

### Why Invest in Nutrition?

- Of the nearly 3 million children under 5 years of age in Nepal, approximately 1.2 million (41%) are stunted. These undernourished children have an increased risk of mortality, illness and infections, delayed development, cognitive deficits, poorer school performance, and fewer years in school.
- The mortality rate for children under 5 in Nepal is 54 per 1,000 live births—nearly 45% of these child deaths attributable to various forms of undernutrition.
- Malnutrition undermines human capital and economic productivity and can limit progress in achieving at least 6 of the 8 Millennium Development Goals and targets set by the World Health Assembly.
- Investing in nutrition in Nepal can significantly reduce child mortality, improve children's school performance, and result in greater economic productivity for the nation.

### Summary of Nutritional Status and Priorities

Nepal reduced stunting by 16 percentage points from 2001 to 2011, however, 41% of children under 5 remain stunted caused by prenatal components, such as adolescent pregnancy, poor maternal nutritional status, and high rates of low birth weight, as well as postnatal factors, such as suboptimal infant and young child feeding practices and high disease burden. Among the lowest wealth quintile, 56% are stunted compared to 26% in the highest; although poverty has been reduced significantly, 25% of the population was below the national poverty line as of 2010 (United Nations). Wasting affects a quarter of children 9–11 months of age and has not improved in recent years; likewise, progress that had been made in reducing maternal anemia has not continued in recent years. Addressing malnutrition in Nepal requires a life cycle approach that focuses on addressing nutrition in adolescents, delaying the age of first marriage and pregnancy, nutrition during pregnancy to reduce low birth weight and anemia (including micronutrient supplementation), essential newborn care, appropriate infant and young child feeding practices (including early breastfeeding practices), and community management of acute malnutrition, particularly among infants.

**Adolescent nutrition.** Adolescent girls are the most malnourished group among women of childbearing age (29%) and adolescent pregnancy, while declining, remains a significant contributor to low birth weight and child malnutrition.

**Maternal nutrition and low birth weight.** Women of reproductive age continue to be affected by

underweight and short stature in Nepal. Typical of other South Asian countries, early marriage and childbearing is not uncommon (more than a third of women begin childbearing by 19 years of age). Anemia affects 35% of all women (close to 48% of pregnant women), only decreasing one percentage point between 2006 and 2011; however, Nepal demonstrated a huge reduction in anemia prevalence among women between 2001 and 2006 (from 68% to 36% of all women). Hookworm infestation may be a particular driver of iron deficiency and anemia in Nepal, particularly in the Terai, where one study found that 75% of pregnant women had hookworms, 73% were anemic, and 88% of anemia cases were due to iron deficiency (Dreyfuss et al. 2000). Although, in the same study 54% had vitamin A deficiency and 20% also had malarial parasites, both of which can also contribute to anemia. As a result of high maternal malnutrition levels, 12% of children are born with low birth weight.

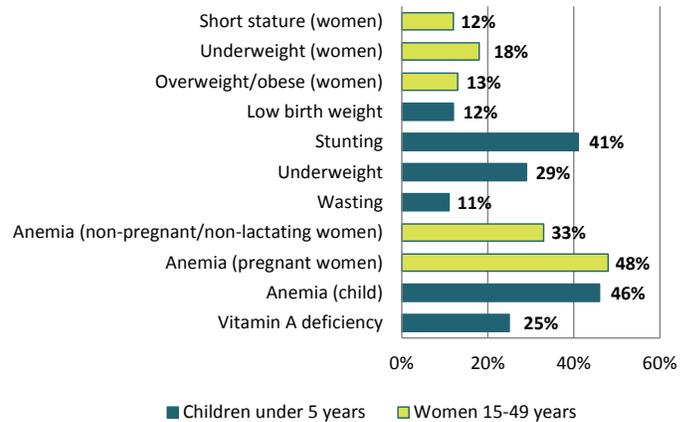
**Stunting.** Nepal has demonstrated significant reductions in stunting among children under 5, declining 16 percentage points between 2001 and 2011. However, stunting prevalence remains at 41% of children under 5. Approximately 10–20% of children already have compromised growth in the first half of infancy and the greatest increases in stunting prevalence occur between approximately 9 and 18 months of age when suboptimal breastfeeding practices (including delayed initiation and a short duration of exclusive breastfeeding) and suboptimal complementary feeding practices are occurring and illness and infection rates rise. Maternal/prenatal

factors (maternal education, thinness, and low birth weight), male sex, rural location, and lower household wealth are also associated with increased risk of stunting among children in Nepal.

**Wasting.** Wasting prevalence has stayed essentially the same in the last decade (around 11% of children under 5). Wasting and severe wasting are more common in younger children, with 25% of children 9–11 months suffering from wasting compared to 7% of children 36–47 months. Male infants tend to be slightly more wasted than female infants, and low birth weight, maternal thinness, and living in a rural area confer greater risk of wasting among children in Nepal.

**Anemia.** While almost 50% of children under 5 years are anemic, anemia is even higher among children 6–23 months, with over two-thirds anemic. The high levels of anemia in children 6–23 months at least partially reflects the low intake of iron-rich food in this age group (as well as low dietary diversity of complementary food in general), high levels of low birth weight and maternal anemia, and the absence of regular iron supplementation. Non-nutritional causes such as infection, including parasites and malaria, are also likely contributors to anemia in Nepal.

### Malnutrition Indicators Among Children and Women in Nepal



Sources: 2011 DHS; UNSCN 2010 (for vitamin A deficiency)

Notes: Underweight and overweight/obese indicators exclude pregnant women and women with birth in the past 2 months. The median urinary iodine concentration (UIC) for school-age children is 188 ug/L; the proportion of school-age children with low UIC (< 100 ug/L) is 27% (WHO 2007).

## Key Drivers of Maternal and Child Malnutrition in Nepal

### Immediate and Underlying

- Maternal malnutrition and low birth weight
- Suboptimal infant feeding, particularly:
  - Delayed initiation of breastfeeding
  - Shorter than optimal duration of exclusive breastfeeding
  - Low dietary diversity of complementary food
  - Delayed introduction of solid/semi-solid/soft foods
- Low-intake of micronutrient-rich food (vitamin-A and iron) among children
- Inadequate sanitation and hygiene practices, specifically access to hygienic toilets/latrines and handwashing practices
- Infectious disease burden (among women and children), particularly diarrhea, intestinal parasites, and malaria

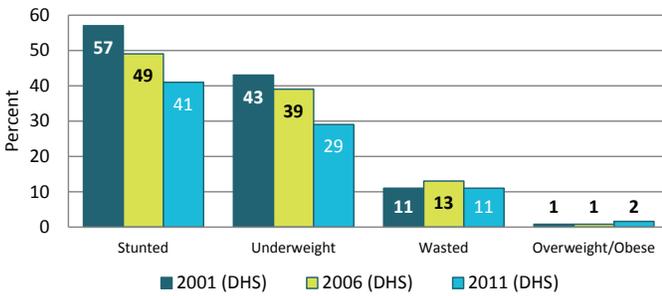
- Food insecurity, particularly due to insufficient food access caused by high levels of poverty
- Inadequate caretaking practices during childhood illnesses such as acute respiratory infections, diarrhea, and fever

### Basic

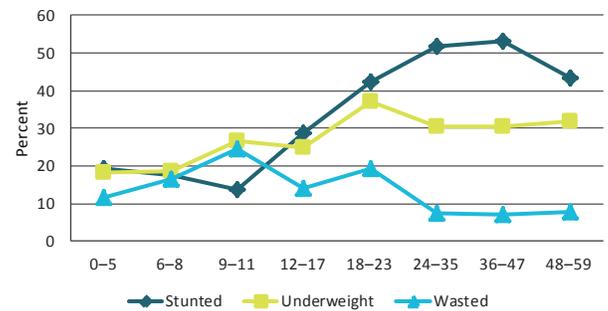
- Poverty as well as women’s low social status and lack of education, which limits control over their own income and restricts access to health services, adversely affecting caregiving and nutrition practices
- Marriage and childbearing during adolescence, leading to poor birth outcomes (e.g., low birth weight) as well as worsened nutritional status among adolescent mothers
- Intra-household food distribution practices that discriminate against women in particular, as well as cultural practices restricting intake of certain foods during pregnancy/lactation

# Child Nutrition

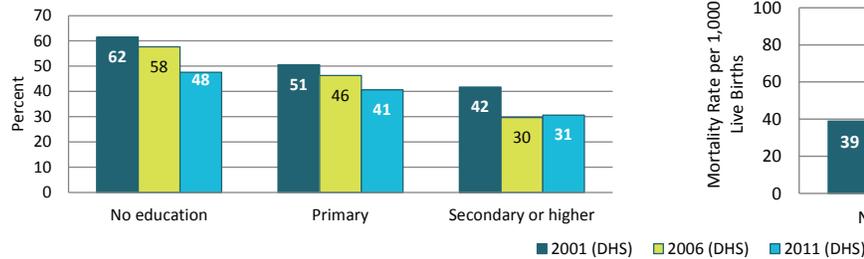
Trends in Nutritional Status of Children Under 5, 2001–2011



Nutritional Status of Children by Age (2011 DHS)

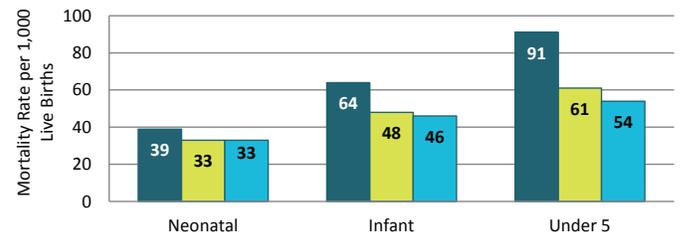


Stunting Prevalence in Children Under 5 by Maternal Education Levels, 2001–2011



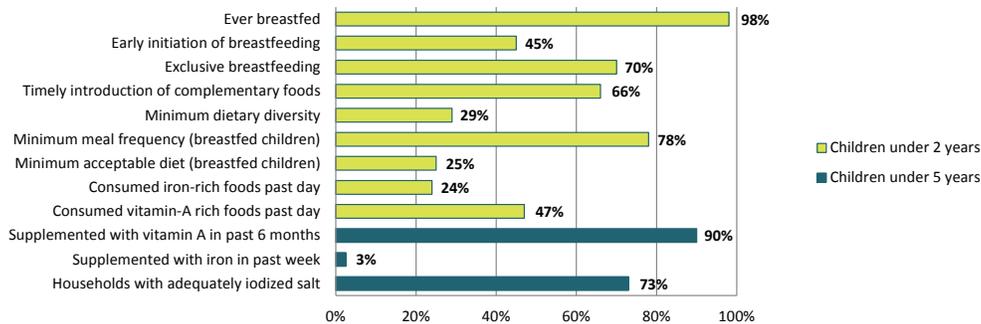
Note: In 2011, 40% of women 15–49 years with live birth in the past 3 years had no education, 17% had some or completed primary education, and 42% had some or completed secondary education.

Child Mortality Rates, 2004–2011\*

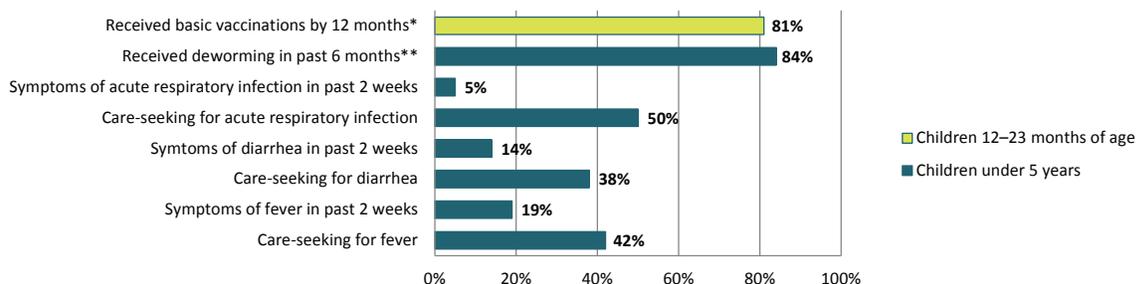


\* Data are for the time period within the previous 5 years of the survey.

## Dietary Practices of Children (2011 DHS)



## Child Health Indicators (2011 DHS)

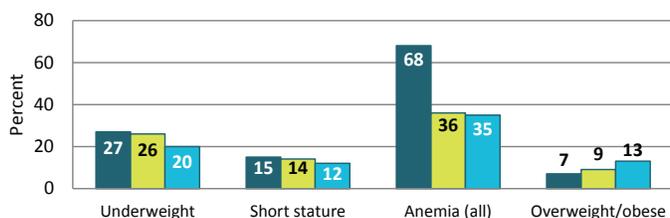


\* Basic vaccinations include BCG, measles, and three doses each of DPT and polio vaccine.

\*\* Data are for children 12–59 months.

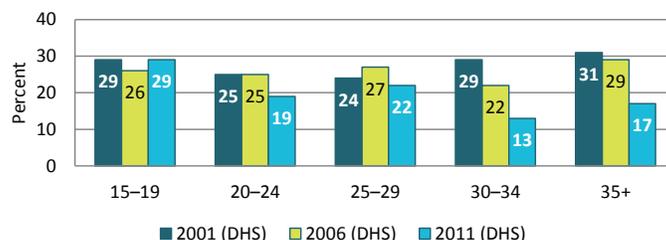
# Maternal Nutrition

**Trends in Nutritional Status Among Women of Reproductive Age (15–49 years), 2001–2011**

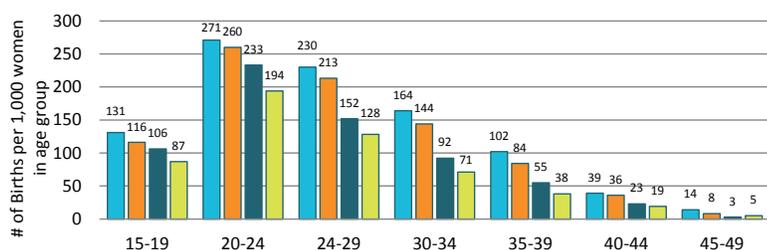


Note: Underweight trend data refer to women of reproductive age (15–49 years) with live birth in the past 3 years and not all women 15–49 as presented elsewhere.

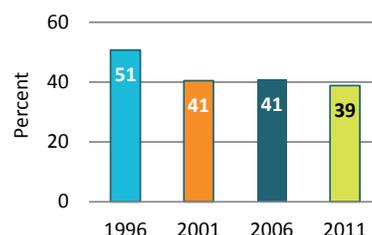
**Trends in Maternal Underweight by Age, 2001–2011**



**Fertility Rate by Age**



**Women 15–19 Years Who Have Begun Childbearing by 19**



## Maternal Health Indicators

Maternal mortality ratio (per 100,000 live births)	170	
Total fertility rate (children per women)	2.6	
Median age at first marriage (of women 20–49 years)	17.8	
Median age at first birth (of women 20–49 years)	20.2	
% of women 15–19 years who have begun childbearing by 19	38.8	
Median number of months since preceding birth (of women 15–49 years)	36.2	
% of married women currently using any method of family planning	49.7	
% of married women with an unmet need for family planning	27.5	
% of women 15–49 years with a live birth in the past 5 years receiving antenatal care from a “medically-trained” or “skilled” provider (doctor, nurse, or midwife)	58.3	
% of women 15–49 years with a birth in the past 5 years who delivered in a health facility	35.3	
% of women 15–49 years with a birth in the past 5 years who delivered with a “medically-trained” or “skilled” provider (doctor, nurse, or midwife)	36.0	
	(overall)	35.0
% anemic (pregnant: Hb < 11 g/dL; non-pregnant: Hb < 12 g/dL)	(pregnant)	47.6
	(non-pregnant/non-lactating)**	33.0
% of women with a birth in the last 5 years given vitamin A supplementation after birth of last child	40.3	
% of women with a birth in the last 5 years given any iron supplementation during last pregnancy	79.4	
% of women with a birth in the last 5 years who took at least 90 days of iron supplementation during pregnancy of last child	55.8	
% of women with a birth in the last 5 years who took deworming medication in last pregnancy	55.1	
% living in houses with iodized salt	74.5	

Sources: 2011 DHS; UNICEF 2012 (for maternal mortality ratio)

## Food Security; Diet Diversity; and Water, Sanitation, and Hygiene

Food Security Indicators	
Global Hunger Index (2013)	17.3 (alarming level of hunger)
% of households with poor or limited food consumption (food insecure) (2010–2011)	28
Proportion undernourished in total population (%) (2012)	18
Food supply (kcal/capita/day) (2009)	2,443
Depth of food deficit (kcal/capita/day) (2011–2013)	132
Diet Diversity Indicators	
% of dietary energy supply from cereals, roots, and tubers (2009–2010)	72
Average supply of protein from an animal source (grams/capita/day) (2008–2010)	9
Water, Sanitation, and Hygiene Indicators	
% of population with access to improved drinking water sources	89
% of population with access to sanitation facilities	40
% of households using appropriate treatment method for drinking water	16

Sources: FAO 2013; von Grebmer et al. 2013 (for Global Hunger Index rating); National Planning Commission 2013 (for food insecure); FAO et al. 2012 (for undernourished); FAOSTAT (<http://faostat3.fao.org/faostat-gateway/go/to/browse/FB/FB/E>) (for food supply); 2011 DHS (for water, sanitation, and hygiene indicators)

## Gender

Gender inequality is pervasive in Nepal and is a significant underlying factor that exacerbates food insecurity and malnutrition. The clearest manifestation of this relationship is the high prevalence of early marriage and adolescent pregnancy, which reflect prevailing gender norms that discriminate against women and girls and contribute significantly to the high prevalence of low birth weight and chronic malnutrition in their children. Nearly 40% of adolescent women have begun childbearing by 19 years of age, although this trend is declining. In Nepal, marriage occurs early for women relative to men. Fifty-five percent of women 20–49 years of age are married by the age of 18, in contrast only 11% of men 20–49 years are married by then.

Gender inequality is also reflected in several other key indicators. For example, 60% and 78% of women and men 15–49 years reported being employed respectively; however 61% of women reported not being paid for their work compared to only 12% of men. Importantly, among adolescents 15–19 years of age, 46% reported not being allowed to work by their family, illustrating the limited control adolescent girls have over various facets of their lives. Among women who do work, only 53% reported being able to decide on their own how to use their income and 74% reported earning less than their husbands. Women's ownership of assets such as a house or land is also very low, 93% do not own a house and 90% do not own land. Domestic violence is also widely prevalent

with 31% of women of childbearing age reporting ever having experienced various forms of domestic violence in their lifetime.

The 2011 DHS found that 46% of women 15–49 years reported participating in decisions about their own health, major household decisions, and visiting relatives, but among adolescent girls 15–19 years, only 13% reported participating in these same decisions. With childbearing beginning early, young women with children under 2 years of age have the least decision-making power and the least access to resources when their children have the greatest nutritional needs. The decision of when and whom to marry is made by family members, and subsequently the decision of when and at what age to begin childbearing is also made by family members. In this context promoting shared responsibility for the nutritional status of women and children among husbands and parents-in-law in addition to working with young mothers is essential. Delaying marriage and first pregnancy will also go a long way toward reducing the overall prevalence of malnutrition in Nepal.

## Government Policies and Program Environment: Needs and Challenges

**Policies.** Political commitment and policies addressing nutrition have increased recently in Nepal. The Nepal Health Sector Programme II (NHSP II) of the Ministry of Health and Population (MOHP) guides nutrition interventions implemented through the health sector (from 2010 to 2015), and the Multi-Sectoral Nutrition

Plan (MSNP) of the National Planning Commission guides and coordinates nutrition interventions through multiple sectors (from 2013 to 2017) (Codling 2011). The NHSP II aims to improve the health and nutritional status of the Nepali population, especially the poor and excluded, and plans to maintain, strengthen, or bring to scale evidence-based nutrition interventions within the health sector. The MSNP aims to reduce maternal and child undernutrition (as measured by maternal BMI and child stunting) by one-third in the next 5 years. The plan seeks to achieve better multisectoral, national, and local-level coordination of policies and plans to improve nutrition (e.g., working to reduce open defecation and water safety with the physical planning and works sector); promote both nutrition-specific and nutrition-sensitive practices and services; and strengthen the capacity of central and local governments to provide services in an inclusive and equitable manner. The plan targets the first “1,000 days” from conception to 2 years of age

(by scaling up infant and young child feeding services, expanding micronutrient supplementation, and expanding management of severe acute malnutrition), but also addresses the needs of adolescent girls.

**Programs.** Current and future nutrition-specific programming in Nepal focuses around community-based implementation, infant and young child feeding, micronutrient deficiencies, and behavior change communication (Scaling Up Nutrition [SUN] 2013). The government and relevant stakeholders have identified community-based treatment of severe wasting (e.g., community management of acute malnutrition) as needed to address Nepal’s high levels of wasting. Nepal’s community-based primary health care system in rural areas is staffed by female community health volunteers (FCHVs) who form its foundation and play an important role in a variety of public health intervention programs including family planning; maternal care; child health; vitamin A; and iron/folic acid supplementation, de-worming, and immunization coverage (WHO Country Office, Nepal).

**Needs and challenges.** Launched in 2012, implementation of activities under the MSNP are yet to begin, although coordination of government sectors—which is largely the responsibility of a nutrition technical committee housed within the MOHP and which coordinates a series of working groups—has been identified as a significant problem by multiple stakeholders. “Ownership” of the MSNP appears to lie mainly within the MOHP and is lacking in other government ministries that are also tasked to address nutrition. Advocacy across government may be needed to increase buy-in by other sectors. On the ground, with additional emphasis on nutrition interventions to be implemented through the FCHV system, capacity to deliver such interventions effectively—for example, infant and young child feeding—has been questioned, and training and supervision of FCHVs will need to be a continual focus. The FCHV’s volunteer status, lack of remuneration, and increased work burden when additional tasks related to nutrition are added are also factors that may need to be taken into consideration.

## Development Partner Support

- The NHSP II, which includes a comprehensive approach to scale up and improve nutrition services for mothers and children across the country, is funded by bilateral and multilateral donors including the World Bank, AusAID, DFID, GAVI, and KfW
- WHO is supporting the creation of the Infant and Young Child Feeding Strategy

## Nutrition-Specific Policies

Mandatory Flour Fortification (2011)

Maternal, Newborn and Child Health Communication Strategy (2011)

Food and Nutrition Security Plan (part of the Agriculture Development Strategy)

Communication Framework for Maternal, Infant and Young Child Nutrition

Maternal Nutrition Strategy

Five-Year Plan for Sustained Iodine Deficiency Disorder Elimination

National Emergency Nutrition Policy (2008)

National School Health and Nutrition Strategy (2006)

Five-Year Plan of Action for the Control of Anemia among Women and Children in Nepal (2005)

National Nutrition Policy and Strategy (2004)

Salt Iodization Act (1998)

The Breast Milk Substitute Act and Regulation (1991)

Maternity/Paternity Leave Regulation (1991)

- FAO is supporting the creation of a National Food Security Plan and supports home gardens and other food security activities
- WFP supports the prevention and treatment of moderate acute malnutrition and implements programs to reduce food insecurity (such as social safety net programs and school feeding) and cash for work projects (with DFID and the World Bank).
- UNICEF supports infant and young child feeding behavior change communication activities, training of health workers on micronutrient

supplementation, provision of micronutrient-rich sprinkles for children 6–24 months in two districts (while promoting national scale-up), and community-based therapeutic care in 10 districts for severely malnourished children.

- JICA supports a reduction in child malnutrition through social protection programs
- The World Bank supports the Community Action for Nutrition Project (Sunaula Hazar Din or Golden 1,000 Days) and the South Asia Food and Nutrition Security Initiative (SAFANSI) with AusAID

## Recommended Nutrition Priorities

Key nutrition priorities for Nepal require a life cycle approach and include focusing on adolescent nutrition, maternal malnutrition and low birth weight, stunting, wasting, anemia, and essential newborn care. Programs and activities should be focused on women and children in the lowest wealth quintile, who are disproportionately affected. USAID has invested funds specifically for health and nutrition in Nepal, and given the scale of malnutrition in the country, it is important to continue allocating such funds to help bolster efforts to reduce malnutrition. Among existing USAID-funded activities and programs, this includes continuing to expand and support the integration of evidence-based nutrition-specific interventions and actions. Additional opportunities include:

- Expanding and strengthening technical assistance to USAID's partners including the Government of Nepal to strengthen implementation of nutrition-specific interventions
- Supporting and undertaking nutrition advocacy to strengthen multisectoral coordination for nutrition and augment accountability and governance for nutrition
- Targeting quality improvement in community-level nutrition service delivery to expand and strengthen the existing FCHV approach
- Expanding support in the areas of water and sanitation
- Supporting and expanding access to micronutrient supplements and fortified foods

In terms of opportunities to support the Government of Nepal, opportunities include:

- Supporting improved nutrition governance and implementation of the MSNP including improved multisectoral coordination, greater advocacy across

government to increase ownership of the MSNP, and commitment to reduction of malnutrition

- Continued support for FCHV community-based implementation of evidence-based nutrition interventions and strengthen training in infant and young child feeding practices (including counseling) and addressing nutrition of women of reproductive age and pregnant/lactating women
- Working with the Government of Nepal to strengthen nutrition policy implementation and work toward improved policies that would improve infant and young child feeding practices such as exclusive breastfeeding

USAID can also work in close coordination with other donors to:

- Support the SUN movement and other Government of Nepal initiatives to promote nutrition service delivery
- Align resource allocation to limit duplication of activities that are effectively funded by other donors and leverage donor investments to strategically invest in nutrition, focusing on areas that need added resources such as adolescent nutrition and quality nutrition service delivery

## Recommended Indicators to Monitor Nutritional Impact

It is recommended that USAID consider incorporating the following key nutrition indicators into the programs and projects it funds in order to specifically monitor the impact of USAID programs on maternal and child nutrition status.

1. Prevalence of underweight children under 5 years of age (< -2 SD)
2. Prevalence of stunted children under 5 years of age (< -2 SD)

3. Prevalence of stunted children under 2 years of age (< -2 SD)
4. Prevalence of wasted children under 5 years of age (< -2 SD)
5. Prevalence of underweight women (BMI < 18.5)
6. Women's dietary diversity: mean number of food groups consumed by women of reproductive age
7. Prevalence of exclusive breastfeeding of children under 6 months of age
8. Prevalence of children 6–23 months receiving a minimum acceptable diet

While nutrition-sensitive interventions can have an impact on the indicators listed, it is critical to implement nutrition-specific activities that address the direct causes of malnutrition in order to see reductions in these key indicators.

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### Contact Information:

Food and Nutrition Technical Assistance III Project (FANTA)  
FHI 360  
1825 Connecticut Avenue, NW  
Washington, DC 20009-5721  
Tel: 202-884-8000  
Fax: 202-884-8432  
Email: [fantamail@fhi360.org](mailto:fantamail@fhi360.org)  
Website: [www.fantaproject.org](http://www.fantaproject.org)

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The intended purpose of this profile is to provide a broad overview of the status of nutrition in Nepal in order to inform potential US-supported efforts. To view more information about USAID's Global Health and Feed the Future (FTF) initiatives and their extensive nutrition contributions in Nepal, please visit: [www.usaid.gov/what-we-do/global-health/nutrition](http://www.usaid.gov/what-we-do/global-health/nutrition).