

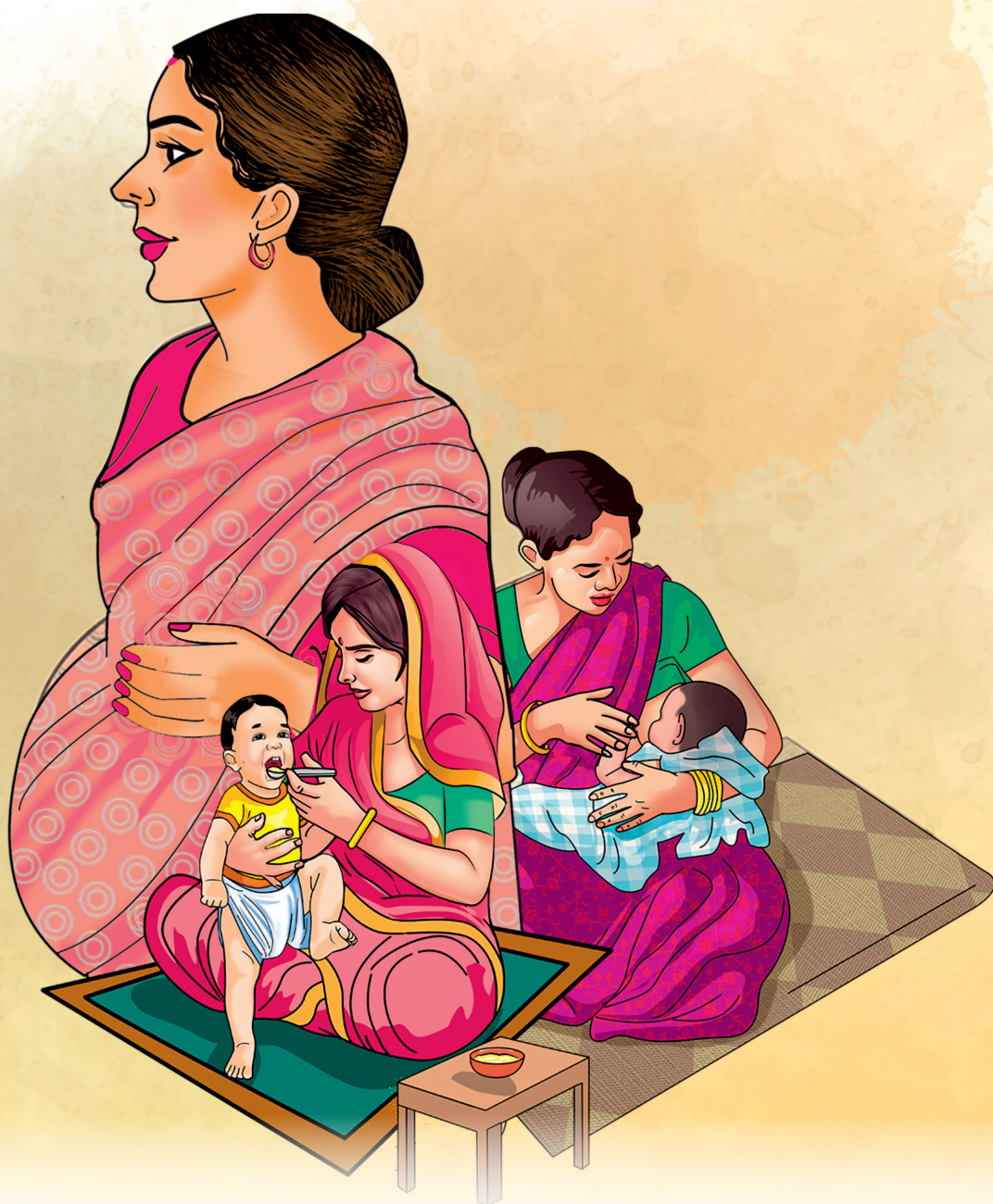


सत्यमेव जयते
ग्रामीण विकास मंत्रालय
भारत सरकार



MALNUTRITION CYCLE & 1000 DAYS

Facilitator Guide for SHG Meetings



Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM)
Ministry of Rural Development, Government of India



Dear Facilitator

The Malnutrition and First 1000 days' session is part of a training package on Food, Nutrition, Health and WASH (FNHW) comprising of Flip books, Facilitator guides, Posters, Counselling Cards and Stickers. This facilitator guide on Malnutrition and First 1000 days, is designed to help all facilitators under State Rural Livelihood Missions (SRLMs) in rolling out the Flipbook and disseminating key messages within the SHG groups and other community cadres.

The objective of this training is to empower SRLM staff, cadres SHG members, their families and community at large with the knowledge and key messages to improve the health and nutrition practices and behaviors during 1000-day period and understand the linkage of malnutrition cycle with this period. This knowledge will consequently help to improve the nutritional and health status of prenatal, postnatal mothers and children below 2 years of age. This session gives an overview of 1000-days care and practices, details of which are provided in separate sessions on Maternal Nutrition and Infant & Young Child Feeding. We all know that better health and nutrition results in higher productivity leading to reduction in poverty and improvement in quality of life.

It should be kept in mind that this orientation package, although meant for SHG women, should serve as reference material for the entire family. Information provided under each session through flipbooks and this guide should be seen as collective learning for the family and each member of the family needs to play their part to ensure that the messages are adopted by them in everyday lives.

The responsibility of getting these behaviors imbibed does not lie with women only, the men/husbands/older boys in the family need to ensure making arrangements for whatever is required to follow these practices on FNHW.

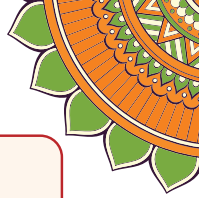
Objectives

After going through the module, the facilitator will be able to:

- Explain the linkage between Malnutrition and significance of 1000days.
- Understand and explain the significance of maternal nutrition, early and exclusive breast feeding, complementary feeding and other key practices during this period.

Initiate the Session

This session informs about the intergenerational malnutrition cycle and why 1000-day care including the period of pregnancy, lactation and children below 2 years, demand extra attention? What is the linkage between malnutrition and 1000 days? Knowledge on these factors will help you in taking appropriate steps to meet the nutritional needs of the individuals who are crossing these special stages of life.



Case Study

Rama is 19-year-old and is 7 months pregnant, carrying her second child and has a one-year-old elder daughter. She has to work in the farm along with her mother-in-law and husband, cook for the family and also breast feed her daughter. In the midst of the household chores, Rama rarely finds time to feed herself with one nutritious meal. She is feeling tired most of the time, and do not find time to plan good complementary meal for her daughter. She has been feeding biscuits and less variety to her daughter. Even though from the agricultural family her own food plate is lacking variety. Her elder sister who is an ANM Didi visits her after a long time and observed her conditions and is worried about her, decided to sit with her husband for a discussion.

Initiate discussion with the participants and ask the following questions:

- ▶ What do you understand by malnutrition?
- ▶ Whom do you think is malnourished?
- ▶ How can we break the Malnutrition Cycle?

Note: Do not explain any answer to the participants here, just listen what they have to say.

Malnutrition and significance of 1000 days

Malnutrition refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients. The term malnutrition covers 2 broad groups of conditions. One is 'undernutrition'— which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals). The other is overweight, obesity and diet-related non-communicable diseases (such as heart disease, stroke, diabetes, and cancer).

It is important to understand the significance of the first golden 1000 days of life and the need to invest in it to break the malnutrition cycle. The first 1000 days are a time of tremendous potential and enormous vulnerability. How well or how poorly mothers and children are nourished and cared for during this time has a profound impact on a child's ability to grow, learn and thrive. This is because the first 1000 days are when a child's brain begins to grow and develop and when the foundations for their lifelong health are built.

Research in the fields of neuroscience, biology and early childhood development provide powerful insights into how nutrition, relationships, and environments in the 1000 days between a woman's pregnancy and a child's 2nd birthday shape future outcomes.

Nutrition, in particular, plays a foundational role in a child's development and its country's ability to prosper. Poor nutrition in the first 1000 days can cause irreversible damage to a child's growing brain, affecting her ability to do well in school and earn a good living—and making it harder for a child and her family to rise out of poverty. It can also set the stage for later obesity, diabetes, and other chronic diseases which can lead to a lifetime of health problems.

Studies show that countries that fail to invest in the well-being of women and children in the first 1000 days have lower economic productivity and higher health costs. This is why several of the world's leading economists have called for greater investments in the nutrition and well-being of mothers, babies, and toddlers as a way to create brighter and more prosperous futures for us all.

Step 1: What do we understand by Malnutrition?

Malnutrition refers to deficiencies, excesses or imbalances in a person's intake of energy and/or other nutrients.

Malnutrition is broadly of two types:

1. **Undernutrition:** It encompasses deficiencies of macro nutrients (energy and protein) and deficiencies of essential vitamins and minerals (collectively referred to as micronutrients).

Protein energy malnutrition manifests itself in various clinical and subclinical forms. The more commonly issues seen in the population include underweight, wasting, stunting and some micronutrient deficiencies.

2. **Overnutrition:** It results from over-consumption of one or more nutrients resulting in overweight, obesity or diet-related non-communicable diseases (such as heart disease, stroke, diabetes and cancer).

Who do you think are malnourished?

Women who have less haemoglobin levels, who get pregnant and become mothers at a young age, who have less gaps between pregnancies, who eat less quantity and less nutritious food than required and fall sick frequently. Children who have less weight than normal, have less height according to age, less weight according to height, or have more weight than normal fall in the category of being malnourished.

What do we understand by the Malnutrition Cycle?

Young girls who are malnourished have low weight and generally have less than normal height. When these girls become mothers, they mostly give birth to low weight new born. If the child is a girl and she stays malnourished, this cycle continues. That is why attention to good health and nutrition is necessary at every stage



To break the malnutrition cycle, it is important to understand the importance of the first 1000 days and the need to invest in it.

What are the causes of malnutrition?

There are many factors which cause undernutrition. The most prominent causes are inadequate food intake (in terms of both quantity or quality) and occurrence of infection/diseases. These two often occur either simultaneously or can lead to one another. Dietary intake becomes inadequate when there is consumption of too few nutrients or an infectious/disease condition increases the requirements of nutrients/hampers the nutrients absorption. However, these two factors are influenced by a host of secondary factors as well and these secondary factors are inadequate care, lack of health services, unhealthy household environment, poor hygiene and sanitation. Adequate care for infants such as breastfeeding, appropriate complementary feeding, as well as hygiene and health seeking behaviours support good nutrition. If these practices are disrupted, can lead to poor dietary intake and increased infection. Unhealthy household environment means lack of access to safe drinking water and adequate sanitation, which results in spread of infectious diseases including diarrhea causing malnutrition. Besides, resources are often insufficient to support the provision of healthcare services. The quality of the environment plus access to basic health services determines the extent to which infection and disease can be prevented or treated.

All these factors are ultimately linked to poverty, because the families, who are poor, are most likely to have lack of food availability, lack of adequate care, unhealthy household environment and poor access to healthcare services.

All these three causes function in hierarchical manner as the first is the results of second and second is of third.

Link between health and nutrition

There is a close relationship between undernutrition and illness and the interplay between the two tends to create a vicious cycle of poor health condition. When a child is undernourished, immunity to infection is compromised, thus the child may fall ill and then undernutrition worsens, leading to further reduction in resistance to illness. Children who enter this undernutrition - infection cycle can quickly fall into a potentially fatal spiral.

Additionally, the health and nutritional status of pregnant women significantly impacts the health and well-being and nutritional status of their babies.

What is Severe Acute Malnutrition (SAM)?

Severe acute malnutrition is defined by very low weight-for-height/length, or a mid-upper arm circumference or by the presence of nutritional oedema.

Severe Acute Malnutrition is both a medical and social disorder. Lack of exclusive breast feeding, late introduction of complementary feeds, feeding diluted feeds containing less amount of nutrients, repeated enteric and respiratory tract infections, ignorance, and poverty are some of the factors responsible for Severe Acute Malnutrition (SAM).

SAM significantly increases the risk of death in children under five years of age. It can be a direct or indirect cause of child death by increasing the case fatality rate in children suffering from such common illnesses as diarrhoea, acute respiratory infections, malaria and measles.

Health professionals and healthcare providers should assess nutrition status of all children and detect children with SAM at every opportunity provided by health contacts, be it for a medical complaint or for health promotional measures (e.g. growth monitoring or immunization). This can be undertaken at every health facility (Primary Health Centre and Sub-centre, health posts, hospitals, day-care centres, etc.) and even in the community at Anganwadi centres.

MUAC is a simple measure for the detection of SAM. Screening of children with SAM in the community can be done using MUAC tape.

Children with SAM should be admitted to special wards (eg; Nutrition Rehabilitation Centres) or specific area designated in the ward. These children have an increased risk of mortality from hypoglycaemia, hypothermia, fluid overload, and undetected infections. For this reason they need to be treated differently than children without SAM.

It is suggested to contact and take advice of ASHA worker or ANM of your area if you notice children with any such signs or symptoms in your family or neighborhood for proper treatment.

Step 2: What do we mean by first 1000 days?

Ask the participants on what is the 1000 days? Why do they think first 1000 days are essential and what are the key things to keep in mind during this period? Afterwards explain the key important messages, and share the video.

The first 1000 days refers to a child's life from the time they are conceived until they have reached two years of age. This is a time when their brain, body and immune system grows and develops significantly.

The sections below gives the key issues and points to remember for 1000 days, however details on requirements and care for maternal nutrition and children below two years of age are provided in sessions on Infant and Young Child Nutrition and Maternal Nutrition.

Invest in first thousand days:

270 days of pregnancy

Key Messages–Maternal Nutrition

- Women need to be well nourished before they are pregnant for the first time.
- Eat more and nutritious food during pregnancy and while feeding the baby.





Interventions during pregnancy

Iron folic acid supplementation-

To reduce the incidences of anaemia, supplementation of iron folic acid (IFA) is recommended. One IFA tablet daily for 6 months should be consumed and the same dose is to be repeated after child birth for another six months. Generally, it is advised to consume this tablet during night. Consumption of tea/coffee should be avoided along with iron tablet as the components present in tea/coffee interfere with absorption of iron in the body.

Calcium supplementation-

Two tablets of calcium should be consumed for six months during pregnancy and the same dose is to be repeated after child birth. It is helpful in reducing the risk of high blood pressure during pregnancy.

It is advised not to take iron and calcium tablets together as they interfere in the absorption of one another.

Maternal iodine supplementation or fortification-

Consumption of iodized salt is an effective means to avert the complication related to iodine deficiency during pregnancy like cretinism and mental retardation in neonates.

In addition to iodine supplementation, consumption of iodine fortified foods is also suggested to reduce the risk of iodine deficiency related disorder.

Adequate food intake with dietary diversity-

To reduce the effects of undernutrition, balanced intake of energy and protein through diet is highly recommended during pregnancy. To satisfy the dietary needs of the growing baby, the pregnant mother is advised to consume one extra meal daily. Inclusion of food items from all the food groups is encouraged. Locally available and seasonal fruits and vegetable should be consumed frequently.

Specially, the consumption of green leafy vegetables and foods rich in iron and vitamin A should be promoted.

Regular Ante-Natal Check-ups to be ensured

- Include at least 5 out of 10 food groups in your daily diet along with Roti/Rice.
- Include 2 times nutritious snacks in addition to three meals a day.
- From 4th month of pregnancy, consume 1 IFA tablet and 2 Calcium tablets everyday till the birth of child and continue till the child is 6 months of age.

Invest in first thousand days:

180 days from birth of the child till it is six months old

Discuss with the SHG women group participants on what is their understanding on early and exclusive breast-feeding practices in their families and ask them to identify their mistakes in practices. The points below should be discussed with the participants for developing good practices during this period in their families.



Key Message – Early and only breast feeding

- Feed the baby with mother's milk immediately after birth i.e., within 1 hour.
- Infants should be fed with only mother's milk from birth to six months.

Because –

- Colostrum, mother's first yellow thick milk is like nectar for the baby.
- It increases immunity and protects the baby from many diseases.

For infants of 0–6 months of age

Early initiation of breastfeeding

Breastfeeding must be initiated as early as possible after birth preferably within one hour. Colostrum (the first yellow thick milk) must not be discarded as it is rich in several growth factors and immunity boosters. Pre-lacteals like- honey, jaggery, gripe-water, etc should be avoided as they offer no nutritional benefit and can cause infection.

Skin-to-skin contact

Skin-to-skin contact is recommended to provide warmth to the newborn. The baby is placed on mother's abdomen in skin-to-skin contact soon after birth. It helps in early initiation of breastfeeding. It is also helpful in strengthening the emotional bond between mother and her baby.

Exclusive breastfeeding up to 6 months

It is recommended that exclusive breastfeeding should be practiced up to 6 months of age. Baby's need for adequate nutrition is satisfied with the mother's milk till six months of age. There is no need to give any other food or liquid, not even water during this time. Considering the fact that the baby's stomach is very small and if it is filled with other food/liquid/water, it will displace the consumption of breast milk, thus compensating the nutritional intake. Breast milk already contains sufficient amount of water to suffice the baby's requirement till s/he is six months old. However, polio drops, vitamin syrups or other medicines can be given if needed.

- Breastfeeding alone brings many benefits to the infant, mother and family.

Invest in first thousand days:

550 days from 7–24 months

Discuss with the SHG women group participants on what is their understanding on continued breast-feeding, immunization and complementary feeding practices in their families and ask them to share their experiences. The points below should be discussed with the participant for developing good practices during this period in their families understanding their outcomes.



Key Message–

Timely introduction of Complementary Feeding, maintain diversity, frequency and age appropriate quantity in complementary feeding, Continued Breast Feeding, & Immunization

For children of 6–24 months of age

Initiation of complementary feeding at six months

Breast milk is no longer sufficient to meet the increasing demand of growing child beyond six months of age. The child is more active physically and mentally and requires more nutrients to support its growth. Therefore, introducing complementary foods at six months becomes important to meet the nutritional needs and to keep the child away from slipping into the malnutrition cycle.

Continued breastfeeding upto 2 years or beyond

The importance of breastfeeding is well established and should be continued upto 2 years and beyond. It is always recommended that complementary feeding must not displace breastfeeding.

Age appropriate complementary feeding

The complementary foods provided during 6–24 months of age should be safe, age appropriate in frequency and nutritional adequacy.

Promotion of dietary diversity of complementary foods

Freshly prepared complementary foods should be given to children. To maintain the diversity of the diet, complementary foods should be selected wisely from all the food groups such as grains, pulses, dairy products, egg/meat/fish/poultry, roots and tubers, green leafy vegetables, yellow and orange fruits and vegetables. Consumption of locally available and seasonal fruits and vegetables should be encouraged.

Micro-nutrient supplementation

Age appropriate doses of all the micronutrients like iron, iodine and vitamin A are recommended for the children of 6–24 months of age.

Age appropriate complementary foods

Should be given to the children of 6–24 months of age. Appropriate meal frequencies should be maintained and for ensuring nutritional adequacy, food quantity should be gradually increased. The meal frequency of 2–3 meals at 6–8 months, 3–4 meals at 9–11 months and 4–5 meals per day at 12–24 months of age is recommended.

Active feeding during and after illness should be done.

Step 3: Outcome of good care during First 1000 Days

The period of pregnancy till 2 years of the child is equally important for physical as well as mental development of the child because–

- Brain development starts from the 16th day after conception.
- 80% of the brain develops in the first 1000 days.
- The physical growth is so rapid that the child's length doubles from birth in the first six months and triples in the first year of birth.

Now summarize, discuss and recap all the key messages with the help of message card provided at the end of the Flipbook.

To be precise, these first 1000 days are the biggest chance to secure a healthy future for a child.

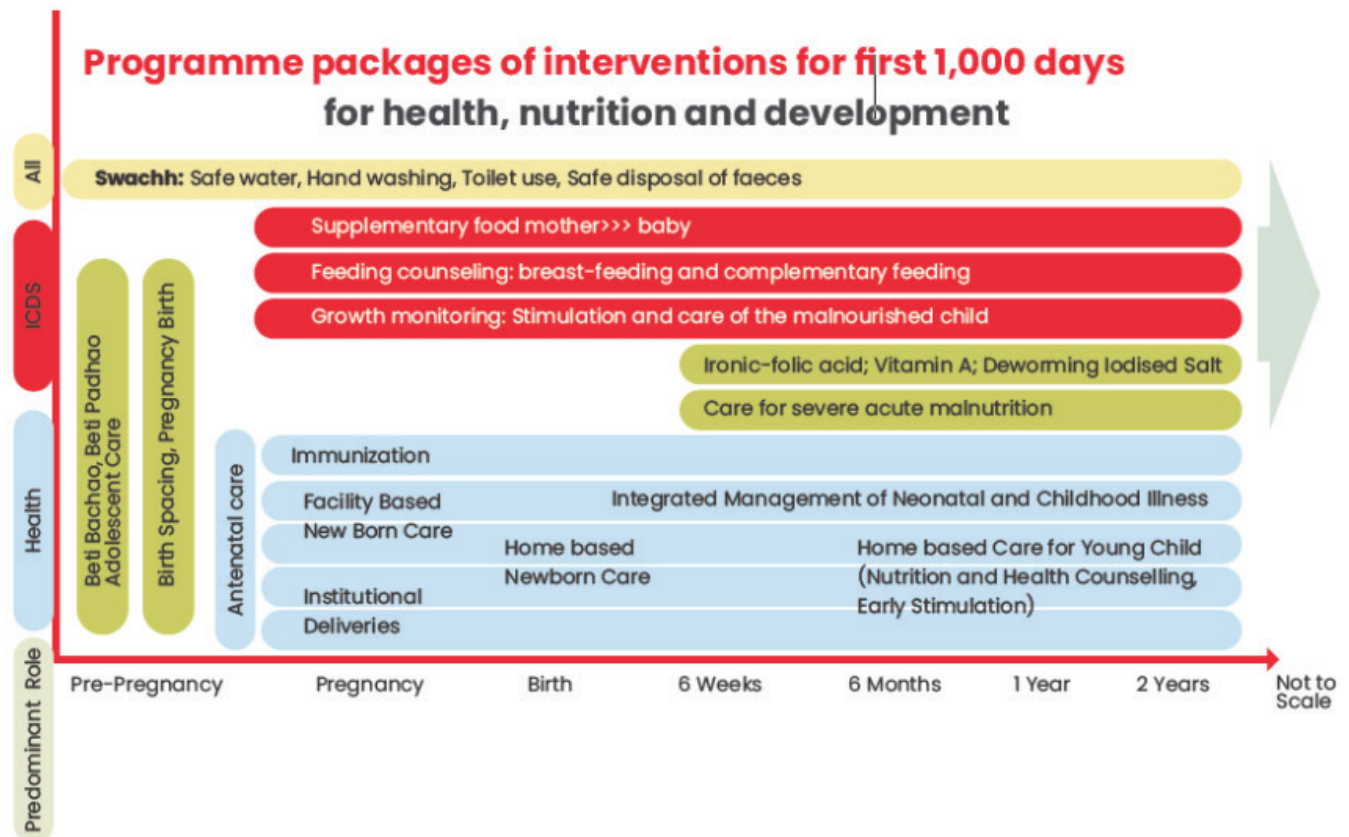
Physical and mental growth occurs at the fastest speed during the first two years of life, Approximately 80% brain development occurs till the second year of life. In terms of physical growth an infant's birth weight generally doubles by 6 months and length (or height), and the baby's proportions change during the first 2 years. The size of an infant's head decreased in proportion from 1/3 of the entire body at birth, to 1/4 at age 2, to 1/8 by adulthood.



Government strategies and key interventions for improving nutrition during first 1000 days -

During the first 1,000 days, delivery of health, nutrition, early stimulation, and water and sanitation interventions will ensure the survival, growth and development of children.

The figure below indicates the programme packages which are delivered through various Ministries and their State Departments.



Session concludes: End the session by revisiting the questions from the case study and their answers. Thank the participants and close.



The Food, Nutrition, Health and WASH (FNHW) Toolkit has been developed by the National Mission Management Unit (NMMU) with support from Technical Assistance agencies–TA- NRLM (PCI) and inputs from ROSHNI–Centre of Women Collectives led Social Action, National Institute of Rural Development (NIRD), State Institutes of Rural Development (SIRDs), National Resource Persons (NRPs), State Rural Livelihood Missions (SRLMs) of Bihar, Chhattisgarh, Jharkhand, Odisha, Uttar Pradesh, Andhra Pradesh, Telangana and Maharashtra, JEEViKA Technical Support Program–Project Concern International (JTSP–PCI) and UNICEF state teams from Odisha, Bihar and Chhattisgarh.

The standard materials of Ministry of Health and Family Welfare (MoHFW), Ministry of Women and Child Development (MoWCD), National Centre for Excellence & Advanced Research on Diets (NCEARD), Alive & Thrive, JTSP–PCI and UNICEF have been referred while finalizing the content.

Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY–NRLM)

Ministry of Rural Development, Government of India
7th Floor, NDCC Building-II, Jai Singh Road, New Delhi – 110001
website: www.aajeevika.gov.in



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