farming systems of the  
Ethiopian highlands for improved nutrition outcomes

## Nutrition training manual for health and agriculture workers at community level in Ethiopia

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# Foreword

Nutrition training of health and agriculture workers can help to reduce child undernutrition. Specifically, trained health extension workers can contribute through frequent nutrition counselling of caregivers.

Evidence from systematic reviews has showed that providing nutrition training targeting health workers can improve feeding frequency, energy intake, and dietary diversity of children aged six months to two years.

Scaling up of nutrition training for health and agriculture workers presents a potential entry point to improve nutrition status among children

Food insecurity and nutrition deficiency are a common phenomenon in Ethiopia. The usual three pillars of food and nutrition security – availability, access and utilization – are not still fulfilled for large parts of the population, including in surplus-producing areas.

Since malnutrition has many different causes and consequences, a multi-sectoral approach is needed to address this issue. One approach is to enhance linkages between agriculture and nutrition. This manual aims to build the knowledge and skills of health and agriculture workers in nutrition-sensitive agriculture so they can promote health and agricultural and other related practices that maximize nutritional benefits.

## Purpose of this manual

- To equip health and agriculture workers at communities level with the knowledge, attitude and communication skills.
- Create awareness on nutrition component of agriculture-nutrition interventions that provides appropriate services, including well-tailored and comprehensive nutrition education, to address specific, local malnutrition issues.
- Describe the type of interventions that promote nutrition-sensitive agriculture and how to integrate them into their daily activities.
- Use the tools to counsel farmers on nutrition-sensitive agricultural interventions.

# Session 1: Undernutrition and its consequences

## What is nutrition?

**Nutrition** is the intake of food and the interplay of biological, social and economic processes that influence the growth, function and repair of the body.

Discuss

What is nutrition? What are nutrient requirements?

Do all people have the same nutrient requirements? What factors affect nutrient needs?

**Nutrients** are components in foods that an organism uses to survive and grow. There are two types of nutrients: Macronutrients and micronutrients. Macronutrients provide the bulk energy an organism's metabolic system needs to function, while micronutrients provide the necessary cofactors for metabolism to be carried out. Both types of **nutrients** can be acquired from the environment. Macronutrients include Carbohydrates, proteins, fats and water whereas micronutrients include vitamins and minerals.

## Macronutrients

### *Carbohydrates*

**Carbohydrates** provide the body with energy to keep alive, build and repair tissues, stay warm, and move and work. Carbohydrates are the single most abundant and economic source of food energy in the human diet.

*Pictures of bread, teff, maize, kocho, potato, sugar cane, honey, sweet fruits, pasta, macaroni and shiro*

What major food sources of carbohydrates does the Ethiopian diet include?

### *Proteins*

**Proteins** provide the body with essential amino acids that have a range of functions: growth and development, repair or replacement of tissues, production of metabolic and digestive enzymes, and production of some hormones.

*Pictures of meats, chicken, eggs, breastmilk, beans, ground nuts, lentils, fish, cheese and milk*

What major food sources of proteins does the Ethiopian diet include?

### *Fats*

**Fats** provide the body with essential fatty acids necessary to build cell membranes and to make hormones. They also help the body to absorb and transport a group of essential vitamins. Fats also provide the body with a concentrated source of energy. Fats are necessary for growth, reproduction, skin integrity, to maintain cells and to use body fat for energy.

*Pictures of vegetable oils, butter milk, cream, cheese, eggs, fish and meat*

What major food sources of fats does the Ethiopian diet include?

## Micronutrients

### *Vitamins*

*Vitamins* are a group of organic compounds that play important functions in body but cannot be synthesized by the body. Some vitamins can be stored in the body and need to be eaten often but not every day (fat soluble vitamins A, D, E and K), while others cannot be stored and should be eaten daily (water soluble B vitamins, vitamin C).

Vitamins play different roles in helping the body in important ways. Some examples include building protein and cells, protecting cells from damage building bones, protecting vision, metabolising macronutrients, and helping to heal wounds. Without essential vitamins, there are multiple nutritional diseases that can result.

### *Minerals*

*Minerals* are a solid, inorganic group of compounds that may be thought of as essential building blocks of different types of cells. Essential minerals include iron, zinc, calcium, and iodine among others. For example, **iron** is part of red blood cells, which transport oxygen through the body. **Zinc** has many critical functions in the body, including the make-up of cells and body systems including immune function.

*Pictures of vegetables and fruits*

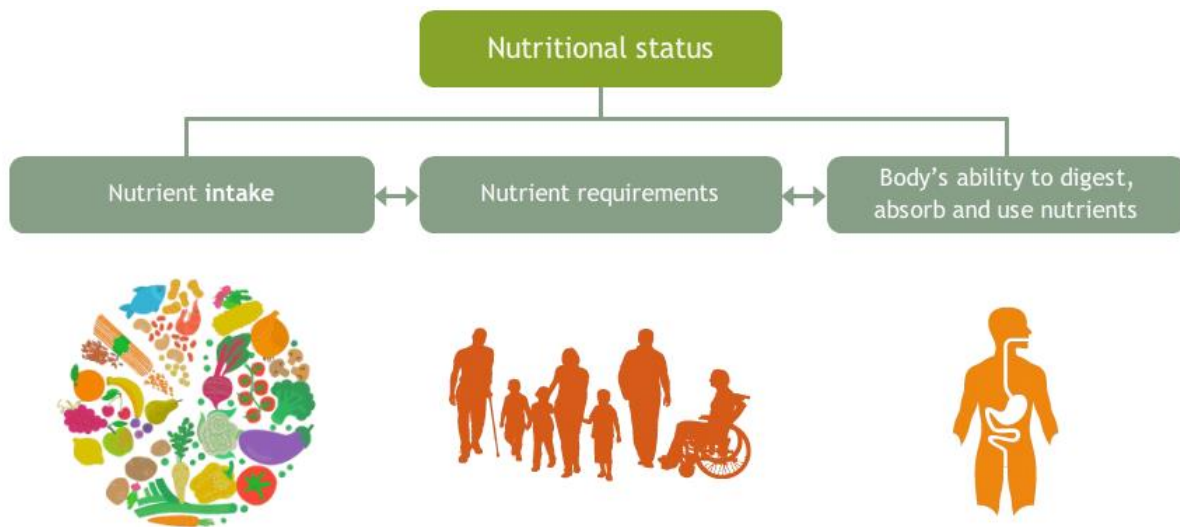


**Nutrient requirements** refer to the different nutrients required by the body for energy, growth and repair, and protection from disease. They differ according to age, gender, physical activity, height, weight, and health status of the individual.

Each food has different quantities of different nutrients, which sometimes interact with each other in the body. This is why it is important to eat a wide variety of foods. No one food can meet all human nutrient requirements (the one exception is that breastmilk is a complete food for babies under six months old).

Different foods provide different quantities and qualities of nutrients that are essential for function and health. It is necessary for all people to eat a wide variety of foods. No single food or food group can provide all of the nutrients needed for the body to function well.

**Nutritional status** of an individual person therefore results from nutrient intake, nutrient requirements, and the body's ability to digest, use and absorb the nutrients that are ingested.



## Malnutrition

All of the children pictured below are the same age. Which of them suffer from malnutrition?

**Over nutrition:** too fat for height

**Wasting:** too thin for height

**Stunting:** too short for age

Good nutrition status, or may suffer **micronutrient**





### *Types of malnutrition*

**Malnutrition** is a term that includes over nutrition and undernutrition.

**Over nutrition** results from too much nutrient intake relative to nutrient requirements based on age, gender, physical activity, height, weight, and health status of the individual. In Ethiopia, this is still rare, but it is becoming more common in populations with increased exposure to nutrient-dense foods who often live in urban areas. Effects of over nutrition include increased lifetime risk of chronic diseases, including diabetes, cardiovascular disease, obesity and cancer.

**Undernutrition** is, in general terms, an outcome of insufficient quantity and quality of food and frequent episodes of infectious disease.

Undernutrition describes a range of conditions including being underweight, being short, being thin and being deficient in vitamins and minerals. A child is defined as undernourished if they are very thin or much shorter than the average for their age. The most commonly used indicators of undernutrition are:

- **Wasting:** normally the result of **acute or short-term insufficient food intake** often combined with frequent illness. Results in a child who is dangerously thin (i.e. they have a very low weight for their height).
- **Stunting:** normally an indicator of **chronic or long-term insufficient energy or micronutrient intake** although it has many non-nutritional causes such as helminth infestation and frequent or chronic infection. Results in a child who is very short (i.e. they have a very short height for their age).
- **Underweight:** an indicator assessing adequacy of weight-for-age. The causes of which can be short-term or long-term and are difficult to define.
- **Deficiencies in vitamins and minerals** as a result of a poor quality diet. Micronutrient deficiencies can also result from frequent illness which may increase requirement, utilisation or loss of nutrients.

What are the effects of undernutrition?

#### Short-term

- Both wasting and stunting significantly increase the risk of mortality in children
- Undernutrition increases the susceptibility to, and severity of, infections in childhood

#### Long-term

- Functional losses in mental development, ability to learn in childhood, and work productivity in adulthood
- Low birthweight infants remain short into adulthood
- Low birthweight infants are also at increased risk of chronic diseases such as diabetes and cardiovascular disease
- Stunted children are at increased risk of becoming shorter adults; for women, being stunted increases the chances of having a low birthweight baby
- Stunted children also perform less well at school and have lower incomes in adulthood

## *Consequences of micronutrient deficiency*

### Vitamin A deficiency

Vitamin A deficiency in children results in severe visual impairment and blindness. Vitamin A deficiency also increases the vulnerability of children to severe illness and death, from such common childhood infections as diarrhoeal disease, measles and respiratory infections.



### Anaemia

Anaemia has multiple causes, one of which is *iron deficiency*. Anaemia has the following consequences:

- Tiredness, lethargy, apathy
- Reduced endurance and work capacity resulting from impaired energetic efficiency and lower voluntary activity levels
- Poorer cognitive development in children
- Low birthweight and other poor pregnancy outcomes
- Poor resistance to infections

### Zinc deficiency

Zinc deficiency is associated with poor growth, loss of appetite and an impaired immune system. Zinc deficiency increases the risk of morbidity and of infant death from diarrhoea, pneumonia and malaria.

### Iodine

A consequence of iodine deficiency is goitre, or swelling of the thyroid gland. Iodine deficiency during the critical window of brain development (foetal life and early infancy) causes mental retardation and cretinism and is the commonest cause of preventable brain damage in children. Iodine deficiency contributes to poor school performance and impaired work capacity.



## *Causes of undernutrition*

Undernutrition is caused by many different factors that often interact with one another. The diagram on this page is based on the UNICEF conceptual framework for undernutrition, developed in the 1990s. This important framework provides a clear depiction of the various factors associated with undernutrition and the distinct levels at which these factors act.

In the framework, the causes of undernutrition are divided into three levels: immediate, underlying and basic.

- **Immediate causes (individual level):** Inadequate food intake and disease are immediate causes of undernutrition. These operate at the individual level.
- **Underlying causes (household and community level):** Household food security, social care for mothers and children, and the health environment and access to health services are underlying causes that contribute to undernutrition.
- **Basic causes (sub-national, national and international level):** Political, cultural, financial and environmental factors also contribute to undernutrition at the basic level.

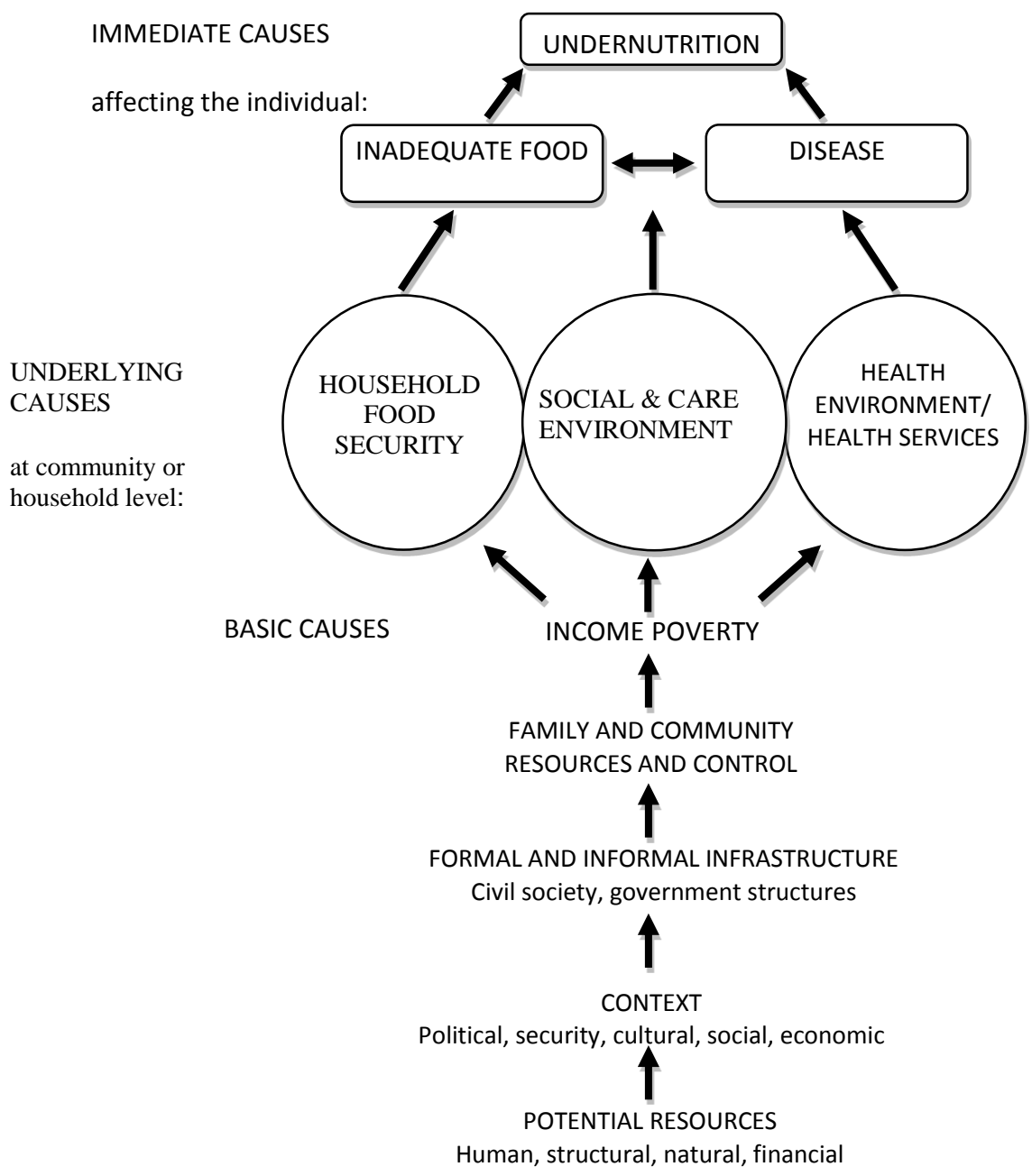
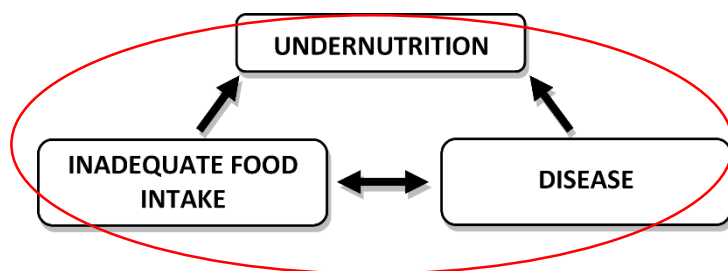


Figure: Conceptual framework for undernutrition  
 Source: Adapted from UNICEF 1991

### How nutrition and disease interact?

There is an important interaction between the two immediate causes of undernutrition.



Nutrition and disease interact in the following ways:

Infectious diseases can cause loss of appetite, loss of nutrients from the body, poor absorption of nutrients consumed, and changes in metabolism.

Inadequate food intake can cause weight loss and micronutrient deficiencies, lowering the body's immunity and increasing susceptibility to infectious disease.

A child who suffers multiple episodes of infectious disease is more likely to have poor nutritional status, and a child with poor nutritional status is more susceptible to infectious diseases of longer duration, severity and incidence – a negative cycle that results in a less healthy child who is experiencing poorer growth and development.

**Infectious disease** plays a direct role in the nutritional status of a child. A child that suffers from repeated episodes of **diarrhoea**, for example, is more likely to be stunted.

This is why **good hygiene** and a **clean environment** are so important for child nutrition outcomes.

### Undernutrition in Ethiopia

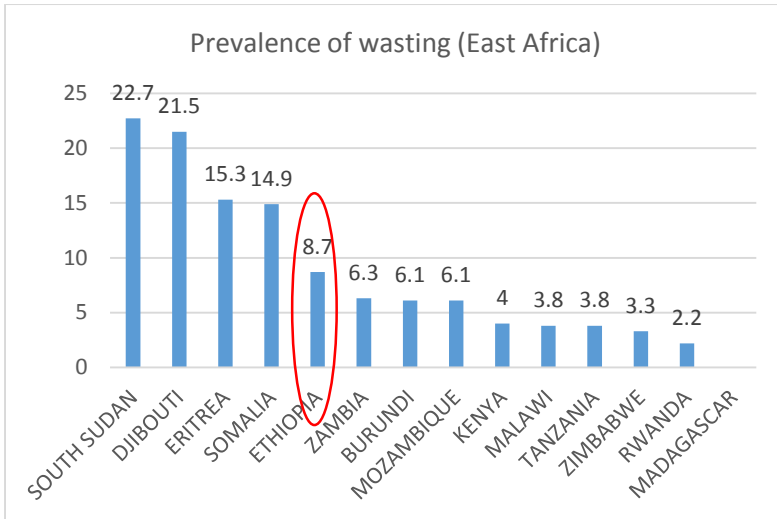
Undernutrition is a major public health problem in Ethiopia. About five million people experience food shortages each year, and approximately 2.9 million people are expected to receive food assistance in 2015.

The nutritional status of a population is indicated by the number of children under 5 who suffer from undernutrition. In Ethiopia:

- 8.7% of all children under 5 years are wasted
- 40.4% of all children under 5 are stunted
- 25.2% of all children under 5 are underweight

### Wasting

As of the most recent Demographic and Health survey in 2014, the national prevalence of wasting in Ethiopia is 8.7%, which is poor by WHO standards.



When is wasting considered to be a significant public health problem?

*Prevalence of wasting*

Acceptable: <5%

Poor: 5-9%

Serious: 10-15%

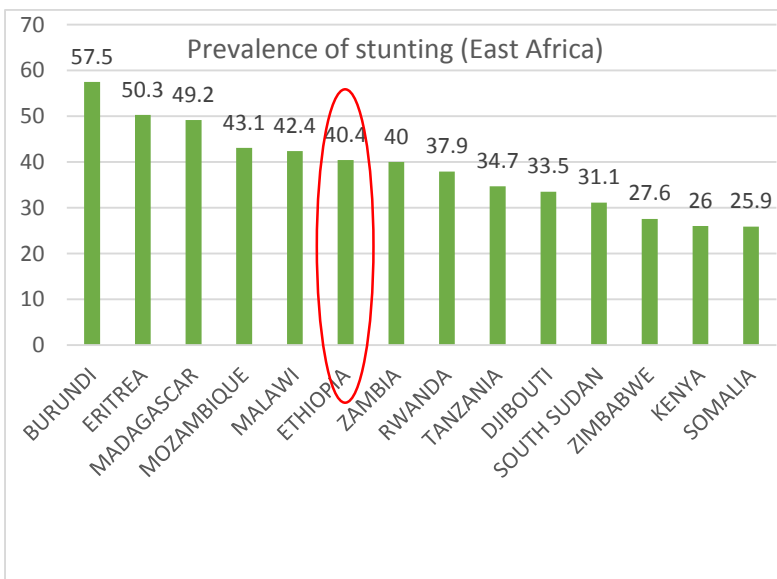
Critical: >15%

**What is the significance of wasting?**

Prevalence of wasting in a population can change quickly during shocks that result in food shortages. High or increasing prevalence of wasting in children may indicate an emergency. Severely wasted children are starving and at high risk of death due to infectious diseases. They are also at higher risk of becoming stunted.

**Stunting**

Ethiopia has shown very good progress in reducing stunting, with a 27% decrease in prevalence among children under five since 1992. As of the most recent Demographic and Health survey in 2014, the national prevalence of stunting in Ethiopia is 40.4%. By WHO standards, stunting remains a public health problem of very high significance.



When is stunting considered to be a significant public health problem in a population?

*Prevalence of stunting*

Low: <20%

Medium: 20-29%

High: 30-39%

What is the significance of stunting?

Stunting is an indicator that reflects persistent poverty. Stunting results when children miss out on critical nutrients during critical development periods, either in the womb or as young children. It also results from poor health care access, infectious disease, poor sanitation and hygiene, low maternal education and inadequate child care over time. Stunted children have poorer mental development, lower achievements in school and are less economically productive as adults.

Stunting remains one of the most important social and public health problems in Ethiopia. A recent “cost of undernutrition” study found that:

- The annual costs associated with child undernutrition are estimated at Ethiopian birr (ETB) 55.5 billion, which is equivalent to **16.5% of GDP**.
- 67% of the adult population in Ethiopia suffered from stunting as children.
- 28% of all **child mortality** in Ethiopia is associated with undernutrition.
- 16% of all repetitions in primary school are associated with stunting
- Stunted children achieve 1.1 years less in school education.
- 44% of the health costs associated with undernutrition occur before the child turns 1 year-old.
- Child mortality associated with undernutrition has **reduced Ethiopia’s workforce** by 8%
- Eliminating stunting in Ethiopia is a necessary step for its growth and transformation.

Source: UNICEF. The Cost of Hunger in Ethiopia Report, 2013

## Session 2: Diet diversity

### What is dietary diversity?

Dietary diversity is a measure of the number of individual foods or food groups consumed in a given time period. It can reflect household access to a variety of foods and can also act as a proxy for an individual's consumption of adequate nutrients.

Why is dietary diversity important?

Low dietary diversity is a particular problem in Ethiopia where the diet is frequently based on starchy staples e.g. teff and wheat. The diet is often lacking in animal-source foods, (meat, fish, eggs and dairy). Many contain only small quantities of fresh fruit and vegetables.

While staples are important sources of energy in the diet, many of the important vitamins and minerals essential for a healthy diet are found in greatest abundance in animal-source foods, fruits and vegetables, and legumes. In addition, certain staple foods, such as wheat, maize and millet, can contain high levels of anti-nutrients e.g. phytates, which reduce the absorption of available micronutrients in the food source.

Micronutrient deficiencies are particularly common among low-income rural households, where monotonous diets high in starchy staples and low in micronutrients are the norm, and where adequate amounts of micronutrient-rich foods, such as meat, dairy products, legumes, vegetables and fruit, are frequently unavailable or accessible. **Dietary diversification** – the consumption of a wide variety of foods across nutritionally distinct food groups – is a commonly food-based approach used to enhance nutrient intakes.

### What are food groups?

No one single food or food group contains all of the nutrients that the human body requires for optimal function and good health. The human body requires nutrients that come from a variety of foods. To achieve good dietary diversity, it is important to regularly eat a variety of foods and to consume foods from all food groups.



## Staples

Foods in this group comprise the largest part of the diet. Cereal grains such as teff, sorghum, millet, maize, barley, oats, wheat, teff, rice and starchy roots (cassava, potato, sweet potato) are included. Staples are a good source of **energy**.

## Legumes and Nuts

This group includes ground nuts, beans, chick peas, and lentils. This food group is a good source of **protein** in addition to energy.

## Animal-Source Foods (Meats, Eggs, Fish, Dairy)

Foods from animals including meats, eggs, dairy and fish are good sources of **protein, fats, and essential micronutrients** (vitamins and minerals). These nutrients are especially critical for child growth and development in the first two years of life.

## Vegetables

Foods in this group include green leaf and yellow vegetables including kale, spinach, celery, cucumber, peppers, broccoli, carrots, cauliflower, pumpkin, onion, tomatoes and others. Vegetables provide **essential micronutrients** (vitamins and minerals). They also provide fibre to aid digestion.

## Fruits

Foods in this group include bananas, oranges, lemons, papaya, avocado, peach, guava, watermelon, sweet melon and many others. They mainly provide energy and **essential micronutrients** (vitamins and minerals).

## Fats

Fats include cooking oils, oil seeds, avocado, and oil seeds. Some foods such as animal-source products (meat, milk, and dairy products like butter and yoghurt) also provide **fat**.



## How to get a diversified diet

One should eat a variety of foods at every meal for a diversified diet. For example, eat one food from each food group:

Staples + Legumes/nuts + Vegetables + Animal foods + Fats + Fruits					
Injera	Lentils	Kale	Egg	Sesame seeds	Mango
Genfo	Peas	Spinach	Fish	Linseeds	Banana
Kita	Ground beans	Cabbage	Beef	Cooking oil	Papaya
Kolo	Chick peas	Lettuce	Lamb	Butter	Guava
Millet	Beans	Mushroom	Poultry	Sunflower seeds	Apple
Sorghum	Broad beans	Pumpkin	Milk	Pumpkin seeds	Pineapple
Maize		Aubergine	Yoghurt	Avocado	Grapes
Teff		Broccoli	Dairy products		Orange
Barley		Irish potato			Lemon
Wheat		Orange sweet potato			Avocado
Oats		Carrot			
Cassava		Swiss chard			
False banana					

## Dietary diversity in Ethiopia

Ethiopia has very low levels of dietary diversity. The following graph shows the proportion of children 12-23 months with diets containing meat, fish, poultry or eggs, by country.

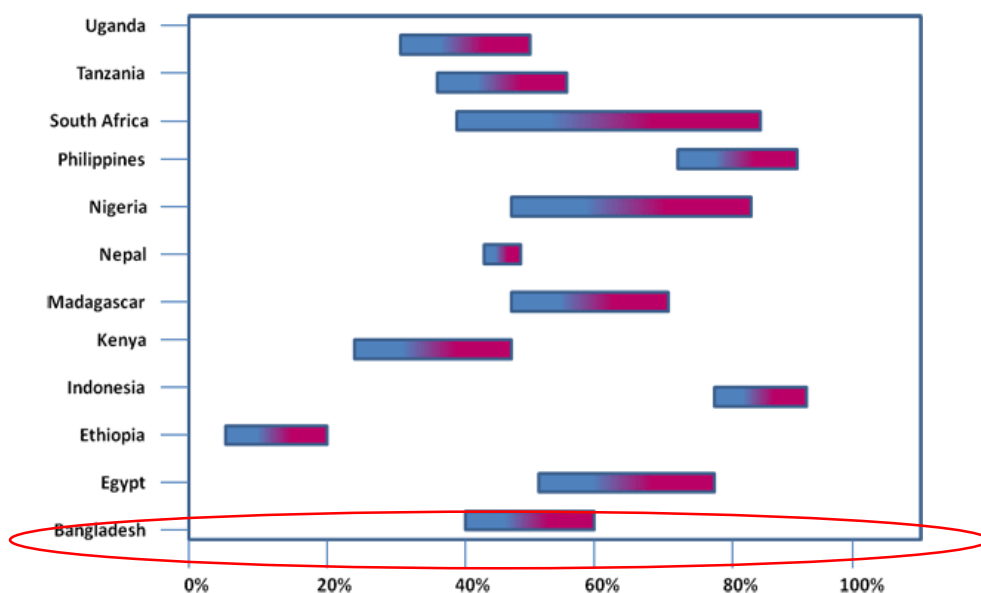


Figure: The percentage of children aged 12 - 23 months with diets containing meat, fish, poultry or eggs, by region. The length of each bar demonstrates the gap between the poorest (blue) and the least poor (red) wealth quintiles. Source: Adapted from Black et al (2008)


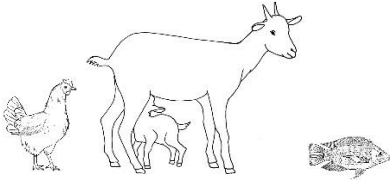
### More about the graph

The animal-source dietary intake of **children 6-23 months of age** is of special interest, because this is a critical period for child growth and development. Animal source foods contain multiple nutrients including **zinc, iron, proteins and fats** – all of which are essential for good development. If a child's growth falters during this period, the child may be **stunted**. Child consumption of animal source foods has been found to be associated with lower prevalence of stunting.

It can be seen that children in Ethiopia have among the lowest dietary diversity in the world.

Among the wealthiest quintile of children in Ethiopia, just 20% have diets with animal source foods; among the poorest quintiles, only about 5% of children have such diets.

How can agriculture help to increase the quantity and quality of diverse foods available for consumption?

<p>Community or home vegetable and fruit gardens</p> <p>Support for household level production of micronutrient-rich foods (legumes, green leafy vegetables, fruits). Encourage the household to reserve some of these foods for consumption by children and pregnant/lactating mothers.</p> 	<p>Production of fish, poultry, and small animals</p> <p>Animal foods have high levels of essential micronutrients such as vitamin A, iron and zinc. These foods are expensive to buy but may be available for household level consumption if raised by households.</p> 
<p>For larger farms - commercial vegetable and fruit production</p> <p>To provide nutritious foods at reasonable prices through effective and competitive markets, which lower consumer prices without reducing producer prices.</p>	<p>Improve storage and food preservation facilities</p> <p>This reduces loss of nutrients over time due to exposure to the environment. At household level, better cooking methods and improved storage will also preserve the nutrients in foods.</p>
<p>Improve micronutrient levels in soils and plants, which will improve the composition of plant foods and enhance yields</p> <p>Correct soil quality and pH and increase soil mineral content depleted by erosion and poor soil conservation. Improve agricultural practices, seed quality, and plant breeding.</p>	<p>Agriculture extension workers support increased consumption of nutrient-rich foods.</p> <p>This will both increase dietary diversity and generate more demand in the market for nutritious foods, improving opportunities to generate income through production of nutritious foods, and lowering market prices over time.</p>

### Agriculture-nutrition pathways

There are 3 main pathways for agriculture to impact nutrition:

1. Food production
2. Agricultural income
3. Women's empowerment

## Session 3: Infant and young child feeding (IYCF) practices

The first two years of a child's life are particularly important, as optimal nutrition during this period lowers morbidity and mortality, reduces the risk of chronic disease, and fosters good child development. Infants and children under two require a diet that is sufficiently dense in energy and nutrients to maintain the process of rapid growth during this stage of life.

Infant and young child feeding (IYCF) is a key area to improve child survival and promote healthy growth and development. The IYCF recommendations include:

- early initiation of breastfeeding within 1 hour of birth;
- exclusive breastfeeding for the first 6 months of life; and
- the introduction of nutritionally-adequate and safe complementary (solid) foods at 6 months together with continued breastfeeding up to 2 years of age or beyond.

### Current recommendations for IYCF

#### Breastfeeding

Exclusive breastfeeding for 6 months has many benefits for the infant and mother. Breast milk has protective factors to support and stimulate the infant's immune system. Early initiation of breastfeeding, within one hour of birth, protects the newborn from acquiring infections and reduces newborn mortality. The risk of mortality due to diarrhoea and other infections can increase in infants who are either partially breastfed or not breastfed at all.

Breast milk is also an important source of energy and nutrients in children aged 6 to 23 months. It can provide half or more of a child's energy needs between the ages of 6 and 12 months, and one third of energy needs between 12 and 24 months. Breast milk is also a critical source of energy and nutrients during illness, and reduces mortality among children who are malnourished.

#### Complementary feeding

At 6 months of age, an infant's need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs. An infant of this age is also developed enough to eat complementary foods.

If complementary foods are not introduced around the age of 6 months, or if they are given inappropriately, an infant's growth may falter. Guiding principles for appropriate complementary feeding are:

- continue frequent, on-demand breastfeeding until 2 years of age or beyond;
- practice responsive feeding (e.g. feed infants directly and assist older children. Feed slowly and patiently, encourage them to eat but do not force them, talk to the child and maintain eye contact);
- practise good hygiene and proper food handling;
- start at 6 months with small amounts of food and increase gradually as the child gets older;
- gradually increase food consistency and variety;
- increase the number of times that the child is fed: 2-3 meals per day for infants 6-8 months of age and 3-4 meals per day for infants 9-23 months of age, with 1-2 additional snacks as required;
- use fortified complementary foods or vitamin-mineral supplements as needed; and
- during illness, increase fluid intake including more breastfeeding, and offer soft, favourite foods.

## Infant and Young Child Feeding in Ethiopia

As of the Demographic and Health Survey in 2011, the following infant and young child feeding practices are prevalent in Ethiopia:

- 52% of mothers initiated early breastfeeding (within 1 hour of birth)
- 52% of children under 6 months were exclusively breastfed
- 96% of children had continued breastfeeding at 1 year; and 82% at 2 years
- 49% of children 6-8 months had timely introduction of complementary foods
- Just 5% of children 6-23 months had minimum dietary diversity (at least **4 food groups** fed per day)
- Only 4% of children 6-23 months had the minimum acceptable diet (number of meals per day based on age and breastfeeding status plus at least **4 food groups** fed per day)

Summary of IYCF good practices and common problems in Ethiopia

Age	Ideal Practices	Common Problems in Ethiopia
0-5 months	Exclusive breastfeeding; on-demand and frequently, day and night.	<ul style="list-style-type: none"> <li>• Delayed initiation of breastfeeding</li> <li>• Giving pre-lacteal feeds in place of colostrum</li> <li>• Feeding water, milk, or other liquids, usually by bottle</li> <li>• Premature introduction of complementary foods because the mother feels her milk is not enough to nourish the baby</li> </ul>
6 up to 9 months	Continued breastfeeding on demand.  Gradual introduction of soft, nutritious complementary foods.	<ul style="list-style-type: none"> <li>• Delay in introducing complementary foods at 6 months</li> <li>• Dilute or watery foods with low nutrient density</li> <li>• Insufficient dietary diversity, especially of animal source foods</li> </ul>
9 up to 12 months	Continued breastfeeding.  Increasing variety of foods, including mashed family foods, fruits and vegetables.	<ul style="list-style-type: none"> <li>• Low frequency of feeding</li> <li>• Low nutrient density: starchy or dilute foods continued</li> <li>• Lack of variety of foods</li> <li>• Fear of children choking or being unable to digest meat or thick foods</li> </ul>
12 to 24 months	Family meals, plus snacks or special foods between meals.  Continued breastfeeding.	<ul style="list-style-type: none"> <li>• Inadequate amounts consumed per meal (small servings, lack of supervision, lack of appetite)</li> <li>• Lack of variety of foods</li> <li>• Low frequency of feeding</li> </ul>
7 to 24 months	Careful monitoring of child's intake; encouragement and assistance with feeding to ensure adequate intake.	<ul style="list-style-type: none"> <li>• Child's refusal or lack of interest in eating</li> <li>• Lack of persistence or coaxing of a child with poor appetite</li> <li>• Quantity consumed is unknown; child is not given own serving of food</li> </ul>
Sick child	Continue or increase frequency of breastfeeding. Continue feeding regular foods or switch to soft foods. Provide special foods or more food for several days once child feels better.	<ul style="list-style-type: none"> <li>• Breastfeeding and feeding dramatically reduced or stopped, due to belief that food will worsen illness</li> <li>• Period of convalescence not recognized</li> </ul>

# Age-appropriate IYCF messages<sup>1</sup>

From birth to 5 months



1. For mothers	Start breastfeeding within one hour of birth.
Additional information	<ul style="list-style-type: none"> <li>• Ensures that the baby receives the colostrum, or “first milk” which is rich in protective factors against infection.</li> <li>• Early skin to skin contact between mother and baby helps to start breastfeeding and comforts the baby.</li> </ul>



2. For mothers	<b>Feed your baby colostrum (yellow milk). It is the baby’s first vaccine and protects them from infections.</b>
Additional information	<ul style="list-style-type: none"> <li>• Colostrum contains growth factors, which help the infant’s body to mature and function well.</li> <li>• Colostrum helps regulate the baby’s developing immune system.</li> <li>• Colostrum is rich in essential nutrients.</li> <li>• Colostrum comes in small volumes, just right for the new baby.</li> </ul>

<sup>1</sup> Images adapted from Ministry of Health training materials from 2015

3. For mothers and grand mothers	Don't give your baby any other liquids, not even water.
Additional information	<ul style="list-style-type: none"> <li>• A newborn baby's stomach is the size of two chick peas. If you give any other liquids, the baby will not be able to drink the colostrum.</li> <li>• Breastmilk is a complete food for an infant from birth until six months. It contains all the essential nutrients necessary, including water.</li> <li>• Giving any other liquids, including water, increases the chances of a baby getting diarrhoea or other infectious diseases.</li> <li>• Babies exclusively breastfed for the first six months have six times greater chance of survival than babies given other liquids or formulas.</li> </ul>



4. For mothers	Good positioning and attachment help your baby to suckle well and helps you to produce a good supply of breast milk.
Additional information	<p>Health development army leader/health extension worker should check the positioning and attachment of the baby during breastfeeding and provide support to the mother when needed.</p> <p>Good positioning</p> <ul style="list-style-type: none"> <li>• The baby's body should be straight, not bent or twisted, but with the head slightly back</li> </ul> <p>slightly back</p> <ul style="list-style-type: none"> <li>• The baby's body should be facing the breast not held flat to mother's chest or abdomen, and he or she should be able to look up into mother's face</li> <li>• The baby should be close to mother</li> <li>• Mother should support the baby's whole body, not just the neck and shoulders, with her hand and forearm</li> </ul> <p>Good attachment</p> <ul style="list-style-type: none"> <li>• Baby's mouth is wide open</li> </ul>



	<ul style="list-style-type: none"> <li>• More of the mother's darker skin (areola) can be seen above the baby's mouth than below</li> <li>• Baby's lower lip is turned outwards and chin is touching mother's breast</li> </ul>
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5. For mothers	Empty one breast of milk before switching to the other.
Additional information	<ul style="list-style-type: none"> <li>• The milk at the end of the feed from a single breast has higher fat content than the milk at the beginning of the feed. This will promote growth and will help the baby to feel full.</li> </ul>
6. For mothers	Feed only breastmilk for the first 6 months – don't feed the baby any liquids, not even water.
Additional information	<ul style="list-style-type: none"> <li>• Breastmilk is a complete food for an infant from birth until six months. It contains all the essential nutrients necessary, including water.</li> <li>• Giving any other liquids, including water, increases the chances of a baby getting diarrhoea or other infectious diseases.</li> <li>• Babies exclusively breastfed for the first six months have six times greater chance of survival than babies given other liquids or formulas.</li> </ul>
7. For mothers	Breastfeed whenever the child would like to, day or night, at least 10 times a day. Feed your child with love and patience.
Additional information	<ul style="list-style-type: none"> <li>• Mothers should respond to the baby's needs and desire to breast feed anytime during the day or night</li> <li>• Mothers should feed babies on demand, with love and affection</li> </ul>

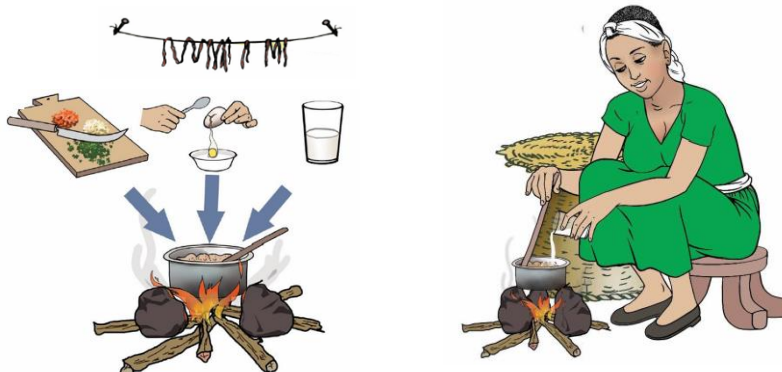
From 6 months to 11 months



<p>8. For parents</p>	<p>Start feeding your child complementary food when he or she is six months. Feed the child soft porridge 2 to 3 times a day. The child will grow up healthy and strong.</p>
<p>Additional information</p>	<ul style="list-style-type: none"> <li>• At six months, a child needs more energy and nutrients than what breastmilk alone can provide.</li> <li>• Mothers and fathers should not wait until the infant is older than six months to begin feeding complementary foods. Timely introduction of complementary foods is essential to the good health and development of the child.</li> <li>• A good complementary food for infants is soft porridge. Feed the child one small coffee cup of porridge two times per day (for children 6-8 months), or three times per day (for children 9-11 months), in addition to breastmilk.</li> <li>• Porridge can be made from various cereals and pulses. When preparing, mix 3 handfuls of cereal and 1 handful of pulses to increase the nutritious content.</li> <li>• Thicker porridge has denser nutrient content. As the child grows older, pay attention to their capacity to swallow and accordingly thicken the porridge. Eventually it should be thick enough to feed with your thumb.</li> <li>• Because thin gruel will not satisfy your child’s hunger, it may lead to improper growth and undernourishment.</li> </ul>



9. For fathers	Fathers, support your wife by providing eggs, milk, vegetables, or fruits for your baby's food.
Additional information	<ul style="list-style-type: none"> <li>Fathers have a special role to play in the family by ensuring the health and good nutrition of their babies.</li> <li>Fathers may consider a variety of ways to acquire special foods, including investing in household livestock or small crops for the child to consume, or selling products to get income to buy these foods.</li> <li>Fathers may also support mothers by ensuring their access to household funds to buy such foods for the baby.</li> </ul>



10. For parents	Add a variety of foods to your child's porridge to ensure it is nutritious. For example, mixing in dried meat, eggs, milk, oil, vegetables, and fruit is useful for your child's growth and strength.
Additional information	<ul style="list-style-type: none"> <li>If possible, use milk instead of water to prepare the porridge. (You may also give the child cow's milk to drink, but this should not replace the child's complementary food.)</li> <li>Mash the food types that you will add to fortify the porridge so that your child can easily swallow the food.</li> <li>It is very beneficial to your child's health to eat animal products (meat, liver, fish, and eggs).</li> <li>Ripe and yellow-coloured fruits (mango, papaya) and vegetables (carrots) are good sources of Vitamin A.</li> <li>Dark green vegetables (collard greens/kale) and pulses are sources of nutrients such as iron.</li> <li>Add oil or butter to the complementary food that is prepared.</li> <li>Use iodised salt while preparing the porridge.</li> </ul>



11. For mothers	Wash your hands with soap and water before preparing food and feeding the baby.
Additional information	<ul style="list-style-type: none"> <li>• To prevent diarrhoea and other diseases, never prepare food or feed your baby without washing your hands with soap and water.</li> <li>• The child's food should be prepared in a clean environment.</li> <li>• Touching food with unclean hands may cause food to spoil.</li> <li>• Dishes used to eat food all have to be clean.</li> <li>• Feed your child using cups. It is easy to keep cups clean.</li> <li>• Do not use bottles because they are difficult to clean and may cause diarrhoea.</li> <li>• It is necessary to store infants' food in a clean place to prevent diarrhoea and the spread of contagious diseases.</li> </ul>



12. For mothers	Continue breastfeeding your child. Breastfeed whenever the child would like, day or night, at least 8 times a day.
Additional information	<ul style="list-style-type: none"> <li>Breast milk is an important source of food and can provide about half of the energy requirements of a child between 6 and 11 months of age.</li> </ul>
13. For parents	Between meals and breastfeeding, also give the child one or two snacks such as pieces of fruit, soft cooked vegetables, or fried bread.
Additional information	<ul style="list-style-type: none"> <li>Because infants' stomachs are small, they cannot eat much at one sitting. Therefore, it is necessary to feed them small servings frequently.</li> <li>Give mashed soft fruits or mashed cooked vegetables, for example: half of a mango, a small avocado, or a small sweet potato. Other snacks might include fresh bread, fried potatoes, etc.</li> <li>Give these small pieces of food at least once or twice a day as a snack.</li> </ul>
Additional Message regarding Vitamin D for infants between 6 – 12 months	
For parents	Warm the child under the sun for 20 – 30 minutes per day so that he can grow properly.
Additional information	Sunbathing allows your child to get Vitamin D, which is good for their health, bone growth, and strength.

How much a 6 to 8 month old infant eats every day:

- Two small coffee cups of cooked, soft porridge. Feed the child one small coffee cup of porridge at each sitting.
- One small coffee cup of milk, either added to the porridge or given separately.
- For snacks, give two to three spoonfuls of mashed fruits or mashed cooked vegetables.
- Continue breastfeeding on demand.

How much a 9 to 12 month old infant eats every day:

- Three small coffee cups of cooked, soft porridge. Feed the child one small coffee cup of porridge at each sitting.
- One small coffee cup of milk, either added to the porridge or given separately.
- For snacks, give mashed soft fruits or mashed cooked vegetables, for example: half of a mango, a small avocado, or a small sweet potato.
- Continued breastfeeding on demand.

From 12 to 23 months



14. For parents	Infants from the age of 12 to 23 months may eat from the same food that the family eats 3 to 4 times a day and should be given one or two snacks. This will help them become healthy and strong.
Additional information	<ul style="list-style-type: none"> <li>• The child 12-23 months old may begin eating from the family's food.</li> <li>• Food given to the child should include various types including milk, eggs, meat, vegetables and fruits.</li> <li>• Feed the child one coffee cup of food (porridge or family food) 3 to 4 times per day, in addition to breastmilk.</li> <li>• An infant 12-23 months can safely chew cooked meat that is cut into small pieces. Meat is an important source of nutrients for developing children.</li> <li>• Because infants' stomachs are small, they cannot eat a lot at one sitting. Therefore, frequent small feedings are necessary.</li> <li>• You can give snacks multiple times. This can be small pieces of ripe papaya, mango, avocado, bananas and other fruits and vegetables, fresh bread, fried potatoes, sweet potatoes, pita, etc.</li> <li>• It is necessary to store the prepared foods carefully to prevent diarrhoea and other contagious illnesses.</li> <li>• Don't forget to wash your hands with soap before preparing food and feeding your child to prevent diarrhoea and other contagious illnesses.</li> </ul>
15. For parents	As your infant grows older, increasing the infant's food portions and varieties of food will help provide the nutrition your child needs.
Additional information	<ul style="list-style-type: none"> <li>• Alternate the type of food and its preparation every day. It is necessary to encourage your child to eat more as your child grows older.</li> </ul>



16. For mothers	Feed your child with love, patience and happiness so that your child finishes their meal and can grow properly.
Additional information	<ul style="list-style-type: none"> <li>• Because new foods will be unfamiliar, feed the infant patiently, soothingly, and with playfulness.</li> <li>• Let the infant have his or her own plate so that the amount they have consumed is known.</li> <li>• Forcing the child to eat will cause the child to hate food. Persistently encourage your child to finish his or her food but be gentle and loving.</li> <li>• Because infants cannot eat and finish meals on their own, you will need to keep feeding the infant until the meal is finished.</li> </ul>

How much a 12 to 23 month old infant eats every-day?

- Four small coffee cups of porridge and family's food. Feed the child one small coffee cup of food at each sitting.
- Two small coffee cup of milk, either added to the food or given separately.
- For snacks, give mashed soft fruits or mashed cooked vegetables, for example: half of a mango, a small avocado, or a small sweet potato.
- Continued breastfeeding on demand.

Sick child

Families and children in difficult circumstances require special attention and practical support. Wherever possible, mothers and babies should remain together and get the support they need to exercise the most appropriate feeding option available. Breastfeeding remains the preferred mode of infant feeding in almost all difficult situations, for instance:

- low-birth-weight or premature infants;
- HIV-infected mothers;
- adolescent mothers;
- infants and young children who are malnourished; and
- families suffering the consequences of complex emergencies.

Complementary feeding should begin at six months and continue until 24 months.



17. For parents	During an illness, feed your child breast milk and complementary food frequently to recovery.
Additional information	<ul style="list-style-type: none"> <li>• The need for liquids and food substantially increases during an illness.</li> <li>• As there is a loss of appetite during an illness, take the time to feed your child small amounts of food frequently and with patience.</li> <li>• If your child has a favourite food, encourage your child to eat it.</li> <li>• Continue giving your child breast milk and complementary food during the illness so that the child does not grow weak or lose weight.</li> </ul>
18. For parents	As soon as your child begins to recuperate from the illness, feed your child an additional meal for two weeks, in addition to what your child used to eat previously.
Additional information	<ul style="list-style-type: none"> <li>• It is necessary to give plenty of breast milk and complementary food to infants who are just recovering from an illness so that their strength and normal weight gain returns.</li> <li>• Feed your child one extra meal for two weeks after the illness.</li> <li>• If the child's appetite remains low due to the illness, it is necessary to provide extra attention and encouragement to eat complementary food.</li> </ul>





19. For parents and the entire family	Before preparing food and feeding your child, it is necessary to wash your hands with soap. This will prevent diarrhoea and other transmittable diseases.
Additional information	<ul style="list-style-type: none"> <li>• Touching food with unclean hands may cause food to spoil.</li> <li>• Dishes used to eat food all have to be clean.</li> <li>• Feed your child using cups. Do not use bottles because of the risk that it may cause diarrhoea.</li> <li>• It is necessary to store infants' food in a clean place to prevent diarrhoea and the spread of contagious diseases.</li> </ul>
20. For parents	Make sure your child takes Vitamin A when he or she is six months old.
Additional information	<ul style="list-style-type: none"> <li>• Because your child needs to take Vitamin A every six months (or twice a year) starting from six months until the age of five, go to a health facility or consult your health extension worker.</li> <li>• Vitamin A is good for your child's eyesight and immunity.</li> </ul>
21. For parents	Use iodized salt when preparing food for the family, as it will improve your family's health.
Additional information	<ul style="list-style-type: none"> <li>• When using iodised salt, salt your food after the food is already cooked, as iodine depletes if cooked for a long time.</li> <li>• Use a container with a lid to store iodized salt, as this prevents the depletion of the iodine over time.</li> <li>• Pregnant mothers especially should use iodized salt so that the newly born child is healthy.</li> </ul>

## Conducting Cooking Demonstrations

**Objective:** at the end of this session, participants will be able to prepare porridge with an appropriate mix

**Methodology:** Demonstration

- Wash hands and use clean surface, utensils and plates.
- Chop and fry onion with oil or butter.
- Clean and chop the tomato, add oil and iodized salt and lemon.
- Add pea flour (shiro) and stir while cooking.
- When shiro is properly cooked prepare it for eating with injera

Materials required:

- Complementary food flour prepared from previous session
- Stove and vessels, pans
- Clean water salt, sugar

Activity

- Demonstrate the preparation of thick porridge as described below:
  - Measure 1 coffee cup of complementary mixture and put in a cooking pot
  - Add 2 and a half coffee cup of water to the pot
  - Add 1 soup spoon full of oil and mix all together
  - Cook the mixture for until it is well cooked, add iodized salt and serve cool.
  - The recipes can be changed based on local staple foods.

Cereal and legume based complementary foods can be enriched by:

- Replacing water used for preparing porridges with milk.
- Adding butter/oil which will enrich the porridge and will also makes the thick porridge softer, easier to eat.
- Mixing legumes such as pea, chick pea or broad beans flour with the staple flour before cooking in a proportion (1/3 legume flour to 2/3 cereal flour).
- Adding finely chopped meat / eggs.
- Adding finely chopped kale or carrots.
- Adding mashed avocado, banana, or papaya
- Using iodized salt when preparing complementary foods.

**Note:** All of the above actions will improve the nutrient quality of complementary foods.

- Animal foods should be eaten as often as possible.
- Adding even small amounts of an animal food to the meal when available adds nutrients and is good for the child. Organ meats such as liver, heart, and kidney are often less expensive and have more iron than other meats.

Preparation of animal foods

- Animal foods such as flesh and organ meat can be mashed or chopped into small pieces to make them easy for the child to eat as **Error! Reference source not found..**

## Fruits and vegetables

- Encourage families to feed orange and colored fruits and vegetables and dark green leafy vegetables and as often as possible when these foods are available, ideally every day.
- Availability of vegetables and fruits can be improved by.
- Home gardens and planting fast growing vegetables such as kale, carrots, and tomato if a small plot of land near the home is available.
- If families can afford to do so and if they are available, fruits and vegetables can be purchased from the local markets.

## Session 4: Agriculture for nutrition

Smallholder farms are responsible for about 90 percent of the food produced in Ethiopia. Yet, these households are often in a permanent state of **food and nutrition insecurity**, suffering from poor quality diets and undernutrition. Smallholders provide food for themselves and also for their communities and a growing urban population.

The role of nutrition-sensitive agriculture is to reduce poverty and undernutrition among smallholder farmers in their roles as both producers and consumers and help them to optimize their contribution to agricultural production and to food systems as a whole.

Agriculture is of fundamental importance to human nutrition, both as a determinant of food consumption, and through its role in livelihoods (income generation). In Ethiopia, agriculture is a primary livelihood for many households. Agriculture also plays a fundamental role in food systems and influences the varieties and prices of foods that are widely available and accessible to a given population. The agriculture sector therefore provides an essential entry point to improve nutrition.

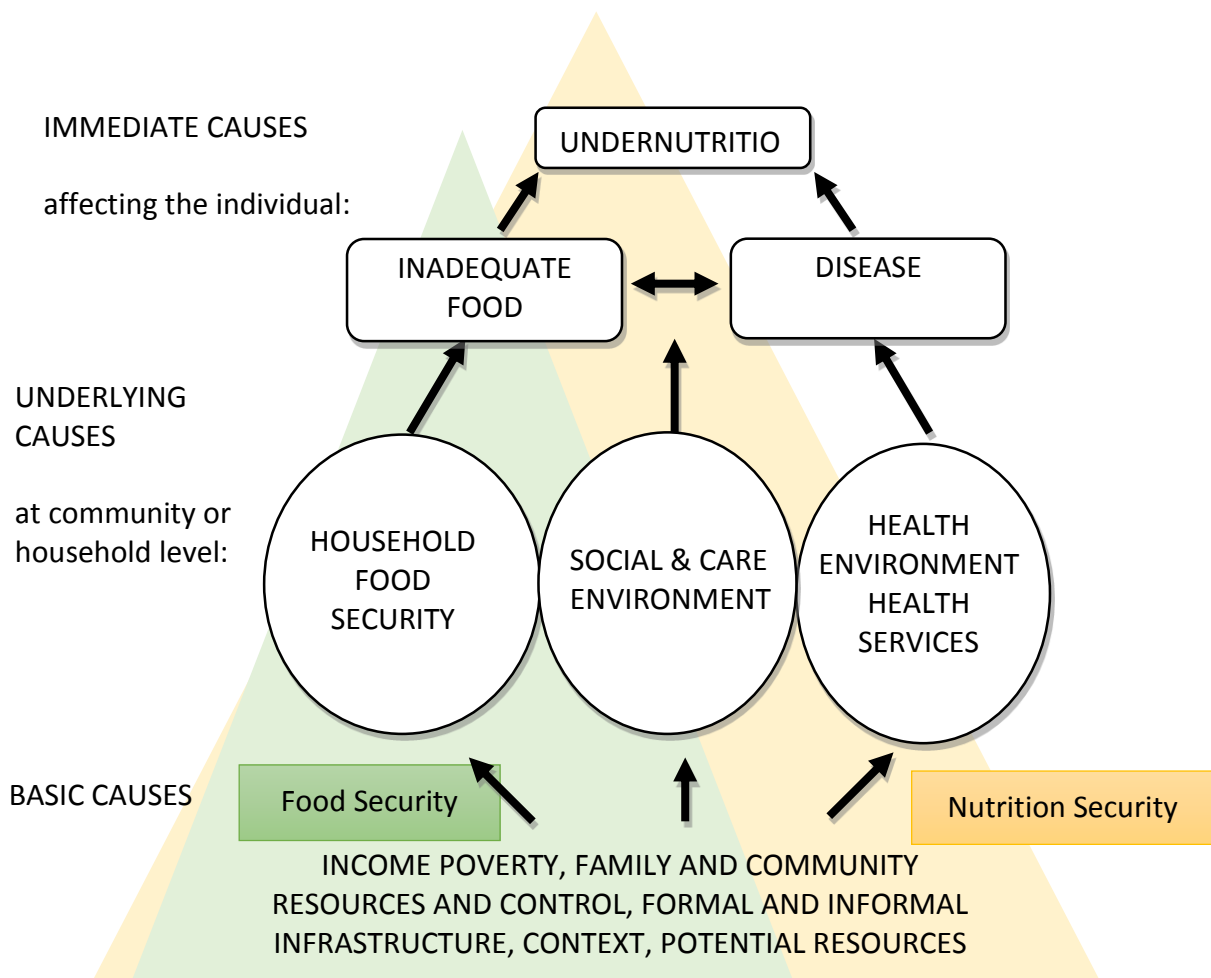
### Food and nutrition security

Agriculture has a key role to play in **food and nutrition security**.

**Food security** is when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (World Food Summit, 1996)

**Nutrition security** is when all people, at all times, consume food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health and care (State of Food Security, 2013 FAO)

The figure below shows how food security and nutrition security are inter-related. Nutrition security includes food security plus adequate hygiene, health and care environments.



## Food and nutrition security in Ethiopia

There is low food security in Ethiopia.

- Low dietary diversity is reported in 30% of households (consuming 3 or fewer food groups per week)
- 40% of households are food energy deficient (less than 2,550 kcal per adult per day consumed)
- 50% of households sourced a very high portion (>75%) of their total calories from starchy staples, i.e. consume a highly unvaried diet

In addition to the above information on food security, the following statistics are relevant to nutrition security in Ethiopia:

- 46% of households do not have access to an improved source of drinking water
- Only 8% of households have access to improved sanitation
- Advice or treatment from a health care facility was sought for 32% of children with diarrhoea

## Agriculture, the environment and health

Agriculture and food systems are linked to food security, nutrition and health. While they can support health through the provision of food and nutrition and by generating income that can be spent on food and health care, they can also be harmful to health. Negative health impacts may

arise through the contamination of food and water, or may be related to specific practices such as crop cultivation and animal rearing.

#### Bi-directional links between agriculture and health

- Poor health in farmers can lead to reduced productivity, a decline in household income and food insecurity.
- Poor health in agricultural producers also reduces their ability to learn about and try new farming practices. Healthier producers are more productive and able to drive the development of agricultural systems.
- Poor production may lead to poor harvest and then to food insecurity. Food insecurity leads to poor food availability and access. This condition leads to undernutrition and poor health.
- Undernutrition, overnutrition and poor health affect the demand for food (quantity, quality and diversity), the prices populations are willing to pay for food and consequently the market price of food.
- Foodborne illnesses can reduce the demand for agricultural outputs which may then have consequences for agricultural producers.
- The main effect at the household level is the shock due to cost of illness necessitated by out of pocket expenses for transport, clinic visits, treatment, alternative medicines etc.
- The main effect at the sectoral level is consumers changing purchasing behaviour in response to disease scares.

## Food handling, processing and storage

The nutritional content of food is affected by food handling, processing and storage. While safe food preparation and storage prevents adults and children from illness, pre- and post- harvest handling and storage reduces nutrient loss and improves nutrient quality of a product. In this section, participants will learn about safe food preparation, pre- and post-harvest handling and storage techniques.

#### Safe food preparation and storage

Safe preparation and storage of food is essential to reduce the risk of contamination and illness. Evidences have shown that hand washing with soap alone can reduce the risk of diarrhoea by up to 40 percent. When children start complementary food at 6 months, the risk of diarrhoea, illness and even death may increase if the food is not prepared and stored safely.

The following are key behaviours that need to be remembered and promoted for safe food preparation and storage:

#### Safe food preparation and storage behaviours

- Wash your hands with soap and water before preparing foods and feeding.
- Wash your hands and your baby's hands with soap before and after eating.
- Wash your hands with soap and water after using the toilet and/or washing the baby's bottom.
- Use clean hands, clean utensils and clean cups.
- Store food in a covered container and clean place.
- Cook small amounts of food to avoid long periods of storage for more than a day.
- Re-heat before eating.

## Pre- and post-harvest handling and storage techniques

### Recommended pre- and post-harvest storage and handling practices

- Harvest at maturity
- Solar drying or shed drying

### Use proper storage for vegetables and diffused light storage for seeds and potatoes to be consumed

- Cool, well-ventilated storage facility protected against insects and rodents
- Inspect produce
- Clean and maintain the storage structure
- Remove trash and weeds
- Rat guards
- Cement floors preferred
- Disinfect used sacks
- Wooden pallets
- Animal source food hygiene and safety starts with what the animals eat since what goes into an animal is what comes out as a food
- Milk hygienic practice should start by cleaning the udder and teat before milking
- Keep milk and milk products in a clean and easy to clean container (if possible aluminium can)
- As a “rule of thumb” eat animal source food fresh and cooked

## Hazards

The typical causes and sources of food safety problems during production and post-harvest handling fall into the following three major categories.

1. Physical Hazards: Examples of physical hazards which may become imbedded in produce during production handling or storage are:
  - Seeds of weeds and soil from threshing ground
  - Damage and bruising during harvesting particularly for bulb, root crops and fruits
  - Contamination with animal manures while threshing
  - Wood splinters
2. Chemical Hazards: Examples of chemical hazards which may contaminate produce during production handling or storage are:
  - Pesticides, fungicides, herbicides, fungicide, rodenticides and factory wastes
3. Human Pathogens: There are four main types of human pathogens associated with fresh produce:
  - Soil-associated pathogenic bacteria
  - Faeces-associated pathogenic bacteria
  - Pathogenic parasites
  - Pathogenic viruses

## Food safety on the farm

Practices related to these four simple principles can reduce the risk that produce may become contaminated on the farm.

### Clean soil

- Avoid the improper use of manure.
- Compost manure completely to kill pathogens, and incorporate it into soil at least two weeks prior to planting.
- Keep domestic and wild animals out of fields to reduce the risk of faecal contamination.
- Advise use of improved latrines instead of open defecations.
- Prevent run-off or drift from animal operations from entering produce fields.
- Do not harvest produces within 120 days of a manure application.
- Avoid consuming or selling crops recently sprayed with pesticides and animals fed with hormones.

### Clean water

- Keep livestock away from the active recharge area for well-water that will be used for irrigation.
- Keep chemicals away from the active recharge area for well-water that will be used for irrigation.
- Filter or use settling ponds to improve water quality.
- Where feasible, use drip irrigation to reduce crop wetting and minimise risk.
- Use potable water for making up chemical pest management sprays.

### Clean surfaces

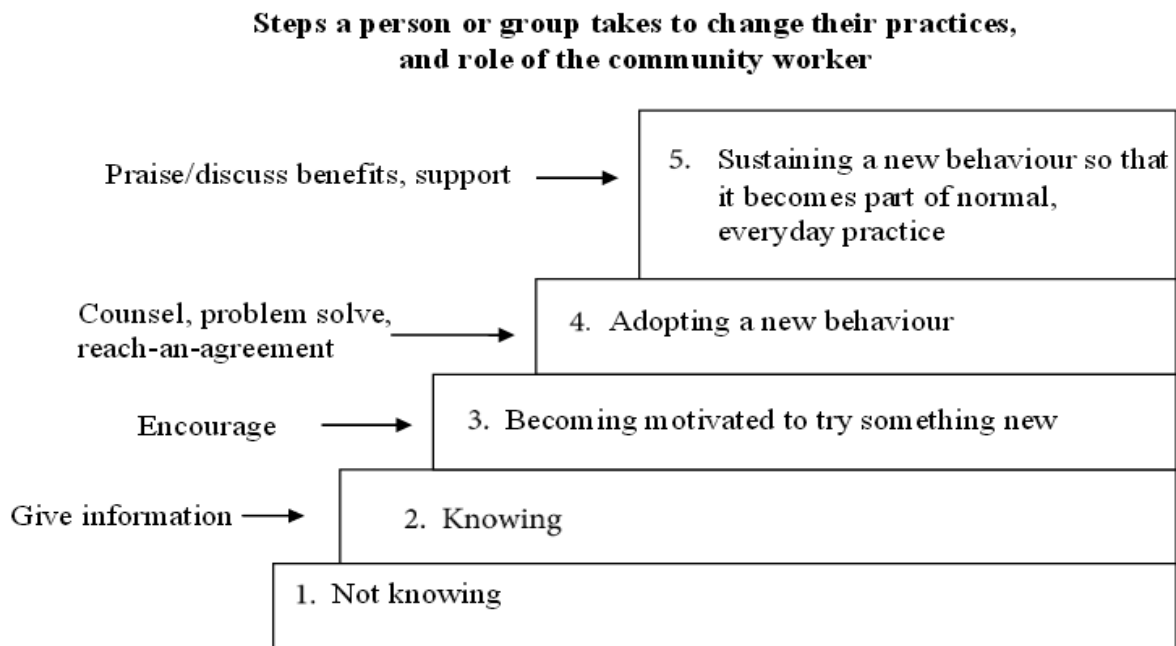
- Tools and field containers must be kept clean. Wash and sanitise these items before each use.



## Session 5: Facilitation and negotiation

### What is behaviour change communication?

**Behaviour change communication** is an approach to behaviour change focused on communication that seeks to persuade or incentivise individuals or communities to behave in ways that will make their lives safer, healthier or more productive. BCC includes any activity whose goal is to help people practice behaviour that will positively impact their health or well-being.



### Listening and learning skills

Listening and learning are the first important step in providing counselling or guidance to mothers and fathers in the family.

1. Use helpful non-verbal communication
  - Non-verbal communication
  - Keep head at same level
  - Pay attention (eye contact)
  - Remove barriers (tables and notes)
  - Take time
  - Appropriate touch
  - Use responses and gestures that show interest
2. Ask questions that allows mother/father/caregiver to give detailed information
3. Use responses and gestures that show interest
4. Listen to mother's/father's/caregiver's concerns
5. Reflect back what the mother/father/caregiver says
6. Avoid using judging words

## Building Confidence and Giving Support skills

1. Accept what a mother/father/caregiver thinks and feels (to establish confidence, let the mother/father/caregiver talk through her/his concerns before correcting information)
2. Recognise and praise what a mother/father/caregiver and baby are doing correctly
3. Give practical help
4. Give a little, relevant information
5. Use simple language
6. Use appropriate counselling card or cards
7. Make one or two suggestions, not commands

## 3-Step Counselling or advising (3As): Assess, analyse, act

### 3As for IYCF Counselling

- **Assess** age appropriate feeding and condition of mother/father/caregiver & child: ask, listen and observe
- **Analyse** feeding difficulty: identify difficulty and if there is more than one - prioritize, answer mother/father/caregiver's questions, and
- **Act:** discuss, suggest small amount of relevant information, give practical help to the breastfeeding mother, agree on feasible doable option that mother/father/caregiver can try

### Step 1: Assess

- Greet the mother/father/caregiver and ask questions that encourage her/him to talk, using **listening and learning, building confidence and giving support** skills.
- Complete the IYCF Assessment of Mother/Child Pair by asking the following questions:
  - a) What is your name, and your child's name?
  - b) Observe the general condition of mother/father/caregiver.
  - c) What is the age of your child?
  - d) Has your child been recently sick? If presently sick, refer mother to health facility.
  - e) Ask mother/father/caregiver how he or she thinks the child is growing?
  - f) Ask about the child's usual intake:

### Ask about breastfeeding:

- About how many times per day do you usually breastfeed your baby? *frequency*
- How is breastfeeding going for you? *possible difficulties*

### Observe mother and baby's general condition

### Observe baby's position and attachment

### Ask about complementary foods:

- Is your child getting anything else to eat? *what type/kinds*
- How many times/day are you feeding your child? *frequency*
- How much are you feeding your child? *amount*
- How thick are the foods you give your child? *texture (thickness/consistency: mashed, sliced, chunks)*

Ask about other milks:

- Is your child drinking other milks?
- How many times per day does your child drink milk? *frequency*
- How much milk? *amount*
- If breastfeeding, why do you think baby needs additional milk?

Ask about other liquids:

- Is your child drinking other liquids? *What kinds?*
  - How many times/day does your child drink —other liquids ? *frequency*
  - How much? *amount*
- g) Does your child use a cup? (If mother says —no , then ask —What does your child use to drink from?)
- h) Who assists child to eat?
- i) Are there other challenges mother faces in feeding the child?

Step 2: Analyse

- Is feeding age-appropriate? Identify feeding difficulty (if any)
- If there is more than one difficulty, prioritise difficulties
- Answer the mother's questions (if any)

Step 3: Act

- Depending on the age of the baby and your analysis (above), select a small amount of INFORMATION RELEVANT to the mother's situation. (If there are no difficulties, praise the mother for carrying out the recommended breastfeeding and complementary feeding practices).
- Praise mother.
- For any difficulty, discuss with mother/father/caregiver how to overcome the difficulty.
- Present options/small do-able actions (time-bound) and help mother select one that she can try to overcome the difficulty.
- Share with mother/father/caregiver appropriate *Counselling Cards* and discuss
- Ask mother to repeat the agreed upon new behaviour to check her understanding.
- Suggest where mother can find additional support (e.g. attend educational talk, IYCF Support Groups in community, confirm that the mother knows (or knows how to access) the community worker), Supplementary Feeding Programme (if available) in cases where food availability is a constraint in feeding children, or a social protection programme for vulnerable children if available.
- Refer as necessary.
- Thank mother for her time.

# Session 6: Gender

## Gender and Sex

What do we mean by **gender** and how does it differ from **sex**?

Sex refers to the biological attributes of men and women; these attributes are universal and cannot be changed.

Gender refers to social, behavioural and culturally specific characteristics defining the behaviour of women and men, boys and girls, and the relationship between them. Gender roles, status and relations vary according to place (countries, regions, and villages), groups (class, ethnic, religious, and caste), generations and stages of the lifecycle of individuals. Gender is, thus, not about women but about the relationship between men and women.

**Gender equality:** When women and men enjoy equal rights, opportunities and entitlements in civil and political life

Gender equality does not mean that there should be an equal number of women and men in all activities. It means that both women, men, girls and boys enjoy equal opportunities, resources, rights and access to goods and services. It also means equal responsibilities in sharing workloads and energy expended in caring for families and communities (UNFPA 2008).

Promoting gender equality in the nutrition programme requires taking into account the social, economic and biological differences between men and women and addressing barriers to improved nutrition.

**Gender relations:** The ways in which a society defines rights, responsibilities and the identities of men and women in relation to one another

Women's and men's gender are not only different, they are often unequal in power, weight and value. These relations determine women's and men's access and control over material resources and benefits. Since these relations are socially constructed, they can be changed. Ensuring that women have the same access to productive resources as men and improving the gender inequalities can significantly improve nutrition and well-being for the entire household.

**Gender mainstreaming:** An approach for achieving gender equality involving ensuring that gender perspectives and gender equality are central to policy development, research, advocacy, dialogue, legislation, resource allocation, and planning, implementation and monitoring of programmes and projects.

## Gender and social norms

Gender roles are the roles both women and men are expected to fulfill in society as defined by the virtue of being female or male. Men and women get messages about their role and division of labour from family, schools, media and society at large. Gender roles show society's rule for how men and women are supposed to behave. These rules are sometimes called gender norms. They dictate what is "normal" for men and women to think, feel and act.

Many of these differences are created by society and are not part of our nature or biological make-up, and many of these expectations help us enjoy our identities as either men or women. However, some of these expectations limit us from using our full potential as human beings.

For example: If and how a father is involved in child feeding and care is not linked to biological characteristics, but depends more on how women and men are raised as to whether they believe that men can also take care of children.

Both men and women play multiple roles in society. These roles can be broadly categorized into:

1. Productive role: Tasks which contribute to the economic welfare of the household through production of goods. Women's role as producers is usually undermined and undervalued.
2. Reproductive role: Activities performed for reproduction and caring for the household, water and fuel/wood collection, child care, health care, washing, cleaning, etc.
3. Community management or socio-cultural activities: Activities primarily carried out by men and women to ensure the co-existence of themselves as well as their family in their social environment. Examples of such activities include idir, mutual help among neighbours/relatives, community groups, etc. which boosts their social capital.

Men usually focus on productive roles and play their multiple roles sequentially. Women, in contrast to men, must play their roles simultaneously and balance their time between all of them. Some women may be overburdened with triple roles and the probability that they face time-related constraints in providing adequate care for the children and seeking health care.

## Why does gender matter?

There is a direct link between good children's nutrition and women's generation of household income or access to household income. Research shows that improving women's access to agriculture or livelihoods inputs and services has the potential to reduce undernutrition in children.

One reason is that money controlled by women is more likely to be spent on nutrition and health care for the children and the family than if the same money is controlled by men. In many societies, women's access to productive assets such as land, formal credit, capital, inputs and extension services is constrained even though women produce most of the subsistence crops, manage household seed stocks and contribute to the maintenance of plant biodiversity.

Men have an equally important role to play in ensuring the good nutrition of their family. Fathers have an essential role to play to support the family to acquire nutritious foods, to support wives to generate additional income to spend on nutrition or health care, and to help with child care practices to ensure that women have enough time and physical rest (especially if they are pregnant or lactating).

Below are the key issues being considered in agriculture and nutrition:

1. Equal access to land and other resources such as credit and other support services
2. Gender differences in roles and activities
3. Gender and agriculture extension services
4. Women's empowerment and equal access to decision making

## **Women's ability to manage child care**

Care for mothers and children is a significant underlying determinant of child nutrition. A major component of care is infant and young child feeding practices (IYCF), including breastfeeding, complementary feeding and the many factors that influence these practices.

The division of labour, or the work, roles and responsibilities allocated to men and women in agriculture, is directly tied to social and cultural patterns which determine the tasks that women and men generally perform. In addition to their roles in agricultural production and income generation, women in developing countries often undertake most of the work related to child care, food preparation, health service uptake and other household responsibilities such as collecting fuel and water. Women may therefore face multiple trade-offs in the allocation of their time that directly impinge on their own and their children's health and nutritional status.

## **Agricultural labour and women's own nutritional status**

Agricultural activities tend to make up a major share of rural women's energy expenditure, often at high levels of effort and in addition to normal domestic duties. This level of effort may fluctuate during different seasons, particularly among rural women employed in agriculture. This may have a direct effect of maternal nutrition status, and therefore efforts to boost agricultural productivity must therefore also consider the impacts on time use and physical demands – especially of female agricultural workers. Therefore, it is important that women have access to infrastructure and technology, where available, to lessen these burdens.

Several guidance notes and policy recommendations stress the importance of avoiding harm. For example, by avoiding giving an increased agricultural workload to women as this could harm both their own nutritional status and their children's, if time spent caring for children was reduced. Including men and boys could be helpful to avoid harm so that they are able to understand and support women in projects targeting women.

## **Strengthening women's access to, and control of resources**

Land, Soil, and Water

- Improve women's access to inputs and technologies that improve soil fertility
- Design water supplies explicitly for mixed domestic and productive uses
- Consult communities to define local water rights

New varieties and technologies

- Take into account both women's and men's preferences when developing and introducing new varieties

- Disseminate high-value crops to women that do not require large initial investments or asset ownership
- Assess how the introduction of new technologies targeted to women will affect gender norms
- Find ways to protect women's gains from new technologies
- Recognise that women of different ages and status may have different agricultural roles that can influence the adoption process

#### Labour

- Introduce labour-saving technologies that reduce women's time and energy burdens

#### Markets

- Invest in market-oriented interventions that facilitate women's market access while addressing gender norms

#### Credit and financial services

- Encourage women to enter high-value or high-return sectors for higher returns to credit
- Use group liability as a collateral substitute, with the option of graduation to individual liability
- Target credit, or design loan packages, based on women's different needs throughout their life cycle
- Protect women's rights to their own savings and financial assets

#### Social Capital

- Secure women's participation by emphasising benefits that matter to women
- Promote institutional mechanisms that foster women's active participation in groups

## Integrating gender into agriculture and nutrition

The following are some tips in identifying ways to integrate gender concerns in agriculture and nutrition interventions:

- Understand the roles of men and women, boys and girls in the household reproductive and productive systems (division of labor, workload and time allocation, resource control, etc.) and anticipate how the project might affect them.
- Involve and empower both men and women equally in addressing nutrition problems in the community. Focusing on women only as victims, may instigate negative outcomes, such as inciting jealousy among men; turning away men from nutrition issues and actions resulting in the stigmatization of nutrition activities as “women’s business.”
- Acknowledge and enhance the key roles of women in the production, storage and preparation of food by providing training and nutrition education to empower their ability to offer healthy diets for their families through homestead gardens or animal husbandry.
- Acknowledge and promote the role of men in improving nutrition for their families. Engage men as partners, as caregivers and as agents of positive change.
- Use farmer training centres to practically demonstrate gender and nutrition-sensitive interventions as complementary to other health-based nutrition interventions.
- Consult and include men and women in community meetings, demonstrations at field level and monitoring & evaluation of nutrition interventions.
- Educate men and women on good fatherhood and motherhood practices, breastfeeding, complementary feeding and other nutrition matters.
- Incorporate gender awareness as part of the community awareness sessions and campaigns on health and nutrition matters.
- Conduct routine assessment and client exit interviews at facilities to assess the friendliness of services to mothers and children.