DISPARATE OUTCOMES: A MULTISECTORAL NUTRITION ASSESSMENT AND GAP ANALYSIS OF VIETNAM’S ETHNIC MINORITY POPULATIONS
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<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>BCC</td>
<td>Behavior change communication</td>
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<tr>
<td>BMI</td>
<td>Body mass index</td>
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<tr>
<td>CEMA</td>
<td>Committee for Ethnic Minorities and Mountainous Affairs</td>
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<td>DHS</td>
<td>Demographic and Health Survey</td>
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<td>GAIN</td>
<td>Global Alliance for Improved Nutrition</td>
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<td>GDP</td>
<td>Gross domestic product</td>
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<td>IMAM</td>
<td>Integrated Management of Acute Malnutrition</td>
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<td>IPV</td>
<td>Intimate partner violence</td>
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<td>IUGR</td>
<td>Intrauterine growth restriction</td>
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<td>IYCF</td>
<td>Infant and young child feeding</td>
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<td>LBW</td>
<td>Low birth weight</td>
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<td>MARD</td>
<td>Ministry of Agriculture and Rural Development</td>
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<td>MICS</td>
<td>Multiple Indicator Cluster Survey</td>
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<td>MCST</td>
<td>Ministry of Culture, Sports, and Tourism</td>
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<td>MOET</td>
<td>Ministry of Education and Training</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>MOLISA</td>
<td>Ministry of Labor, Invalids, and Social Affairs</td>
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<tr>
<td>NGO</td>
<td>Nongovernmental organization</td>
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<tr>
<td>NIN</td>
<td>National Institute of Nutrition</td>
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<tr>
<td>NNS</td>
<td>National Nutrition Strategy</td>
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<tr>
<td>NNSS</td>
<td>National Nutrition Surveillance System</td>
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<td>NPAN</td>
<td>National Plan of Action for Nutrition</td>
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<tr>
<td>NRD</td>
<td>New Rural Development</td>
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<tr>
<td>NTP</td>
<td>National Target Program</td>
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<tr>
<td>PEMC</td>
<td>Protein Energy Malnutrition Control</td>
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<tr>
<td>RUTF</td>
<td>Ready-to-use therapeutic food</td>
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<tr>
<td>SAM</td>
<td>Sever acute malnutrition</td>
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<tr>
<td>SPR</td>
<td>Sustainable Poverty Reduction</td>
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<td>SUN</td>
<td>Scaling Up Nutrition</td>
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<tr>
<td>VWU</td>
<td>Vietnam Women’s Union</td>
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<td>WASH</td>
<td>Water, sanitation, and hygiene</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Executive Summary

On average, Vietnam has achieved remarkable improvements in nutritional status in recent decades, but improvements in national aggregates mask wide disparities and a persistent “very high” burden among disadvantaged ethnic minority groups. Between 2000 and 2010, national stunting rates dropped from 36.5 percent to 24.2 percent. The decrease from 2010 to 2015 was not as great, but when the 2015 data are disaggregated according to ethnic group, the Kinh majority has a prevalence of 17.7 percent, whereas the prevalence in other ethnic groups is 32.0 percent. This pattern repeats itself for the prevalence of underweight (a significant drop nationally from 33.8 percent in 2000 to 14.1 percent in 2015 but a 9.7 percent prevalence in the Kinh ethnic group in 2015 versus 21.9 percent in other ethnic groups) and wasting (a decrease from 8.6 percent to 5.6 percent in national prevalence from 2000 to 2015 but a 9.1 percent prevalence for Kinh versus 5.5 percent for other ethnic groups [WB Assessment 2012]).

The gap between the ethnic majority and minority has persisted despite the multiple government programs aimed at reducing it. As the economy has evolved from predominantly agriculture to a mix of agriculture and technology, the requirements of the workforce have changed as well. Manual labor is still necessary but no longer sufficient. The need is for intelligent, highly educated and skilled workers. All of these attributes are the product of a healthy, well-nourished population. Deficiencies in nutrition and health, lower levels of education, lack of language skills in the national language, and inability to migrate to jobs in urban centers of ethnic minorities have further hindered their ability to narrow the gap in nutrition and economic well-being.

Rationale of the Study

Vietnam’s scores on global indices of human capital (including health outcomes) confirm that, overall, Vietnam performs well for its level of income. The World Bank Human Capital Project gives Vietnam a Human Capital Index [1] score of 0.67, exceeding the global average of 0.57, the East Asia Pacific region average of 0.61, and the lower-middle-income country average of 0.48 (World Bank 2018b). Vietnam’s average score exceeds the upper-middle-income average of 0.58. On the health-related components of the Human Capital Index, Vietnam’s performance also far surpasses that of other lower-middle income

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[1] The Human Capital Index measures the amount of human capital that a child born today can expect to attain by age 18. It compares the productivity of the next generation of workers with a benchmark of complete education and full health (which would be a score of 1). It is made up of five indicators: probability of survival to age five, expected years of schooling, harmonized test scores as a measure of quality of learning, adult survival rate (fraction of 15-year-olds who will survive to age 60), and proportion of children who are not stunted. It is constructed for 157 countries across the income spectrum.
countries: 98 of 100 children born survive to the age of five (versus a lower-middle income country average of 96, 88 percent of 15-year-olds survive to age 60 (versus a lower-middle-income country average of 80 percent), and 75 percent of children are not stunted (versus a lower-middle-income country average of 73 percent). Nevertheless, although similar to the stunting aggregates, it is likely that the national Human Capital Index aggregate masks wide disparities between the ethnic majority and minority groups.

The persistent gap in the stunting prevalence rate between the ethnic minority and majority groups is a marker of a deeply embedded problem in Vietnam, with inequities across many domains, but particularly in the nutrition and health care of ethnic minority families. Because malnutrition in early life significantly affects the physical and mental development of children, it is fundamental to the development of national human capital. The economic development of the nation depends on the strength, resilience, and intelligence of its workforce, and as technology increasingly drives economies, particularly Vietnam’s, reliance on the intelligent application of knowledge is critical to the lifetime well-being and economic success of ethnic minority populations and the country as a whole.

To support the government of Vietnam in addressing undernutrition in ethnic minorities based on whole-government evidence-based approach, a comprehensive review has been undertaken of the current nutrition situation in high-stunting burden ethnic minority areas. This review covers the scope of existing nutrition-specific and nutrition-sensitive programs, program gaps, and opportunities for new or expanded interventions. Secondary quantitative data have been gathered along with primary and secondary qualitative information from the various sectors and organizations involved in nutrition-related programs in Hanoi and affected provinces in the northern mountainous and central highlands regions.

**Study Objectives**

- To assess and analyze the state of woman and child nutrition and development in the central highlands and the northern midlands and mountain regions and identify gaps in programs and policies aimed at reducing inequities in malnutrition in these areas
- To understand why significant inequalities remain between ethnic majority and minority populations in Vietnam, given numerous government initiatives and policies that target poverty and malnutrition in ethnic minority populations and dramatic improvements in nutrition seen in other segments of Vietnamese society.
- Based on the analysis, to make recommendations for removing gaps in policies and programs that have contributed to inequalities between these groups.

**Background and Origins of Inequity**
**Geography**
Vietnam’s geography of largely forested highlands and the 20 percent of land in the coastal and delta regions that is arable has influenced its demography, industry, and economy, as well as the extent and persistence of inequity in measures of poverty, health, and nutrition. The isolation that the geography engendered and the inaccessibility of many of its towns and communities preserved the cultural identities of various ethnic groups. The ethnic minority groups occupy the northern mountainous regions and the central highlands; the mountains surround some high plateaus, but it is mainly difficult vertical terrain with poor-quality soil. A combination of swidden agriculture supplemented by non-timber forest produce balanced in a form of sufficiency economy provided a subsistence diet.

**Population and Demographics**
During the second phase of the economic reforms initiated in Vietnam in 1986 with the goal of creating a "socialist-oriented market economy", the lowland areas became the agricultural engines for Vietnam’s remarkable increase in rice production that made it second in the world in rice exports and contributed to an economic development that exceeded that of the highland populations. Past in-country migration increased from the crowded lowlands to under-populated areas such as the central highlands and the northern mountains. Recent migration to cities for labor and education has favored an already more-educated, higher-income class of people, with a preference for boys and men, although this mobility has not extended as readily to ethnic minorities, who are much less likely than the ethnic majority groups to migrate.

**Land Tenure, Agriculture, and Nutrition**
The result of the shift in land tenure and use was a profound change in agricultural practice by ethnic minorities, with later implications for their food security and dietary diversity. The ethnic minorities shifted from the greater land requirements of swidden agriculture to the cash economy of sedentary farming on smaller plots of land. This affected household economy and nutrition. Household nutrition suffered as food insecurity increased and as households became more vulnerable to natural and man-made shocks because of marginal food assets. The reduction in dietary diversity and minimum adequate diets has contributed to chronic malnutrition of women and children, adding to the prevalence of stunting and wasting from the frequent shocks from natural disasters: cyclones, droughts, landslides, famines. Vietnam is considered to be one of the five most-vulnerable countries to natural disasters and extreme weather events from climate change.

**Nutrition Situation in Ethnic Minority Provinces**
The ethnic minority groups living mainly in the northern midlands and mountainous areas and the central highlands are consistently more undernourished than the Kinh majority. Despite decreases in stunting, the prevalence of stunting among ethnic minority children (31.4 percent) is still twice that in the Kinh ethnic group (15.0 percent). There was an overall decline in wasting of 1.7 percent between 2000 and 2011, although only the richest
quintile showed a significant reduction (3.4 percent). These data, along with an overall decrease in the prevalence of wasting and stunting, indicate an increase in inequality between 2000 and 2011.

**These figures reflect problems with intrauterine conditions in ethnic minority women.** The prevalence of intrauterine growth restriction and the resultant rates of low birthweight are, according to the most recent Multiple Indicator Cluster Survey (GSO-GOVN 2014), strikingly higher in ethnic minority groups than in the Kinh majority; 8.1 percent of ethnic minority babies weighed at birth are low birthweight, and an additional 14.6 percent of mothers felt that their babies were smaller or much smaller than average newborns. The national figure for low birthweight is 5.7 percent. Surprisingly, the actual measure of low birthweight is 6.2 percent in the northern mountain and 7.2 percent in the central highlands, because of the effect of historic in-migration of better-off families to these regions.

**Beyond these visible anthropometric differences, there are also inequalities in less-obvious micronutrient undernutrition — “hidden hunger.”** The highest rates of anemia in the country have consistently been found in the northern midlands and mountainous region, where 43.0 percent of the children are anemic, compared with the national average of 27.8 percent. The distribution of anemia according to age is also alarming: 31.6 percent of infants younger than five months old from the northern mountainous area are anemic. This reflects the prenatal nutritional environment, along with early neonatal and postnatal care. Differences in vitamin A and zinc are similar. The marked differences in anemia prevalence between two regions with similar poverty levels suggests that this is the result of factors beyond the economy. At the occurrence of any of these nutritional deficiencies indicates a problem in the network of parental care, food security, health care (curative and preventive), and the child’s environment. The combination of so many deficiencies affecting the same group points to overriding problems in the programs, systems, and policies designed to improve the nutrition situation.

**Determinants of Malnutrition in Ethnic Minority Provinces**

*A Causal Framework of Undernutrition*

This causal framework is adapted from the UNICEF causal framework of malnutrition that divides causes into immediate, underlying, and basic. The immediate and some underlying causes are referred to as “nutrition specific” because they have a direct effect on malnutrition. The remaining underlying causes and all basic causes are referred to as “nutrition sensitive” because of their indirect yet still causal relationship with stunting. Because of the importance of the 1,000 days from conception to the child’s second birthday, when the child is most vulnerable to deficiencies that cause stunting, an added element focuses on intrauterine growth restriction as an immediate cause of stunting because it, like stunting itself, reflects malnutrition and disease during pregnancy, in particular the first trimester, when the most-rapid growth in fetal length occurs. This added element highlights
women's malnutrition and health in the months before conception, including the challenge of adolescent pregnancy (common in ethnic minority groups).

**Nutrition-Specific Causes of Malnutrition**

**Poor Infant and Young Child Feeding Practices**
For most infant and young child feeding indicators, with the exception of breastfeeding, the ethnic minority groups fare poorer than their Kinh counterparts. Specific examples include low feeding frequencies for infants and young children; lack of dietary diversity (specifically animal proteins and fats), and low rates of minimum acceptable diets.

**Nutrition-Sensitive Causes of Malnutrition**

**Food Insecurity and Safety**
Vietnam is food secure as a country (producing enough rice to feed its population and for export), but food security varies according to ethnicity. Household food insecurity may be chronic, seasonal, or as mentioned above, affected by natural shocks in households without excess food stores.

**Food safety is another concern for ethnic minority families.** Because of pressure to grow mono-culture cash crops for commercial use, many ethnic minority households have resorted to hybrid high-yield maize, which is susceptible to aflatoxins, as a single crop. Aflatoxins are toxic secondary metabolites of Aspergillus molds that contaminate foods such as maize, rice, and legumes. There is growing evidence of a relationship between aflatoxins and childhood stunting. Ethnic minority groups living in the northern mountains are particularly vulnerable to aflatoxin contamination because of environmental conditions of seasonal heat and high humidity interspersed with droughts along with poor storage conditions that favor aflatoxin production and the spread of fungal spores.

**Care for Women**
Vietnam is largely a patriarchal society, and women have low status. Education retention (particularly upper secondary) is lower for ethnic girls than their Kinh counterparts. Rates of adolescent marriage are high in most ethnic groups—almost five times as higher as in Kinh groups—and ethnic girls (particularly those married in adolescence) are vulnerable to intimate partner and other forms of domestic violence. Intimate partner violence is strongly associated with malnutrition in women and children, including stunting in children and anemia in women and children.

**Health Services**
Ethnic minority women are unlikely to use essential health and nutrition services, even when such services are free. Young ethnic minority women lack access especially to
sexual and reproductive health services. Adolescents and women of reproductive age from ethnic minorities have a higher fertility rate than women from the Kinh majority. Rates of antenatal care and institutional deliveries are low for ethnic minority women. Twenty percent of ethnic minority women never come for antenatal care (versus 0.8 percent of Kinh women), and only 32.1 percent had four or more visits, (versus 82.1 percent of Kinh women). Ethnic minority women are more likely to deliver at home than Kinh women. Women complain about the quality of health services, which goes beyond the ability to treat diseases or malnutrition and includes the lack of female health care providers, language barriers at health stations that make communication difficult and cause confusion, cultural beliefs that dictate behaviors or because of not being able to speak or read Vietnamese, and feeling inadequate because of not being able to pay for services.

Environmental Conditions

Poor personal and environmental sanitation are known to be indirectly (nutrition sensitive) but causally related to stunting. Available data show that approximately 23 percent of ethnic minority households practice open defecation, versus fewer than 5 percent of Kinh families. Additionally, only 27 percent of people in the northern midlands and mountainous region and 29 percent in the central highlands report washing hands before cooking, before feeding children, and after toilet use, 37 percent of households in the Red River Delta and 38 percent in the south east report washing hands at these critical times.

Basic Causes of Malnutrition

Poverty

High rates of poverty persist in the ethnic minority communities despite nation-wide improvement. Poverty in Vietnam is concentrated in the ethnic minorities, particularly those living in the northern mountains and the central highlands. Although poverty decline leveled off between 2012 and 2014, it has resumed, and poverty increased faster than in the ethnic majority between 2014 and 2016.

In summary, the following factors explain the difference in stunting between ethnic minorities and the Kinh majority: poor maternal nutrition (and social status) leading to intrauterine growth retardation; suboptimal IYCF practices, some of which can be attributed to cultural beliefs and practices; food insecurity as measured according to inadequate minimum dietary diversity; poor personal and environmental hygiene; lack of access to essential maternal and child health and nutrition services; overall poverty; and cultural differences. All of these encompass the immediate, underlying basic causes of childhood malnutrition.

A systemic ecological analysis was used to analyze and understand the multifaceted capacity in the country necessary to tackle maternal and child malnutrition. In the ecological framework, four spheres define the environment around the individual.

- In the system domain, government commitment to nutrition programs is expressed at the policy and strategic level and translates into budget allocations. It is also the domain where intersectoral coordination is mandated.
- In the organizational domain, policies are translated into programs and projects, including support for implementation, and is where capacity (financial, infrastructure, human resource) is assessed.
- In the workplace domain, programs that the organization prepares and launches are implemented. This is where the work involving human, physical, and financial resources is developed in support of the workforce.
- Finally, in the individual and community domain, the community is assessed for performance, and capacity needs are identified and addressed. This is where the necessary components of support are provided (e.g., salaries, safety, supportive supervision) and performance is monitored.

System Dimension: Policies, Funding

The analysis establishes the government’s commitment to nutrition as foundational to national development. Nutrition is one of the top 10 priorities of the 2016-2020 Socio-Economic Development Plan, which culminated in the achievement of Millennium Development Goal 1 to reduce hunger and extreme poverty. Vietnam is a part of the Scaling Up Nutrition movement. There are numerous examples of multisectoral policies aimed at improving nutrition of ethnic minority groups involving the Ministry of Agriculture and Rural Development (MARD); Ministry of Trade; Ministry of Culture, Sports, and Tourism; Ministry of Education and Training (MOET); Ministry of Labor, Invalids, and Social Affairs (MOLISA); Committee for Ethnic Minorities and Mountainous Affairs (CEMA). Although each of these intersectoral partners has policies and programs that affect (directly or indirectly) nutrition, some of the policies are still conceptual and have yet to be put into action. Furthermore, in some instances, some ministry officials were not aware of their connection to nutrition, particularly in cases of programs with unrecognized effects on nutrition.

The government has not allocated adequate financial resources to implement the National Nutrition Strategy NNS nationally, comprehensively and in an integrated manner. The majority of the budget has been allocated for activities to control child malnutrition, focusing on reduction of underweight. Other important nutrition concerns such as stunting and micronutrient deficiencies have not received due attention. Unfortunately, the regions where the need is greatest (northern mountains and central highlands), revenues are lowest, so many of these programs are not implemented because of lack of financial resources.
Organizational Dimension: Strategies, Structure, Capacity

Two National Nutrition Strategies cover 2001 to 2010, and 2011 to 2020. The NNS identifies the Ministry of Health (MOH) as the lead agency for implementation of the National Plan of Action for Nutrition and the National Institute of Nutrition (NIN) as the focal department. Other sectors (e.g., agriculture, education, labor, planning and investment, finance, trade, culture) are assigned specific tasks according to their mandates but with no action plans or focal points identified.

Along with the NNS and the NPAN (1995–2000), there are two National Targeted Programs (NTPs) (for New Rural Development [NTP-NRD] and Sustainable Poverty Reduction [NTP-SPR]). These NTPs evolved out of a portfolio of 16 NTPs that were discontinued in 2016 because of high, unsustainable bureaucratic demands, with resources spread thinly among too many projects and excessive monitoring demands. Although some had achieved good results, inequities remained, and the government decided to consolidate the positive components into the two NTPs.

National Coordination Mechanisms for Nutrition – NNS/Scaling Up Nutrition

The leading convening body for nutrition in Vietnam is the NIN. The multi-stakeholder platform for coordination of various intersectoral interventions is the Nutrition Cluster Group, which NIN and UNICEF convene every six weeks. Recent efforts by the government to reach out to multiple ministries (education, agriculture, social affairs) to involve them in the nutrition agenda suggest that the government wants to re-establish the National Nutrition Steering Committee. The government recognizes that accountability to authority at the highest level is critical to coordination and multi-sectoral collaboration.

Workplace Dimension: Job Descriptions, Capacity, Distribution, Data Monitoring and Evaluation.

Job Descriptions and Skill Requirements

Vietnam needs to upgrade the skills of its staff in public health nutrition to match the competency requirements for their job descriptions. The government has hired personnel trained as medical doctors or with a biomedical background to answer nutrition needs, although they have had little training in nutrition. To fill a gap in specialized training of dieticians or public health nutritionists, Hanoi Medical University has established a bachelor’s degree in nutrition with a curriculum including dietetics, clinical nutrition, public health nutrition, and food safety, the first in the country. One of the objectives of NNS 2011-2020 regarding capacity building is to have 100 percent of staff at the provincial level trained in nutrition by 2020.

The disconnect between job description and staff skills is apparent in the network of village health workers in each commune, who have had three months of training in
community health but none specifically in public health nutrition yet are assigned to work as nutrition collaborators (one in each village of approximately 50 households with children under five years old). Village health workers, with appropriate training, could become an important source of nutrition information for village women and children.

**Nutrition Data**

NIN monitors implementation of nutrition policies annually using a national nutrition surveillance system. Once every 10 years a general nutrition survey is administered to evaluate the NNS and NPAN; the results are used to inform the next NNS. Data on nutrition are also collected through other channels (e.g., the Vietnam Living Standards Survey). Unfortunately, the results of these various surveys are never consolidated in a way that could be used to reinforce policy. In addition, although the NNSS is one of the only surveys that collects data on IYCF, there is an approximately 18-month delay between data collection and publication, which significantly reduces the value of the survey. One of the reasons for the delay is lack of human resources and the ability to interpret and use the data.

**Nutrition-Specific Interventions and Approaches**

The government of Vietnam has initiated a number of evidence-based interventions – though not at scale – that target women and children during the vulnerable 1,000-day period when interventions have proven to be most effective, but the goal of improving the nutritional status of children across all regions and of all ethnicities and socioeconomic groups has been only partially successful. Undernutrition in ethnic minorities has continued and is now concentrated in the northern midlands and mountainous regions and the central highlands.

The continued implementation of interventions without proven effectiveness\(^2\) drains important resources from evidence-based interventions.\(^3\) Programs that serve sparsely populated communities in hard-to-reach areas (e.g., Expanded Program on Immunization in mountainous areas) would benefit from sustainable allocation of funds but are often the first to be dropped when funds are unavailable or constricted. In addition, there are programs that serve populations that lack sufficient voice to demand services or do not see the need for services because of their culture, their education, or both. These include programs targeting adolescents with contraceptive services and those advocating for better hygiene or distributing micronutrient supplements to low-income groups. The gaps in allocation of resources to these populations result in poor coverage and uptake and eventual redirection to populations where uptake is easier to achieve.

\(^1\) There used to be two separate networks, but the reform merged the two to reduce the costs human resource.

\(^2\) For example, targeting children under five years old instead of under two years old and food preparation classes, which are not mentioned in the Lancet list of evidence-based interventions.

\(^3\) For example, weekly iron folate tablets for adolescent girls and pre-pregnant primiparous women.
Not all of these gaps are the direct result of lack of financial resources. There are organizational gaps (e.g., fragmentation of deworming program into different vertical programs that may fail to converge at the community level; need to link reproductive health more closely with prevention and education), logistical gaps (e.g., medicines to be delivered to all pregnant women; distribution of educational materials on reproductive health), and policy gaps (e.g., decentralization of decision making to local providers who may be influenced by other than health concerns), and there is a lack of adequate or disaggregated data to make correct policy decisions (e.g., lack of a full evaluation of the effectiveness of the Protein Energy Malnutrition Control program, insufficient data on adolescent health or for identification of regional and ethnic patterns of deficiencies, lack of monitoring data on vitamin A distribution).

Even when funding is not a constraint, funds need to be reallocated and some of these interventions need to be included in ongoing programs. The best example of this would be the inclusion of the Integrated Management of Acute Malnutrition program interventions in the health insurance program from which they are presently excluded, or the integration of nutrition into the national plan for emergency preparedness.

Nutrition-Sensitive Interventions and Approaches

Achieving sustainable nutrition security requires, in addition to direct interventions, addressing the critical determinants of nutrition that are under the purview of multiple sectors. Nutrition programs have traditionally focused on delivery of nutrition-specific interventions (those that target immediate determinants of undernutrition and development such as adequate food and nutrient intake and decreasing burden of infectious diseases), but global evidence has shown that nutrition-specific interventions alone cannot eliminate undernutrition. In this regard, multisectoral nutrition-specific, nutrition-sensitive approaches present an opportunity to address the immediate, underlying, and basic causes of malnutrition across the life course.

Population and Family Health

PFH services can help limit population increases by providing prenatal and neonatal diagnoses and screening and developing model approaches to premarital health examinations and counselling. Reducing early pregnancies and lowering fertility rates using birth spacing can reduce the incidence of maternal depletion syndrome, which can lead to low birth weight, anemia, prematurity, and increased neonatal mortality. Most population and family health goals were reached in the lowland areas where the Kinh majority is located but not among the ethnic minority groups. For example, a skilled attendant assisted in 99 percent of Kinh deliveries but only 68 percent of those in ethnic minority communities.

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4 For example, local doctors afraid of the repercussions of one bad reaction in the community to a medicine or immunization they delivered.
**National Target Program for Sustainable Poverty Reduction**

The NTP-SPR aims to achieve sustainable poverty reduction objectives so as to prevent poverty relapse. This is to be accomplished by supporting economic growth, guaranteeing social security benefits, increasing incomes (especially in poor regions), and facilitating access to basic social services (health, education, housing, tap water, hygiene). Through implementation of these interventions, it is expected that the program will help achieve the poverty reduction goal for 2016 – 2020 under the National Assembly’s Resolution. MOLISA manages this program.

**National Target Program for New Rural Development**

The NTP-NRD aims to improve people’s material and spiritual lives by developing new rural areas. The scope of the NTP-NRD is all communes nationwide. MARD manages this program. The objectives are that half of all communes will meet the standards established by the government for a developed community by 2020 (specifically, 28 percent in the north mountain and 43 percent in central highland) and that communes meet an average of 15 of the 19 set criteria (specifically, 13.8 in the north mountain and 15.2 in central highland). One of the criteria on culture-socio and environment has specific indicators for reducing child stunting and coverage of safe water and latrine, although there are no specific criteria for nutrition and, as mentioned above, a relative absence of any sense of the importance of nutrition for national development. MARD manages this program.

**Zero Hunger**

The National Program of Action on "Zero Hunger" is an important initiative to eliminate hunger in Vietnam. This program supports the socioeconomic development plan, especially for NTPs on sustainable poverty reduction and new rural development. Of the five pillars of the Program, Pillar 2 is specifically for nutrition interventions, which will be integrated into the existing Health Target Program (but with no extra budget). Other interventions have been temporarily integrated into current poverty reduction programs with shared budgets from central and local social welfare funding. MARD manages this program.

**Safe water and rural environment sanitation (WASH): MARD (rural water supply), MOH (rural sanitation)**

Total spending from 2011 –to2015 was VND 36,760 billion (~USD1.59 billion) of which 61 percent (VND22,566) was in the form of low-interest loans to families through the Vietnam Bank for Social Policy for construction of sanitary facilities. The aim of the program was to increase access to and use of safe water and sanitation to target groups. The achievements have been modest. The 2014 Multiple Indicator Cluster Survey (GSO-GOVN 2014) showed that 75.1 percent of households from ethnic minority communities (versus 94.8 percent in Kinh communities) used an improved source of drinking water, a 6.7-percentage-point increase from 2011 (GSO-GOVN 2011).
**Preschool Education**

**Universal preschool education is a priority of the government.** The MOET opened the preschool education program in 2009 and revised it in 2016 with clear definitions regarding the boarding scheme, especially with regard to an appropriate diet for young children. In its annual instruction to every school, it emphasizes the importance of a good diet and quality of child care in kindergarten and malnutrition reduction as a target of preschool education. A large project on school readiness promotion (with an investment loan from the World Bank) was aimed at raising school readiness for five-year-old children, in particular for those from ethnic minority groups most vulnerable to lack of academic success. The project supported selected elements of Vietnam's early childhood education program from 2013 to 2017.

**Education for mountainous, ethnic minority, and disadvantaged areas**

This target program aims to invest in infrastructure for boarding schools for ethnic minority students, including through construction of kitchens and dining rooms. The management agency is MOET. Total budget is VND 5,100 billion. There is an additional need to follow up on this and other initiatives that have been put in to policies to support the economic development of the northern midland and mountainous provinces and that have a wide scope of interventions that are nutrition sensitive.

**Social welfare programs for ethnic minority groups**

For the period 2016 to 2020, the government has issued many important policies for ethnic minorities and mountain areas for comprehensive development to reduce poverty and improve living conditions for the target population, including NTP-NRD (mandates that investments in difficult, ethnic minority areas should be two to four times higher than in others), NTP-SPR (assigns Project 30a\(^5\) specifically for poor districts), and Project 135\(^6\) (had greater focus on ethnic minority communities).

**Gaps in Nutrition-Sensitive Programs**

Some notable gaps in nutrition-sensitive programs identified in this study and include: that the multisectoral approach and coordination is inadequate and therefore needs expanding to other ministries; achievements of PHF have been given more prominence than its shortcomings in reducing inequities in nutrition nationwide; agricultural production is not sufficient to adopt exclusively food-based strategies to reduce malnutrition, and agriculture investments seem to be biased toward increasing the production and productivity of staple grains (especially rice), undermining the potential of agriculture to deliver the diverse foods needed to reduce micronutrient deficiency and stunting in ethnic minority populations; efforts to improve nutrition in preschools and reduce stunting do not adequately emphasize children aged six months to two years; and nutrition is not mentioned as an outcome (or

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\(^5\) The NTP-SPR consists of 5 sub-programs, one of which is Program 30a. Program 30a focuses on 64 poor and 23 near-poor districts and coastal areas with specific sub-components in district infrastructure, coastal infrastructure, production development and labor export

\(^6\) Program 135 is the second of the 5 sub-programs, is led by CEMA focused on 2,240 poorest EM communes and 33,273 villages
input) in the two national targeted programs, and critical nutrition indicators in ethnic minority provinces are not tracked in their monitoring system.

**Conclusions and Recommendations**

The paper finishes with Conclusions and Recommendations taken from an analysis of each chapter. Among the most important are these:

- The inequity that has affected ethnic minorities for generations arises from basic determinants of alienation between ethnic minorities and the Kinh majority. Recognition of this is critical for understanding why ethnic minority groups will not participate in government sponsored programs even when they are free and accessibility. This interferes with schooling, use of health facilities, nutritional knowledge, personal and environmental sanitation, etc.

- The above may explain why, in virtually every indicator of nutrition, health, education, water and sanitation and with the exception of early and exclusive breastfeeding and appropriate complementary feeding, ethnic minorities are worse off than members of the Kinh majority, even in areas where services are available. The causes are complex and do not fall into neat categories.

- The age group most in need of further attention is adolescents and children. Not a target of most programs, yet important as the immediate generation of new leaders, adolescents require more attention and understanding. Prone to early school leaving, early marriage, and pregnancy, adolescent girls are deprived of the opportunity to live a fully developed life.

- While continuing support to ensure access for children to public services, it is equally important to improve the quality of these public services for ethnic minority children. The primary focus of existing policies is to ensure that ethnic minority children can receive nutritional and healthcare, go to school, and have improved living conditions, but the quality of public services and basic infrastructure in remote areas and areas with high concentrations of ethnic minorities is considerably lower than the national average. Therefore, the future focus of policies and programs should also concentrate support to improve the quality of health and nutrition as well as other public services in the communes and provide adequate access to these utilities.

- With the exception of some support policies for very small ethnic minority groups, a one-size-fits-all approach has been taken to service delivery programs and policies. Few interventions have been provided with explicit awareness of differences between ethnic minority groups. Given cultural differences between ethnic minority groups, if the same intervention is used, there are differences in participation and beneficiaries between ethnic minority groups. Therefore, it is imperative to adopt innovative approaches that can ensure the sensitivity of interventions to the characteristics of individual ethnic minority groups.
Recommendations

Recommendations based on the study findings and analysis are outlined below. These recommendations would benefit from further stakeholder discussions led by the government of Vietnam for the purposes of refining, prioritizing, and planning the responsibility of different ministries and institutions, including short and medium- to long-term actions.

**Strengthen Leadership, Coordination, and Performance Monitoring for Greater Accountability**

**Recommendation:** Advocate for and engage with a high-level nutrition champion with convening power and who can enforce multisectoral nutrition convergence, coordination, and accountability across agencies and interested development partners – especially in largely ethnic minority provinces.

The NNS is the guiding instrument for implementation of nutrition interventions in a whole-government approach. The government of Vietnam could consolidate and strengthen the multisectoral coordination mechanisms comprising key stakeholders at the national and provincial levels and hold them accountable for results at each level. Although (nutrition) stakeholders are aware that effective coordination is necessary at the district and divisional levels, stakeholders work independently of each other.

**Financing for Nutrition**

**Recommendation:** Secure domestic funding for target programs and guarantee that social health insurance is expanded to cover expenses arising from nutrition emergencies. Along with donor financing, this is needed to deliver a comprehensive package of nutrition-specific and nutrition-sensitive programs in largely ethnic minority provinces and populations.

More and better-quality nutrition investments are necessary to achieve human development and the economic goals of vulnerable populations, yet the current level of resources (at the national and provincial levels) have not been sufficient to deliver the government’s programs.

**NTP-NRD and NTP-SPR**

**Recommendation:** Explicitly identify nutrition in ethnic minority populations as a priority, along with specific targets and reporting mechanisms, and earmark expenditures for NTP activities supporting nutrition (that are currently at the discretion of planners).

The intention would be to encourage local governments to spend more on nutrition-sensitive interventions than just infrastructure, as has been the case.

**Service Delivery for Ethnic Minority Populations**

**Recommendation 1:** Improve the quality of public services to ethnic minority children.
While continuing to support access for children to public services, it is equally important to improve the quality of these services for ethnic minority children. Therefore, future focus of policies and programs should concentrate support on improving the quality of public services and infrastructure in the communes with adequate access to these services.

**Recommendation 2:** Replace one-size-fits-all approach to ethnic minority service delivery with more-innovative ethnically responsive approaches.

Given cultural differences between ethnic minority groups, there is likely to be a difference in participation in similar interventions. Therefore, it is imperative to adopt innovative approaches to ensure the sensitivity of interventions to the characteristics of individual ethnic minority groups.

**Nutrition-Specific Interventions**

**Recommendation:** Define and then scale up evidence-based nutrition-specific interventions focused on the first 1,000 days.

Substantial progress has been made in developing policies and strategies for an integrated approach to nutrition, but an evidence-based package of nutrition-specific interventions still needs to be defined and made available to all ethnic minority populations through public primary health care.

**Service Delivery for Ethnic Minority Populations**

**Geographic Convergence of Key Sectors**

**Recommendation:** Establish geographic convergence of key sectors in ethnic minority provinces down to the household level that focuses on delivering a basic nutrition package to pregnant and lactating women and children younger than 2 years old.

The MOH and relevant stakeholders should consider exploring, developing, and testing complementary models of nutrition service delivery that reaches vulnerable households with a comprehensive package of evidence-based nutrition-specific and nutrition-sensitive interventions from key sectors (MOH, MOET, MARD, WASH, MOLISA, CEMA, Vietnam Women’s Union) in ethnic minority communities. To ensure uptake of services, it is critical to support supply of and demand for these interventions

**Data Collection and Monitoring and Evaluation**

**Recommendation:** Ensure availability of subnational, ethnicity-disaggregated nutrition and nutrition-related data for targeted policy advice and interventions.

Disaggregation of data according to individual ethnic minority groups is missing for critical nutrition indicators in some of the major surveys and leads to generalizations and inefficient use of resources (missing needs of some groups and providing unnecessary support to
others). As a result, it is not always possible to ascertain which of the specific ethnic minority groups are better or worse off.
Chapter 1: Introduction

Country Context

Background and History

Vietnam is a multiethnic country on the eastern coast of continental Southeast Asia. Its extensive S-shaped coastline is 1,650 km long (Figure 1). It is 40 km wide at its narrowest part, in Quảng Bình Province, which has marked the historic and political divide between the northern and southern parts of the country. China borders Vietnam to the north and Laos and Cambodia to the west. Its coastal borders are on the Gulf of Thailand to the south and the Gulf of Tonkin and the South China Sea to the east. The two major urban centers are located in two flat river deltas: Hanoi in the Red River Delta in the north and Ho Chi Minh City in the Mekong River Delta in the south.

Vietnam has a varied geography made up largely of hills and forested highlands, with tropical lowlands part of the level land that covers approximately 20 percent of the country. It is divided into three major regions: the north, dominated by the northern midlands and mountainous area and extending south into the high plateau of the central highlands; the river deltas in the north and south; and the coastal lowlands that extend into the Mekong River Delta in the south. Approximately three-quarters of the country is mountainous or hilly, and slightly more than one-quarter is heavily forested. Twenty-one percent is arable land with good conditions for agriculture—mostly along the Red River and other river valleys in the north, the coastal plains in the center, and the Mekong Delta in the south. The country's pattern of rainfall and
The abundance of surface water allow for two to three crops of rice each year, contributing to Vietnam’s place as the second largest global exporter of rice.

**The majority of the country’s 96.2 million deltas.** The majority of ethnic minority groups live in the less densely populated areas of the northern mountain regions and the central highland plateau.

**Population and Demographics**

Despite the effects of nearly perpetual conflict over more than half a century ago, the population statistics of Vietnam have remained remarkably consistent. The population has grown in an almost linear trajectory from 37.9 million in 1965 to 96.2 million in 2018, which has led to a more than tripling in population density from 85.0 people per km² in 1955 to an estimated 291.3 per km² in 2018. The linearity of the population growth is reflected in a decreasing population growth rate, from 2.9 percent in 1965 to 1.2 percent in 2017 (Thuc 2016; World Bank 2019).

![Figure 2: Vietnam Population Pyramid 2018 (source: USCB)](image)

Estimates from 2017 show an age structure that reflects a stable fertility rate (below 2.0 since 2000), with low child mortality and a bulging population aged 25 to 54 years old (45.6 percent of total population). Vietnam’s dependency ratio is low (42.5 percent), a reflection of its low fertility rate (1.96 births per woman in 2015, down from 6.48 in 1965) and the fact that only 14.6 percent of the population is older than 54 (figure 3). Vietnam is reaping the demographic dividend of low fertility and an increasing life expectancy.

The population pyramid in figure 2 also reflects the male predominance in Vietnam. Men and boys outnumber women and girls in all age groups from birth to the age of 54, when differences in life expectancy (71 for men, 76 for women) exert their effect. Sex ratio at birth has now worsened to 115-100 (in 2018), equal to China as the worst in the world (GSO 2010a). Son preference is most common in the Red River Delta and the northern mountainous area and less common in the south. In Vietnam, nationally, a woman with two daughters is twice as likely to have a third child as a woman with at least one son. This ratio is more pronounced in the Red River Delta than the Mekong Delta. Of families with two
daughters, 57.9 percent of those in the Red River Delta and 37.4 percent of those in the Mekong Delta opted for a third child. In the Mekong Delta, 26.3 percent of families with two sons and 19.6 percent of those with a son and a daughter chose to have a third child (Becquet and Guilmoto 2015).

The phenomenon of increasing population density is not spread evenly over the country. Population density in the northern mountain and central highlands regions increased steadily from 2005 to 2016 (from 81.5 p/km² to 93.2 p/km² in the four northern provinces of Điện Biên, Lai Châu, Sơn La, and Hòa Bình; from 87 p/km² to 104 p/km² in the central highlands). Conversely, population density has decreased slightly in the highly populated coastal regions (210 p/km² to 207 p/km²), Red River Delta (1,218 p/km² to 994 p/km²), and Mekong River Delta (435 p/km² to 433 p/km²). Rapid growth in population density has occurred in the southeastern region around Hồ Chí Minh City (387 p/km² to 697 p/km²) (Thuc 2016). Shifts in population have affected the growth of the largest cities. From 2000 to 2010, the six major cities in Vietnam grew by an average of 3 percent to 4 percent, mainly from in-migration from rural and low-land areas.

Migration to cities for labor and education favors an already more-educated, higher-income group of people with a gender preference for men; this mobility does not extend as readily to ethnic minorities, who are much less likely than the Kinh to migrate. The reason for this lack of mobility is not clear. It may be related to supply-side (e.g., kinship ties, commitment to culture and ancestry, lack of education) or demand-side (e.g., lack of skills employers need, discrimination against ethnic groups) variables (Coxhead, Cuong, and Vu 2015). The end result is the same: ethnic groups are less likely to leave their villages, which may be an important reason that poverty persists in these communities, unlike in the rest of the country (Coxhead, Cuong, and Vu 2015).

Vietnam is also undergoing epidemiological and demographic transitions that present a new set of challenges with direct effects on demand for health and social services. Nearly all countries in East Asia are in the midst of or will experience rapid aging, and Vietnam’s population is aging faster than in most countries in the region. The share of the population aged 65 and older is expected to increase rapidly, from 6.3 million (6.7 percent) in 2015 to 31.5 million (28 percent) in 2080. Population aging in Vietnam is occurring at a much lower level of income than it did in other Asian countries such as Japan and Korea, which raises the question of how the increasing cost of health and elderly care services will be financed. Therefore, promoting a healthy life-style in young people and reducing the prevalence of noncommunicable diseases in older adults is critical.

**Origins of Inequity in Ethnic Minorities in Vietnam**

Although ethnic minority groups can be found in 45 of Vietnam’s 63 provinces, 75 percent live in 13 provinces in the northern mountainous and central highlands
regions—regions known for high concentrations of poverty and persistent undernutrition. There are 53 ethnic groups in Vietnam, each with a distinct culture and language, divided into the five language families of Southeast Asia: Austroasiatic, Austronesian, Thai-Kadai, Sino-Tibetan, and Hmong-Dao. The largest group is the Kinh, who account for 86 percent of the population. The Tay, Thai, Muong, Khmer (ethnic Cambodian), Hoa (ethnic Chinese), and Hmong constitute 10 percent of the population, and the remaining smaller groups make up the remaining roughly 4 percent (Dang 2012).

Vietnam’s hills and forested highlands have influenced its demographics and the extent and persistence of inequity in poverty, health, and nutrition. The isolation that the geography of the country engenders and the inaccessibility of many of its towns and communities has preserved the cultural identities of various ethnic groups. As the country’s population grew, the ethnic majority community populated the more-fertile lowlands and river valleys that made up 20 percent of the country that was arable. The Kinh account for 84.7 percent of the population in the central highland and the northern midland and mountain regions but only 45.3 percent of the population, even though these two regions are usually referred to as being “largely” ethnic minority regions.

During the second phase of the economic reforms initiated in Vietnam in 1986 with the goal of creating a "socialist-oriented market economy" (Đổi Mới), these lowland areas became the agricultural engines for Vietnam’s remarkable increase in rice production that made it second in global rice exports and contributed to economic development that exceeded that of the highland areas. The advantage this allowed the majority Kinh population to grow more rapidly and increase their population density (Marzin and Michaud 2016). As density increased, demand for health services and education grew proportionately, and a government intent on improving national indicators for health, nutrition, and well-being—many in line with the Millennium Development Goals—responded, although access to and use of these services remained uneven.

The history of ethnic minorities comprises a process of social exclusion that has prevented some groups from participating in mainstream Vietnamese culture. Inability or unwillingness to engage in government programs because of language or cultural barriers, inadequate quality of services offered, or reluctance due to historical barriers to trust on both sides (Minh Anh, Kim, and Ubukata 2016) has adversely affected the health and nutrition outcomes of the ethnic minority groups. The indicators show low uptake in education, with a high proportion of minority families with no education or only primary education⁷; low rates of prenatal care and institutional deliveries,⁸ despite receipt of counselling on the benefits of each; and significantly less access to water, sanitation, and hygiene (WASH) services than the Kinh majority.

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⁷ Sixty-five percent of ethnic minorities in the first quintile had no education or only primary (WB Assessment 2012), versus 48 percent of the Kinh and Hoa.
⁸ “Ethnicity is the most important circumstance for access to care for mothers, accounting for one-quarter of dissimilarities in receiving prenatal care and assistance at delivery” (WB Assessment 2012).
History also offers some insights into why differences continue between the ethnic minority groups and the Kinh/Hoa majority given the government programs and policies aimed at improving the lives of ethnic minorities. Significant financial resources have been directed at remote regions of the country, and many policies and programs have been directed at minority groups. The Committee for Ethnic Minority Affairs (CEMA) was established with representatives down to the district level in some larger settlements of minority populations. There are programs directed at poverty reduction, resettlement and sedentism, forest land allocation, education, health, and communication. There are cash subsidies for house construction, land reclamation, drinking water, infrastructure development, and agricultural extension services. These were directed at regions known for their concentration of poverty, but truly needy families from ethnic minority groups were not always the primary beneficiaries. As in other countries, better-educated, wealthier people were better able to use the system to their advantage.

Economics
Vietnam has achieved tremendous poverty reduction in recent decades by distributing the gains of strong economic growth equitably.9 By 2016, the incidence of poverty had fallen to 9.8 percent (national General Statistics Office—World Bank poverty line),10 down from nearly 60 percent in 1993. Inequality has remained largely unchanged, with the Gini coefficient even dropping slightly, from 35.7 in 1992 to 35.3 in 2016.11 From 2010 to 2016, the average consumption level of the bottom 40 percent (ie, in terms of poverty levels) has grown by 5.2 percent annually. Vietnam’s success in reducing poverty is attributed to rapid economic growth and economic restructuring accompanied by job growth and government investments to improve public infrastructure and service delivery. The economy has transformed from largely closed, centrally planned to dynamic, market oriented, integrated, and connected to the global economy. Economic growth has also been fairly resilient to a challenging global environment, with recent annual gross domestic product (GDP) growth in excess of 6 percent and only moderate inflation. Vietnam reached middle-income status in 2009.

Broad welfare gains and improved living standards have accompanied poverty reduction, as Vietnam’s achievement of most of the Millennium Development Goals occurred faster than targeted. From 1993 to 2015, infant mortality decreased from 32.6 to 17.3 (per 1,000 live births),12 and stunting prevalence fell from 61 percent to 24.6 percent (NIN 2015).13 Net primary school enrollment increased from 78 percent in 1992-93 to 93 percent

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9 Unless otherwise stated, statistics cited in this section are those reported in the World Bank Country Partnership Framework for the Socialist Republic of Vietnam for FY18-FY22.
10 World Development Indicators. Poverty headcount at national poverty line ( percent of population) 2016.
11 World Development Indicators.
12 World Development Indicators.
13 More-recent estimates for 2017 are infant mortality of 16.7 per 1,000 live births (UN Inter-agency Group for Child Mortality Estimation) and stunting prevalence of 24.2 percent (GSO Statistical Yearbook 2017).
in 2014 (GSO 1994; GSO 2016). Access to household infrastructure has improved dramatically: by 2016, 99.4 percent of the population used electricity as their main source of lighting (up from 48.6 percent in 1993) (GSO 1994; GSO 2018a), 77 percent of the rural population had access to improved sanitation facilities (versus 33.8 percent in 1993) (World Bank 2018a), and 69.9 percent of the rural population had access to clean water in 2016 (World Bank 2018a) (from 62.9 percent in 1996) (WHO/UNICEF 2015). Access to all of these services in urban areas is well above 90 percent. Vietnam has also closed gender gaps for a wide range of social and economic measures (including bringing female labor force participation within 11 percentage points of that of men), but the high and widening sex ratio at birth (115-100 in 2018) (GSO 2018b) shows that fundamental gender discrimination persists. The 2018 Human Development Index ranked Vietnam 116 out of 189 countries, in the "medium" category, with a score of 0.694 (UNDP 2018), and the World Bank 2018 Human Capital Index ranked Vietnam 48 out of 157 countries, with a score of 0.67 (exceeding the global, regional, and even upper-middle-income country averages) (World Bank 2018b).

**Vietnam is expected to go through further social transformation and may face mounting economic and environmental pressures.** It is one of the most rapidly aging countries, and the size of population aged 65 and older is expected to increase by 2.5 times by 2050. In addition, although the population is still largely rural (64.8 percent in 2017), it has been steadily urbanizing (approximately 0.7 percentage points per year). Expectations of the population in terms of equity in access to quality public services are also changing because of increasing incomes, greater access to information, and more spatial integration (global and urban-rural). Risks to development include the fragility of poverty gains and the concentration of poverty in ethnic minority communities and rural, mountainous areas; environmental sources of vulnerability (e.g., climate change, natural disasters, unsustainable exploitation of natural resources); rising fiscal pressures, including a growing fiscal deficit and a debt-to-GDP ratio that, although having fallen back from its 2016 high of 63.7 percent to 61.4 percent, is still close to the 65 percent statutory limit; structural constraints in the growth model, including overreliance on factor accumulation (rather than productivity growth); and limited private sector development. Balancing economic prosperity with

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14 For lower secondary school, net enrollment increased from 36.0 percent in 1992-93 to 84.4 percent in 2014, and upper secondary school net enrollment increased from 11.4 percent in 1992-93 to 63.1 percent in 2014. Unlike other indicators drawn from the Vietnam Household Living Standards Survey, 2016 estimates for net enrollment are not yet available on the GSO website.
16 According to the second quarter 2018 Vietnam Labor and Employment Survey, the labor force participation rate was 82.0 percent for men and 71.4 percent for women.
17 The population aged 65 and older in 2015, estimated at 7.1 percent of the total population, is projected to increase to 18 percent by 2049 (GSO/UNFPA 2016).
18 World Development Indicators: Rural Population (percentage of total population).
19 Poverty is concentrated spatially (with nine of ten poor people living in rural areas, especially mountainous rural areas) and in ethnic minority areas (with ethnic minorities, who make up only 15 percent of the population, accounting for 73 percent of the poor) (World Bank 2018a).
20 The fiscal deficit averaged 5.6 percent of GDP from 2011 to 2015, versus 2.2 percent from 2006 to 2010.
environmental sustainability, promoting equity and social inclusion, and strengthening state capacity and accountability—all within a constantly evolving global and domestic context—will be challenging (WBG/MPI 2016).

The robust Vietnamese economy that led to higher incomes and a reduction in poverty headcount also led to greater inequality (Figure 3). Poverty has become concentrated in the northern mountains and central highlands, areas dominated by ethnic minority groups that, although they constitute only 14 percent of the population, accounted for 73 percent of the poor in 2016. The greatest driver of this inequality is from rural areas, due to low non-agriculture incomes among the poor and their limited participation in high-value agricultural production.

![Figure 3: Poverty Rates in Vietnam According to Ethnicity](image)
*Source: World Bank staff analysis of household survey data. Note: Poverty figures are using the GSO-World Bank national poverty lines. Dashed lines on the poverty figure indicate the interval of major revisions to the survey and measurement methodology.*

The same trend of improvements in economic indicators with widening disparities has been observed with changes in child nutritional outcome. Stunting affected 36.4 percent of ethnic minority children in 2010, dropping to 31.4 percent in 2015. Over the same period, stunting among Kinh children dropped from 22.1 percent to 15.0 percent. Both groups improved, but the Kinh improved at a faster rate, with the gap between the majority and minority groups widening from 14.3 percentage points in 2010 to 16.4 percentage points in 2015.

**Governance Structure and Customary Law in Ethnic Communities**

Historically, sociopolitical governance of society went no further than the village level and was generally organized around a council of village elders. These were older men (and less commonly women) who the community chose through general acclamation (CIRUM 2012). In some villages, the council was formed from the heads of the lineages within each village. In most cases, governance was by the council as a whole; in others, the eldest, or possibly the wealthiest and most powerful, patriarch would be chosen to lead. The village
elders discussed matters that concerned many households and made decisions on topics relevant to most, such as relocating the village (related to swidden agriculture or possession by spirits), settling conflicts between and within families, defining social norms regarding acceptable behavior, and assigning appropriate sanctions for violations of community custom. A distinctive characteristic of dispute resolution and conflict avoidance was community acceptance of customary laws.

With reunification of the country after the U.S.-Vietnam War, the authority of village elders began to wane as changing demographics altered the monoculture of the villages. This shift culminated with the assignment of an official village headman to oversee implementation of community and household improvement projects. As the authority of the village headmen grew (facilitated by extensive knowledge of the system and often as a linguistic link between the ethnic minority populations and the state), the role of the patriarch was diminished to that of a ceremonial head who presided over cultural festivals or rituals. As the village went from a collective entity unified by culture, language, and common history to a union of individual households, state actors replaced the Council of Elders as the state assumed responsibility for administering land and law (Minh Anh, Kim, and Ubukata 2016).

**Rationale for Addressing Malnutrition and Disparities in Nutrition**

Because malnutrition in early life significantly affects physical and mental development of children, addressing malnutrition is fundamental to development of national human capital. Economic development of the nation depends on the strength, resilience, and intelligence of its workforce. Governments dedicate millions of dollars annually to health and education, recognizing that individual losses in productivity may run as high as 10 percent of lifetime earnings and that as much as 2 percent to 3 percent of GDP can be lost as the prevalence and severity of malnutrition increases (Shekar, Heaver, and Lee 2006).

Vietnam’s scores on global indices of human capital (including health outcomes) confirm that, overall, Vietnam performs well for its level of income. The World Bank Human Capital Project gives Vietnam a Human Capital Index score of 0.67, exceeding the global average of 0.57, the East Asia Pacific region average of 0.61, and the lower-middle-income country average of 0.48 (World Bank 2018b). Vietnam’s average score exceeds the

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21 Although villages were more likely to be more ethnically and economically homogeneous than communes (Kozel 2014, p. 140).

22 The Human Capital Index measures the amount of human capital that a child born today can expect to attain by age 18. It compares the productivity of the next generation of workers with a benchmark of complete education and full health (which would be a score of 1). It is made up of five indicators: probability of survival to age five, expected years of schooling, harmonized test scores as a measure of quality of learning, adult survival rate (fraction of 15-year-olds who will survive to age 60), and proportion of children who are not stunted. It is constructed for 157 countries across the income spectrum.
upper-middle-income average of 0.58. On the health-related components of the Human Capital Index, Vietnam’s performance also far surpasses that of other lower-middle-income countries: 98 of 100 children born survive to the age of five (versus a lower-middle-income country average of 96), 88 percent of 15-year-olds survive to age 60 (versus a lower-middle-income country average of 80 percent), and 75 percent of children are not stunted (versus a lower-middle-income country average of 73 percent). Nevertheless, similar to the stunting aggregates, it is likely that the national Human Capital Index aggregate masks wide disparities between the ethnic majority and minority groups.

As technology increasingly drives economies, reliance on intelligent application of knowledge (digital and traditional) (Aikenhead and Ogawa 2007; Schmidt and Stricker 2010) is critical to lifetime well-being and economic success. The ability to acquire the necessary knowledge depends on access to and participation in a vibrant educational system that balances “western” concepts with traditional understanding and definitions. The success of any education system rests on the long-term health and nutrition of its students. When whole populations lack these developmental advantages, disparities arise, are sustained, and widen as the failures of early nutrition take their toll on children’s ability to adapt to the changing demands of their society.

**Box 1. Why is stunting important for Vietnam?**
The persistence of high levels of undernutrition despite decades of economic growth and poverty reduction leads to a staggering, yet avoidable, loss of human and economic potential. Chronic childhood undernutrition (leading to stunting) levels in largely ethnic minority regions in Vietnam remain among the highest in the world. These regions perform worse than some poorer countries in sub-Saharan Africa, for example, Zimbabwe (27.6 percent), South Sudan (31 percent), Namibia (23 percent), Senegal (19 percent), and Ghana (19 percent). The window of opportunity for receiving good nutrition is small—from conception through the first two years of life, that is, the first 1,000 days of life. The damage to physical growth, brain development, and human capital formation that occurs with poor nutrition during this period is extensive and believed to be largely irreversible.

Stunting is the result of nutritional deficiencies present at conception, throughout pregnancy, and into the first two years of a child’s life and is therefore used as an indicator of the nutrition and health of women before they conceive and during pregnancy and birth and of the care they provide to their newborns up to their second birthday. Research shows that height at two years of age predicts adult height (Shrimpton et al. 2001; Victora et al. 2010). The 1,000 days between conception and two years of age is a window of opportunity during which stunting can be prevented. Furthermore, because of the broad scope of its nutritional significance, it is a perfect indicator of health and nutrition inequities that affect women and children.
Periods of rapid increase in stature or brain development are periods when the developing child (or fetus) is most vulnerable to inadequacies in nutrition. Stunting (or shortness) is a measure of height in relation to age. Children grow at different rates depending on their age—in utero and after birth. The most rapid period of linear growth is in the first half of pregnancy (Falkner, Holzgreve, and Schloo 1994). During pregnancy and in the months after birth, rapid growth requires total and simultaneous availability of the proteins, fats, carbohydrates, and micronutrients needed for cell membranes and cell nuclei to be constructed and the energy needed to link them together in the developing body of the child. An inadequate supply of even a small critical nutrient can cause lifelong problems in normal child development.23

The high rates of stunting in Vietnamese children, in particular of ethnic minority children, means that their development may be impaired, and they will be less likely to be able to contribute fully to the development of their community or of the nation. To consider an entire generation in which preventable deprivation may affect one in three children, leading to limitations in physical and cognitive development, means that the potential contributions these children could make to a future Vietnam are squandered.

For Vietnam to address undernutrition in its ethnic minorities, a comprehensive review has been undertaken of the current nutrition situation in these high-burden ethnic minority areas. This review covers the scope of existing nutrition-specific and nutrition-sensitive programs, program gaps, and opportunities for new or expanded interventions. Secondary quantitative data have been gathered along with primary and secondary qualitative information from the various sectors and organizations involved in nutrition-related programs in Hanoi and affected provinces in the northern mountainous and the central highlands regions.

**Study Objectives**

- To assess and analyze the state of maternal and child nutrition and development in largely ethnic minority provinces of the central highlands and the northern midlands and mountain areas and identify gaps in programs and policies aimed at reducing inequities in malnutrition in these areas.
- To understand why significant inequalities remain between ethnic majority and minority populations in Vietnam, given numerous government initiatives and policies that target poverty and malnutrition in ethnic minority populations and dramatic improvements in nutrition seen in other segments of Vietnamese society.
- Based on the analysis, to make recommendations for addressing gaps in policies and programs that have contributed to inequalities between these groups.

23 For example, folic acid (vitamin B9) is an essential micronutrient that, if absent or in short supply at conception, can lead to severe abnormalities of the spinal cord (e.g., spina bifida) or brain (e.g., anencephaly).
Methods and Analytical Approach

The methods used in the compilation of this report included the following.

- Quantitative information for this report was gathered as secondary data through a systematic review of sources provided by the National Institute of Nutrition (NIN), ministries, and departments and an extensive on-line search. Published and unpublished documents were used. In some instances, primary data were re-analyzed for further correlations.

- Policies and programs in the health and nonhealth sectors that affect or could affect maternal and child nutritional outcomes were reviewed.

- Primary qualitative data were gathered from informant interviews in the Ministry of Health (MOH); Ministry of Education and Training (MOET); Ministry of Labor, Invalids, and Social Affairs (MOLISA); Ministry of Agriculture and Rural Development (MARD); Vietnam Women's Union (VWU); and Institute of Social Sciences, along with provincial and district counterparts in Dak Lak Province.

- Additional qualitative data were gathered in individual and group interviews in two communes in Dak Lak, along with observations from a field visit by the authors.

- A participatory process with the World Bank/NIN team working on the document was used to identify causal elements and their interconnections to create a complex systems diagram of causality related to childhood stunting in ethnic minorities.

Structure of the Report

The report is divided into seven chapters. Chapter 1 traces the origins of disparities in the context of Vietnam's history and development. Chapter 2 analyzes the nutrition situation in ethnic minority provinces in the northern midlands and mountain areas and the central highlands. Chapter 3 assesses the determinants and causes using a causal framework and systems analysis. Chapter 4 reviews current commitments and policies directed at reducing disparities in malnutrition and the capacity of the system to reduce inequities. Chapter 5 examines implementation of nutrition-specific interventions. Chapter 6 examines implementation of nutrition-sensitive interventions, particularly those that require multisectoral coordination and collaboration. Chapter 7 draws conclusions based on the analysis and recommends how programs can be strengthened to reduce inequities and fulfill the rights of all ethnic groups (majority and minority) in the northern midlands and mountain areas and the central highlands.
CHAPTER 2: NUTRITION SITUATION IN ETHNIC MINORITY PROVINCES

Stunting Prevalence and Trends
Stunting is considered the best indicator of undernutrition because it reflects the aggregate effects of disease and the nutritional sufficiency of mother and child from conception through late infancy (up to the child’s second birthday). Because at least 20 percent of stunting in children originates in utero (Black et al. 2013), it reflects the inadequacies in women’s diets and health before and during pregnancy, their child care practices, and feeding during infancy.

Figure 4: Trends in Stunting, Underweight, and Wasting, 2000-2015

![Figure 4: Trends in Stunting, Underweight, and Wasting, 2000-2015](image)

**Source: NIN MOH**

On average, Vietnam has achieved remarkable improvements in nutritional status in recent decades. Between 2000 and 2010, national stunting rates dropped from 36.5 percent to 29.3 percent (figure 4) (GOVN 2018). The decrease from 2010 to 2015 was not as great, and when the 2015 data are disaggregated according to ethnic group, the Kinh majority has a prevalence of 17.7 percent, whereas the prevalence in other ethnic groups is 32.0 percent. This pattern repeats itself for the prevalence of underweight (a significant drop nationally from 33.8 percent in 2000 to 14.1 percent in 2015 but a 9.7 percent prevalence in the Kinh ethnic group in 2015 versus 21.9 percent in other ethnic groups) and wasting (a decrease from 8.6 percent to 5.6 percent in national prevalence from 2000 to 2015 but a 9.1 percent prevalence for Kinh versus 5.5 percent for other ethnic groups) (WB Assessment 2012). The reduction in undernutrition in Vietnam in recent decades has been significant, but improvements in national aggregates mask wide disparities and a persistent “very high”
burden among disadvantaged ethnic minority groups (Kozel 2014). The problem is worse in the mountainous regions of the north and the central highlands, where malnutrition rates are highest. Data from the recent Multiple Indicator Cluster Survey (MICS) (GSO-GOVN 2014) indicate that rates of childhood stunting in the northern mountain (30.7 percent) and central highland (34.9 percent) regions remain alarmingly high (GSO-GOVN 2014).

The prevalence of stunting in under-five-year-olds in Vietnam has decreased significantly (36.5 percent in 2000 to 24.6 percent in 2015). The most significant change came between 2000 and 2005 (figure 5), after which the reduction was more gradual and then plateaued in 2013 to 2015 (NIN 2015). The national decrease in stunting was reflected across all ethnic groups. There are many factors contributing to this situation [reduction in childhood malnutrition between 1990 and 2004]. The success of the country's family planning program (resulting in lowering fertility rates from 3.1 in 1994 to 2.28 in 2002) might have created opportunities for families to better invest in child nutrition and health care. The effect of health care activities, including immunization, control of diarrhea, control of respiratory infections and other maternal and child health care programs might also have contributed to the reduction in childhood malnutrition. It is also recognized that nutrition intervention activities in Vietnam did play a critical role in the reduction of malnutrition in the past.

The national-level indicators mask the wide disparities observed between the majority Kinh and the ethnic minority population (figure 6). The gap in prevalence between minority and majority ethnic groups remained and even widened, from a 14.3-percentage-point difference in 2010 to a 16.4-percentage-point difference in 2015. There was less improvement in children from ethnic minority households, who showed only a 5.0-percentage-point drop over 5 years, compared with a 7.1-percentage-point drop among Kinh majority children. In addition, these figures do not describe the magnitude of the inequity between the two groups; percentagewise, twice as many children from ethnic minority families were stunted (31.4 percent) in 2015 as in the Kinh ethnic majority (15 percent) (figure 6).
There have been rapid changes in stunting levels over short periods at other times in Vietnam, not always related to income poverty alone. From 1993 to 1998, there was a 15 percent decrease in chronic malnutrition that accompanied a period of rapid GDP growth of an average of 8.4 percent per year. Despite the assumption that the decrease in stunting was the result of strong economic conditions, no single factor emerged from analysis of the data. Given the complex causality of stunting, this is not surprising. Higher household income and a strong economy account for some of the improvements in nutrition through such things as greater ability to afford a diverse diet and improvements in environmental cleanliness, but based on calculations performed at the time using the 1993 and 1998 Vietnam Living Standard Survey, economic growth could explain only 3.5 percentage points of the 15 percent reduction in stunting (Glewwe, Koch, and Nguyen 2003; Ponce, Gertler, and Glewwe 1998), indicating that other factors, possibly indirectly related to the economy, led to nutritional improvements.

Three general conclusions emerged from these studies: “the gains in human development indicators can be greater than those predicted from trends in economic growth” (O’Donnell, Nicolás, and Van Doorslaer 2009); “the conventional determinants included in empirical models of nutrition may not fully explain the observed changes in the incidence of stunting” (Zanello, Srinivasan, and Shankar 2016); and the determinants that affect the nutritional status of severely stunted children may be different from those that influence the nutritional status of moderately stunted children. The first two conclusions suggest that the benefits of changes that improve many dimensions of life—not just monetary—can lead to better quality of life and greater well-being, and the third conclusion suggests that the multidimensional poverty that leads to severe stunting has components other than those that result in moderate stunting.

Wasting Prevalence and Trends
Trends in wasting show patterns of improvement over the past 15 years similar to improvements in stunting, although the causes are different. Wasting, or thinness (low weight for height), from acute malnutrition, can linger for months if the offending event—famine, drought, acute food shortage, natural disaster—is not resolved or if effective treatment is not provided (Briend, Khara, and Dolan 2015). An analysis of trends in inequalities in child undernutrition in Vietnam that used findings from the 2000-2011 MICS showed that the overall prevalence of wasting declined during that period, albeit by only 1.7 percent. The significance of the finding was the degree of decline across socioeconomic quintiles; although there was a reduction across all, only the richest quintile showed a significant decline in wasting (3.4 percent). The significant reduction in the concentration indices for all forms of undernutrition (underweight, stunting, wasting) indicated an increase in inequality from 2000 to 2011.

Although wasting and stunting may have different causes, they frequently occur in the same populations (e.g., poor ethnic minority groups), suggesting common associations, and even synergy between them. Some studies have shown that a person
grows taller only if the body has sufficient nutrients in reserve; in other words, until wasting has been corrected, height will not increase.

**Wasting is important as an indirect indicator of current food security.** The sudden decrease in wasting that parallels a decrease in stunting (figure 6) suggests that, during that period, food security in the environment of Vietnamese children improved significantly through availability, affordability, or accessibility and thus contributed to the five-year increase in height and weight of the population.

**Underweight Prevalence and Trends**

As mentioned above, of the three commonly used anthropometric indicators of undernutrition, underweight (low weight for age) is the least specific and most difficult to interpret. Underweight can be the result of small body size (stunting) or small body mass (wasting). In general, underweight and wasting can be corrected with an accurate diagnosis of cause and appropriate treatment, after which a child may resume a normal growth trajectory. Stunting beyond the age of two years is largely irreversible (stature at two years of age predicts adult stature), regardless of the diagnosis of cause. This is why prevention of stunting through interventions in the first 1,000 days of life (from conception to the end of the second year) is so important and requires more attention than underweight. As a result, prevalence rates of stunting tend to stay high longer than rates of underweight or wasting, because once children are stunted, they tend to stay stunted, whereas underweight and wasted children tend to improve, reducing the prevalence.

Because stunting is a major component of underweight, trends in underweight are seen in stunting trends (figure 6). The persistently high rates of stunting in poor ethnic communities in mountainous areas indicate similar trends in underweight, although the causes may be different. In other words, if a child is stunted, he or she would have been underweight for a long period of time; a child who is transiently underweight over the age of two is unlikely to become stunted as a result.

**Prenatal Underweight, Low Birth Weight, and Stunting**

The prenatal equivalent of growth faltering is intrauterine growth restriction (IUGR), defined as poor fetal growth during pregnancy diagnosed through prenatal ultrasonic measurements or as a clinical definition applied to neonates born with attributes of malnutrition. It is usually associated with low birth weight (LBW), also called small for gestational age (Sharma, Shastri, and Sharma 2016). It has many causes but is usually due to inadequate maternal macro- and micro-nutrition before and during pregnancy. Competition between the mother and fetus for nutrients (as in an adolescent pregnancy in a growing girl) is a known cause, as are frequent infections, including intrauterine infections. The LBW that accompanies IUGR has serious consequences for immediate child survival in the neonatal and infant period and serious consequences later in life as an associated finding in adult-onset diseases such as diabetes and coronary artery disease (Barker 1995).
Rates of LBW among ethnic minorities in the northern mountains and central highlands are difficult to measure because birthweight is not usually measured in remote areas or places where deliveries by a trained birth attendant are uncommon. Weight is usually not measured at birth after an unattended home delivery, and measurements taken later may not accurately represent birthweight because newborns tend to lose weight in the first week after birth. In Vietnam, 94 percent of women deliver their babies in the hospital or under the care of a skilled birth attendant, although this varies according to location (91 percent of rural women have an institutional delivery) and socioeconomic level (72 percent of the poorest quintile of women have institutional deliveries) (GSO-GOVN 2014).

**MICS 2014 data indicate that only 5.7 percent of all Vietnamese children weigh less than 2.5 grams at birth (the cutoff point for LBW). These figures are based on reports on 94.3 percent of women who deliver in an institution,** noting the exceptions above. These figures are credible, assuming that LBW children account for 20 percentage points of the 24.6 percent of children who are stunted because of IUGR (Black et al. 2013).

**Figure 6: Percentage of Live Births Less Than 2,500 Grams**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Northern Midlands/Mountain...</th>
<th>Central Highlands</th>
<th>Kinh/Hoa</th>
<th>Ethnic Minorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per cent</td>
<td>5.7</td>
<td>6.2</td>
<td>7.2</td>
<td>5.2</td>
<td>8.1</td>
</tr>
</tbody>
</table>

LBW rates among ethnic minorities and people living in the northern mountains and central highlands are higher than the national average or for the Kinh majority (figure 6). The LBW rate among ethnic minorities is 8.1 percent of babies weighed at birth, versus 5.2 percent of babies born to Kinh mothers. Of ethnic minority mothers, 14.6 percent who were not able to weigh their babies at birth estimated that their babies were very small or smaller than average. Only 8.7 percent of Kinh mothers made the same estimate. In the northern midlands and mountainous area, 6.2 percent of babies are LBW by weighing, and in the central highlands, 7.2 percent are LBW by weighing; 85.6 percent of babies in the central highlands and 79.2 percent in the northern mountains are weighed at birth.
Micronutrient Undernutrition—"Hidden Hunger"

**Anemia**

Anemia is a condition in which the blood has a lower-than-normal number of red blood cells, which carry oxygen from the lungs to all the tissues in the body. With anemia, the body does not receive enough of the oxygen-rich blood that it needs for normal body functions. Anemia has essentially three causes: blood loss (e.g., from menstruation, internal bleeding), deficient red blood cell production (e.g., aplastic anemia, when the bone marrow fails to produce enough new blood cells; pernicious anemia; vitamin B12 deficiency, which interferes with normal production), and excess red cell destruction (e.g., thalassemia, sickle-cell disease, malaria). The most common type of anemia is iron-deficiency anemia, resulting from a lack of iron in the body and caused by blood loss, insufficient dietary intake, or poor absorption of iron from food.

**Box 2. Why is anemia so important for women and children in Vietnam?**

In pregnant women, anemia affects the mother, the growth of the fetus, and the future immunological and cognitive development of the child. Research in lower-middle-income countries has found that low birth weight, preterm birth, perinatal mortality, and neonatal mortality are associated with maternal anemia in the first and second trimesters. The risk of preterm delivery is three times as high in a woman who is iron deficient upon entry into antenatal care (Allen 2000). In children, severe anemia can result in the loss of up to 25 IQ points (Lozoff, Jimenez, and Smith 2006); infants of anemic mothers have been found to have low developmental test scores (Perez et al. 2005).

**The prevalence of anemia in Vietnam has been reported to be 32.8 percent in pregnant women and 27.8 percent in children under five years old (GOVN 2018).** These figures were from data that NIN collected during the National Micronutrient Survey 2014-2015 and reported in the National Plan of Action for Nutrition (NPAN) to 2020. According to other sources, this is lower than has been reported for Thailand (31.8 percent in 2016) but higher than for China (21.4 percent). The earlier General Nutrition Survey (2009-2010) (NIN MOH 2012) disaggregated the data on prevalence of anemia in children according to ecological zones. The highest rates of anemia have consistently been found in the northern midlands and mountainous regions, where for example 42 percent of children 6-11 months are anemic. The goal by 2020 articulated in the NPAN is to reduce maternal anemia to less than 23 percent nationwide and less than 25.5 percent in mountainous areas. For children, the goal is uniformly less than 15 percent.

The prevalence in the northern mountainous and central highland areas is approximately two times as high for children six to 17 months old as the national prevalence rate for children under five years. The disaggregated regional prevalence in the national data is of great concern. Equally of concern is the extremely high rate of anemia

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in children younger than five months old, reflecting significant inadequacy in maternal iron stores during pregnancy and in the immediate postpartum phase.

The regional difference in prevalence of anemia between the northern mountain area and the central highlands (figure 7) is an indication that the ethnic groups and conditions in the two regions are not the same. Plausible causes of the difference include maternal anemia; land availability, quality, and use; personal and environmental hygiene; disease prevalence; and cultural food choices.

The similar poverty headcount rates in the central highlands (24.1 percent) and the midlands and northern mountains (28.0 percent) suggests that the difference in anemia rates between the two regions is due to something other than purely economic causes. This is supported by the fact that rates of multidimensional (beyond monetary poverty alone) child poverty are 82 percent in the northwest and 61 percent in the central highlands (UNICEF/UNFPA 2018), but further elucidation would require a more-granular analysis (WBG 2018). Aggregating the rates of anemia of these two regions under the heading of “mountainous regions” masks these differences and may mislead policy makers and program planners.

The cause of the high prevalence of iron-deficiency anemia in both regions that reaches a peak at 12 to 17 months old reflects limitations in the adequacy of maternal iron stores and the complementary foods given to children in the first and second years of life. Throughout the first year, children depend on the iron transferred from their mothers during pregnancy and childbirth.

![Figure 7: Prevalence of Iron-Deficiency Anemia in children in Mountainous Regions According to Age. (Source: NIN)](image)

![Figure 8: Prevalence of Micronutrient Deficiencies according to region (Source: NIN)](image)
(e.g., delayed clamping of the umbilical cord) and in breastmilk. A mother’s inadequate supply of iron will affect the quality and quantity of that exchange. In most cases, stores of intrauterine iron transferred from mother to infant have been exhausted by four to six months of age. In this regard, the high rate of anemia in women in Vietnam contributes to this pattern of iron-deficiency anemia because these stores run out sooner. After the child reaches the age of six months, women in ethnic minority households with food insecurity are likely to prioritize staple foods for feeding their children, rather than the more-expensive foods that are rich in protein and fats or their own garden produce, which may be minimal if land has been converted to cash crops that are not dietarily diverse. This is not always the case; in a study of the Tay and Ede communities (two of the largest minority groups in Dak Lak), households with food insecurity used more-diverse complementary feeding practices than in a comparison Thai-Muong community. The other cause of lack of diversity in the first two years could be attributed to socio-cultural beliefs and taboos amongst the different ethnic minority groups (T. T. Nguyen et al. 2016).

**Why anemia decreases in the second half of the second year is unclear.** In many families, by the time children reach two years of age, their dietary diversity improves as taboos related to infant and young child feeding disappear, and they are allowed to eat a wider variety of foods from the family diet.

**Zinc Deficiency**

In Vietnam, NIN has reported a prevalence of zinc deficiency of 80.8 percent in under-five children living in mountainous regions and 80.3 percent in pregnant women (figure 8) (GOVN 2018). It is estimated that as much as 17.3 percent of the global population is at risk of zinc insufficiency, which is associated with stunting. Many problems have been ascribed to zinc deficiency, including LBW, premature delivery, and maternal mortality. In terms of its effect on pregnancy outcomes, a recent Cochran review 25 found an association only between zinc and preterm birth.

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**Box 3. Zinc and Preterm Births**

The evidence of a 14 percent relative reduction in preterm birth for zinc versus placebo was primarily found in trials involving women of low income, which has some relevance in areas of high perinatal mortality. There was no convincing evidence that zinc supplementation during pregnancy results in other benefits. Because the preterm association could reflect poor nutrition, studies to address ways of improving the overall nutritional status of populations in impoverished areas, rather than focusing on micronutrient or zinc supplementation in isolation, are urgently needed (Ota et al. 2015).

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25 A Cochrane Review is an in-depth systematic review of primary research in human health care and policy. Internationally, the reviews are considered the highest standard in evidence-based assessments of the effects of interventions for prevention, treatment, and rehabilitation. An independent global network of researchers, professionals, patients, caregivers, and people interested in health create and update them regularly. They aim to promote the use of high-quality information to make health decisions. See https://www.cochrane.org/about-us.
In other studies, zinc supplementation resulted in significantly greater height, 13 percent less diarrhea, and 19 percent less pneumonia. It was not found to have any significant effect on maternal mortality or the mental or psychomotor development of the children (Bhutta et al. 2013).

**Vitamin A Deficiency**

In Vietnam, the prevalence of subclinical vitamin A deficiency is 8.2 percent in urban areas, 13.1 percent in rural areas, and 16.1 percent in mountainous regions. This is likely an underestimate of regional disparities, because majority groups with low vitamin A deficiency still live in rural and urban areas. Vitamin A deficiency is 9.1 percent in the Red River Delta, 19.4 percent in the northwest mountains, and 20.9 percent in the central highlands (figure 9) (NIN MOH 2012).

A pooled analysis of population-based surveys from 1991 to 2013 showed a significant decline in vitamin A deficiency, particularly in east and southeast Asia, from 42 percent to 6 percent, which matches Vietnam’s urban prevalence (figure 9). Where deficiency was higher (in sub-Saharan Africa [48 percent] and South Asia [44 percent]) it accounted for 1.7 percent of all deaths in children younger than five, although deaths from vitamin A deficiency have all but disappeared from most continents other than those noted (Stevens et al. 2015).

**GAP ANALYSIS**

**Data Gaps**

Success in reducing inequity depends on accurate identification of families who are affected and living under conditions that are known to contribute to undernutrition. This approach calls for a targeted, evidence-based approach, which requires a mix of quantitative and qualitative data. Gaps in the kind of data collected and the way they are collected are discussed here.

**Quantitative Data—Multiple Sources Occasionally Conflicting**

Multiple data sources from national and subnational nutrition surveys collected at different times with different methodologies giving different results cause some confusion. Each offers a slightly different view of the nutrition problem. This report presents nutrition data from the General Nutrition Survey (2009-2010), MICS (2014), the National Micronutrient Survey (2014-2015), National Nutrition Strategy (NNS) for 2011 to 2020, and NPAN (2018), along with other smaller studies.

**Quantitative Data: Insufficient Data**

Data have not been disaggregated according to ethnicity for some indicators, and hence it was not possible to determine which of these groups of ethnic minorities were better or worse off. In the MICS data, most indicators are disaggregated according to region, education, and economic quintiles, with ethnicity as a separate category. The General Nutrition Survey 2009-2010 is more specific; major anthropometric indicators are disaggregated according to 11 ethnic groups in addition to the categories in the MICS.
Nevertheless, in both surveys, the important categories of micronutrients (e.g., iron and vitamin A), food consumption, and nutritive value, are disaggregated according to regions, poverty and nonpoverty communes, or urban versus rural location but not to specific ethnic groups. Unfortunately, this will not provide an accurate description of the difference between the majority and minority ethnic groups but also between the difference ethnic minority groups themselves.

**More data are needed on the nutritional status (BMI, anemia, etc), health and pregnancies of adolescent girls, focusing on those aged 10 to 24, and according to their ethnicity.** Adolescents are vulnerable to nutrition depletion because of the demands of rapid growth for micronutrients and protein. The most comprehensive profile comes from the National Nutrition Survey of 2009-2010, which gives anthropometric values according to age, sex, ethnicity, location, and economic status, although the data are not always easy to interpret. For example, Kinh women have one of the highest rates of low BMI (18.6 percent <18.5 kg/m²) yet one of the lowest rates of LBW babies. A useful addition would be measures of anemia in adolescent girls and women disaggregated according to ethnicity.

**More attention should be paid to the rural–urban difference in stunting.** There is a clear urban advantage in many indicators of health and nutrition, including those for height and weight. This is not new, nor is it unique to Vietnam; it is part of a global trend. The urban advantage in child anthropometric indicators is greatest in Latin America and the Caribbean, some African countries, and Vietnam and China (Paciorek et al. 2013). In Vietnam the gap between urban and rural communities in Height-for-age Z-scores was 0.6 to 0.9, meaning that stunting was significantly less prevalent in urban centers in Vietnam. This accompanies the rapid urbanization found in many of these countries.

**In Vietnam, 34.9 percent of the population is urban, but with an annual urban growth rate of 2.9 percent, the urban population will double in less than 25 years** (assuming the growth rate remains stable). Because migration to cities, which is not common amongst the most vulnerable ethnic groups living in the highlands because of lack of education, lack of language skills, and cultural barriers, the increase in urbanization and intensification of the urban advantage will leave highland populations further behind. The reasons for the rapid urban growth and the exclusion of most ethnic minority groups from that advantage needs investigation. At the same time, despite the overall advantage of well-off families in urban settings and the preponderance of Kinh households, there are poor urban neighborhoods as well.

*Quantitative Data: Dilution of Ethnic Minority Data Affecting Interpretation*

Province-wide or regional data are less useful in understanding the true disparities between ethnic minority households and the majority population of Kinh households.

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than data according to ethnic minority groups. Minority households are necessarily a small part of the randomized sample and are scattered widely across the nation and the provinces. In some surveys (e.g., MICS), the provinces believed to have large concentrations of ethnic minority groups were super-sampled to compensate for this. (Nevertheless, only 1,200 ethnic households were sampled in the national survey.) It may therefore be difficult to determine whether inequity gaps are growing, shrinking, or staying the same, given the on-going migration of the majority group into even remote areas of provinces. Under these circumstances, regional and area data may not accurately depict conditions affecting ethnic minority groups.

Quantitative and Qualitative Data: Transition to Multiindicator Measures and Composite Indicators

There is a need for composite indicators (e.g., a multidimensional poverty index) that account for the aggregate and interrelated deficiencies defining the most vulnerable populations. These also indicate to program planners which interventions must be provided if change is to occur. Examples include households with multiple micronutrient deficiencies, poor sanitation and environmental hygiene, food insecurity, more than three children, little or no education, or evidence of poor health care and those led by a single parent (Målqvist, Hoa, and Thomsen 2012). Quantifying these multiple deficiencies and reporting them as a single composite indicator could provide a more accurate description of the situation of malnutrition and increase focus on the most vulnerable members in each community.

There is significant information to be gained from more-qualitative research. Despite occasional gaps in quantitative data quality, completeness, and clarity, there is enough information from multiple sources to provide a general picture of the overall nutritional status of individual ethnic minority households in Vietnam. The available data tell very generally who is most affected (majority vs minority), where the problem is (regionally and provincially), how big it is in general terms, and the extent of the inequity. Quantitative data provide a bird’s eye view of the problem. What is missing is the details that qualitative data could provide. Qualitative data would provide information on each of these topics by probing the status of entire communities, creating a more complete picture by revealing differences in attitudes and behaviors that could change perceptions of the problem and answer questions that the quantitative input raises: Who is missed from the ‘counting’? Are large clusters of the community not participating in service delivery and thus omitted from the assessment? What is the strength or weakness of social capital? Is ethnicity the only (or most important) factor associated with deprivation and inequity? What is the role of gender? Qualitative data are often associated with uncovering causality: why something happens or why people behave the way they do.

27 Even in Lao Cai, one of the northernmost provinces, on the border with China, the Kinh account for 35.9 percent of the population, whereas the Hmong (the dominant ethnic group in Lao Cai) account for only 22.2 percent.
CHAPTER 3: DETERMINANTS OF MALNUTRITION IN ETHNIC MINORITY PROVINCES

Scope of Malnutrition
The term “malnutrition” encompasses all types of poor nutrition, including over- and undernutrition, micro- and macro-malnutrition, acute and chronic malnutrition.28 Undernutrition includes wasting (thinness, or low weight for height), stunting (shortness, or low height for age), and underweight (low weight for age.) It includes iron-deficiency anemia; vitamin A and other micronutrient deficiencies; acute malnutrition from man-made and natural disasters, diarrhea, and other (usually infectious) diseases; and chronic malnutrition from chronic diseases (e.g., cancer, diabetes, AIDS).

Stunting is the preferred measure of nutritional status for children, because it reflects the aggregate effects of disease and nutritional sufficiency from conception until the age of two years—a vulnerable period of 1,000 days. For this reason, in reviewing determinants of undernutrition, and subject to data availability, the determinants and correlates of stunting will be emphasized in this review.

Causal Frameworks of Undernutrition

UNICEF Conceptual Framework
The UNICEF conceptual framework for maternal and child undernutrition (figure 10) is an internationally recognized framework for understanding the determinants of undernutrition. It divides causality into three tiers: immediate, underlying, and basic (UNICEF 2013).29 Immediate causes (also called nutrition specific) include conditions with a direct effect on malnutrition: inadequate dietary intake and diseases. Underlying causes (also called nutrition sensitive) form the basis for the immediate causes: poor access to food, inadequate care of children and women, insufficient health services, unhealthy environments, and a poorly educated populace. Basic causes include the political decisions that determine resource allocation; access and control over resources; organizational strengths and weaknesses that affect human and financial resources to support good health and nutrition; and cultural, religious, and social practices that limit community and household actions.

Individually, each determining factor is necessary, but not sufficient, for ensuring adequate nutrition. Actions at each causality level (Figure 9) need to be identified based on

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28 Although the prevalence of overweight is high and increases with age in urban areas, prevalence is significantly lower in rural areas and has not reached a level of public health significance. As such, the focus of this report is on undernutrition, the prevalence of which, according to World Health Organization classification, is considered to be very high and of public health significance in ethnic minority populations.

29 This framework addresses only undernutrition. Haddad, Cameron, and Barnett (2014) present a modified version of the UNICEF conceptual framework as a simple, consolidated representation of the causation of undernutrition and overnutrition (as Swinburn and colleagues (2014) present in the Lancet series on obesity).
a given context through assessment and analysis of each country’s situation. The framework is not intended to offer a prepackaged set of technical interventions; rather it provides a way for countries to assess and analyze their malnutrition problem and to identify appropriate, realistic interventions, ordering them in a logical sequence.

**Figure 9: UNICEF Conceptual Framework**

![UNICEF Conceptual Framework Diagram](Source: UNICEF 2013)

The strength and the limitation of the UNICEF conceptual framework is its simplicity. As a schema or basic representation of factors involved in nutrition—and to maintain its clarity in representation—it shows a linear relationship between each layer in the schema, without the interconnectedness between different elements characteristic of the complex system that it represents.\(^3\) In addition, it is conceived as a conceptual framework for undernutrition and does not really capture the causal components of overnutrition (overweight and obesity). Finally, in its focus on maternal and child undernutrition, it does not address the nutrition of women and adolescents in the months before pregnancy, when establishment of micro- and macronutrient sufficiency is important for a successful pregnancy.

Twenty-five years ago, when the UNICEF framework was first published, the focus was largely restricted to postnatal causes of malnutrition, as reflected in the immediate and

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\(^3\) For example, child care practices affect access to food, and inadequate access to food can make learning difficult and lead to a continuation of poor child care practices because education is associated with adequacy of child care practices (GSO-GOVN 2014).
underlying causes in figure 10. Since that time, the importance of the prenatal and the pre- and peri-conception periods has been recognized. This arose with the realization that chronic malnutrition and recurrent diseases of childhood that lead to stunting begin much earlier than previously thought.

**Stunting is present at birth in some infants, the result of poor intrauterine nutrition** (figure 10) (Shrimpton et al. 2001; Victora et al. 2010). The vulnerable period of pregnancy that leads to stunting begins at conception and continues into the first trimester—the time of maximal fetal growth (figure 12) — but vulnerability is related to the health and nutrition of a woman even before she becomes pregnant. The prevalence of stunting increases until the aged of 23 to 24 months old, after which it plateaus.

It is estimated that 20 percent to 50 percent of childhood stunting has an intrauterine cause (Victora et al. 2010), with the rest arising from the previously understood postnatal causes as depicted in the UNICEF conceptual framework. This means that a woman's nutrition before and during pregnancy are of equal importance to the postnatal care of the child. To reduce the prevalence of stunting, both must be taken into consideration.
**Complex Systems Analysis**

A complex systems analysis uses a participatory process involving stakeholders from all levels of the project (commune to central level) to identify the causal elements of stunting in children and show their interconnectedness. Causal elements are defined and then interlinked. The number of interconnections they have with other elements indicates their importance. Those that are more connected are identified as causal nodes or hubs, offering a leverage point (Meadows 1999) where a single intervention could have far-reaching effects throughout the entire causal diagram (box #).

For this report, a modified complex systems analysis was used to unpack the underlying and basic levels of causality to define a more expansive number of causal elements. These were then used to analyze interconnections and identify causal nodes\(^{31}\) where actions could leverage change over a wide range of causes. This approach also also customized the causal frameworks to Vietnam-specific elements not necessarily found in other frameworks. Five nodes were identified, each interconnected with the other and improvements in all five nodes will lead to a reduction in stunting. The value of the detail in the modified causal pathway is that it shows more clearly where intersectoral action is needed.

**A Causal Framework for Stunting in Children**

**Manifestation of the Problem**

Stunting of a child younger than two years old is the manifestation of persistent undernutrition in the mother and the child in the ethnic minority communities in the northern mountainous and the central highland regions.

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\(^{31}\) Points where many causal pathways intersect and where a single intervention could leverage change over a wider range of causes. A useful device for planning interventions.
Figure 12: Causal Framework of Undernutrition in Children Younger than 5 Years Old
Determinants of Malnutrition

IMMEDIATE CAUSES

Modified Causal Framework

As a modification of the UNICEF conceptual framework, a third immediate cause of stunting is added to the diagram: IUGR (figure 12). This reflects the research (published since the UNICEF framework was developed in the 1990s) that shows that children can be born already (growth) stunted and also addresses in utero causes and maternal health and nutrition before and during pregnancy (figure 11) (Shrimpton et al. 2001; Victora et al. 2010).

The immediate nutrition-specific causes of stunting in children are those with a direct effect on the mother’s and child’s nutritional wellbeing. They include problems with early, exclusive, and extended breastfeeding; micronutrient insufficiencies of mother and child; lack of dietary diversity, with suboptimal feeding; and infectious diseases. Differences in each of these between women and children in ethnic minority households and those in Kinh majority households will be examined to determine the immediate causes and correlates of persistent malnutrition in ethnic minorities.

Inadequate Dietary Intake

Adequate dietary intake for children involves household food security plus optimal infant and young child feeding practices (breastfeeding, age-appropriate introduction of complementary food, minimum acceptable diet that includes dietary diversity and appropriate frequency). Some of the same factors apply to the dietary intake of essential nutrients by mothers during pregnancy (e.g., dietary diversity and nutrient balance, appropriate caloric intake).

Dietary intake overall and in minority and poor populations increased after Đổi Mới in 1986, with the average Vietnamese person reaching a daily intake of 2,100 kcal. According to one of the few studies from that period, despite unprecedented economic growth, which helped poor, rural, and ethnic minority households improve their household food security, inequities persisted, particularly in patterns of food consumption that influenced dietary quality. Some of the ethnic minorities consumed less food from high-quality proteins found in animal foods and fats and more from cereals and starches than individuals who were not poor (Thang and Popkin 2004). This pattern of consumption persists.

32 Further research has also elucidated the association between LBW, stunting, and later onset of adult noncommunicable diseases such as diabetes, coronary artery disease, and cerebrovascular disease (Barker 2007).
Breastfeeding
Rates of exclusive breastfeeding at six months, although low overall in Vietnam, are highest in the northern midlands and mountainous regions and in other areas where poor ethnic minorities are concentrated. Breastfeeding is considered satisfactory if it is initiated early (within one hour after birth), is exclusive for the first six months, and is extended (continued beyond one year). In each of these categories, children from ethnic minority families outperform those from Kinh majority families (table 1). That children from the poorest wealth quintile have higher rates of exclusive breastfeeding (without interruption with infant formula) is believed to be related to the cost of breastmilk substitutes and the fact that poorer families cannot afford it. Another factor may be related to geographic isolation from the massive advertising from the manufacturers of infant formula.\(^{33}\) It may also be because of the depth of cultural practices.

Table 1: Breastfeeding Indicators

<table>
<thead>
<tr>
<th>Breastfeeding indicators</th>
<th>MICS 2011</th>
<th>MICS 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ethnic minority</td>
<td>Kinh/Hoa</td>
</tr>
<tr>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiated breastfeeding within 1 hour of delivery</td>
<td>54.7</td>
<td>36.7</td>
</tr>
<tr>
<td>Exclusive breastfeeding at 6 months</td>
<td>31.9</td>
<td>14.0</td>
</tr>
<tr>
<td>Appropriate complementary feeding at 6 months</td>
<td>46.4</td>
<td>37.0</td>
</tr>
<tr>
<td>Still breastfeeding at 2 years</td>
<td>54.0</td>
<td>13.4</td>
</tr>
</tbody>
</table>

Source: Unicef MICS, 2014

It is noteworthy that breastfeeding practices also vary by ethnicity amongst the ethnic minority groups. For example, a qualitative study\(^ {34}\) found that Hmong, Ta Oi and Bru Van Kieu mothers only stay home for about 10 days after giving birth. After this short period, they usually travel to far-away fields. Infants are usually kept at home with the father or grandmother. Women can only breastfeed their babies when they return home, usually in the afternoon. Therefore, after the first 10 days, babies are fed with other types of milk or food.

Complementary Feeding
The positive performance of ethnic minority children with regard to breastfeeding extends to the introduction of complementary foods. The MICS showed that 72 percent

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\(^{33}\) The infant formula industry spent more than $10 million on advertising in 2009, making it one of the top five advertisers in Vietnam. See http://www.washingtonpost.com/wp-dyn/content/article/2009/09/19/AR2009091902417_pf.html

\(^{34}\) Social Assessment Report for the Investing and Innovating for Grassroots Healthcare Service Delivery Reform Project. Ministry of Health-Vietnam
of ethnic minority children were currently breastfeeding and receiving solid or semisolid foods at six months of age, compared with 50 percent of Kinh household children; 64.3 percent of ethnic minority children and 43.4 percent of Kinh majority children were found to be appropriately breastfed (GSO-GOVN 2014).

The gap between the ethnic minorities and the Kinh/Hoa majority found in the 2011 MICS persists, and the percentage of children who were exclusively breastfed and received appropriate complementary food at six months increased for the ethnic minorities and the Kinh majority; early initiation and extended breastfeeding has decreased for the ethnic minority population, but not the Kinh, leading to a narrowing of the gap between the two groups.

**Dietary Diversity**

The advantage that ethnic minority children had in early, exclusive, and extended breastfeeding with appropriate introduction of complementary foods disappeared in all subsequent indicators of adequate infant and young child feeding (IYCF). Kinh households adhered better to the IYCF guidelines than minority households by sizeable margins according to the 2014 MICS. Only 50.4 percent of ethnic minority children were receiving foods from at least four of the seven food groups, compared with 81.8 percent of the Kinh/Hoa majority. Although not specified in the MICS, other research suggests that the deficit in the ethnic minority community is in the (more expensive) higher-protein and fatty foods, although the research was from a 2004 source (Thang & Popkin 2004).

**Minimum Acceptable Diet**

Minimum acceptable diet is a composite indicator that combines minimum dietary diversity and minimum meal frequency. For non-breastfeeding children, it requires at least two milk feedings and a guarantee that the measurement of minimum dietary diversity does not include the milk feedings. Children aged six to eight months with minimum meal frequency who are currently breastfeeding receive solid, semisolid, or soft foods at least twice daily; for children aged nine to 23 months, the frequency must be three times or more daily. Non-breastfeeding children aged six to 23 months should eat at least four different types of foods at least four times a day.

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35 1) Grains, roots, and tubers; 2) legumes and nuts; 3) dairy (milk, yogurt, cheese); 4) meat, fish, and poultry; 5) eggs; 6) vitamin A-rich fruits and vegetables; 7) other fruits and vegetables.
Overall, 80.2 percent of six- to 23-month-old ethnic minority children and 92.4 percent of Kinh/Hoa children achieved a minimum meal frequency, and 39 percent of ethnic minority children and 69 percent of Kinh/Hoa children consumed a minimum acceptable diet (figure 13). For ethnic minority children, these figures indicate tremendous vulnerability and a lack of food security in a country that is listed as food secure. This lack raises important questions: What causes this food insecurity? Is this inequity because of unavailability of food, inaccessibility, or poor supplies and storage meaning no surplus to sustain adequate nutrition through a lean period or a period of shock? The question of food insecurity must be addressed as an underlying cause of undernutrition.

**Maternal Nutrition and Health: IUGR**

Dietary intake (and disease) is also a factor in mothers before and during pregnancy. Inadequacies in the intrauterine environment can lead to IUGR and ultimately to LBW. Intrauterine nutrition responds to the changing growth needs of the developing fetus. Intrauterine deficiencies and diseases occur at the placental, fetal, and maternal levels. They involve infectious diseases (e.g., toxoplasmosis, malaria, rubella, cytomegalovirus, herpes, syphilis), vascular diseases (e.g., hypertension, diabetes), and primary nutritional deficiencies that can interfere with the capacity of the blood to carry oxygen to the placenta and developing fetus (e.g., iron, vitamin A). Nutritional deficiencies in protein and other

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36 The Food and Agriculture Organization defines food security as existing “when all people, at all times, have the physical and economic access to sufficient, safe and nutritious food to meet the dietary needs of food preferences for an active and healthy life” (FAO). Food security therefore depends on availability of nutritious food, accessibility (including affordability and acceptability), utilization, and sustainability (whether the household has enough stored food to maintain food security during a shock).
micronutrients can interfere with the development of cells needed for the rapid burst in growth occurring in the first trimester of pregnancy. Caloric deficiencies overall lead to the requirements of a rapidly growing fetus not being met, particularly in the last trimester. These deficiencies are compounded in pregnant adolescent girls who are already competing with their growing fetus for nutrients necessary for their own growth. This is not an insignificant problem; adolescent pregnancies are rising nationally, and girls from minority groups in the northern mountains and central highlands have a prevalence of adolescent marriage (29.5 percent) that is five times as high as that of girls from the Kinh majority (6.5 percent) (GSO-GOVN 2014).

Many of the causes of IUGR are found in the poor ethnic minority households of the mountainous regions. On average, more than half of pregnant Vietnamese women nationwide did not meet the national recommendations for essential micronutrients. Higher socioeconomic status was associated with greater adequacy, but the study population was not disaggregated according to location or ethnicity (C. Nguyen et al. 2018). In a small survey of nonpregnant women in the northeast mountains (Yen Bai Province), the prevalence of anemia was 37.5 percent and of iron deficiency was 23.1 percent. The prevalence of hookworm infestation was high, affecting 78.1 percent of the sample. Although again not addressing ethnic specificity, the high prevalence of nutrition deficiency and infestation reflect the conditions of the region (Pasricha et al. 2008).

In a study conducted in 2013 in the mountainous regions of the northeast (Thai Nguyen Province), in which 49.5 percent of the sample were women from ethnic minority groups (2,466/4,986), the prevalence of anemia was 19.7 percent. The anemic population was characterized by insufficient iron stores, which was significantly associated with low education, low vitamin A levels, and high rates of hookworm infestation. The study investigators examined the multifactorial etiology of anemia as it fit into their conceptual framework and identified an association between underlying factors (occupation, education, food insecurity, socioeconomic status) that influenced a range of intermediate determinants (e.g., dietary behavior, sanitary practices, access to health services) that in turn affected underlying causes (e.g., access to adequate food, hygienic conditions in the home) and ultimately immediate causes of adequate dietary intake (e.g., frequency of meat intake) and diseases (e.g., hookworm infection). All were on a pathway affecting iron stores and vitamin A status. The effect of hookworm was larger than expected because deworming is an important part of the national strategy to prevent anemia; more than 20 percent of the study sample tested positive for hookworm (although this was significantly less than the 78 percent mentioned above in Yen Bai). Women who belonged to an ethnic minority group were 1.5 times as likely to be anemic as Kinh women (P. H. Nguyen et al. 2015).

Women's nutrition is important because intrauterine conditions account for 20 percent to 50 percent of stunting in children. Conception is rarely predictable, and once a woman becomes pregnant, her existing nutritional deficiencies and diseases are carried with her into pregnancy. Furthermore, most women do not come for their first prenatal care visit
until the second trimester, at a median gestational age of five months, when the pregnancy begins to show. In Vietnam, only 4 percent of women overall come in the first trimester. Although a higher percentage of women from the northern mountains (16.8 percent) and the central highlands (8.9 percent) come in the first trimester, the median gestational age at first visit is the same as in other regions except the southeast and the Mekong Delta (four months). To offset this delay in attention to a new mother’s nutrition and health during the most important developmental months for her fetus, it is important that she be healthy and well-nourished before her first pregnancy and in anticipation of future pregnancies (GSO-GOVN 2014).

**A woman’s preconception weight can predict child size at birth and linear growth at two years of age.** One study of birth outcomes related to preconception conducted in communes in Thai Nguyen Province, in which 50 percent of the women were from an ethnic minority, found a prevalence of undernutrition of 30 percent to 33 percent (BMI <18.5 kg/m²) (Young et al. 2018). A maternal preconception BMI of less than 18.0 kg/m² and a preconception weight of less than 43 kg were significantly associated with risk of child stunting. Another study comparing the effect of iron and folate supplements with that of folate supplements alone on anemia and growth (P. H. Nguyen et al. 2017) showed that preconception supplementation with iron and folic acid resulted in greater linear growth and better fine motor development at two years of age than with folic acid alone.

**The quality, as well as the quantity, of diet of Vietnamese women from poor households is important.** A study that analyzed the changes in food consumption reported in the 1992-93 and 1997-98 Vietnam Living Standard Surveys showed the shift that happened after Đổi Mới in the composition of diets of adults in Vietnam. The difference between poor and nonpoor people in nutrient intake decreased, although the proportion of calories from high-quality protein and lipid-rich food for poor people was lower than for those who were not poor. Poor households consumed 5.8 percent less from meat and 9.6 percent less from fats than nonpoor households. The gap was filled with cereals and other starches. These dietary patterns persisted over nearly two decades. In 2017, the northern mountains and midlands areas had the smallest protein share of calories consumed (13.4 percent). Not unexpectedly, the Red River Delta and the southeast had the highest consumption of animal-based foods, eggs, and milk, although the northern mountains and midlands populations had a high proportion of vegetables (leafy vegetables, edible flowers, tuberous vegetables), as did those in the Mekong River Delta (Trinh and Morais 2017).

**Diseases**

**Intrauterine diseases**

Intrauterine infections can have profound effects on mothers and their developing fetuses, leading to IUGR and LBW, congenital defects such as eye problems (including blindness), cardiac defects, deafness, short stature, and fetal and neonatal death. Examples of intrauterine infections that can cause IUGR and developmental delays of significance for Vietnamese women are described below. Ideally, these should be diagnosed before a woman
becomes pregnant, but a simpler way to reduce their incidence is through improvements in environmental and personal hygiene.

Any of these infections can cause LBW and growth failure in infants and young children. Although equally a problem in Kinh and non-Kinh, there are epidemiological characteristics that would suggest greater susceptibility in remote rural regions: Congenital toxoplasmosis\textsuperscript{37} thrives in contaminated environments, where people can become infected after eating raw or poorly cooked meat or ingesting oocysts in cat feces left in soil, food, or water. Dengue infections are more common; in 2015, 82,000 individuals in Vietnam had dengue infection, 25 of whom died (Tien Dat et al. 2018). Congenital rubella syndrome is a vaccine-preventable disease that can lead to multisystem anomalies involving hearing, sight, and cardiac disease, in addition to LBW and persistent growth failure. Populations with low dengue vaccine coverage are vulnerable. Sexually transmitted diseases (e.g., syphilis) can lead to LBW, stunting, and developmental delays. In a recent workshop\textsuperscript{38}, the Deputy Prime Minister of Health noted the challenge in preventing these disease in areas of the country where prepregnant and pregnant mothers lack access to health services (e.g., remote, border areas).

**Placental Malaria:** Placental malaria occurs when malaria-infected red blood cells block the placental blood vessels and prevent nutrients from reaching the fetus. Malaria control in Vietnam is best in the cities, where the parasite has been virtually eliminated, but it is still endemic in poorer rural areas and found mostly in the forested areas of the central highlands, where forest workers come into contact with mosquitos (Erhart et al. 2005; Goldlust et al. 2018). The most common parasite is *Plasmodium falciparum*.

**Diarrheal Disease and Environmental Enteropathy**

Diarrhea and parasitic infestation from soil-transmitted parasitic worms are the result of fecal-oral transmission in young children and have long been known to affect nutrition through the loss of nutrients due to malabsorption. A more recent hypothesis has linked chronic and recurrent diarrhea to a malabsorptive condition formerly known as tropical sprue (Hillary 1759), now referred to as environmental or tropical enteropathy. This is a condition in which infections lead to malabsorption due to inflammation in the small intestine. The inflammation increases transmission of pathogens across the intestinal wall, reducing nutrient absorption. This condition may progress without obvious diarrhea after the initial acute infection. It limits the availability of critical nutrients at the time of rapid growth in developing children.

\textsuperscript{37} Toxoplasmosis is one of the infections screened for in the TORCH constellation of intrauterine infections: Toxoplasmosis, Other (syphilis, varicella zoster, parvovirus B19), Rubella, Cytomegalovirus, and Herpes infections.

MICS 2014 describes diarrhea as a common infectious disease that burdens ethnic minority communities disproportionately. Diarrheal disease is linked to malnutrition, and stunting in particular, and probably contributes to the difference in stunting between the ethnic minority community and the Kinh majority, although a snapshot of one diarrheal incident in the past two weeks can testify only to the environmental conditions and hygiene in the ethnic minority communities that contribute to this disease, not to the potential for short stature. Access to health services is necessary (as well as improvements in environmental cleanliness) to prevent the chronic condition from developing and to interrupt the cyclical nature of diseases that lead to poor nutrition, which in turn increases susceptibility to the disease. Safe disposal of children’s feces is important because most soil-transmitted diseases are transmitted through young children who put their unwashed hands in their mouths after playing outside (figure 14).

UNDERLYING CAUSES

Household Food Insecurity

Although Vietnam is considered to be a food-secure country, disaggregated data on household food security is difficult to find according to region, province, or ethnic group. Proxies can be used to indicate (although not prove) whether populations are food secure: levels of undernutrition, evidence of dietary diversity (macro and micronutrient consumption), effects of price changes on consumption patterns, resilience to shocks, means of self-sufficiency (e.g., access to good-quality land, seeds, compost or fertilizer), and availability of a variety of food in local markets.

Studies from Vietnam, Bangladesh, Ethiopia, and Nepal show a statistically significant association between food insecurity and stunting and underweight (Ali et al. 2013;
A smaller study by Helen Keller International in Kailali District in Nepal failed to find a significant association between household food insecurity and malnutrition, although it found a significant association between household economic status; maternal education, height, and hemoglobin concentration; food security; and indicators of undernutrition (Osei et al. 2010). A larger study from Nepal (nationwide, based on Demographic and Health Survey (DHS) data) (Singh, Singh, and Ram 2014) also found a high prevalence of stunting (33 percent), wasting (10 percent), and underweight (23 percent) in food-secure homes, adding support to the observation that food security is necessary but not sufficient for good nutritional status in children.

**Changing Patterns in Household Definition of Food Security**

Changes in food consumption patterns are revealed in changes in dietary diversity and minimum acceptable diets (UNICEF 1990). As food production in recent decades in Vietnam has shifted to high-yield crops, increases in the use of chemical fertilizers and pesticides—both of which require cash, which strengthens the link between income and food consumption—have accompanied increases in production (Kyeyune and Turner 2016). In addition, because increases in productivity depend on access to arable land, the effects of excessive chemical substances on the deterioration of the environment and land results in even more stress on small household land holdings. Although Vietnam as a whole is food secure (producing enough rice to feed its population), national food security hides household food insecurity in ethnic minority and rural areas and conceals changes in household food quality that have accompanied national production increases (Thang and Popkin 2004).

**Food Insecurity and Dietary Diversity**

It is believed that household food insecurity is associated with undernutrition through poor quality and low quantity of food available. Some studies have examined whether increasing dietary diversity can mitigate the effects of food insecurity by providing essential vitamins and minerals that could improve the quality of the food provided, but results have been mixed, and in the studies referenced above, there was no significant association between increases in children's dietary diversity and reduction of stunting associated with food insecurity. Nevertheless, a strong association was found between the mother's dietary diversity and stunted growth of the child in data from Vietnam, Bangladesh and Ethiopia in a subsequent publication (P. H. Nguyen et al. 2013).

**Food Safety: Aflatoxins**

Fungal infections of food with species of *Aspergillus* can lead to contamination with the mycotoxin aflatoxin, which causes stunted growth and delayed development in children and liver carcinoma and eventual death in adults. Aflatoxins are toxic secondary metabolites of *Aspergillus* molds that contaminate foods such as maize, rice, and legumes. They are highly toxic to humans and animals, cause liver disease and cancer, and suppress the immune system. There is growing evidence of a relationship between aflatoxins and childhood stunting. Although only a small number of observational studies have been

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conducted, they have found a strong association between aflatoxin exposure and growth retardation (Leroy 2013).

**Aflatoxin has been found in cord blood, indicating transplacental exposure *in utero that is strongly related to a LBW and short stature for age.** Although aflatoxins are transmitted in breast milk, the concentration is lower than in solid foods, and exclusive and extended breastfeeding can reduce aflatoxin exposure, possibly through dilution of the contaminant (Mukherjee 2013). Aflatoxin is among the more serious chemical food contaminants (such as dioxin aflatoxin, cyanide present in cassava, peanut allergens), contributing to the burden of disease, with the most global disability-adjusted life years (n=636,869) (Moyi and Millerii 2016).

**The ethnic minority groups living in the northern mountains are particularly vulnerable to aflatoxin contamination because of the environmental conditions of seasonal heat and high humidity interspersed with drought combined with poor storage conditions that favor aflatoxin production and spread of fungal spores.** In many areas, ethnic minorities depend on maize as a staple food or as food for animals, which can become infected and can store and transmit the mycotoxin to humans who ingest the contaminated meat. In a NIN/MOH study of dietary exposure to aflatoxin B1 and other mycotoxins in Lao Cai Province, adults and children from the Kinh majority were found to have the greatest exposure to aflatoxin B1 because of their high consumption of affected rice (B.T.M. Huong et al. 2016). No correlation was found between their height for age and aflatoxin ingestion, but their level of consumption (63.6 ng/kg of body weight per day) was almost nine times as high as in the Xapho ethnic group (7.6 ng/kg of body weight per day (Huong et al. 2016). The other ethnic groups were exposed, but perhaps because of their poverty, they consumed less. Nevertheless, this would not explain the difference between the stunting rates in Kinh and other ethnic groups. Another “protective” factor for the poorer groups is their low zinc levels, which are believed to be protective against aflatoxin toxicity (Wee, Day, and Linz 2016).

**Lack of dietary diversity is another risk factor because it does not offer dilution of the full effects of the aflatoxin-affected maize or rice.** Another risk factor may be the use of high-yield hybrid maize crops, which a 2006 study in the state of Arkansas found to be susceptible to mycotoxin-producing fungi in particularly stressful environmental conditions characterized by high heat because of their generally compromised defense systems (Majeed et al. 2017; Abbas et al. 2006).

**It is tempting to see aflatoxin as the single factor that is causing the persistent stunting in ethnic minority populations in the mountainous regions of the north and as the reason for the inequity between poor minority groups and the wealthier Kinh majority.** It may be an important causal component that has been implicated enough in growth retardation that it should be urgently addressed, not only for its effect on growth and
on stunting, but also for its effects on the immune system, liver cancer, and the digestive system, but it is not the only factor.

**Care for Women**

*Education and Social Status*

Most ethnic minority households are organized around a patriarchal social construct, and as a result, women do not enjoy the same status as men in society. Although this is a generalization, and some women, particularly in more economically advanced parts of Vietnamese society, enjoy greater freedoms than those in isolated areas without as much contact with new ideas and practices, overall, boys have greater privilege than girls and men than women. The persistence of this thinking is evident in the growing imbalance in the sex ratio at birth, which widened from 107 boys per 100 girls in 1999 to 112 boys per 100 girls in 2014 (Den Boer and Hudson 2017). There have been gains in women's rights, but these have predominantly affected the more-educated majority; any progress the ethnic minorities have made has been slower.

![Bar chart showing upper secondary school attendance ratios by gender and ethnicity, 2014](image)

**Figure 15: Upper Secondary School Attendance Ratios, 2014**

Girls have attained higher levels of education than boys, although girls from the ethnic minorities lag far behind Kinh girls (figure 15). Retention into upper secondary education (age 15-18 years) is critical, because it means that those girls have avoided the early marriages and adolescent pregnancies that severely limit their future social and economic mobility. In 2014, nearly 60 percent of girls in the northern mountains and the central highlands attended upper secondary school (GSO-GOVN 2014). Establishment of boarding and semi-boarding schools that serve children from remote villages in the mountainous areas has contributed to this result. In most cases, the girls board at school from Monday to Friday and return home for the weekend.
Upper secondary school-aged children who are out of school are vulnerable, particularly girls, who are vulnerable to early marriage and adolescent pregnancy (figure 16). Despite government efforts to increase access for ethnic minority students to basic education, the gap between ethnic minority and majority students and families persists. The reasons for this are complex and include the socioeconomic status of the families, their distance from and the location of the school, language, and ethnic stereotyping (Chi 2009). In addition, the inequity that is observed between majority and minority groups also exists within the different ethnic minority community.

**Employment**

The result (and sometimes the cause) of school drop-out is that many ethnic minority girls (82.9 percent) work from the age of 15 (versus 70.2 percent of Kinh) (UNWOMEN/CEMA 2015). Only 37.9 percent of ethnic minority women are wage earners. The rest are self-employed or unpaid family workers in agriculture. When women have paid employment, they earn less than men. The lack of paid employment opportunities and failure to progress in school were among the reasons given in interviews with officials in Dak Lak for early marriage and pregnancy (personal communication).

**Age at marriage and first pregnancy**

Early marriage and pregnancy are another cause of inequity between ethnic minority and Kinh women and one with a significant effect on stunting (figure 17). Early marriage and adolescent pregnancy lead to higher maternal and neonatal mortality, LBW and stunting of children, and undernutrition of the mother, as the growing girl competes with the fetus for...
nutrients. Adolescent mothers also experience arrested growth from the effect of the hormones of pregnancy on the growth of long bones and postpartum weight loss due in part to the high energy demands of lactation (Rah et al. 2008). Adolescent girls who marry achieve less education and subsequently less earning capacity. They are also subject to high rates of intimate partner violence (IPV) (Hong Le, et al. 2014).

Although national surveys reported a stable adolescent pregnancy rate of 4 percent from 2003 to 2008 (H. Nguyen, Shiu, and Farber 2016) and only a slight increase to 4.5 percent in 2014, these rates mask differences in minority groups. When disaggregated according to economic status, education, ethnicity, or location, the data draw a different picture; 18.3 percent of ethnic minority girls aged 15 to 19 years old and 3.9 percent of Kinh/Hoa girls had had a live birth. From the poorest wealth quintile overall, 10.8 percent had had a live birth, compared with 1.2 percent for the richest quintile; 23.5 percent of girls aged 15 to 19 with no primary education had had a live birth, compared with 2.3 percent of those with an upper secondary education; and 15.4 percent of adolescent girls from the northern midlands and mountain region had a live birth, compared with 2.4 percent of those from the Red River Delta (GSO-GOVN 2014). Gender discrimination prevents girls in traditional families from accessing contraception or obtaining treatment for sexually transmitted infections (OECD 2017). Some child marriages happen within the same extended family to keep the property within the family.40

Adolescent pregnancy is an important cause of stunting in adolescent mothers and their children. Normally nourished adolescent girls go through an adolescent growth spurt starting at approximately 10 years old, reaching peak height velocity at approximately 12 years old. Menarche is estimated to be 1.3 years after peak height velocity, after which growth tapers off (Kaczmarek 2002). Chronic undernutrition in girls changes this pattern, such that they may not experience the same growth spurt but will continue to grow at a constant but lower velocity (with a two-year delay in menarche) until the age of 20 or even 21, when they will reach close to normal height (Rush 2000; Shah 2016), but if these undernourished girls get pregnant while they are undergoing that growth, the release of pregnancy-related estrogen will prematurely fuse the growth plates in the long bones, and growth in height will stop, causing stunting (Shim 2015). Stunting and immature development of the pelvic bones in adolescents are linked to obstructed labor, which would not cause problems in a modern obstetric service capable of performing a semi-elective caesarian section but could easily lead to maternal death in the remote mountainous areas where many of these girls live.

Exposure to Violence and Domestic Abuse: Patriarchy is associated with domestic violence and IPV in these societies. A national survey in 2008 found the life-time prevalence of any form of domestic violence against women in Vietnam to be as high as 82 percent (Hong Le et al. 2014). IPV is higher in ethnic communities, with lifetime prevalence ranging from 8 percent to 38 percent, and is twice as

high in girls who marry before 18 years old (GSO 2010b). The Survey Assessment of Vietnamese Youth Round II (2010) also showed that low socioeconomic status and exposure in early childhood to physical violence by a family member resulting in injury were associated with IPV in girls (Hong Le et al. 2014). The 2010 National Study on Domestic Violence against Women found the following risk factors to be associated with IPV: a husband’s behavior as a demonstration of his male power (e.g., having extramarital affairs, fighting with other men), alcohol use, violence experienced in childhood, and a woman’s greater financial contribution to the household. These are all signs of underlying gender and power imbalances (GSO 2010b; Jansen, Nguyen, and Hoang 2016).

**IPV is strongly associated with malnutrition in women and children, including stunting in children and anemia in women and children** (Ackerson and Subramanian 2008). In a study in India, children of women exposed to IPV in the previous year were as much as 25 percent more likely to be stunted (Chai et al. 2016), and a recent Vietnamese study of IPV during pregnancy found a statistically significant association between IPV and pre-term birth (five times as likely) and LBW (six times as likely) (T. N. Hoang et al. 2016).

**Health Services**

*Access to Health and Nutrition Services—Sexual and Reproductive Health*

Approximately one-third of Vietnam’s population is 10 to 24 years old; 16.3 percent is aged 15 to 24— the highest ever percentage of young people in the history of the country (UNFPA). Thirty-five percent of young people who are not married are unable to obtain contraception, exposing them to unwanted pregnancies and illegal and unsafe abortions, especially those aged 15 to 19. The lack of access to contraceptives also points to a deficiency in education of adolescents and young people in sexual and reproductive health.

For maximum change, it is important to provide services along with educational programs. Adolescents and women of reproductive age from ethnic minorities have a higher total fertility rate than women from the Kinh majority in the lowlands. The fertility rate for some ethnic minority groups is as high as 5.0 children. The problems in these communities include availability of or access to contraceptives and education on their use; high rates of early childbearing; low rates of abortion, largely due to strong ideological beliefs that oppose the practice; and fear of side effects of contraceptives (Amin and Teerawitchitchainan 2009). The rate of married or unmarried couples not using any contraception is as high as 30 percent in ethnic minority groups and 23.4 percent in the Kinh/Hoa group. Young couples from these ethnic minorities are uneducated regarding safe sex, changes during puberty, family planning methods, and protection from HIV and sexually transmitted infections (UNWOMEN/CEMA 2015).

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41 Because of age grouping in most studies, the percentage of the population aged 10 to 19 years old (the actual adolescent population) is not available.
Part of the problem is in the quality of services provided; service providers in these areas are hard to reach and work in modest physical facilities with insufficient equipment and often inadequate human resources (MOH 2010). Although the Joint Annual Health Report (2015) reported significant changes in policy aimed at improving health care delivery to ethnic minorities in remote villages, difficulties remain in providing trained staff consistently to these populations. Village birth attendants, for example, are provided only a stipend in 44 percent of targeted villages; others, who formerly received less support through the National Target Program (NTP) on reproductive health, are receiving none (personal communication; MOH 2011, 2015).

**Access to Health and Nutrition Services—Prenatal Care**

In Vietnam, only 4 percent of women overall come for prenatal care in the first trimester. (Median gestational age for the first visit is five months pregnant.) The difference between Kinh/Hoa women and ethnic minority women is more important. Kinh women come on average at 4 months while the average for ethnic minority women is 5 months. A more worrisome statistic is the 20 percent of ethnic minority women who had no prenatal visits. Only 32.7 percent of ethnic minority women had the recommended four visits, whereas 82.1 percent of Kinh women were seen four times. In the midst of this discouraging information is the surprising fact that 20 percent of all pregnant ethnic minority women were seen in the first trimester, compared with 0.8 percent of Kinh women. The differences are in the late-comers; 20.1 percent of pregnant ethnic minority women were first seen in the last trimester—too late for any monitoring or treatment of nutritional or health conditions such as anemia, IUGR, and micronutrient deficiencies (GSO-GOVN 2014).

**Capacity of Health Staff**

Strengthening human resource capacity improves quality of care and, in ethnic communities can contribute to increases in the use of health facilities, acceptance of advice, and uptake of program outputs. Many ethnic minority women, particularly those from remote villages, report not seeking health care because of its poor quality. Their concept of poor quality goes beyond the ability to treat diseases or malnutrition and includes lack of female health care providers, language barriers encountered at health stations that make communication difficult and increase confusion, the stigma of seeming stupid because of different cultural beliefs that dictate behaviors or because of not being able to speak or read Vietnamese, and feeling inadequate because of not being able to pay for services (UNWOMEN/CEMA 2015).

**Capacity of the system in public health nutrition is also lacking.** Discussions in villages and at local health centers revealed that training in public nutrition was lacking (personal communication); only the doctor in the health center was aware of the importance of the period from conception to the child’s second birthday (1,000 days). Education in schools and in the community on nutrition, where it exists, focuses on food, dietetics, and clinical nutrition; how nutrition can affect economic development of communities is not communicated; and most people spoken with, including health care workers, were unaware
or had only limited knowledge of the possible causes of stunting and its importance for personal and national development. (See Chapter 4 for more on capacity development.)

**Delivery at Health Facility**

Ethnic minority mothers are more likely to deliver at home than Kinh women, although the percentage of institutional deliveries is increasing for ethnic minority women (figure 18). In 58.8 percent of deliveries for ethnic minority women, the person assisting is a medical doctor, and in an additional 9.5 percent, the person is a nurse-midwife. This is in contrast to Kinh women, for whom 92.7 percent of deliveries are assisted by a medical doctor and 6.3 percent a nurse-midwife. Another significant difference is that ethnic minority women turn to a relative or friend 21.2 percent of the time, whereas Kinh woman are less likely to do so.

![Figure 18: Ethnic Disparities in Trained Assistance at Birth and Caesarean Section Rate—Vietnam 2014](image-url)

**Figure 18: Ethnic Disparities in Trained Assistance at Birth and Caesarean Section Rate—Vietnam 2014**
Sources: GSO-GOVN 2011; GSO-GOVN 2014) in (UNFPA/MOH 2017)

The reasons given for delivering at home are similar to those for foregoing prenatal care (distance, cost, informal payments for treatment, language barriers, and negative attitudes of health staff), but other studies have found the reasons to be not so simple. The focus is often on the Hmong because they are least likely to choose institutional deliveries and most likely to deliver at home with family members or friends in assistance or occasionally a village health worker. Most of the explanations that have come out of qualitative research are gender or culture based. In discussions with H’mong women, one of the explanations (that they will not allow a man to examine them) was disproved, because women were willing to have a male village health work insert an intrauterine device. In-depth interviews disclosed that Hmong women give birth at home assisted by their husbands. (UNFPA/MOH 2017).
Environment
An unhealthy environment is an underlying or nutrition-sensitive cause of childhood and maternal disease. An unsanitary physical environment have been linked to the: contribution of environmental enteric dysfunction to childhood stunting; parasitic infestation and anemia; open defecation and childhood growth and development; and hand washing and childhood diseases such as diarrhea and acute respiratory infection.

Chronic and recurrent diseases that result from poor environmental hygiene can affect growth in the first two years of life. A 2014 UNICEF study in India examined the association between child stunting and household access to adequate sanitation, drinking water, and personal hygiene. The odds of stunting in children younger than two years old were significantly higher (16-39 percent) in the absence of good sanitation. There was no association with household access to an improved source of drinking water (Rah et al. 2015). Water quality is essential for disease prevention (particularly diarrheal diseases). It is also vital for personal (and often environmental) hygiene— that is hand washing, cleaning cooking and eating utensils. Therefore, its effect on stunting, if at all any, may be indirect.

Sanitation
The relationship between the environment and the physical development of children is an important factor in the postnatal environment. A critical feature of an unhygienic environment is open defecation and unimproved sanitation, and their association with high population density increases the likelihood of exposure of young children to enteric pathogens. The biological pathway that links the unhygienic environment and child growth is environmental enteric dysfunction (formally environmental enteropathy) (Spears 2013).
Table 2. Type of Toilet Facility Used According to Ethnic Group, 2009

<table>
<thead>
<tr>
<th>Ethnic group</th>
<th>Hygienic toilet facilities</th>
<th>Non-hygienic toilet facilities</th>
<th>No toilet facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Entire country</td>
<td>53</td>
<td>39</td>
<td>8</td>
</tr>
<tr>
<td>Kinh</td>
<td>59</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>Tay</td>
<td>21</td>
<td>67</td>
<td>5</td>
</tr>
<tr>
<td>Thai</td>
<td>11</td>
<td>75</td>
<td>14</td>
</tr>
<tr>
<td>Muong</td>
<td>15</td>
<td>76</td>
<td>8</td>
</tr>
<tr>
<td>Khmer</td>
<td>27</td>
<td>55</td>
<td>18</td>
</tr>
<tr>
<td>Hmong</td>
<td>3</td>
<td>27</td>
<td>79</td>
</tr>
</tbody>
</table>

The Kinh have the highest percentage (59 percent) of people using hygienic toilet facilities (flush toilet with septic tank or sewage pipes) and the lowest proportion of people without toilet facilities (5 percent) (table 2). For the other five ethnic groups, the proportion of people using hygienic toilet facilities is very low (<30 percent), particularly for the Mong people, with only 3 percent using hygienic facilities and up to 79 percent without toilet facilities. The ethnic minorities live in insecure, unhygienic conditions.

In part because of lack of access to basic health services, but also because of lack of use of those that are accessible, rates of diarrheal infection and parasitic infestation in the mountainous regions are high (Målqvist et al. 2013; Verle et al. 2003; WBG 2015). These high rates are linked to prevalence of open defecation, use of untreated human feces for fertilizer, a preference for raw fish and fresh uncooked salads, and lack of personal hygiene practices that could mitigate the effect of a dirty environment. This combination creates conditions that are conducive to environmental enteropathy and other recurrent and chronic diseases and subsequent development of poor growth and stunting in children younger than two years old (Ngure et al. 2014; Rah et al. 2015).

As with other causal elements of stunting in this report (e.g., aflatoxins), the Kinh majority was not spared parasitic infections (as noted in Verle 2003). The Kinh population was equally infected with hookworm, trichuris, and Clonorchis. Data were not available to determine differences in treatment with albendazole or mebendazole, both of which are available at the community level, nor was there a breakdown according to ethnicity of families with latrines, which was the only factor that seemed to be associated with having fewer ascaris infections.

43 Ethnic Groups in Viet Nam: An Analysis of key indicators from 2009 Viet Nam Population and Housing Census: Ha Noi, December 2011
Climate Change

Vietnam is one of five countries considered most prone to the effects of climate change (WBG 2011). Although coastal populations are most vulnerable to changes in sea level, storm surges, and extreme weather events, the threat to those living in the mountains to drought, flash floods, mudslides, and erosion, particularly in the face of environmental degradation, is considerable.

There have been an estimated 13,000 lives lost and average annual damage of 1 percent of GDP over the past 20 years in Vietnam from severe weather events related to climate change (Rocklöv et al. 2014). Regardless of the source of the event, all Vietnamese feel the effect on agriculture, forestry, and fisheries, including on rice production, leading to high local and global prices on commodities.

Rising temperature can affect environments in which the survival of pathogens and vectors are optimized. This could lead to increases in some diseases, including their spread into new areas. (Rozenberg and Hallegatte 2016). That malaria is being found in areas where it has never before been seen—for example, the high hill regions of Nepal—is a case in point and a cautionary tale for Vietnam (Dahal 2008).

Rising temperatures might also lead to reductions in nutritional intake. Mothers commented in a qualitative study from Tuyen Quang province in the northern mountains that their children ate more in the cooler autumn months, their appetites affected by the heat and humidity of the summer, when ambient temperatures average 29ºC (84ºF) and average humidity is 85 percent, versus 23ºC (73ºF) in the autumn (L. T. Huong et al. 2014).

Projections of the effect of climate change on people, particularly poor people, vary according to residence, type of work, sources of income, and access to some form of social protection. If the majority of the poor remain as nonskilled agricultural workers, maintaining present levels of productivity in the face of rising temperature will be a challenge. Poor families, who must spend more of their income to food, will feel greater pressure from rising food prices in the face of decreased agricultural productivity, from gradual environmental change, or from increases in extreme weather events.

Vietnam Red Cross Headquarters has decided to provide initial support for mountainous provinces in the north of Vietnam, including Ha Giang, Hoa Binh, Lao Cai, Lai Chau, Son La, Thai Nguyen, and Dien Bien, to help affected families overcome the consequences of land erosion and flash floods as the result of the recent torrential and prolonged rains. Seventeen families losing a family member or whose house collapsed or was swept away will receive VND3 million each. Twenty-eight temporary shelters have been erected for affected communities to use until their houses are repaired or rebuilt. (Vietnam Red Cross Society, 12 Jul 2017)
BASIC CAUSES

Poverty

In recent decades, Vietnam has made considerable progress in reducing poverty. The proportion of the population living below the national poverty line (GSO-World Bank poverty line) reached 9.8 percent in 2016, indicating that more than 43 million people had escaped poverty since 1993. A similarly strong trend is observed for people living on less than USD1.90 per day (in 2011 purchasing power parity [PPP] terms), which fell to 2.2 percent in 2016. Poverty reduction has been coupled with significant improvements in shared prosperity. The average consumption level of Vietnamese in the bottom 40 percent has been growing by more than 6 percent annually since 2010.

Although poverty has fallen significantly across the country, high poverty rates persist in minority communities. Ninety-five percent of poor people live in rural areas. Poverty is concentrated among ethnic minorities, with the smaller ethnic minority groups and those living in the northern and central mountains being particularly affected. Making up only 14 percent of the population, ethnic minorities accounted for 73 percent of the poor in 2016. Poverty reduction in these groups stalled between 2012 and 2014, but recent data show a significant decline of more than 13 percentage points between 2014 and 2016. Nevertheless, 44.6 percent of ethnic minorities still lived in poverty in 2016.

Underlying the concentration of poverty in poor, rural, and agricultural households is their low human capital; financial capabilities; and to some extent, unfavorable topography or limited access to land, which further limits their access to credit. In other words, their low endowments in education, financial, and natural capital disadvantage the poor. Approximately 57 percent of adults in poor households have primary education at most, and fewer than 7 percent have postsecondary education. In contrast, one-third of adults in nonpoor households have a postsecondary education. Poor people have limited access to financial services. Only 19 percent of adults in the poorest two quintiles and only 27 percent of rural adults held an account at a formal financial institution in 2014. In the coastal and inland delta communes, poor people have significantly less land. In both these areas, the median amount of land that poor people cultivate is less than 20 percent of the median amount of land that nonpoor people cultivate, but most poor people reside in hilly and mountainous areas, where the land is less productive. Hindered by limited finance, land fragmentation, and weak land security, poor people use their land suboptimally, concentrating on cereal crops rather than more-profitable perennial crops. These three factors—low education and financial capabilities and amount and topography of land—determine households’ earning potential and drive livelihood outcomes that separate poor from nonpoor.
**Cultural Differences**

When ethnic minorities fail to use services that are within reach physically and economically or comment on the importance of the relationship between provider and community, there must be a reason beyond the need for better roads, reduced costs, or more staff. In many instances, services are free (under the National Health Insurance scheme, which covers ~70 percent of the population), particularly for poor people. There are reasons that some of Vietnam’s ethnic minority communities do not use government facilities based on cultural beliefs and language differences. This is also exacerbated by the fact that the health professionals generally perceived the main purpose of their communication to be information delivery, rather than interpersonal interaction. To them, the effectiveness of their communication was measured by women’s ability to understand what they were saying, not necessarily on the relevance of the information or the way it was communicated. In addition, the audience for the health education literature that the health providers (proudly) distributed did not always understand it, even though that audience valued it as a document and something that a doctor gave to them. This was not always clear to the health professionals (McKinn et al. 2017).

**Inadequate Multisectoral Collaboration:**

Collaboration of multiple sectors is necessary to resolve a problem as complex as persistent undernutrition in ethnic minority communities in the northern mountains and the central highlands. Multisectoral approaches will be needed to raise incomes, reduce inequities, reduce maternal deaths, improve water and sanitation, and lead to a more-nutrition-sensitive agenda (WBG 2016), but it is clear from interviews of key personnel in ministries and departments outside of MOH and of local workers in the field that many are not aware of what their role could be in combatting malnutrition.

There are already cross-cutting challenges such as gender inequality that bring together ambassadors and heads of agencies from multiple sectors in the United Nations, international nongovernmental organizations (NGOs), and national NGOs to work with the gender equality departments of government institutions: MOLISA, National Committee for the Advancement of Women in Vietnam, MOH, and VWU. These cross-cutting groups have achieved a common mandate, common goals that no single entity can achieve, and support from the highest political level possible to command accountability from each member. Institutions need to be responsive to the needs of these communities for multisectorality to work.

**Analysis of Determinants of Malnutrition**

**Bivariate Analysis of Immediate and Underlying Causes of Stunting**

A bivariate analysis of immediate and underlying causes of stunting was derived from an analysis of NIN nutrition surveillance data and divided into characteristics of children and mothers that are statistically significantly associated with stunting (table 2). Of the immediate causes (inadequate food and nutrient intake; feeding, caregiving, and
parenting practices; low burden of infectious diseases), the NIN data showed a statistically significant association between prevalence of stunting and LBW, vitamin A supplementation of children, and age of less than two years (p<.0001). (It is noteworthy that the positive association between Vitamin A Supplementation and stunting could be due to programmatic reasons – that regions that have a high prevalence of malnutrition, poverty, etc, more programs are implemented, and staff pay more attention that VA is given)

There was less of an association with diarrheal diseases and fever measured according to recall of an event in the two weeks before the survey; acute diseases are unlikely to affect height but may affect weight. Diarrheal disease frequency, which is more difficult to measure, is a more important marker.

The statistically significant association with LBW, and IUGR in general, correlates with the intrauterine causes of stunting, which is a result of nutritional deficiencies in pregnancy and links the child’s health and nutrition with those of the mother.

Of the immediate maternal factors, poor nutritional status (height ≤ 152 cm) and younger age (≤ 18 years) of the mother were strongly statistically significantly associated with stunting (p<.0001). Maternal education, rural residence, and occupation as a farmer (p<.0001) were indirect or nutrition-sensitive causes of stunting (food security; adequate care-giving resources at the maternal, household, and community levels; access to health services; safe, hygienic environment).
Table 3: Prevalence of Undernutrition in Children (0–59 Months) in 2013 from the Vietnam Nutrition Surveillance Data (n= 90,425): Bivariate Analysis

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Prevalence (percent)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHILD FACTORS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td></td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>&lt; 2</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>2-5</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>&lt;.0001</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Breastfed (missing = 2195)</td>
<td></td>
<td>.04</td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td></td>
</tr>
<tr>
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<tr>
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<td>&gt; 152</td>
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<tr>
<td>&gt;30</td>
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In summary, the following factors explain the difference in stunting between ethnic minorities and the Kinh majority: poor maternal nutrition (and social status), leading to IUGR; suboptimal IYCF practices, some of which could be attributed to cultural beliefs and practices; food insecurity, measured according to inadequate minimum dietary diversity; poor personal and environmental hygiene; lack of access to essential maternal and child...
health and nutrition services; overall poverty; and cultural differences. All of these encompass the immediate, underlying causes of childhood malnutrition.

**Gaps in Determinants of Undernutrition in Ethnic Minority Groups**

It is not clear what the levels of health and nutrition are in the poor members of the Kinh majority, some of whom live in the same areas as the ethnic minorities. Knowledge of their nutrition status could clarify the differences between the two populations by eliminating some variables common to both communities. It could also help with understanding the lack of ethnic minority participation in preventive and curative health services that could reduce malnutrition.

It was not possible to compare the effects of diseases and other causes of stunting over time by comparing the MICS 2011 and MICS 2014 data bases because anthropometry was not measured in MICS14. Moreover, the available data sets were incomplete (in terms of containing full sets of determinants of undernutrition according to the UNICEF conceptual framework, as well as anthropometric measurements) to conduct complete bivariate and multivariate analyses on the determinants of childhood undernutrition in ethnic minority populations.
Chapter 4: Commitment, Policies, Institutional Arrangements, and Capacity for Nutrition Programming: A Systemic Approach

An Ecological Analysis

An ecological model is used in this assessment to analyze and understand the multifaceted basis of Vietnam’s capacity to address maternal and child malnutrition, especially in largely ethnic minority populations. In this model, the individual and the community exist within the workplace that is a part of a greater organization or institution and part of an enabling (or inhibiting) environment formed by the system (Shrimpton et al. 2012). The methodology is diagrammatically represented in figure X, which depicts an adaptation of an ecological system of social analysis (Ryan 2001).

The four spheres of the framework (figure 20) identify the domains where various components of the national nutrition program are nested.

- The system domain is where government commitment to nutrition programs is expressed through policies and strategies affecting ministries and other stakeholders involved in reducing undernutrition. It is where budgetary decisions are made and intersectoral coordination is mandated.
- Policies are translated into programs in the organization domain, where ministries and other institutions respond to policies and directives by establishing programs and projects and the design and support of the implementation of programs occurs, including assessment of capacity (financial, infrastructure, human resource).
- The workplace domain is where the programs that the organization prepares are implemented. This is where the work environment (human, physical, financial resources) is developed and dedicated to the support of the workforce.
- Finally, the individual in the community is assessed for capacity to implement and monitor programs. Capacity needs, including knowledge and skills, are identified and addressed in an environment with the necessary components of support (e.g., salaries, safety, supportive supervision).
System Dimension: Policies, Funding

National Commitment to Reduce Malnutrition

In Vietnam, nutrition is recognized as foundational to national development. Reducing malnutrition is one of 10 national priorities in the Vietnam 2016–2020 Socio-Economic Development Plan, which lays out an overarching five-year development agenda, including ambitious objectives and targets. The plan focuses on reducing malnutrition (underweight) by 10 percent by 2020. Protection of people’s health has been a concern of the government since the foundation of the country.

Since Vietnam joined 158 other countries in the International Congress on Nutrition in Rome in December 1992, the government has committed to hunger eradication and malnutrition elimination by signing the first NPAN (1995–2000). The NPAN assigned responsibility for setting nutrition targets in their long-term and annual socioeconomic development plans to relevant ministries and subnational governments. NPAN objectives have since always been mentioned in the Resolution of the Party (since the eighth Assembly in 1996 to present) and the Resolution of the National Assembly for Socioeconomic Development. In Vietnam’s current five-year socioeconomic plan, nutrition indicators are among those that the Ministry of Planning and Investment sets and monitors. Malnutrition (underweight) reduction is also a critical social indicator in current subnational socioeconomic development plans of 63 provinces.

The most recent policy that affects nutrition is Resolution 20/NQ-TW, issued on October 25, 2017, at the sixth conference of the 12th Central Committee. The resolution addresses health problems, particularly stunting, the stature of the Vietnamese population, and the disparity of indicators across regions. The overall objective is "To improve the
physical and mental health, stature, longevity, and quality of life of the Vietnamese people,” primarily through nutrition interventions.

In January 2014, Vietnam joined the Scaling Up Nutrition (SUN) Movement, which is promotes the establishment of multisector, multi-stakeholder platforms to enable different sectors collaborate to address malnutrition. NIN has been designated to represent MOH as a focal institution for the SUN Movement. Because NIN is also responsible for implementing the NNS, the SUN Movement will be involved in implementation of the NNS.

On March 1, 2015, the Prime Minister passed a decree on the trading and use of nutrition products for infants and baby bottles and pacifiers(GOVN 2014). The decree covers education, communication, advertising for, trading in, and use of nutrition products for infants and baby bottles so as to reduce malnutrition and promote and protect breastfeeding. Advertising and promotion of breastfeeding substitutes to babies younger than 24 months is prohibited, bottles and teats are never permitted, and the criteria for advertising complementary foods are defined. Nevertheless, exclusive breastfeeding rates are 20 percent overall and 40 percent in the ethnic minority communities. MOH was directed to guide and organize implementation of the decree.

Intersectoral Policies Affecting Nutrition of Ethnic Minorities

MARD Policies
Agriculture policies that MARD developed immediately after Đổi Mới in 1986 had as their objective, an increase in production in order to end frequent food crises in Vietnam, encourage national food self-sufficiency by limiting the need for food imports, and reduce the income gap between rural and urban workers (MARD 2012). As mentioned above, this was done by de-collectivization, land redistribution to farmers through the new land tenure laws and linking income to production by establishing contract farming. Another development was support of privately owned enterprises as formalized in the 1992 constitution and support for domestic trade (Marzin and Michaud 2016).

Increasing productivity requires aggregation or de-fragmentation of land holdings to facilitate mechanization and development of commercial farms by integrating family farms and enabling farmers to invest in nonagricultural activities. This diversification increased the importance of nonagricultural industries (e.g., textiles, electronics) and, because of the greater value added per worker in industry than in agriculture, increased the disparity between urban and rural workers.44 It may also have a negative effect on household food security if income from cash crops does not surpass the funds required to buy quality foods for a balanced diet.

There has been no single agricultural policy specifically for ethnic minorities. It is assumed that support for these households is part of agricultural policies for the general population, but CEMA, with departments in each province, has the role of supervising

44 The effect on ethnic minority communities is presented in the section on Land Tenure in Chapter 3.
national development programs involving the welfare of ethnic minority programs. Nevertheless, projects like Program 135\(^\text{45}\) (P135) focus on infrastructure and public services aimed at communes rather than identified ethnic minority households within the commune.

In addition, in June 2018, the Prime Minister issued Decision 712, which committed VND545 billion (~USD24 million) to end hunger by 2025 as the hallmark of the National Action Program on Zero Hunger.\(^\text{46}\) Its goal is to reduce stunting to less than 20 percent nationwide and less than 25 percent in the northern mountains and central highlands,\(^\text{47}\) but it is not a completely targeted program, because it is designed to ensure enough food and nutrition for all residents to increase the peoples' physical strength and stature. Nevertheless, it offers a good opportunity for MARD to become involved in nutrition-sensitive interventions. The program was launched in December 2018, with a plan to develop and expand the model of linking nutrition and agriculture in the 800 poorest communes in P135.

Since 1980, many policies have been issued on land-use that have had a major effect on ethnic minority communities. Some of them are considered breakthroughs in land-use law and policy, including implementation of a policy on farmland contracting (allocating farmland to households) and promulgation of the Land Law in 1993, the Law on Forest Protection and Development in 2004, and the Revised Land Law in 2013. It is thought that some of the policies on land use, especially the policy on the five rights of land users, have improved the conditions of ethnic minorities, increasing agricultural productivity in many areas where they live. As a result of these policies, ethnic minority people have changed the habit of cultivation from nomadic farming to settled farming; they have reportedly been empowered to protect and develop forests; different ethnic minorities have started to share the same living places; trading and technical activities have been promoted; and gender justice has been improved (Tinh 2006; 2016; Tuan 2003).

Ministry of Trade

On January 28, 2016, the Prime Minister of Vietnam, signed a decree to mandate food fortification as a means of improving people's vitamin and mineral intake. Decree 09/2016/ND-CP on food fortification, issued on March 15, 2016, regulates four micronutrients used in fortification of foods that should meet national technical standards and food safety, but it has not taken effect. Iodine must be added to salt; iron and zinc to wheat flour; and vitamin A to vegetable oil (e.g., soybean, coconut, canola, peanut) (excluding vegetable oil used in industrial food processing). On May 15, 2018, Resolution 19-2018/NQ-

\(^{45}\) Programme 135 (P135) was established in 1998 to implement government policies targeting the most vulnerable communes, promoting production and access to basic infrastructure, improving education, training local officials and raising people's awareness for better living standards and quality of life.

\(^{46}\) https://www.dropbox.com/s/ahj176nt2whiy4q/Zero%20Hunger%20Program.pdf?dl=0

CP was issued requesting that MOH reconsider iodization in food processing and zinc and iron fortification of flour because of resistance from industry (see Chapter 5). Vulnerable populations in the northern mountainous and central highland regions with low purchasing power and limited access to modern markets where these fortified foods are available have limited access to these fortified foods.

**Ministry of Culture, Sports, and Tourism Policies**

On April 11, 2011, the Ministry of Culture, Sports, and Tourism (MCST) proposed and gained approval from the government under Decision 641/QD-TTg for a master plan to address the physical development and height of the Vietnamese people from 2011 to 2030. The general objective was "to develop physical strength and stature of Vietnamese people in the next 20 years to improve the quality of human resources, support the industrialization and modernization of the country, improve the quality of the human race, and increase the healthy longevity of Vietnamese people." This was to be achieved by improving the quality of reproductive health care, improving maternal and newborn health and decreasing malnutrition in children younger than five.

Part of the MCST program was education related: The School Nutritional Program to Improve Nutritional Status in order to enhance the stature of Preschool and Elementary Preschool students up to 2020, which was approved in Decision 1340/QĐ-TTg on July 8, 2016. The goal of the program is “to improve the nutritional status of preschool and primary students through the daily feeding of children with milk to reduce the rate of malnutrition and increase the stature and physical strength of Vietnamese children, contributing to the development of human resources in the future.” Daily milk consumption is promoted through policy development, education and communication, and technical assistance. The MOH manages the program in cooperation with other relevant ministries. Resources for the programs are mobilized from the private sector, international and domestic aid, family and community contributions, and local government support.

**MOET (and Related) Policies**

MOET issued Circular 17/2009/TB-BGDDT on July 25, 2009, for the preschool education program, with clear regulations on age-appropriate diets for preschool-aged children. Circular 28/2016/TB-BGDDT, released on December 30, 2016, amended and added to the preschool education program. The program has clear regulations on living conditions, in addition to recommendations for an age-appropriate diet that includes energy demand and macronutrient requirements for preschool-aged children.

The government of Vietnam recognizes the importance of early childhood care and education (ECCE) and has made it a core element of its education sector development agenda. The Education Development Strategy 2011-2020 that the Prime Minister put forward and was approved in 2012 promotes ECCE as one of its objectives: to have universal
ECCE for five-year-old children by 2015 and that, by 2020, “at least 30 percent of children at creche age and 80 percent of children at kindergarten age will be taken care of and educated at preschools” (PMO 2012). In addition, it calls for a reduction of malnourished children in preschools to fewer than 10 percent. Consequently, MOET has endorsed the preschool education program since 2009 and revised it in 2016. In its annual instruction to every school, it emphasized the importance of good meal and care quality in kindergarten and used malnutrition reduction as a target of preschool education.

On January 16, 2017, MOET issued Decision 196/QD-BGDDT on the use of browsing software to build menu nutritional balance. The software, developed in collaboration with Japanese food manufacturer Ajinomoto Vietnam Co., Inc., is to be used in primary schools across the country. MOET subsequently issued Official Letter 576/BGDĐT-CTIHSV to guide the use of the software at primary schools to plan and prepare nutritionally balanced menus for school lunches in the absence of trained dieticians. More than 30 provinces and cities have deployed the software locally.

The Prime Minister also issued Decision 579/QD-TTg on April 19, 2011, approving the Vietnam Human Resources Development Strategy from 2011 to 2020 for the physical improvement of manpower in the country. The strategy is aimed at lengthening life expectancy, increasing average height of youth, and decreasing malnutrition. The strategy focuses “on the school nutrition project that combines with physical education and physical and sport activities in schools.”

Keeping children in school through the upper secondary level has been shown to have a powerful effect on LBW rates and stunting because it prevents adolescent pregnancy. The Socioeconomic Development Strategy 2011-2020 also considers education development as the nation’s leading policy and calls for universal primary and secondary education of increasingly higher quality, particularly in mountainous and ethnic minority areas (GOVN 2011). Currently, education is mandatory up to grade 9. Primary school participation and net attendance ratio for boys (98 percent) and girls (97.7 percent) is equal, with survival to the last primary grade of 99.4 percent. Most public resources for early childhood and general education come from the state budget; state support for education in Vietnam increased from 12.1 percent of the national budget earmarked for education in 2009 to 15.7 percent in 2014. Only primary education is free (since 1989); although preschool (5-year-olds) and lower secondary education (grades 6-9) are universal, tuition is required. Nevertheless, children at ethnic minority boarding and semiboarding schools and children from very small ethnic minority groups, remote areas, or poor households are exempted, or the fees are reduced, and lunch subsidies are offered (UNICEF 2016).

48 “Universal Early Childhood Education for 5-Year-Old Children 2010-2015” (Prime Minister Decision 239/2010/QD-TTg). Universal ECE has multiple criteria: 95 percent enrollment; 85 percent of 5-year-old children enrolled in full-day preschool; 90 percent attendance; incidence of underweight malnutrition less than 10 percent; physical infrastructure, material supplies, and teacher qualification in line with established standards.

49 https://www.unicef.org/infobycountry/vietnam_statistics.html
Social, Welfare, and Poverty-Reduction Policies

Other sectoral policies targeting ethnic minority households and communities might be considered to have an indirect effect (nutrition sensitive) on poverty reduction, agricultural practices, and food security. For example, the NTP-NRD supports agricultural production, health, and water sanitation investments that indirectly affect nutrition by raising incomes and improving the hygiene and sanitary environment. The NTP-SRP has subprogram P135, with an exclusive focus on ethnic minorities and remote mountainous areas, which also supports income-generating activities. It also has a broader program that combines support of income-generating activities and social support programs targeting the poor. In terms of GDP growth in mountainous provinces, these programs have significantly reduced poverty commune-wide in ethnic minority areas (Nam 2007), although within those communes, it appears that non-Kinh ethnic minorities have not fared as well (Singhai and Beck 2017).

Labor Law 10/2012/QH13 stipulates that women shall be entitled to a six-month maternity leave beginning up to two months before and extending after delivery. The law also has special regulations for avoiding exposure to heavy labor and hazardous jobs for pregnant and lactating women and guarantees job security for pregnant women, including after a six-month maternity leave.

The Joint Program of Action of the Vietnam General Confederation of Labor to implement the NNS supports breastfeeding for female workers. It focuses on industrialized areas where many female workers are concentrated. Vietnam's government also created a supportive environment for breastfeeding by banning advertising of breastmilk substitutes marketed for children younger than 24 months—as recommended in the World Health Organization (WHO) International Code of Marketing of Breastmilk Substitutes. The government has increased paid maternity leave from four to six months, and many employers have set up lactation rooms.

The Law on Social Insurance 58/2014/QH13 defines the right of pregnant female employees to take one day's leave for each of five prenatal examinations; those who live far from a health facility or have evidence of pathology or an abnormal pregnancy are entitled to a two-day leave for each prenatal examination. Men paying social insurance premiums are entitled to five working days of paternity leave, seven days if their wife has a caesarian section or delivers a child before 32 weeks of gestation, and 10 to 14 days if their wife delivers twins with or without a surgical procedure. Compensation for a woman and a man not wanting to take leave can be in a lumpsum payment equal to two times the parent's basic salary for each child during the month when their child is born (NAV 2014). Women using contraception are also entitled to leave when prescribed by a competent health establishment: seven days for an intrauterine device and 15 days for sterilization.

Social protection is provided to needy families through various mechanisms (e.g., social insurance, health insurance) for community-based and institutional care. According to Decree 136/2013/ND-CP (January 2014), these include tuition exemption and subsidies for school materials and school lunch (UNICEF 2016). School meal programs may have their maximum effect on families as social transfer programs, offsetting as much as 10 percent of household expenditure for one child in school and contributing to enhanced enrollment in some cases. Reaching the poorest children (who often have low enrollment rates) is a challenge, although Vietnam’s universal education up to grade 9 could offset that (Bundy et al. 2009).

Water, Sanitation, and Hygiene
The Prime Minister issued Decision 104/2000/QĐ-TTg to ratify a national strategy on safe water supply and rural sanitation by 2020 with the objective that “all rural populations will use national standardized water with at least 60 liters per person per day and a standard latrine and will practice good personal hygiene and have good sanitation.” In recognition of the multisectorality of this decision, the government assigned the prime responsibility to MARD to coordinate with MOH, Ministry of Science, Technology and Environment, MOET, Ministry of Construction, Ministry of Planning and Investment, Ministry of Finance, other concerned ministries, and the people’s committees of the provinces. A national target program on WASH for the period 2012 to 2015 by MARD was also implemented, with priority given for poor households and disadvantaged and ethnic minority areas (mentioned above). After 2015, all target programs on WASH were integrated into the NTP-NRD, as mentioned in Article 10 of Circular 05/2017/TT-BNNPTNT in 2017 on guidelines on implementation of NTP for new rural development for 2016 to 2020.

Policies and Programs for Ethnic Minorities
In addition to nutrition-sensitive policies in critical sectors/ministries targeting the whole population, the government has formulated nutrition-sensitive policies specifically targeting ethnic minority populations. After Decree 05/2011/ND on ethnic minority affairs was released, the government approved the National Strategy on Ethnic Minority Affairs and the Plan of Action Toward 2020, which include nutrition-sensitive objectives on education, capacity building, poverty reduction, infrastructure development, sociocultural development (including health care), security, and the environment. The government also assigned CEMA to integrate these objectives in local and national five-year and annual socioeconomic development plans. The northwestern mountain, central highland, and southwestern regions are to be given special attention. Many programs and projects have been proposed in the Plan of Action, but one mentioned above from MCST, in cooperation with CEMA and MOH, that was directly related to nutrition (improvement of physical strength and stature of ethnic people period 2015–2020) was never developed as a stand-alone program. In 2016, the government issued Resolution 52/NQ-CP on “Accelerating the Development of Human Resources of Ethnic Minorities from 2016 to 2020 with Orientation to 2030,” in which stunting reduction was one of the resolution’s indicators.
Earlier, the government assigned the Ministry of Planning and Investment to allocate money for implementation in midterm and annual plans following the budgetary decentralization of the State Budget Laws. Decision 1557/QD-TTg of September 10, 2015, "approving some indicators for the achievement of the Millennium Development Goals for ethnic minorities linked to the Post-2015 sustainable development goals" also has nutrition-specific and -sensitive indicators, for example, poverty reduction, child underweight reduction, pregnancy care, and water supply and sanitation.

**Budgetary Allocation**

**Government health spending is high in Vietnam, contributing to high total health spending as a share of GDP.** The government has committed to keeping the annual rate of increase of government health spending higher than the rate of increase of the general government budget (National Assembly Resolution 18/2008/NQ-QH12), with the result that health spending grew from 8.1 percent of general government expenditures in 2008 to 8.9 percent in 2016. As a share of general government expenditures, domestic government spending on health in Vietnam is higher than in any other low- to middle-income country in the region except China and Thailand. Combined with increasing out-of-pocket health spending (see below), rising public spending means that overall health spending has also increased steeply; per capita health expenditures more than tripled from 2000 to 2016, from 98 Purchasing Power Parity USD (PPPS) to 356 PPP$. As a share of GDP, total health expenditures (capital and current) rose from 5.4 percent to 4.9 percent over the same period; this share is higher than in all other low- to middle-income countries in the region except Cambodia and Nepal.

**Out-of-pocket health spending has been rising, but growing incomes and the expansion of health insurance coverage have mitigated the financial effect on households.** From 2000 to 2016, real per capita out-of-pocket health spending tripled, from USD37 to USD159 in PPP terms, but as a share of current health expenditure, out-of-pocket spending also increased from 37 percent to 45 percent (WHO 2018a). GDP per capita rose almost as rapidly as out-of-pocket health spending, increasing 2.3 times in this period, with the result that out-of-pocket spending as a share of GDP increased from 1.8 percent in 1995 to 2.5 percent in 2016 (WHO 2018a). Health insurance coverage has also grown rapidly, from 13.4 percent in 2000 (MOH 2007) to 87 percent by 2017 (MOH and Health Partnership Group 2018), through a series of legal decrees to fully subsidize the health insurance coverage of the poor (2002), children (2006), and other vulnerable or meritorious groups (e.g., social assistance beneficiaries or people who had participated in the revolution) and provincial decisions to partially or fully subsidize the near-poor. Consequently, financial protection from health spending has been improving; the incidence of catastrophic health spending declined from 20.2 percent in 1992 to 9.5 percent in 2016 (when measured with a 10 percent threshold defined in terms of total household spending), whereas impoverishment due to health spending fell from 2.3 percent to 1.1 percent when using the USD3.20-per-day poverty line

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51 Estimates in this paragraph are all from WHO 2018a.
(and 4.6 percent to 0.31 percent when using the USD1.90-per-day poverty line) (World Bank forthcoming).

The Prime Minister’s 2017 Decision 1125/QD-TTg approving the Target Program on Health and Population 2016–2020 gives details on the goals for child nutrition in the new environment of combined health (including nutrition) and population programs but with responsibility and resources devolved to the provincial level. At the target level, goals are to reduce child malnutrition (with a focus on underweight (to less than 10 percent), stunting (to less than 21 percent), and improvement of micronutrient deficiencies in pregnant and childbearing-age women and children younger than five. The decision outlines actions to be funded (but does not include a budget) that include, for example, vitamin A campaigns, emergency supplies of nutrition products to pregnant and breastfeeding women and malnourished children younger than five particularly from poor households, training and professional supervision on improvement of child nutrition, guidance for implementing techniques for processing food and providing nutrition care for the population that is malnourished (under- or overweight), and development of models for prevention and control of malnutrition specific to each region.

The budget is not included in the aforementioned decision paper, nor is it specified in the Provincial plans of action52 for nutrition, in which the plan for nutrition interventions in the provinces includes a detailed list of the difficulties and challenges that the provinces face, for example, uneven distribution of malnutrition between rural and urban communities, influence of energy and micronutrient malnutrition on development of height as adults, the growing double burden of overnutrition with undernutrition, and inadequacies of school nutrition in meeting energy and nutrient requirements (Binh 2018). Sources of funding are listed as state budget sources in localities, nonbusiness funding sources to be provided by the government, funding from target programs on health population granted by MOH, communities, and domestic and international organizations.

The mobilization of local resources for NNS implementation has been constrained. Of seven projects and programs that the NNS identified, only one (for maternal and child malnutrition control) has been officially funded through the NTP53. Even with this small investment (VND140 billion annually from 2011 to 2013 for the whole country), the program has faced serious cut-backs (by two-thirds) since 2014, and the budget for 2017 and 2018 is VND50 billion (US$2.2 million), mostly for activities at the central level, with instructions that local governments should invest in nutrition interventions from their own budgets.

There is no mechanism in place to track investments from other sources, such as local governments and international aid. It is unlikely that local governments will make any contributions in ethnic minority provinces because spending in these provinces depend on

52 Two plans of action were provided, from Ninh Thuan and Quang Binh Provinces.
53 Since 2016, nutrition interventions have been transferred to Population – Development Project under the Health - Population Target Program 2016 – 2020, together with seven other projects of Health sector.
the state budget. Meanwhile, funding from international sources has not been coordinated and managed effectively, and implementation is in the form of “pilots” in terms of geographic area and duration, none of which have been expanded. An example of this is the Joint Program on Integrated Nutrition and Food Security Strategies for Children and Vulnerable Groups in Viet Nam, which the Food and Agriculture Organization coordinated along with UNICEF and WHO. It was a two-year project (2015-2017) in the One-UN initiative targeted at the provinces Lao Cai and Ninh Thuan. After a promising start, it was not expanded, although it advanced the concept of intersectoral collaboration (Daponte 2017).

The government of Vietnam has given priority to child health through free health insurance for children younger than six years old (Health Insurance Law), but the insurance scheme does not include any specific nutrition interventions. The NPAN proposes developing a “health insurance policy to cover counseling and rehabilitation services for children with severe malnutrition in the community and hospitals” in addition to “adding legislation on health insurance” to cover expenses related to acute malnutrition and mentions health insurance as a source of funding for the recommendations of the action plan (GOVN 2018).

An earlier MOH directive (39/TB-BYT, October 18, 2017) assigns nutrition interventions to the basic health package for primary health care, preventive health, and health promotion. The budget for these interventions is to be taken from the health target programs, social protection programs, local budgets, out of pocket, and social mobilization, but the state budget for preventive health care is less than 20 percent of overall health spending and has not reached the target of a minimum 30 percent to be spent on preventive health according to the National Assembly Resolution in 2008.

Organizational Dimension: Strategies, Structure, Capacity

Strategic Planning
Two NNSs (2001–2010 and 2011–2020) (GOVN 2012) have been formulated since the first NPAN, with the directive that nutrition activities should involve multiple sectors under the guidance and leadership of the party and government at all levels. The latest NNS prioritizes poor, disadvantaged areas and ethnic minority groups, mothers, and small children. Each includes a five-year NPAN and subnational plan of action. The most recently concluded NPAN was 2012 to 2015. From 2015 to 2017, no valid NPAN was in place because of institutional and structural challenges, including lack of a committed budget for implementation of a plan, but in January 2018, MOH ratified a three-year NPAN (2018–2020) to fill the gap to the end of the current NNS.

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54 It is estimated that the matching budget from local government was VND10 billion to VND15 billion annually for the whole country.
On February 22, 2012, the Prime Minister approved a new NNS for the 2011-2020 period with the objective of continuing "to improve the diet of Vietnamese people, in terms of quantity and quality" (GOVN 2012). The focus was on nutrition (under- and overnutrition) of mothers and children, improvements in micronutrient status, control of risk factors leading to adult-onset noncommunicable diseases, and reinforcement of the capacity and effectiveness of the network of nutrition services in the community and in health care facilities. To implement the strategy, MOH approved the NPAN to 2020 under Decision 1962/QD-BYT on June 6, 2013, as a follow-on to the strategy for the 2011-2015 period. The achievements of MOH in reducing child malnutrition were noted, and Vietnam was recognized for its overall reduction in child malnutrition of 1.8 percent, close to the reduction of 2 percent per year set out in the Millennium Development Goals, although it for this Millennium Development Goal and others, the achievement was not equal in all parts of the country. Socioeconomic inequalities affecting ethnic minority groups had led to higher malnutrition rates in these groups in the northern midlands and mountains, and these differences had increased in Vietnam in recent years (Van Minh et al. 2016).

The NNS identifies MOH as the lead agency for implementation of the NPANs and NIN as the focal department. Other sectors (e.g., agriculture, education, labor, planning and investment, finance, trade, culture) are assigned specific tasks according to their mandates but with no action plans or focal points identified. In addition, different entities implement the nutrition interventions integrated into their functional activities, and it is difficult to monitor in terms of progress and investment.

For 2001 to 2010, a national steering committee for NNS was established at the central level (chaired by the Minister of Health), with subnational steering committees created at the provincial and communal levels. However since 2010, this committee no longer exists at the national level, and local committees were integrated into the Board for People's Health Protection at provincial and communal to reduce the administrative burden of too many steering committees. The current NNS prioritizes poor and disadvantaged areas and areas with ethnic minorities and emphasizes supportive policies, intervention programs, and nutrition capacity building for people living in disadvantaged areas.

At the national level, the institutional set-up for coordination is weak, although tasks are assigned to each ministry. MOH is charged with managing the NNS through coordination, direction supervision and monitoring, and evaluation. It is required to report periodically on progress and operational results. Although the intent is for other relevant ministries, sectors, and organizations to submit annual reports to MOH on their progress and operational results in achieving sector-specific NNS objectives, this has failed to happen.
National Target Programs

Definition of a Rural Development Strategy

Although it is difficult to list all of the programs for socioeconomic development, an estimate by the Institute of Social Sciences indicated that there were more than 40 targeted programs and "big projects" for the development of ethnic minorities by 2010 (Tinh 2016). These included specific policies for poverty reduction, land use, investment, capacity development of public officials, education and training, healthcare, culture, the ethnic minority regions, and particular ethnic minorities. From 2011 to 2015, to address emerging social challenges identified in the five-year socioeconomic development plan of the National Assembly and to focus its resources, the government reduced the number to 16 NTPs, allowing prioritization of social challenges: poverty reduction, education and training, population and family planning, labor and work, health protection care and promotion, culture, and information. By 2016, although the NTPs had achieved some positive results, inequities remained, their stability was fragile, sustainability was difficult because resources were spread among so many projects, and monitoring demands were excessive given available capacity. Even in places where positive results were achieved, the challenge of maintaining results given insufficient funding for the transition to the sectors or subnational government proved too difficult.

For 2016 to 2020, the 16 NTPs were restructured into NRD and SPR; those that had completed their objectives were closed, others with routine sector-specific functions were moved to the relevant sectors, those related to the new NTPs were consolidated within those national programs, and the remainder became sector targeted programs. Of those that became sector targeted programs, one contains nutrition-specific interventions (MOH Nutrition Improvement Project in Health and Population), and another has nutrition-sensitive interventions (MOET Education for Mountainous, Ethnic Minority and Disadvantaged Areas).

NTP-NRD—MARD

The problem of persistent inequity led to re-evaluation of agriculture policy toward a rural development approach, with a shift to bottom-up planning and people-oriented development to raise farmers' income. The result was the NTP-NRD, a multisectoral approach to rural development established in 2007 that went beyond relying on classic agricultural objectives for community welfare. The program—implemented under MARD—focuses on the economic, social, and environmental aspects of promoting rural development. It complements the Agriculture Restructuring Plan adopted in 2013 and renewed in 2017 by creating a foundation for farm and nonfarm activities in rural areas. The current phase of the NTP-NRD (2016–2020) has four ambitious objectives: 50 percent of communes to meet NRD standards (achieve 15 of the 19 preset criteria) and each province and each city under central authority to have at least one district meeting NRD standards (all 19 criteria); communes, on average, to meet 15 of 19 NRD criteria and no commune to meet fewer than five criteria; basic production and quality-of-life requirements to be achieved for rural citizens in areas such as transportation, power and domestic water supply, schools, and health stations; and income
levels to be at least 1.8 times as great as in 2015. The program encompasses 11 activity groups linked with 19 economic and social criteria relating to poverty, education, health, transport, water supply, irrigation, jobs, agricultural production, markets, culture, energy, environment, communication, and security.

Although nationally targeted multisectoral approaches have introduced a holistic view of rural poverty and poverty reduction, nutrition as a cause and an effect of poverty is not evident in the strategies. It is unclear where, in this strategic approach, such persistent challenges as dietary diversity, adequate diet, and stunting prevention fit in. Nor is it clear that stunting—or other forms of chronic malnutrition associated with development of costly noncommunicable diseases—is viewed as having a significant effect on personal and national development.

**NTP-SPR—MOLISA**

The second of the two NTPs is the program for SPR, which MOLISA proposed and manages. NTP-SPR supports infrastructure, jobs, basic services (health, education, housing, tap water, hygiene, access to information), and capacity building for the country's 94 poorest districts and 310 communes in coastal areas through five subprograms. It also includes P135, which supports the 2,240 poorest communes and the 33756 poorest villages in ethnic minority and mountainous areas. The current phase of NTP-SPR (2016–2020) also has four ambitious objectives for its areas of operation: lowering poverty by an average of 1.5 percent per year; improving livelihoods and quality of life for the poor by increasing per capita income of poor households by 1.5 times from 2015 to 2020; implementing poverty reduction mechanisms and policies in a consistent and effective manner to improve living conditions and enhance access to basic social services for the poor; and investing in the infrastructure of poor districts, communes, and villages with special difficulties following NTP-NRD criteria.

Because the vulnerability of ethnic minority households to the shocks that climate change creates can push near-poor people into poverty, the government views resilience as necessary to support its poverty-reduction strategies. There is growing awareness that, as the inequity gap widens, vulnerability of ethnic minorities to various shocks (e.g., changes in rainfall and warming temperatures from climate change; accidents and deaths, particularly those affecting wage earners; economic shocks from global and national crises) increases. Poor (and near-poor) households often respond to these shocks by reducing spending on health care, selling assets (including food), and taking children out of school—all of which affect nutrition-sensitive causes of stunting and malnutrition.

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56 The list of communes is based on earlier documents. The government issued a new set of criteria for P135 communes and villages to be effective on December 20, 2016 (Decision QD50/2016/QD-TTg, dated November 3, 2016, on issuance of criteria for identifying extremely disadvantaged villages and communes in ethnic minority and mountainous areas 2016–2020). The new list of P135 communes was expected to be available at the end of March 2017.
Consequently, the goal is for a portion of the social affairs budget to be earmarked for strategies to mitigate the effects of these shocks (Marzin and Michaud 2016).

In the present phase of the NTP-SPR (2016-2020), the objectives do not contain any reference to nutrition, although food support is featured as social assistance to households on the MOLISA poverty list. Even in this instance, only 5.2 percent of households (19.1 percent of ethnic minority households) on the list receive this assistance. As demonstrated in the causal analysis above, food is only a small part of the stunting problem; access to subsidies and support in the other categories of assistance that NTP-SPR provides that are nutrition sensitive may have a greater effect on reduction of chronic malnutrition. It is also expected that, with multidimensional measures of deprivation and income-poverty expanding the definition of poverty, more needy households will be targeted (Kozel 2014).

**MOET Initiatives in Nutrition**

The ECCE program is important because of its significance for early childhood nutrition. ECCE programs provide venues for nurturing, caring, and learning services for new mothers and young children from three to 59 months of age, which includes the postnatal component of the 1,000 days strategy from conception to two years of age. In the Vietnamese system, the ECCE crèche program covers children aged three months to three years, and kindergarten covers those aged three to five years (UNESCO 2006). Unfortunately, the description of the ECCE objectives for the crèches does not reference nutrition, (for example (breastfeeding support) or counseling to women from enrollment to the child’s second birthday.57 The MOET Department of Early Childhood Education shares oversight responsibility with the MOH; the Committee for Population, Family and Children; and the VWU. All four entities have expressed an interest in focusing on children younger than three, for whom there are few other good-quality programs. In discussion with Dr. Huyen, the head of preschool education at MOET, it was evident that, although the standard was from three months to five years, they did not feel they had the capacity to reach out to children or infants younger than three years old.58

Completion of secondary education by girls is known to delay marriage and, as a consequence, prevent early pregnancy (Gennari 2013). The high rate of adolescent pregnancy in ethnic minority groups is correlated with early school drop-out and lack of gainful employment opportunities for adolescent girls. It is also correlated with IPV (Hong Le et al. 2014). As mentioned in Chapter 3, distance and culture affect school enrollment in ethnic minority populations. In addition, as mentioned above, school meal programs could serve as incentives to keep children in school.

57 The objectives of ECE (defined in the Education Law 2005) are to help children develop physically, emotionally, intellectually, and aesthetically; to shape the initial elements of personality; and to prepare children for first grade (primary education).

58 From interviews and discussion at MOET, March 7, 2018.
Boarding Schools for Ethnic Minority Children

Boarding schools for ethnic minority children are schools that the government establishes and funds for children living in difficult-to-reach areas. Eligible students (because they have a ‘travel challenge’ and cannot go to and return from school in one day) can stay at school during the week. The boarding school system has contributed significantly to greater enrollment of school-aged children, lower school dropout rates, better quality of education, and universal primary and secondary education in areas with socioeconomic difficulties. It helps create local human resources for ethnic minority and mountainous areas for sustainable development (MOET 2016).

In school year 2010–11, there were 127 boarding schools with 13,230 students in two provinces, an average of 100 students per school. In 2015–16, 28 provinces had boarding schools, with 979 schools and 145,998 students, but still not enough for all ethnic minority students to be able to attend. The system has faced difficulties, with an infrastructure that does not meet educational and care needs of boarding students. The government has issued a plan of action to reinforce and develop boarding school system during the second phase of this initiative (2016–2020).

For vulnerable groups, in 2013, the government started to provide a cash subsidy (VND120,000 per month for 9 months a year) to provide lunch for children under five years old in kindergarten. There were three eligibility criteria: having parents living in boundary, high mountain, island, and extremely difficult communes (as defined by the government); being an orphan without any support or handicapped with economic difficulty; and being from a poor household (defined according to government standards). The subsidy was provided twice a year based on actual days as cash to caregivers or directly to the kindergarten to cover the cost of meals in preschool. Either way, it is not possible to cover the full cost of meals for those children. If the money is given to families, they often use it for other purposes, and if it is paid directly to the school, it covers only 10 days per month (average meal cost VND12,000 per day per child in rural areas: VND10,000 for lunch, VND2,000 for snack).

59 Circular 01/2016/TT-BGDDT of MOET on January 15, 2016, on regulation of organization and operation of ethnic minority boarding schools.
60 Report of MOET at the National Workshop on Development of Boarding School system in Ethnic Minority and Mountainous Areas, June 10, 2016, in Danang.
National Coordination Mechanisms for Nutrition—NNS/SUN

The convening body for nutrition in Vietnam is NIN, MOH. It is responsible for research, training, and implementation of activities in nutrition, food sciences, and clinical nutrition. The Prime Minister ratified the NNS for 2011 to 2020, with a vision toward 2030. Roles and responsibilities of each line ministry have been well defined. NIN reports directly to Minister of Health, and it has a secretariat for implementation of the NNS.

The SUN multi-stakeholder platform is the Nutrition Cluster Group. Every six weeks, participants from various ministries (health, agriculture, social affairs, disaster risk management), institutes, universities, UN agencies (UNICEF, WHO, Food and Agriculture Agency), NGOs, donors, foundations, and global initiatives convene to work on developing an agreed-upon set of objectives and priorities. NIN and UNICEF co-chair these meetings. The NIN Director is also the SUN government focal point.

The health sector has decentralized coordination structures in 63 provinces. Recent efforts include reaching out to education, agriculture, and social affairs ministries to involve them in the nutrition agenda. The 2017-2025 NPAN indicates that the government wants to re-establish a national nutrition steering committee. The government recognizes that accountability to authority at the highest level is critical to coordination and multisector collaboration.

Experience in other countries (e.g., Nepal) has confirmed the importance of a high-level body for accountable multisector involvement. The development in Nepal of the national Multi-Sector Nutrition Plan became instrumental in planning for SUN. The success of the Nepal experience was based on the “participatory and inclusive plan development, an enabling environment for multisector collaboration, high-level champions of nutrition, shared practices and/or strategies and development of coherent policy frameworks” (Shrimpton et al. 2014). The commitment of high-level government officials in the National Planning Commission to the multisectoral process and consequent increase in accountability from line ministries was critical (personal communication).

The standing body for intersectoral collaboration is situated in one ministry. MOH, following government directives on decentralization, is tasked with coordinating intersectoral inputs to nutrition problems in the country. This was the result of the government’s need to reduce the number of steering committees at the central level. As the SUN and NNS focal point, NIN finds it difficult to track nutrition work in other ministries (progress and investment) to report to SUN and the upcoming NNS review. The Vietnam Nutrition Cluster Group (the multi-stakeholder SUN platform) brings together other sectors for coordinated action.
Despite the structure outlined in the NPAN, which includes formation of a nutrition steering committee at all levels, the absence of an effective coordination mechanism makes intersectoral collaboration challenging in the present environment, in which the priority is to simplify a cumbersome administrative system. Introduction of the concepts practiced in other countries, along with an extensive plan to strengthen capacity in all parts of the system, may offer choices to the government that would satisfy the intentions of the new NPAN.

Currently, the most relevant committee for health and nutrition is the National Multisectoral Steering Committee on Food Hygiene and Safety. Its role is to investigate research questions and bring proposals to the Prime Minister on policies, mechanisms, and solutions for government management in food hygiene and safety. It assists the Prime Minister by guiding and coordinating relevant ministries, localities, and agencies to address multisectoral challenges regarding food safety and to monitor and report on implementation of relevant programs.

**Workplace Dimension: Job Descriptions, Capacity, Distribution, Data Monitoring and Evaluation.**

**Job Descriptions and Capacity Needs**

To manage and implement nutrition activities within the health and other related sectors (education, agriculture, social welfare), Vietnam has generally hired medical doctors or individuals with a biomedical background (e.g., Bachelor in Public Health, nurses, midwives) with little undergraduate or postgraduate training in nutrition (e.g., Masters in Nutrition, Specialized Doctor in Nutrition, Doctor in Nutrition)—the latter being uncommon. Until recently, Vietnam had not had specialized training for dieticians or public health nutritionists, but Hanoi Medical University recently began a course for Bachelor of Nutrition that includes dietetics, clinical nutrition, public health nutrition, and food safety. The first class of 50 students graduated in 2013. By 2018, five more medical universities were offering this course. Nonetheless, clinical nutrition and public health nutrition remain weak fields; the only formal preservice training for nutritionists is the newly created Bachelor of Nutrition (Phuong and Huy 2017).

**Within the health system, personnel are working directly on nutrition from the central to the communal level** (figure 21). At the central level, there are personnel working at NIN and several departments at MOH. At the provincial level, personnel work at the Department of Health, Center for Preventive Health, Center for Reproductive Health, and Center for Health Education. Job descriptions for each of these levels are lacking in the system. People in charge of nutrition (nutrition focal points) work in areas related to nutrition within the health system from the central to the local level (vertical) or across sectors within the same administrative level (horizontal) as in the example given in figure 22, which shows the reporting and supervisory relationships of these personnel.
The Center for Preventive Health and Center for Reproductive Health are responsible for most nutrition activities and also has focal persons for nutrition. The former implements vitamin A supplementation, surveillance, and noncommunicable disease prevention, and the latter implements community nutrition-specific interventions. The Center for Health Education is involved with nutrition education, and the Department of Health is the coordinator for activity implementation. Competencies for staff working in nutrition in these centers should be defined.

There is a movement to merge these centers into provincial centers for disease control, and more than 40 provinces (over 63 provinces) have plans to do so, but fewer than 15 provinces have merged and operationalized these centers. Where they have merged, there is a department of nutrition that encompasses all nutrition activities for the province. The MOH plans that the process will be completed by 2019.

Currently, staff in the new Department of Nutrition have not received sufficient training on public health nutrition or even basic nutrition. This training will be needed as an introduction for new staff or as a refresher for longer-serving staff, regardless of their previous experience. New information about public nutrition has been generated so rapidly that those trained more than 15 years ago will find their knowledge in many areas outdated. One of the objectives of NNS 2011-2020 on capacity building is to have 100 percent of staff at the provincial level trained in nutrition by 2020. There has been some short training, but formal academic training has only been offered to a few.

In each commune, there is a network of village health workers with at least three months training on community health (although not specifically on public health nutrition) who are assigned to work as nutrition collaborators (each village is responsible for approximately 50 households with children under five years old on average). Village health workers receive very modest wages from the government to conduct their work on primary health care and health promotion (30 percent of the basic salary of government staff in normal regions and 50 percent in disadvantaged regions).

**Nutrition Surveillance**

The government conducts an annual exercise to monitor implementation of nutrition policies. The National Nutrition Program of the NIN created a formal National Nutrition Surveillance System (NNSS), a survey that tracks the implementation process of the NNS. Using a cluster sampling method, it is designed to detect changes in prevalence of underweight in children under five years old. To maintain seasonal consistency and inter-annum comparability, it is administered each year at the same time (June-August). Local health staff administer the survey, supervised by provincial preventive medicine centers. There has been a general nutrition survey every 10 years (the next will be in 2019-20) to evaluate the NNS/NPAN, and to develop a new NNS/NPAN based on performance and priorities (Hajeebhoy et al. 2013).

In addition to periodic nutrition surveys and the NNSS, data on nutrition and related issues are collected through other channels (e.g., data on food security are available from the Vietnam Living Standards Survey). Although a wealth of data is available, it is rarely triangulated in a manner that can inform nutrition-specific and -sensitive policies and programs. In addition, few surveys other than the NNSS collect data on IYCF, and even fewer use the WHO-IYCF indicators. For example, the 2010 MICS did not report all the recommended complementary feeding indicators, notably minimum dietary diversity and minimum acceptable diet.

The current surveillance tool is a four-page questionnaire used in all 63 provinces that enables collection and generation of the data necessary to construct state-of-the-art nutrition and IYCF indicators. In addition, the tool has the flexibility to generate data of interest for other nutrition activities (e.g., mass media interventions, food security) by adapting the last page each year based on requests from planners and implementers. Data from NNSS have been used to compare trends over time and in different places, for policy advocacy and planning at the national and provincial levels, and for capacity building, but there are no good tools to track cross-sector collaboration. As Vietnam progresses economically, external resources from development partners decline, resulting in increasingly competing demands on limited national budgets, particularly in the social sector. Coupled with a decentralization process and relatively high rates of stunting (>30 percent) in several provinces, this calls for provincial authorities to prioritize investments in stunting reduction.
Basic causes for the delay in release of data analysis are the availability of skilled human resources to analyze data and generate reports in a timely manner, coupled with lengthy processes for review and approval of data for publication. There is an approximately 18-month lag in Vietnam between data collection and release. Although IYCF data are available in Vietnam, their use for decision making at the national and provincial levels appears to be sporadic and inconsistent. This is partly the result of limited capacity and incentives to use indicators effectively and partly the result of delays in data being communicated and disseminated, especially to provincial stakeholders. Because the WHO-IYCF indicators are relatively new; capacity needs to be built especially at the subnational level to interpret and use these data as indicators are incorporated into surveillance systems. In addition, incentives to use the data effectively (e.g., more resources allocated if subnational plans are evidence based, tracking plans to ensure that data are used) would enhance the effect of these indicators on decision making (Hajeebhoy et al. 2013).

**Individual and Community Dimension: Human Resource Needs, Competencies, Staffing Adequacy**

*Training Needs of Nutrition Staff*

Building capacity in the nutrition workforce is necessary for effective implementation of nutrition programs and policies. It includes preservice and in-service training. In the preservice training, clinical nutrition (with a focus on the individual) is taught in the curriculum of medical universities and colleges for medical doctors, nurses, midwives, and those earning degrees in public health, but because changes in nutrition knowledge have accelerated over the past decade, most practitioners require continuing education.

The focus of nutrition training has also changed from clinical nutrition (suitable for fixed health facilities) to public health nutrition (suitable for communities and populations). The latter involves all of the aspects of multisectoral involvement because public health nutrition (as opposed to clinical nutrition) encompasses social, political, economic, behavioral, environmental, epidemiological, and preventive medical topics and communication methods and strategies.  

A missing human resource in the training pyramid in Vietnam is public health and clinical nutritionists and dieticians (holding a bachelor’s degree in nutrition and dietetics). The training program for nutritionists and dieticians was established in 2013 at Hanoi Medical University with fewer than 50 students per class and a plan to expand to five more schools in 2018. At this rate, it will not meet demand any time soon. Even though the government has issued a career code for nutritionists since 2015, it has not been well recognized and given a vacancy within the health system.

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63 See description at [https://www.wphna.org/](https://www.wphna.org/) for more information on public health nutrition.

64 Circular 28/2015/TTLT-BYT-BNV dated October 7, 2015, of MOH and Ministry of Home Affairs regulating code and standards for nutrition staff.
The health staff available to address nutrition problems in the community has insufficient preservice training in nutrition, which makes post service (in-service) training a major undertaking for the health and nutrition system. This reflects a capacity gap in the educational institutions and in the service provision structure. Within the Health Target Program, NIN has conducted annual training for provincial staff, usually three days a year in the form of updating rather than basic training, for the past five years despite frequent rotation of staff. Provincial staff are expected to roll-out the training for district (district health center), commune (nutrition focal point at communal health station, who is often the midwife), and village staff (village health workers).

Considering that there are more than 100,000 village health workers in Vietnam, it will be difficult for this training cascade to equip each frontline worker with sufficient knowledge and skills to implement effective nutrition interventions, especially those related to behavior change communication (BCC), which are time consuming and context specific (Phuaon and Huy 2017).

The capacity of village health workers in ethnic minority areas is below the standards required for delivering health and nutrition-related social behavior change and communication. In addition, in disadvantaged areas, health workers at commune health centers are often from the Kinh group, who are unable to communicate with minority groups because they do not speak the same language. Village health workers are also mostly from Kinh group, and most are men because they have greater access to higher education and transportation (being able to drive a motorbike to commute from place to place in areas with limited transportation). Being male can lessen their effectiveness when counseling women on maternal health and nutrition care, particularly on sensitive topics related to anything involving childbirth, contraception, and the like (McKinn et al. 2017).

Therefore, many nutrition interventions in large-scale programs have not had impressive results. Some projects have developed specific nutrition models that use an integrated social BCC approach that is context, culture, and ethnicity specific, but these are resource intensive and time consuming and therefore difficult to expand. In-service and refresher training for staff working at different levels has been conducted, such as training for provincial and district staff in charge of nutrition programs on updated knowledge of nutrition, advocacy skills, planning, supervision, budgeting, and financing; training for community workers once a year for 100 percent communes; and reinforced training for disadvantaged provinces. Nutrition training has also been offered to other relevant sectors in cooperation with international projects, organizations, and companies, such as UNICEF, the European Union, A&T, FANTA, the Japan International Cooperation Agency, the Global Alliance for Improved Nutrition (GAIN), and the Queensland University of Technology; all have focused on capacity building.

NIN administered preservice academic training for postgraduates from 2011 to 2015 to graduate five classes of PhD students in nutrition with 33 candidates. Sixteen individuals have received PhDs and become leading nutrition researchers in Vietnam. Others
have received PhDs from other research institutions and universities in Vietnam and abroad. During this time, NIN continued to cooperate with Hanoi Medical University to run a master's program in nutrition that has graduated 24 people, and other universities are developing master's programs in nutrition and public health with a focus on nutrition. A three-month training course that the NIN training center has provided since 2013 for in-service staff in hospitals has partially met the need for nutritionists in the nutrition departments of newly established hospitals.

**The required competencies for quality nutrition workers should be defined, thus leading to standardized capacity building.** Training should prioritize the community network, especially in disadvantaged areas, ethnic minority groups. Programs for bachelor's degrees in nutrition should be expanded together with the development of nutrition competency standards (Hughes 2004). Innovations in training using technology (e.g., e-learning, distance learning) should be promoted.

**Gaps in Policies, Institutional Arrangements, and Capacity for Nutrition Programming**

The use of an ecological analysis facilitates identification of gaps in the connections between elements of the system.

**Systems Dimension**

**An important gap in institutional coordination and ownership is the absence of leadership that will bring accountability for the cooperation and collaboration of other ministries in a multisectoral approach to improve the nutrition of ethnic minority groups.** Experience from other countries has taught that bringing sectors together in an accountable way is difficult when the standing body for intersectoral collaboration is contained in one ministry. After the visit of the SUN Movement coordinator in 2017, the Deputy Prime Minister endorsed a plan for a high level of commitment and oversight, but in a last-minute change, after government directives on decentralization were issued, the responsibility was left with a line ministry. Because of this, the multisectoral approach is mentioned everywhere in policy but is not a reality. Other SUN countries have a national nutrition committee in the prime minister's office or some high-level body capable of commanding accountability from various ministries. The Vietnam Nutrition Working Group (the multistakeholder platform of SUN) has long advocated for the establishment of such a committee, and its importance is documented in the new NPAN.

**A related gap is the lack of a clear understanding of where nutrition fits into target programs and in the definition of multidimensional poverty that CEMA and MOLISA use.** This gap reflects the lack of a central steering group capable of viewing the problem of malnutrition in the country from a broad perspective. The absence of nutrition and malnutrition from the two most important NTPs and from one of the primary measures of
deficiency and inequity in the country reveals a major lack of understanding of the importance of this topic for individual, community, and national security and development.

**Organizational Dimension**

The institutional set-up for coordination is weak. The National Steering Committee for the NNS needs to be reinstituted. The present situation in which a single line ministry is asked to create linkages with other ministries to address a problem of national significance creates an organizational challenge. It will take a multisectoral body, overseen by high-level office, to ensure accountability.

Throughout the system—at the local and national level—the resources invested in correcting malnutrition in minority communities have been inadequate. Related to this is the need for a system to track investments from other sources of funding, such as local government and international aid.

Staff at the central, provincial, district, and commune level need to understand the importance of the 1,000-day period of vulnerability for growth and development. This is where intersectorality is particularly needed, but it will occur only when this gap in knowledge is corrected. For example, only a few of the key informants interviewed understood the connection between inputs to the education system for improved school sanitation for girls, improved attendance and completion rates, and fewer LBW babies from adolescent pregnancies. This was particularly the case of those serving minority communities in the northern mountains and central highlands, where attendance and completion rates are low. Related to this is the need to expand the ECCE program to include its target population of children from infancy (three months) to three five years.

In addition, there is a lack of recognition of the importance of school meal programs as significant social transfer programs. School meals should be free to all children living in the northern midland and mountainous area and the central highlands. The requirement for out-of-pocket payments for food by some but not all students is less likely to succeed even where subsidies exist because the practice stigmatizes those receiving subsidies and can lead paradoxically to greater school absenteeism.

**Workplace Dimension**

The NNSS data collection process needs to be periodically validated in field visits from NIN (if this is not being already being done) to elevate its profile as the definitive source of community-level nutrition data. Moreover, there is an 18-month delay in the process of data collection, processing, analysis, and distribution of results from the NNSS. The delay from collection to distribution makes it outdated and therefore less effective for informing relevant policies and programs.

There is a lack of qualitative data in the nutrition monitoring and evaluation system, which relies heavily on quantitative data. This lack reflects an organizational capacity gap.
(as well as a gap at the workforce level) because institutions are accustomed to using only quantitative data for analysis and assessment. Institutions tend to undervalue qualitative data, considering it to be secondary to quantitative data in the rigor with which it is collected and in the answers it can give to questions of why programs are or are not successful (McKinn et al. 2017), but the World Bank used qualitative data research methods in its participatory poverty assessments in 1999, 2003, 2008, 2012, and 2013. These assessments elicited responses from a wide range of respondents to identify factors leading to poverty reduction and income growth, along with perceptions of inequality in Vietnam and the unfairness of bribery and corruption (Kozel 2014). The lack of qualitative data and staff trained in qualitative research methods is an underlying gap that pervades all health and nutrition programs. If the gap exists in the monitoring and evaluation sections in the government, the bank may be able to fill this gap with the expertise it has demonstrated in participatory poverty assessments.

*Individual and Community Dimension*

**There is a significant shortage of staff trained in public health nutrition and of dieticians and clinical nutritionists.** Achieving improvements in all aspects of nutrition will require at least district-level (and ideally commune-level) staff trained in the public health aspects of population-based nutrition. For example, nutrition collaborators in each commune with three months of training in community health need a review and update of their job description as front-line workers in nutrition. The new job description will need to include the competencies required for the position, estimate training needs based on gaps in competencies, and describe support to be provided through participation in an on-going training program in public nutrition.
Chapter 5: Nutrition-Specific Interventions and Approaches

Background: The *Lancet* 2013 Action Plan

Nutrition-specific and nutrition-sensitive interventions were outlined in *The Lancet* Framework for actions (figure 23) “to achieve optimal fetal and child nutrition and development” (Bhutta et al. 2013; Black et al. 2013). A list was presented of direct evidence-based interventions—termed nutrition specific—that, if implemented with 90 percent coverage in the 34 countries with 90 percent of the world’s stunted children, would lead to a 15 percent global reduction in under-five mortality.

Figure 23: Framework for Actions to Achieve Optimum Fetal and Child Nutrition (Source: Black et al. 2013)

Nutrition-specific interventions focus on the first 1,000 days of life—from conception until the child’s second birthday—and include maternal dietary supplementation, micronutrient supplementation or fortification, interventions for newborns such as delayed cord clamping and neonatal vitamin K and vitamin A supplementation, promotion of breastfeeding, dietary diversity, adequate and appropriate complementary feeding, multiple micronutrients, disease prevention and management, and prevention and treatment of severe acute malnutrition. They are aimed at improving the immediate nutritional input to the child. To be successful, they should be provided through a program of improved feeding...
and caregiving for the child with from a responsive parent in an environment of low disease burden.

**Maternal and Child Malnutrition Control Program (Protein Energy Malnutrition Control Program)**

*Project Description and Components*

In Vietnam, the health sector implements nutrition-specific interventions mainly through the community-based health system. Under the NPAN, seven projects were recommended for implementation: the project for nutrition education, communication, and capacity building; the project for maternal and child malnutrition control, focused on reduction of stunting, increase in height, and proper health and nutrition for pregnant women; the project for micronutrient deficiency control; the Program for School Nutrition; the project for overweight and obesity and nutrition-related, noncommunicable, chronic disease control; the program for food and nutrition security and nutrition in emergencies; and nutrition surveillance. Of these seven projects, only the project for maternal and child malnutrition control (Protein Energy Malnutrition Control [PEMC] program) has secured funding from the NTP and been implemented on a national scale. This program, which is focused on reduction of stunting, increase in height, and proper health and nutrition for pregnant women, is unique in including adolescent health and nutrition in its objectives (GOVN 2012).

The PEMC program has gone through many changes since its inception in 1991. The Vietnam Committee for Protection and Care of Children (which no longer exists) initially implemented it. The Ministry of Health, from the central to local level, managed it from 1998. Since then, nutrition interventions have been incorporated into one of ten NTP projects for the eradication of some social diseases and dangerous epidemics (2001-2010) and the NTP for health (2012-2015) under the Project for Reproductive Health Care and Child Malnutrition Improvement.

In 2016, the NTP for health was assimilated into the Health-Population Target Program 2016-2020, and nutrition became a component of Project Population and Development (1 of 8 projects). The objective of the new program was “To reduce mortality and malnutrition in mothers and children, narrowing the disparity of maternal and child health indicators among regions of the country,” and thus clearly identifying vulnerable ethnic minorities for special attention.

The interventions in the new NTP for health include:

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65 Only one other project (micronutrient deficiency control) mentioned adolescents as a target group.
66 Resolution 73/NQ-CP of the Prime Minister approved a policy of investment in 21 target programs from 2016 to 2020, according to which the four previous health NTPs were consolidated into two target programs: Target program on health and population, including eight projects with a total implementation budget of VND20.4 trillion, and Target program on local health development, including three projects with a budget of VND22.5 trillion.
Training and supervision of work at the community level for nutrition interventions by CHS and village health workers.

- Practical instruction on food preparation and nutrition care for pregnant women and mothers with children younger than five who are under- or over-nourished. Development of malnutrition intervention models appropriate to each region.
- Vitamin A supplementation and other nutrition promotion campaigns.
- Supply of nutrition products for pregnant and lactating women and malnourished children younger than five in poor, marginal poor, and socially protected families and in regions with nutrition emergencies.

Nutrition-Specific Interventions for Women Before Pregnancy

The following are programs and projects targeted at important elements of adolescent health and nutrition that directly affect LBW and stunting by ensuring that adolescents do not enter pregnancy before they have stopped growing and that they enter pregnancy in good health and with adequate nutritional status. Specifically, the health focus on adolescents is on prevention of pregnancy and preparation for parenting when they reach their 20s.

_Trials of Weekly Iron and Folate Given to Adolescent Girls_

An initial 12-month trial of weekly iron and folate supplementation in Yen Bai province in 2005 and 2006 decreased anemia in women of all ethnic groups. Weekly iron and folate supplements and regular deworming treatment were provided free and made universally available for women and girls of reproductive age in two districts over a 12-month period in areas where anemia rates were high. The program reduced the prevalence and severity of anemia, iron deficiency, and hookworm infection (Casey et al. 2009). After this initial success, it was extended in 2006 to the entire province and continued for an additional 72 months from 2006 to 2012. At the end of six years, 72.0 percent of participants reported still taking at least 75 percent of the weekly supplements, and 85.0 percent had taken the most recent deworming treatment. Results were dramatic; anemia fell from 37.8 percent to 14.3 percent, and hookworm prevalence dropped from 75.9 percent to 10.2 percent (Casey et al. 2017). Although the cost per person was low (USD0.76 per woman per year) the cost to the province of supplying weekly supplements ran as high as USD200,000 per year—well beyond the provincial budget. The project was discontinued as a result, although it has been included as an “unfunded” activity in NPAN 2020.

In 1995, Vietnam began an iron supplementation program for nonpregnant women aged 15 to 35 of one 60-mg ferrous fumarate tablet plus 400 μg of folic acid per week for 16 consecutive weeks per year. This was coupled with a supplementation program for pregnant women with the same preparation and dose of iron. More than 100,000 pregnant and reproductive-aged women received annual supplements from the program, but in 2005, UNICEF stopped providing iron tablets for the program, leading to a temporary disruption in supply and coverage. After funding was stopped, NIN adopted a social marketing approach

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67 Including micronutrient supplements, multiple micronutrient powders, ready-to-use therapeutic foods, and other fortified foods according to availability of funding.
for the general population, along with some secure funding from the PEMC budget at the central and local level to provide coverage for targeted populations, but coverage and compliance have remained a challenge. A 2015 survey showed coverage in pregnant women of 69 percent in rural areas, 61.2 percent in mountainous areas, and 58 percent in urban areas. Coverage of nonpregnant women has not been recorded.

Programs to Prevent Adolescent Pregnancies

Programs to prevent adolescent pregnancies in Vietnam are not well subscribed to in ethnic minority populations. Even if sexual and reproductive services are affordable, fears and cultural beliefs and practices create significant barriers to the unmarried youth who need them (Hoang, Nguyen, and Duong 2018; UNFPA 2008). A recent UNFPA report noted that adolescent sexual and reproductive health is not adequately covered and that materials are not generally available. This was a general comment and not specific to ethnic minority communities, where it is likely that access to this information is even more limited (UNFPA 2007).

From 2004 to 2010, there was a pilot project aimed at evaluating expansion of adolescent-friendly contraceptive services that eventually reached 28 sites in 17 of Vietnam’s provinces at the end of the six-year period. This was part of the MOH pilot of a number of intervention models on sexual and reproductive health of adolescents for girls in and out of school. A United Nations brief on young people in Vietnam (2012-2016) noted that 35 percent of unmarried young people had an unmet need for contraceptives (not specifying ethnic minorities in highland populations, which may have a higher prevalence of unmet need) and that approximately one-third face barriers when trying to access reproductive health information and services (UNV-WYP 2016).

Nutrition-Specific Interventions for Pregnant Women

Iron, folate, and multi-micronutrient supplementation

As a program, iron and folate supplementation receives active support from health workers and communities. The supplements are available for sale at health facilities to be used as recommended. In disadvantaged areas, the supplements can also be acquired through a flexible application of health insurance (which is free for poor people) or by mobilizing other external aid from NGOs and other agencies. Based on a 2015 national micronutrient survey (Nga and Van 2017) that NIN conducted in six provinces, the self-reported coverage of iron supplementation was 62.7 percent (61.2 percent in mountainous areas) in pregnant women and 23.4 percent (25.1 percent in mountainous areas) in lactating women. More information was available from a previous survey, the General Survey 2010 (NIN MOH 2012), which revealed that 57.6 percent of pregnant women had iron supplementation in the first trimester and 25 percent in the second and third trimesters and that 14.7 percent never obtained supplements.
Multi-micronutrient supplementation was implemented on a small scale before 2014, with the PEMC program providing supplies for women living in vulnerable areas. In 2015, coverage of multi-micronutrient supplementation was 20.5 percent in pregnant women and 6.4 percent in lactating women, irrespective of funding resources (mostly from out-of-pocket payments by urban women) (Nga and Van 2017). The survey was small (not a large enough sample to disaggregate according to ethnicity or location) and was only administered in six provinces, but it suggests the urban–rural difference noted above and slightly better uptake in mountain areas (16.4 percent), but these numbers must be accepted with caution. The poor uptake was because of the expense and because of a lack of a convincing BCC strategy to convince families of its effectiveness.

Nutrition-Specific Interventions for Health and Nutrition of Children

Disease Prevention

Malnutrition has been described as the ‘most common immunodeficiency’ disease in the world (Prendergast 2015). Malnutrition and vaccination are inextricably linked; they are elements in a vicious cycle in which disease reduces a child’s appetite and consumes calories and nutrients that the child’s body needs to defend itself, which leads to greater malnutrition, greater immunodeficiency, and greater susceptibility to disease. Vaccinations can help break that cycle and prevent malnutrition—including stunting—by preventing the disease from occurring or by lessening the effect of the infection and modifying the body’s response.

Nationally, full vaccination for infants, pregnant women, and women of reproductive age has continued to be maintained at a high rate of more than 80 percent nationally, and more than 92 percent of the Kinh majority (figure 24) (GSO-GOVN 2014), but full vaccination coverage has been reported to be less than 50 percent in many districts and communes in the northern mountainous area and less than 30 percent in a number of communes for individual vaccines, such as hepatitis B. Vaccination outreach at the village level has been curtailed in areas where vaccines are given only at certified health clinics, making it difficult for children living in remote ethnic minority villages to access the service. Infectious diseases in the Expanded Program on Immunization (measles, diphtheria, pertussis, hepatitis B) are still not sustainably eliminated because of continued exposure of a host population that has been insufficiently vaccinated.
Although Vietnam has malaria under control, having reached the global target on malaria prevention (malaria incidence is 18/100,000, mortality is 0.003/100,000), provinces in the central highlands are disproportionately affected, including by multidrug-resistant *Plasmodium falciparum*, which accounts for half of cases in the country. The country is implementing the National Strategy to Control and Eliminate Malaria 2011–2020, of which the National Program for Malaria Control is within the scope of Project 1 of the Health Target Program (prevention and control of some dangerous infectious diseases and common noncommunicable diseases). The interventions include equipment, medicines, research and capacity building, and monitoring and supervision. As with other health target programs, the central budget for this program has been cut since 2014, although secured funding for malaria control is available from the Global Fund for TB, AIDS, and Malaria through an official development assistance project designed to intensify community-based malaria control, targeting key risk groups, and enhance the functioning and sustainability of Vietnam’s malaria control efforts in 31 provinces (of which seven are in the north mountain area and five in the central highlands).

Heavily forested areas and families living on the edges of forests in hilly areas in the southern and central provinces are targeted because malaria control is not equal throughout the country. These areas—many of them inhabited by ethnic minority groups—are affected disproportionately (Erhart et al. 2005). Migration, increasing anti-malaria-drug resistance, and consequences of a changing climate present continuing challenges to addressing this disease. Furthermore, maintaining donor investment in a country that

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68 See Vietnam General Health Risks: Malaria, [https://www.iamat.org/country/vietnam/risk/malaria](https://www.iamat.org/country/vietnam/risk/malaria)
appears to have achieved its goals, when other countries continue to have problems, is necessary if malaria is to be eliminated in the country.\(^{69}\)

The Community-Based Deworming 6116 Program has been conducted nationwide and was initially linked to the twice-a-year vitamin A distribution campaign for children two to five years old. New MOH guidelines on community-based intestinal deworming in 2016 by the National Institute of Malariology, Parasitology, and Entomology recommend that deworming be done twice a year for all family members through the Community-Based Deworming 6116 Program. (The name is derived from the recommended days for deworming of January 6 and June 1.)\(^{70}\) The 2015 NIN national micronutrient survey revealed that coverage of deworming was 12.5 percent in children aged 24 to 59 months (in the last 6 months), 13.4 percent in reproductive-aged women, and 2.6 percent in pregnant women. Deworming of soil-transmitted helminths (particularly roundworms), along with low-dose beta carotene supplements, can significantly increase vitamin A absorption (Haque et al. 2010). A recent study based on a review of data from 325,114 children from 66 DHSs from 2005 to 2016 showed a statistically significant albeit modest effect of deworming (a 1.2-percentage-point decrease from average) on stunting in preschool-aged children (Lo et al. 2018).

Worm infections are a problem in Vietnam, particularly in the northern mountain and highland region (prevalence 65 percent) and the central highlands (prevalence 28 percent). The prevalence is highest among preschool- and primary school-aged children and women of reproductive age. The MOH Guidelines on Community-Based Intestinal Deworming\(^{71}\) recommend that deworming be conducted every one or two years and, in highly endemic areas, twice a year (frequency depends not only on severity of prevalence in the region, but also availability of funding) for those over the age of 12 months (except for pregnant women in the first trimester and lactating women). Depending on the situation, each province makes its own decision on the frequency of and target population for deworming.

Hygiene has been promoted in Vietnam since 2012, when the Prime Minister decided to name July 2 as “Hygiene Day for Health Promotion” and launched “Patriotic Hygiene for improving people’s health” in Directive 29/CT-TTg. The Prime Minister assigned relevant sectors and all administration levels to implement comprehensive approaches to raise the population’s awareness to address hygiene, particularly changing unhygienic behaviors. Communication activities, training, and materials on hygiene promotion have been developed in community, school, and health facilities. The movement has been

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integrated into the NTP-NRD focusing on two hygiene practices—hand washing with soap and using hygienic latrines—although awareness and consciousness of the community and interest of and investment by localities in sanitation and hygiene are limited. A recent MOH investigation revealed that only 23 percent of people wash their hands with soap before eating and 36 percent after going to the bathroom. More social BCC activities should be conducted because changing behavior will take time and requires strategic approaches, especially for ethnic minority groups.

**Disease Treatment**

The Integrated Management of Childhood Illness was initiated in Vietnam in 1996, with the goal of reducing child mortality and morbidity by managing common diseases in children such as acute respiratory infection, diarrhea, malaria, measles, hemorrhagic fever, and malnutrition. The National Institute of Hygiene and Epidemiology manages this program, but it is no longer implemented as a stand-alone program, as initially planned. Activities for its three components (better management of child illness, monitoring of the health system, better family and community health care practices) have been integrated into existing community child health care programs. It is unclear from a review of the literature and discussion with members of the Institute of Epidemiology and Hygiene what the future of this program is. Also, with the exception of a 2015 report of an evaluation of knowledge, attitudes, and practice of some well-educated rural mothers in the southern provinces of Vietnam that showed positive findings regarding breastfeeding and newborn care but gaps in knowledge about diarrhea and pneumonia (Thac et al. 2016), it has been difficult to find a process or outcome evaluation of its effectiveness, particularly as it relates to training in undernutrition and acute malnutrition.

**Infant and Young Child Feeding**

IYCF has been promoted mainly through nutrition education and social BCC. Nutrition education and social BCC have been promoted in recent years, including by organizing annual nutrition communication campaigns (e.g., Micronutrient Day, Breastfeeding Week, Nutrition and Development Week), developing nutrition education and communication materials (e.g., printed materials, television programs), and enhancing nutrition education and communication activities through social networking (e.g., websites, fan pages, electronic newspapers) and in the community through other successful models. Communication activities have been conducted at different levels from central to community through the health system network with the involvement of social organizations and mass media, although in the last three years, there has not been a budget allocated at the central level for nutrition education and communication campaigns, dissemination and publication of

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72 See the following for models from the PEMC, Alive and Thrive, and World Vision:
communication materials, or active broadcasting on mass media. Some communication activities are still being conducted using other resources, such as international funding, local funding, and private sector support. Health and nutrition-related interpersonal communication is being delivered at the community level under the umbrella of the PEMC program. Topics being covered include IYCF, pregnancy care, and micronutrient deficiency control.

More than half of pregnant women and mothers with children younger than two attend nutrition education sessions annually (Tuyen, Mai, and So 2017). All reproductive health centers at the provincial level have nutrition counseling activities. NIN, in cooperation with Alive and Thrive (a nutrition project funded by the Bill and Melinda Gates Foundation), established more than 1,000 standardized nutrition counseling centers (Little Sun Counseling Service) in 15 provinces73 from 2010 to 2014. NIN maintains these without any budget from the central government, although there have been questions as to whether this model, once very successful, can be sustained and function without secure financial resources.

Critical social BCC activities such as growth monitoring and promotion, food demonstration, and nutrition clubs that were very active before the 2014 central budget cuts are no longer being implemented regularly, significantly reducing the frequency of health worker contacts with caregivers to deliver nutrition messages. In addition, the lack of capacity of village health workers who are now in charge of nutrition interventions and insufficient equipment and tools that the NTP once funded (e.g., anthropometric measurement scales; growth charts; information, education, and communication materials) are major constraints, especially in provinces where additional funding from local government is unavailable for nutrition programs, and especially those in largely ethnic minority provinces.74

**Micronutrient Supplementation**

Since 1995, the country has been recognized as xerophthalmia free, but subclinical vitamin A deficiency still exists. Vietnam has operated a vitamin A supplementation program since 1988 that was increased to national coverage in 1993 (Khan et al. 2002). High-dose vitamin A supplementation is provided twice a year for six- to 36-month-old children nationwide. In 22 disadvantaged provinces, children aged six to 59 months old are supplemented. A national micronutrient day has been held yearly on June 1 and 2 (including activities for control of vitamin A, iodine deficiencies, and anemia). A second mass vitamin A administration campaign is implemented nationwide in December. Postpartum mothers take

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73 Only two of these provinces are in the central highland area; none are in the northern mountain area.

200,000 IU within the first month after delivery. Severely malnourished children and children with measles, diarrhea, and acute respiratory infection admitted to hospitals are supplemented with the same dose.

Although the government has maintained adequate vitamin A supplies since external support ended in 2005, there has been insufficient supervision and regulation in distributing vitamin A to sick children and postpartum mothers who would be in hospitals and maternity wards. In the most recent micronutrient survey, coverage of vitamin A supplementation on campaign day was 76.7 percent of children (75.7 percent in mountainous area) and 42.4 percent of postpartum mothers (49.5 percent in mountainous area). The reported coverage from the PEMC system was greater than 90 percent for children and 70 percent for postpartum mothers.

Since 2014, NIN's micronutrient powder BIBOMIX for malnourished children in seven provinces has had limited uptake by poor populations because of cost and lack of product acceptability. From 2010 to 2013, with adequate budgetary allocation, the PEMC program provided multi-micronutrient powder for malnourished children in certain communes of 18 disadvantaged provinces (categorized according to poverty and child malnutrition level) mostly in the northern mountainous area and central highlands, but because of budget cuts, the newer product, initially available in four provinces and expanded to three more, has been promoted through social marketing only and has not reached desired levels of acceptance, in part because of cost (Turk et al. 2017). Therefore, although it is promoted and recommended in many technical guidelines, it has never been made a mandatory component of nutrition interventions, but instead is a product that can be provided when funding can be secured.

Zinc supplementation has also not become common practice, even though there are technical guidelines from MOH on zinc supplementation after diarrhea for children. There are many reasons for this, including health provider lack of knowledge of its importance and unavailability of the supplements, especially in primary health care units. Recent data confirm that zinc deficiency is a public health problem (figure 7) (Laillou et al. 2012; Nga and Van 2017).

**Management of Moderate and Severe Acute Malnutrition**

National guidelines for the Integrated Management of Acute Malnutrition (IMAM) program were have been developed and approved by MOH. There are more than 200,000 cases of severe acute malnutrition (SAM) per year (NIN). To accelerate the treatment of SAM, community-based treatment with ready-to-use therapeutic foods (RUTFs) is recommended. In a joint effort by NIN, UNICEF, and the Institut de Recherche pour le Développement, a local RUTF was developed and tested. The product was optimized for effect and acceptability. The IMAM program, developed at the same time, was highly successful in treating children with

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75 Zinc deficiency is 69.4 percent in children and 63.6 percent in women of childbearing age.
SAM, with more than 90 percent of the children recovering. From 2013 to 2015, UNICEF, Plan International, and PEMC operated the IMAM program in more than 100 communes nationwide, mostly in the northern midlands and mountainous region and central highlands, where SAM rates were high. During that period, approximately 4,000 children with SAM were treated annually in the community. Since 2016, there has been no external funding to maintain the program. UNICEF and NIN have worked together to advocate for inclusion of the cost of IMAM in child health insurance, but RUTF was considered a food, not a drug, so it could not be included on the essential drug list. Advocacy efforts to include SAM treatment in the basic intervention package so that sustainable funding for IMAM treatment is available to expand are continuing.

In 2016, in response to the nutrition emergency due to prolonged drought and saline intrusion in 10 provinces of Vietnam (two in the central highlands), UNICEF collaborated with MOH and MARD on a humanitarian assistance program that provided SAM treatment for 7,640 children, micronutrient supplementation for 83,569 lactating and pregnant women and for 62,279 children aged six to 23 months, and access to safe water for 78,000 affected households. Nevertheless, greater advocacy for integration of nutrition into the National Plan for Emergency Preparedness is needed so that it can become a formal component of the government plan, not just part of aid initiated by UN agencies.

Nutrition-Specific Interventions for the Whole Population

Food Fortification Programs

NIN implemented the National Food Fortification project in Vietnam from 2012 to 2017. With the support of GAIN, the project reached a large proportion of the population, especially poor and vulnerable groups living in areas where a high prevalence of micronutrient deficiencies was expected. These people were able to afford food. Edible oils fortified with iron, zinc, iodine, and vitamin A have reached a wide range of consumers (with 39 percent of surveyed consumers selecting fortified products). Together with government ratification of Decree 09/2016/ND-CP in 2016 on mandatory food fortification, the program results motivated some 50 private partners to participate actively in the program. Nevertheless, food industry groups have objected to the decree, citing technical difficulties and possible problems of interactions between iodine and other ingredients and problems with their clients in acceptance of products made with fortified wheat flour. This has led to a delay in implementation of the decree.

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76 See https://www.youtube.com/watch?v=lOukMpv98fj
77 See https://vietnamnews.vn/society/health/374129/viet-nam-un-fight-drought-malnutrition.html - S3hBh93pOGOiUP8T97
From 1995 to 2005, Vietnam increased iodized salt coverage from 33.4 percent to 92.3 percent. Subsequently, due to reduced attention to the program, coverage fell to 60 percent in 2014 (National Hospital of Endocrinology 2017). The rate of goiter in children aged eight to 10 years old is 9.8 percent, and the median level of iodine is 8.3 µg/dL. Goiter prevalence in the mountainous areas is higher (12.1 percent), and in the same areas, 30.5 percent of the population has urinary iodine levels less than 10 µg/dL, which is probably a reflection of poor soil quality from overuse and erosion. A lack of reinforcing policy and funding (for potassium iodate to produce iodized salt) were the main reasons for the decline. A recent revision of the iodine deficiency disorder program and the issuance of Decree 09 in 2016 on mandatory salt fortification are current efforts of the government to address the problem.

Mandatory food fortification is pending for three food products: iodized salt (applied for in March 2017), iron- and zinc-fortified wheat flour, and vitamin A–fortified edible oils (applied for in March 2018). Other fortification options are voluntary and promoted using a social marketing approach, so they have mostly reached populations with better access to the modern market and rarely those in ethnic minority provinces with limited access and purchasing power.

Gaps in Nutrition-Specific Interventions and Approaches

Gaps in PEMC

PEMC is an umbrella program that covers interventions that target protein–energy malnutrition in women and children younger than five years. However, although it is not focused specifically on the interventions and age groups that have been the target of the 1,000-day window of opportunity approach and lacks some of the crucial elements of that strategy that would be more effective in preventing protein–energy malnutrition in women and children, it is a useful nutrition-specific intervention (Imdad et al. 2017). The gap is in the lack of programming targeted at periods when children are most vulnerable to malnutrition: the intrauterine period from conception to birth and from birth through two years. As a result, it programs and pays for interventions that may not be the most efficient use of resources (e.g., food preparation courses.)

There are gaps in content in the program that result from the fragmentation of interventions that tends to occur with vertical programs that fall within other departments (e.g., disease prevention in Preventive Health, deworming in Institute for Pathology). The intent (and often practice) is to combine these interventions at the community level, where, for example, vitamin A campaigns are linked with deworming. As for the target population, the program would be improved by a greater focus on pregnancy (and prepregnancy). The focus of the vitamin A campaign (now managed by the Child Malnutrition Control program (or PEMC)), for example, is on children aged six to 36 months in general and children aged six to 59 months in 22 of the poorer provinces. A focus on
children younger than two, as the evidence in the 1,000 days approach supports, may prevent dilution of program resources, particularly in resource-poor areas, although NIN feels that it is too restricted in areas where there is greater deficiency.

**Food preparation classes may not play a significant role in preventing malnutrition**, but if the community asks for them, they can provide an opening for community participation in a nutrition activity. Some of the interventions dropped from the previous project (e.g., micronutrient deficiency prevention) are now a part of the PEMC because they reflected recommendations of the recent *Lancet* series that detailed evidence-based nutrition-specific and nutrition-sensitive interventions (Black et al. 2013).

**Because the changes in PEMC are no in line with some of the published recommendations of evidence-based nutrition-specific interventions, it would benefit from a critical review of its components** (Black et al. 2013). For example, targeting children younger than five instead of those younger than two may be popular in the community but, in a resource-constricted environment, may not be the most effective use of funds. Similarly, food preparation courses need to be evaluated to determine whether they improve community participation in other known nutrition-specific interventions.

**The discontinuations of the national intersectoral steering committee along with organizational changes at the provincial level have created uncertainty surrounding the capacity of the system to implement the programs.** Organizational clarity is needed, which a new directing body at the highest government level could facilitate (by reinstating the National Intersectoral Steering Committee for Nutrition). As the experience in other countries confirms, it is essential to clarify roles and responsibilities and unite all of the sectors involved in efficient collaboration in improving nutrition. The absence of an effective coordination mechanism has contributed to confusion regarding the role of different agencies in the health sector, for example in the overlap between the former three centers: reproductive health, preventive health, and health education.

**Gaps in Nutrition-Specific Interventions for Women Before Pregnancy**

**Gaps in Programs**

**More data on adolescent health and preconception nutrition are needed.** As noted in the nutrition-specific interventions and programs in the 2013 *Lancet* article (Black et al. 2013), adolescent nutrition is recognized as being critical to the prenatal environment of developing children. CEMA notes that adolescent pregnancy is "the most important cause of malnutrition in the country today" (personal communication). CEMA staff have identified that early marriage and subsequent pregnancies (more than half will become pregnant immediately after marriage) have a major effect on child and maternal nutrition. This is particularly true of the effect of adolescent pregnancies on stunting. Although at least 20 percent of stunting is the result of intrauterine nutritional insufficiency (Black et al. 2013) (an earlier study from Guatemala estimated that half are from intrauterine causes) (Li et al.
there is insufficient emphasis on programs to keep girls in school longer to prevent early marriage and pregnancy as a child nutrition measure.

**Access to sexual and reproductive health education and contraception by adolescents from all, but especially ethnic minority, communities is not emphasized, and adolescent health in general is missing from these programs.** Adolescent pregnancy is considered one of the most important causes of persistently high rates of stunting in the country and may lead to an increase in the number of closely spaced pregnancies, as mentioned above. Adolescent marriage and pregnancy are not found in all ethnic minority groups and may also be found in girls in Kinh majority households. More information is needed on the causes of this behavior (UNICEF/UNFPA 2017).

**Adolescents and Adolescent Pregnancy (Nutrition-Sensitive Effects)**

There is a general gap in information on adolescents and on the very high rates of adolescent pregnancies. In addition to the nutrition-specific causes of IUGR, there are nutrition sensitive effects as well: early marriage, early pregnancy and dropping out of school leads to limited life options for adolescents and a constricted space to develop their own personalities. (UNICEF/UNFPA 2017). Drop-outs have poor prospects for economic development, and LBW babies and children who are short are more likely to have poor cognitive development, leading to poor school performance (Alderman et al. 2006).

**Gaps in Nutrition-Specific Interventions for Pregnant Women**

**Gaps in the Programs and Projects**

Deworming of pregnant women should be considered in highly endemic areas in the mountain regions of Vietnam, but it is not widely practices. Although governments hesitate to give deworming tablets to pregnant women, WHO recommends deworming twice in pregnancy (in the second and third trimesters) and treating lactating women the same as women who are not pregnant (WHO 2018b). There may be other constraints that cause this gap, such as availability of deworming medicine or logistics in delivering it to pregnant women, but these can be addressed after the fear of unwanted effects is addressed.

The lack of weekly iron/folate supplements for young women and adolescent girls is another major gap in the program. Women do not begin receiving iron in pregnancy until they come to the health station for their first prenatal care visit, which may be late in the first trimester (20 percent of ethnic minority women) but is more often well into the second (57.8 percent) or even third trimester (GSO-GOVN 2014c). As a result, the developing fetus is deprived of this essential micronutrient, especially if the mother is anemic or iron deficient. Research from Vietnam in 2005 showed that weekly iron and folate tablets starting at least three months before conception ensure that a woman enters pregnancy with adequate iron
stores and hemoglobin concentrations. It also showed that weekly iron was safe and effective in preventing iron-deficiency anemia before and during pregnancy (Cavalli-Sforza et al. 2005, Casey et al. 2017).

Adequate levels of folic acid at conception can reduce the incidence of neural tube defects (e.g., anencephaly, spina bifida) by as much as 72 percent (Wald, Morris, and Blakemore 2018; Werler, Shapiro, and Mitchell 1993). However in Vietnam, foods are not currently being fortified with folic acid because of “lack of strong evidence of folate insufficiency in the country”. This remains the argument even though a GAIN study in association with NIN reported in 2012 that marginal folate status was found in 25.1 percent of Vietnamese women. The authors also found vitamin B₁₂ deficiency to be a public health problem and raised concern that, combined with marginal folate levels, Vietnamese women in areas without adequate animal protein intake could put their pregnancies at risk for neural tube defects if daily supplementation

79 was not provided in the months before pregnancy and the periconception period (Laillou et al. 2012). This inexpensive micronutrient needs to reach all women, particularly the difficult-to-identify population of women intending to get pregnant soon. Fortification has been shown to be an excellent way to augment folate stores in the body leading up to pregnancy and can overcome barriers of poverty and lack of education (Crider, Bailey, and Berry 2011). The government is reportedly hesitant to institute the program, citing a lack of clear data showing a significant level of folic acid deficiency in the population, although in multiple studies within and outside of Vietnam, use of an iron–folate mix before conception leads to children with better growth and fine motor development at two years of age (Casey et al. 2017; Smitasiri and Solon 2005).

The promising advances that the food fortification program has made, recede when the government decreases attention to and support of the program. It is unclear whether this is the result of the unsustainability of donor funds, as in the case of iron tablets that UNICEF was providing being stopped temporarily in 2005, or because of a lack of government investment in the program, but the government’s recent mandate for food fortification is a step in the right direction, although industry resistance seems to be thwarting it. It will only be effective if enforced and if resources are available to implement it. Mandatory fortification of salt as implemented in other Southeast Asian countries will offer an important case to study.

Another gap in the food fortification program is related to access and affordability and how these affect the reach of the program. Data are lacking that track the extent to which fortified foods reach remote, underserved areas where the need is greatest, and affordability is a significant factor. If only people in well-off communities who can afford them consume these foods, the primary purpose of fortifying them may be lost. In addition, fortification is

79 All B vitamins are water soluble and thus require daily dosages because they are not stored in the body, with excess amounts excreted in the urine.
not a complete solution for undernutrition and micronutrient insufficiency in children younger than two because their intake of any single food source is not likely to be sufficient to receive a full recommended dietary allowance of a micronutrient. Fortification programs are aimed at women of all ages. It is not clear whether fortification programs can coexist with supplementation programs without exposing consumers to dangerous overloads of micronutrients. At least in the case of folic acid supplements and fortification, studies from the United States indicated that this is not a problem (Bentley et al. 2006; Wolff et al. 2009).

**Gaps in Nutrition-Specific Interventions for Children**

**Gaps in Programs and Projects**

There is a gap in planning for anticipated increases in infectious diseases related to climate change, although Vietnam has been referred to in the popular press as “among five countries in the world to suffer the most from climate change.” Many hard-won battles may need to be fought again as the effect of natural disasters—floods, storm surges, droughts, prolonged periods of higher-than-normal temperatures, for example—increase vector populations and their spread. Microsimulations were used to project an increase in stunting (as a marker of undernutrition) in children of families with income of less than $8,000 per year and a 10 percent increase in prevalence of diarrhea by 2030 (Rozenberg and Hallegatte 2016). The projected increase in stunting matched predictions in a WHO quantitative risk assessment that foreshadowed a 0.9 percent increase in stunting (0.6 percent in severe stunting) attributable to climate change by 2030 in Southeast Asia (WHO 2014). The increase in stunting is attributed to the effect of climate change on cereal production and its effect on food security, as well as increases in diseases (e.g., diarrhea) and their effect on food intake. Recognizing climate change as a nutrition-specific (affecting diseases) and nutrition-sensitive (effect on agriculture) cause of stunting needs will be critical for future plans for combating malnutrition in Vietnam.

**Vietnam is not alone in having difficulties changing hand-washing behavior and use of latrines to replace outdoor defecation.** An inverse relationship between household hygiene (in particular hand washing with soap after defecation and before eating meals) and stunting has been demonstrated through research in India and other countries (Rah et al. 2015), but hand washing with soap and using latrines has remained a challenge in ethnic minority communities. Qualitative research from the northern provinces elucidate the cultural beliefs and attitudes that are in conflict with government-advocated and -supported actions for latrine use, and the difficulty of having soap and water available during extended periods working in the fields plus the absence of soap in schools, rather than a reluctance to wash hands, may prevent school children from hand washing with soap (Rheinländer et al. 80)

2010; Thanh Xuan et al. 2013). Application of this type of qualitative research—particularly community-based participatory research—in program communication and strategy development is needed.

**Budget related gaps**

**Budget cuts are creating gaps in crucial components of nutrition programs.** For nutrition education and communication, the cuts risk undermining programs that have been successful in providing nutrition counseling. The lack of resources has exposed the lack of capacity of village health workers to deliver on nutrition-related activities by decreasing access to externally provided training and information, education, and communication materials needed to promote nutrition-related topics. Measures by external donors and NIN may succeed in filling gaps for a short period, but without a steady supply of resources, these are likely to decay over time. For example, the government has rightly taken over the supply of vitamin A for national campaigns since UNICEF ended its supplies in 2005, but there are some questions about the supervision of distribution of these to high-risk children and postpartum mothers, with coverage figures varying. Along the same lines: the government has not found a satisfactory solution to the provision of multiple micronutrient powders to high-risk children. Cost and acceptability are given as limiting factors. There is sufficient research to suggest that a child deficient in one micronutrient is likely to be deficient in many, with the logical conclusion that supplementation should be with more than one micronutrient. This is the case in Vietnam. Sustaining the previous program through government funding rather than social marketing could remove at least one of the reasons for low uptake by poor families. The problem received national attention in the media in May 2017, when alarming levels of multimicronutrient deficiencies (particularly zinc) in young children and pregnant women were found.81

The lack of social health insurance and other government funding for RUTF puts the financial burden of humanitarian emergencies on external sources and thus exposes the vulnerability of the government to those providers. Recognition of the response to humanitarian emergencies resulting in acute malnutrition as a national public good would justify government investment in these interventions.

81 See https://vietnamnews.vn/society/health/376952/zinc-deficiency-rampant-in-vn-women-children.html#vXAmoefF2yqgCwl.97
Chapter 6: Nutrition-Sensitive Interventions and Approaches

Nutrition-Sensitive Interventions

Overview
Achieving sustainable nutrition security is fundamentally a challenge that requires, in addition to direct interventions, addressing the critical determinants of nutrition that reside across multiple sectors. Nutrition programs have traditionally focused on delivery of nutrition-specific interventions (those that target immediate determinants of undernutrition and development, such as adequate food and nutrient intake and decreasing burden of infectious diseases), but global evidence has shown that nutrition-specific interventions alone cannot eliminate undernutrition. Scaling up 10 of the most effective nutrition-specific interventions to 90 percent coverage in the 34 countries with the majority of the global burden of stunting is expected to achieve only a 20 percent reduction in stunting prevalence (Bhutta et al. 2013). In this regard, multisectoral nutrition-specific and nutrition-sensitive approaches present an opportunity to address the immediate, underlying, and basic causes of malnutrition across the life course.

Multisector cooperation is a crucial component of effective implementation of nutrition-sensitive activities and programs. In the current NNS, the Prime Minister assigned MOH the responsibility for working in collaboration with other ministries, sectors, and organizations, including international organizations, to provide guidance and develop, coordinate, and evaluate implementation of the NNS. Among other ministries and sectors at the central government level, nutrition focal units were designated to cooperate with MOH to achieve the objectives of the NNS and actively develop action plans to implement the NNS jointly. Many sectors and agencies integrated nutrition-sensitive interventions into their functional activities and NTPs, including MOET, MOLISA, MARD, VWU, Ho Chi Minh Communist Youth Union, the Farmer’s Association, and the Vietnam Federation of Labor.

Nutrition-Sensitive Interventions by MOH
The major goals and achievements of the health program are curative and preventive and include development of policies for improved service quality; capacity building of staff at all levels; and enhancement of interventions for nutrition, noncommunicable diseases, school health, vaccination, and medical products. Total spending from 2011 to 2015 was VND7,306 billion (~USD316.7 million), or 52 percent of the budget.

With Vietnam’s graduation to middle-income designation, the health program has faced difficulties in mobilizing international funding because it is no longer eligible for funding support open to low-income countries, but despite its improved national economic status, the local budget for health has been limited, particularly in poor and mountainous provinces.
**Population and Family Health**

Population and family health services can help limit population increases by reducing early pregnancies and lowering fertility rates with birth spacing can reduce the incidence of maternal depletion syndrome,\(^{82}\) which can lead to LBW, anemia, prematurity, and greater neonatal mortality. This effect is found in high-, middle-, and low-income countries (Kozuki et al. 2013; Wendt et al. 2012) and may have particular relevance among some of the ethnic minorities in Vietnam, in whom fertility rates are high.

**Population and Family Health** implements BCC activities for population and family planning and promotes family planning services including diversification of contraceptives, reproductive health care, and family planning service delivery. Coverage of basic reproductive health care service has expanded at the district and commune level particularly in lowland areas where the Kinh majority reside, and where most population and family planning indicators were reached or exceeded. Total spending from 2011 to 2015 was VND4,354 billion (~USD188 million), or 44 percent of the budget. The World Bank estimates that the total fertility rate in 2016 was 1.95,\(^{83}\) with a crude birth rate in 2012 of 15.9 percent (UNICEF).\(^{84}\) The proportion of married women aged 15 to 49 using contraception was 77.6 percent; 93.7 percent of pregnant women had one prenatal care visit was (UNICEF 2012), and 59.6 percent had at least four prenatal care visits. A skilled attendant assisted at 99 percent of Kinh deliveries but only 68 percent of those in ethnic minorities (GSO-GOVN 2014).

The effect of population and family health services was considerably lower in mountainous, upland, and largely ethnic minority areas and among adolescents, youth, workers in industrial zones, and migrants, whose accessibility to population and family health services has remained low and unmet needs high. Facilities, equipment, and human resources in district hospitals in many of these areas do not meet the demand for care and treatment of obstetric and neonatal emergencies. Access to and use of quality health care services before and after delivery in disadvantaged and ethnic minority areas are limited. The maternal mortality ratio and infant mortality are still high and declining slowly, and measures of stunting remain significantly higher than in the rest of the population.

**Health and Population**

The Health and Population Target Program\(^{85}\) includes interventions in the fields of infectious diseases and endemics, noncommunicable diseases, school health, food safety, HIV and AIDS, family planning, improved nutrition and health of older people. The main goals of the program from 2016 to 2020 are to complete 26 projects not

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\(^{82}\) A condition in which too-frequent pregnancies deplete many of the essential micro- and macronutrients needed for successful pregnancy.

\(^{83}\) see [https://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=VN](https://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=VN)

\(^{84}\) See [https://www.unicef.org/infobycountry/vietnam_statistics.html](https://www.unicef.org/infobycountry/vietnam_statistics.html)

\(^{85}\) One of 21 target programs in Vietnam.
implemented from 2011 to 2015 because of insufficient funding and to start some new projects appropriate to the current context in the country, with priority given to disadvantaged areas in the north mountains, central highlands, and southwestern regions. The program is nationwide, with priority given to some areas depending on component projects. The management agency is MOH. This target program has eight projects: prevention of dangerous infections and common noncommunicable diseases; expanded immunization; population and development (nutrition is one of its components); food safety; HIV and AIDS; blood transfusion safety; cooperation of residential and military medicine; and monitoring, supervision, and evaluation of program and health communication. The total budget is VND19,380 billion (including state and local budget, lottery, and official development assistance).

**School Milk Program**

The goal of the school milk program is to increase the height of preschool and primary school children by 2020. The Prime Minister’s Decision 1340/QD-TTg in 2016 ratified the program and the program’s main intervention is to promote daily milk consumption through policy development, education and communication, and technical assistance. MOH manages it in cooperation with MCST and MOET. Resources for the programs are mobilized from private sector (20 percent), family and community contribution (50 percent), and local government (30 percent) supports. Very few provinces have fully implemented the program because financial and human resources are limited, and technical guidelines for milk quality control are lacking. The exception is Nghe An, a poor province that receives donations from TH True Milk, a large dairy company with a farm in the province. There remain significant questions about the nutritional value of the program and its ability to achieve the goals it has set (to increase the height of children), given that it is targeting children older than during the 1,000 days when interventions are most effective.

**Nutrition-Sensitive Programs with MOLISA**

**National Target Program for Sustainable Poverty Reduction**

The program aims to achieve sustainable poverty reduction objectives that prevent poverty relapse by contributing to economic growth, guaranteeing social security benefits, increasing incomes (especially of people in poor regions), and facilitating access to basic social services (health, education, housing, tap water, hygiene, information). Through implementation of these interventions, it is expected that the program will contribute to achievement of the poverty reduction goal for 2016 to 2020 under the National Assembly’s resolution. The program management agency is MOLISA.

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86 Nutrition is not listed as a basic social service.
The program targets poor households, nearly poor households, and households just above the poverty line nationwide. Poor households in ethnic minority areas and women of poor households are given priority. Additional targets include people and communities in poor districts and communes, in communes in extreme need resulting from natural disasters in alluvial and coastal regions and on islands or in safety zones, in border communes, and in ethnic minority and mountainous regions under decisions approved by relevant authorities.

The major interventions of the program include investment in infrastructure to encourage development of means of production and people’s livelihood (roads, health facilities, schools, water supplies, irrigation systems), income generation, vocational training, capacity building, and access to information. The total budget for 2016 to 2020 is VND48,397 billion (state VND41,449 billion, local government VND4,848 billion, other sources VND2,100 billion). The program consists of Project 1 (Program 30a—reinforced investment for poor districts), with four subprojects, and Project 2 (P135—poverty reduction for poor communes), with five subprojects. The program has reinforced implementation of existing social policies that are nutrition sensitive for poor and marginally poor households, such as health (insurance cards), education (tuition, fellowship, boarding school for ethnic minority students), favorable credit (e.g., for higher education, household water supply and latrine construction, housing), electricity payment, agriculture and forestry promotion, production support, and poverty reduction.

Nutrition-Sensitive Programs with MARD

National Target Program for New Rural Development:
The program aims to develop new rural areas to improve people’s material and spiritual lives. To do this will require a socioeconomic infrastructure that integrates development of agriculture with industries and services that link rural with urban areas; a democratic, and stable rural community that maintains its national and local cultural identity; a protected eco-environment; and maintenance of security and order. The scope of the NTP-NRD is all communes nationwide. The management agency is MARD. The objectives are that, by 2020, half of all communes will meet the standards established for a developed community (28 percent in the north mountain area, 43 percent in central highlands) and that an average of 15 criteria per commune be met (13.8 in the north mountain area, 15.2 in central highlands). Of 19 criteria, one on culture-socio and environment has specific indicators for child stunting reduction and safe water and latrines, but there are no specific criteria for nutrition and, as mentioned above, no sense of the importance of nutrition for national development. The focus points for 2016 to 2020 are basic infrastructure, production promotion (restructured agriculture), environmental protection, and maintenance of safety and security. The resources allocated for this program will be VND193 trillion (state budget VND 63 trillion, local budget VND130 trillion).
Zero Hunger

The National Program of Action on "Zero Hunger" is an important initiative to eliminate hunger in Vietnam. It supports the next socioeconomic development plan, especially for NTPs on sustainable stable poverty reduction and new rural development. The National Steering Committee for the “Zero Hunger” program in Vietnam for 2016 to 2025 was established under Decision 804/QĐ-TTrg on May 12, 2016, with the task of assisting the Prime Minister in directing plan development for the National Program of Action on "Zero Hunger" in Vietnam. Of the five pillars of the program, Pillar 2 is specifically for nutrition interventions, which will be integrated into the existing Health Target Program (but with no extra budget). Other interventions are temporarily integrated into current poverty reduction programs with a shared budget from central and local social welfare funding. More proposals for extra funding are being developed in coordination with MARD for the next phase of the program. Even though the whole program is not active, it is an opportunity to integrate nutrition-specific and -sensitive interventions into one holistic program.

Safe Water and Rural Environment Sanitation (WASH): MARD (rural water supply), MOH (rural sanitation)

Total spending for this program from 2011 to 2015 was VND36,760 billion (~USD1.59 billion), of which 61 percent (VND22,566 billion) was in the form of low-interest loans to families through the Vietnam Bank for Social Policy for construction of sanitary facilities.87 The aim of the program was to increase access to and use of safe water and sanitation for target groups. Achievements have been modest. The 2014 MICS showed that 75.1 percent of households from ethnic minority communities (versus 94.8 percent in Kinh communities) used an improved source of drinking water. This was an increase of 6.7 percentage points from the 2011 MICS (GSO-GOVN 2011). The use of improved sanitation was not as high; 48.5 percent of ethnic minorities continued to use unimproved sanitation or no facility at all, whereas only 12.1 percent of Kinh households did so. Open defecation was still practiced in 26.8 percent of ethnic minority households (versus 2.4 percent of Kinh households) in the 2014 MICS, a number that was unchanged from the 2011 MICS (27.7 percent).

The lack of separate latrines for boys and girls in secondary schools can contribute to drop-out for adolescent girls once they reach menarche and have their first menstrual period. Lack of privacy and security, with the threat of embarrassment, can keep many of them home for the week of their menstrual period, thus missing substantial days of school, until they fall irrevocably behind and drop-out (Adukia 2017). MOET nationwide school latrine design regulations integrated UNICEF recommendations on separated latrines for boys and girls, which also accommodated the needs of children with disabilities.88 A recent school survey of 52 schools in five provinces included Lao Cai, which was the only province

87 As an example of funding sources, the breakdown of this figure is as follows: national government contribution, VND3,625 billion; local government, VND997 billion; international support, VND6,579 billion; loans, VND22,566 billion; other, VND2,993 billion. Loans offered at low interest to families for construction of sanitation facilities are part of a program that the Vietnam Bank for Social Policies operates.

88 See https://www.unicef.org/about/annualreport/files/Vietnam_2015_COAR.pdf
where the majority (54 percent) of those sampled came from ethnic minority communities. All of the 12 schools sampled reported having separate toilets for girls and boys. The overall proportion of schools having separate toilets for boys and girls in the survey was 98 percent (Iyer, Azubuike, and Rolleston 2017).

**WASH Integrated in NTP-NRD**

The Prime Minister issued Decision 104/2000/QĐ-TTg to ratify the National Strategy on Safe Water Supply and Rural Sanitation by 2020, with the objective that “all rural populations will use national standardized water with at least 60 liters/head/day and standard latrines and will practice good personal hygiene and keep good living sanitation.” As mentioned above, a national target program on WASH for the period 2011 to 2015 by MARD was also implemented, with priority given to poor households and disadvantaged and ethnic minority areas. Subsequently, WASH has been integrated into the NTP-NRD, as mentioned in Article 10 of Circular 05/2017/T-T-BNNPTNT in 2017 on guidelines on implementation of NTP for new rural development from 2016 to 2020, although it is unclear whether the shortcomings of the previous targeted program that led to its limited effect have been revised in the adaptation to the new NTP.

**Nutrition-Sensitive Programs with MOET**

**Preschool Education**

Universal preschool education is the priority of the government. MOET launched the preschool education program in 2009 and revised it in 2016 with clear definitions regarding the boarding scheme, especially with regard to diets appropriate to age groups. In its annual instruction to every school, it emphasizes the importance of healthy meals and quality of care in kindergarten and uses malnutrition reduction as a target of preschool education. A large project on school readiness promotion (with an investment loan from the World Bank) (WBG 2017a) was aimed at raising school readiness for five-year-old children, in particular for those from ethnic minority groups most vulnerable to not succeeding in school. The project supported selected elements of Vietnam's ECE program from 2013 to 2017. The efficacy of project development objectives was rated as substantial. The project played a significant role in increasing awareness of and support for ECE in communities and by the government. Government commitment and sustainability are high, as evidenced by increased budget support to new ECE policies and growing demand from parents.

The project contributed to poverty reduction and shared prosperity through its focus on ethnic minorities and disadvantaged children. The increase in full-day school and the accompanying lunch program benefited poor families most. To improve the quality of preschool education, ministries and sectors continued to make policy proposals to the government that would ensure that children living near the poverty line would benefit from priority policies for preschool children. Over the long term, preschool children will have the

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89 The Government has issued Resolution 6/2018/ND-CP to regulate lunch subsidies for preschool children and policies for kindergarten teachers, in which lunch will be subsidized for poor, marginally poor, and vulnerable
opportunity to develop physically and intellectually, contributing to the government’s effort to alleviate poverty for disadvantaged ethnic minority areas.

**Education and Training:**
The major achievements of the program were universal primary school education, improved quality of education, illiteracy eradication, foreign language teaching, and improved school facilities for disadvantaged areas. Fourteen of 48 boarding schools were built in 22 mountainous, ethnic minority provinces, although the 2014 MICS describes different circumstances for ethnic minority children: literacy rates were lowest in the northern mountains (87.3 percent) and central highlands (92.3 percent), with ethnic minority women and girls and those from the poorest households having the lowest rates; only 81.6 percent of children from the central highlands registered for lower secondary school; close to 69 percent of ethnic minority children aged 15 to 17 did not attend upper secondary school (GSO-GOVN 2014c), matching the age when adolescent pregnancies were at their height. (The mothers of 62 percent of the children in this age group who were not in school were not educated, reflecting a generational problem.)

**Education for Mountainous, Ethnic Minority, and Disadvantaged Areas**
This target program aims to invest in infrastructure for boarding schools for ethnic minority students, including through construction of kitchens and dining rooms. The management agency is MOET. The budget is VND5,100 billion. There is an additional need to follow up on this and other initiatives that have been put in policies to support the economic development of the northern midland and mountainous provinces and that have a wide scope of interventions that are nutrition sensitive. For example, Decision 27/208/QD-TTg of February 5, 2008, which proposed a number of mechanisms and policies to support socioeconomic development in these provinces by 2010, is an older decision targeted at regional development with an effect on nutrition-sensitive interventions. The expectation was that the target populations would be free of clinical or seasonal hunger, would enjoy universal lower secondary education by 2010, and would see improved learning and accommodation conditions of boarding schools for ethnic minority pupils (Hà, Tuyên, and Trương 2016). It is not clear to what extent this policy concept was implemented, but it indicates an interest by the government to achieve improvements using an area approach.

**Social Welfare Programs for Ethnic Minority Groups**
For the period 2016 to 2020, the government has issued many important policies for ethnic minorities and mountain areas for comprehensive development to sustainably reduce poverty and improve living conditions. Most of the policies and programs have assigned priority to these areas and populations. They include NTP-NRD (which mandates that resources invested for difficult, ethnic minority areas should be two to four times as high

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preschool-aged children, but care must be taken to avoid stigmatization that may accompany program subsidies for a subset of the population (e.g., minority groups, disabled children). The accompanying embarrassment can lead to school absenteeism and dropout (Bundy et al., 2009).
as for other regions), NTP-SPR (assigns Project 30a specifically for poor districts), and P135 (has increased components from previous period related to ethnic minority communities).

The government has also issued many specific policies, such as a policy to support socioeconomic development of ethnic minorities and mountainous areas for 2016 to 2020; a project to support socioeconomic development of ethnic minority groups with very few people for 2016 to 2020, which offers direct support for 12 ethnic minority groups in 93 communes of 12 provinces; a policy to support students and schools in difficult communes by providing such things as rice, meals and boarding accommodation. In the midterm planning, the government also allocated VND6,000 billion for school infrastructure in ethnic minority regions. There have also been other supportive policies, such as land allocation, production promotion, human resource development, job creation, favorable credit program, anti-early marriage, health insurance, and WASH.

Despite this considerable government investment in and attention to improving the conditions of these communities, the level of stunting has not decreased sufficiently or proportionately in ethnic minority communities. Some of these are policy concepts that have not been implemented or, if implemented, not sustained if sufficient funds are not allocated (Hà et al. 2016). Some of them are policies that require provincial or local government input to be implemented—a difficult requirement for ethnic minority areas where government revenues may be limited.

**Gaps in Nutrition-Sensitive Interventions**

*Multisectoral Cooperation and Coordination*

Expanding the number of ministries and institutions to be involved in nutrition-sensitive interventions is justifiable. In addition to the ones interviewed for this survey (MOH, MOET, MOLISA, MARD, CEMA, Institute of Social Science, VWU, Farmer’s Association, Vietnam Youth Union), there are others that manage components necessary for the advancement of any nutrition program (e.g., planning and investment, industry and trade, transport, construction, information and communications, science and technology, natural resources and environment). Some of these ministries and institutes may not recognize their contributions to improving nutrition because their connection to traditional nutrition-specific interventions may be remote. This, too, is a gap. This list reflects the broad scope of nutrition-sensitive interventions but given the difficulties in achieving full engagement of the present multisectoral partners in reducing malnutrition (or of mentioning nutrition in their objectives), structural changes should be considered, including reestablishment of central and provincial steering committees, that will facilitate motivation and accountability of all sectors involved in reducing malnutrition.
Population and Family Health
This program’s successes in reducing inequities in nutrition nationwide are highlighted more than its shortcomings. For this analysis, the emphasis must be on the latter. High fertility rates in some ethnic minorities are not mentioned, although they can affect maternal deprivation syndrome, which leads to anemia, LBW, and increased mortality of infants, children, and women. Managing fertility of specific ethnic minorities is a difficult, sensitive task and can only be done with the understanding and voluntary cooperation of the ethnic minority communities themselves.

Agriculture
Agricultural production is not sufficient to use only food-based strategies to reduce malnutrition. Agricultural investments seem to be biased toward increasing production and productivity of staple grains (especially rice), undermining the potential of agriculture to deliver the diverse foods needed to reduce micronutrient deficiency and stunting in ethnic minority populations. Traditionally, food security in many East Asia Pacific countries has been defined in terms of self-sufficiency in staple grains (primarily rice). This approach is not only detrimental to staple food production within the country but is also misaligned with shifting food demand and the need to produce greater quantities of nutrient-rich foods, including animal proteins, fruits, and vegetables. Rice-centric policies have failed to fully address the environmental, natural resource, nutrition, food safety, and food consumption considerations inherent in feeding and providing adequate nutrition to growing and increasingly urbanized populations. Consequently, many projects claim to promote “nutrition-sensitive agriculture,” but there are not strong links between agriculture and improved nutrition. Since Đổi Mới, there has been a tension between conversion of land to monoculture cash crops to achieve economic development targets that will attract investors and environmentally sustainable development of subsistence farmers in ethnic minority communities. This shift means that food security in ethnic minority households depends highly on availability of cash to pay for seed, fertilizer, and food to feed the family—cash that many ethnic minority farmers may not have.

Persistent Inequality in the Face of Pro-Poor Policies
The significant improvements in many health and nutrition (as well as economic) indicators in Vietnam have drawn international acclaim that tends to overshadow the equity concerns of some members of the government and the international community. Monetary poverty rates in some ethnic minority groups are as high as 61.5 percent, and multidimensional poverty is found in 81.1 percent of ethnic minority groups (UNICEF/UNFPA 2017). Economic and social inequity associated with many of the nutrition problems facing Vietnam (e.g., LBW, stunting, disease rates) persists, despite numerous policies aimed at improving the welfare and nutrition of ethnic minorities.

Preschool Education
Efforts to improve nutrition in preschool and reduce stunting should place more emphasis on children six months to two years old. Although MOET has achieved universal
preschool education for under-five-year-olds, this is not the age span covered in that program. An official at MOET (officer in charge of preschool education) indicated that the program was initially mandated to reach children from three months to six years old, but for logistical and capacity reasons, it covers children three to six years old. During the critical years between the child’s first and third birthdays, there are few programmatic opportunities for parents to visit a caregiver from outside of the family—someone who could objectively monitor the child’s health and nutrition. This creates a gap in child development and nutritional monitoring and counselling that the preschool program could fill in part.

This would move emphasis to the creche program (three months to three years old). During the discussion at MOET, it was acknowledged that ECCE, although mandated to provide preschool education to children three months to five years, usually reached children from three years to five years old. The three-month- to three-year-old period is a period during which prolongation of breastfeeding could be encouraged and supported, appropriate stimulation of child development emphasized, nonviolent positive discipline taught, and neglected or physically abused children detected. This period would also offer an opportunity for height could be monitored. This would require identification of caretakers and teachers able to work with infants and toddlers and development of knowledge of public health nutrition in the creche program.

Children of migrant workers who are extremely vulnerable to neglect could be cared for and monitored in an expanded preschool education program. It would require considerable capacity development in those caring for children in this program to enable staff to care for children living in these vulnerable environments.

Education and Health—School Milk, School Meals
The school milk program may reflect a misunderstanding of the determinants of stunting, if that is the goal of the program. It misses the population of children younger than two, who are most at risk of becoming stunted, as emphasized in the 1,000-day approach. (Children younger than two should be maintained on a foundation of breastfeeding and complementary foods.) School milk programs can benefit educational performance, particularly if children are significantly undernourished, but improvements in stunting outside of the 1,000-day period are negligible. This also applies to the lack of effect on stunting of nutrition supplements given to adolescent girls to enhance the adolescent growth spurt.

NRD and SPR

Nutrition is not mentioned as an outcome (or input) in the two NTPs, and tracking of critical nutrition indicators in ethnic minority provinces is missing from their monitoring system. This is a major gap and a missed opportunity, given the importance of these programs for overall development of communities.
Education for Mountainous, Ethnic Minority, and Disadvantaged Areas
More information on boarding schools is needed, including locations (e.g., distance from home), whether boarding is just during the week or for the term, staffing, safety and security, potential for abuse, nutritional inputs, and facilities (e.g., cleanliness and hygiene, privacy) because this is an important determinant of secondary school completion rates and one for which little information is provided. It is unfortunate that boarding schools are often singled out as dangerous environments for children because of their association in specific cases with child abuse and neglect. More information and transparency could help remove that reputation.

Ethnic Differentiation
There is a significant lack of acknowledgement of or reference to the effect of “ethnic differentiation” or unequal treatment due to ethnicity. From early experiences in schools, ethnic minorities suffer from negative stereotypes (Chi 2009). Generalizations are made in many cases to show that “ethnic minorities” are worse off than the majority Kinh population while ignoring that there are significant differences between and even within ethnic minority groups. The difficulty is in finding the data on these difficult-to-reach populations. Large-scale surveys cannot accurately capture the differences. The effect of ethnic differentiation needs to be considered as a powerful factor in determining nutritional levels.

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90 For example, although some ethnic groups promote child marriage, in others, the elders actively discourage it and encourage girls to continue with their schooling. Meanwhile, adolescent marriage in the Kinh majority is overlooked (UNICEF/UNFPA 2017, p. 8).
Chapter 7: Conclusions and Recommendations

Background
After decades of conflict that exacted an enormous price on the human and financial resources of the country, Vietnam has undergone a remarkable transformation. Its strong economic growth and transformation into a middle-income country has made it one of the strongest economies in Southeast Asia. Poverty rates dropped from 58 percent 20 years ago to 13.5 percent in 2014. Rural poverty declined 18.6 percent in 2014 (WBG 2017b).

Significant improvements in leading national indicators of health, nutrition, sanitation, and education have accompanied these economic gains. Infant mortality is now 17 deaths/1,000 live births, maternal mortality dropped from 139 deaths/100,000 live births in 1990 to 54 deaths/100,000 live births in 2015,\(^9\) and overall rates of malnutrition (stunting) were 24.6 percent in 2015, down from 36.5 percent in 2000. In the 2014 MICS, 82.9 percent of households used improved sanitation—an increase from 73.8 percent in the 2011 MICS; 99.2 percent of households are now electrified.

Vietnam has also made progress in achieving universal primary education, with a net enrollment rate of 98.3 percent in 2013 and a 97.5 percent completion rate for both sexes (OECD 2017). Enrollment in lower secondary education nationwide increased to 88.0 percent in 2013 from 70.0 percent in 2000. In each year, girls’ enrollment has lagged behind boys’, and the difference increased from three percentage points in 2000 to six percentage points in 2013. Nevertheless, the percentage of ethnic minority students to all lower secondary students increased from 11.3 percent in 2000 to 15.9 percent in 2013, in part because of the increase in semi-boarding and boarding schools for ethnic minority students (MOET 2015). Increases in youth and adult literacy have accompanied these achievements; youth literacy reached 96.8 percent in 2012, and adult literacy reached 89.1 percent, although there are differences between the sexes, ethnic groups in mountainous regions (adult literacy 83.9 percent in northern mountainous areas versus 94.9 percent in the Red River Delta), and urban and rural areas (MOET 2015).

National nutritional gains led to achievement of the hunger reduction goal of Millennium Development Goal-1. The goal of halving the proportion of people who are hungry (prevalence of underweight children younger than five, proportion of population below minimum level of dietary consumption) between 1990 and 2015 was achieved in 2008—7 years before the deadline. This remarkable achievement of improved household food security and reduction in underweight arose mainly from changes in agricultural production, improvements in dietary diversity, and minimum acceptable diets.

\(^9\) See [http://www.who.int/gho/maternal_health/countries/vnm.pdf](http://www.who.int/gho/maternal_health/countries/vnm.pdf)
The government, although proud of its achievement, is clear in its concern for those who have yet to achieve the benefits. Although hunger has been reduced nationwide, there are still pockets of hunger and malnutrition, particularly in ethnic minority groups. Stunting and underweight fell between 2000 and 2015 (stunting at a slower rate than underweight), but stunting remained highest in the northern mountains and central highlands and was three times as high in poor (38.7 percent) as in rich (12.9 percent) households (MOET 2015).

Despite these advances, lack of uniform gains has led to ethnic inequities, particularly as it relates to nutrition, and inequities are increasing. The gap in stunting between minorities and Kinh increased from 14.3 percentage points in 2010 to 16.4 percentage points in 2015; this is a recent problem that is not only persisting but is worsening and is a marker of inequities in nutrition and health care that affect ethnic minority women and children. The longer it persists, the more questions it raises for the government about the full extent of its achievements in other areas and the more questions it raises among the ethnic minority families about their place in society. This has served as the driving force for the government to identify the causes of inequity in the nutrition program at all levels. The purpose of this assessment and analysis is to provide some clarification as to the causes of this persistent problem and to offer recommendations based on conclusions drawn from each of the preceding chapters.

**Origins of Inequity Among Ethnic Minorities in Vietnam**

Vietnam’s hills and forested highlands have influenced its demography and the extent and persistence of inequity in measures of poverty, health, and nutrition. The isolation that the geography of the country engendered and the inaccessibility of many of its towns and communities preserved the cultural identities of various ethnic groups. As the country’s population grew, the ethnic majority community populated the more-fertile lowlands and river valleys that made up 20 percent of the country that was arable land.

During the second phase of Đổi Mới, these lowland areas became the agricultural engines for Vietnam’s remarkable increase in rice production that made it second in the world in rice exports and contributed to economic development that exceeded that of the highland populations. The advantage this provided allowed the majority Kinh population to grow more rapidly and increase their population density (Marzin and Michaud 2016). As density increased, demand for health and education services grew proportionately, and a government intent on improving national indicators for health, nutrition, and well-being—many of these in line with the Millennium Development Goals—responded, but access to and use of these services was uneven.

The ethnic minorities indigenous to the highlands and forests were thus historically out of the mainstream of socioeconomic development. They were often excluded from the developmental advances that the majority groups enjoyed through self-perpetuation of differences emphasized to protect their cultural identity and sense of place or because of externally imposed social exclusion because of their cultural differences, language, and
history—both clearly related. The heterogeneity of ethnic minorities compounded the problem of planning programs to reduce inequity because government efforts to reduce the gap between majority and minority population tended to lump ethnic minorities into a single homogeneous group, without distinguishing the cultural differences of one ethnic minority from those of the others.

**The Vietnamese government recognizes that nutrition is foundational to national development.** Addressing malnutrition has been one of 10 national priorities recorded in the 2016 to 2020 Socioeconomic Development Plan. Protection of peoples’ health has been a concern of the government since the country’s foundation. The commitment to eradication of hunger and malnutrition was behind the first NPAN (1995-2000) and the NNSs for 2011 and 2020; the NPAN objectives have been mentioned consistently in the resolutions of the party from the eighth party assembly in 1996 to the present. These are initiatives that have benefited the majority population the most because they have the capacity and skills to access and use them.

**The gap between the ethnic majority and minority has widened because of economic changes in the country.** As the economy has changed from predominantly agricultural to a mix of agriculture and technology, the requirements of the workforce have changed as well. Manual labor is still necessary but no longer sufficient. The need is for intelligent, highly educated, skilled workers. All of these characteristics require a healthy, well-nourished population. Although traditional economics saw the reduction of poverty as a precursor to nutrition and health, it is apparent that nutrition and health are also necessary for economic growth and the reduction of poverty. Deficiencies in nutrition and health in the ethnic minorities and their generally lower levels of education, lack of skills in the national language, and inability to migrate to jobs in urban centers have further hindered their ability to narrow the inequity, despite multiple government programs aimed at improving their health and nutrition and reducing their poverty.

**As a result, there is a vital gap in the economy that the 14 percent of the population (the ethnic minority) that has not benefited sufficiently from the programs that have benefitted the largely Kinh majority.** This is the result of inequities in nutrition, education, and health. The expectation is that, if those inequities can be removed, the contribution of these households and communities can become similar to those of the Kinh majority. Their role in the workforce and productive niche in the economy is likely to be different from that of the Kinh—many are looking for modernization without assimilation—but without improvements in life style and health—particularly nutrition—their contribution will always be diminished, and with widening inequity they will not benefit from the growth of the economy.

**Given the expressed importance of ethnic minorities to national development and the recognized importance of nutrition in improving their place in the community, it is unclear why financial resources have not been allocated to meet the need.** Global experience has shown that funding and strategic approaches needed to reach the last, most-vulnerable20 percent of the population are always higher than and different from those used
to reach the first 80 percent, but rather than increasing funds to reach minority groups, budgets for nutrition in the northern mountains have been reduced, leading to a resource gap. This has led to a devolution of responsibility for funding to the provinces, yet those provinces where the poorest families live, do not have access to sufficient revenue streams to be able to fund the interventions needed to effectively address malnutrition.

**Furthermore, the mechanism for monitoring nutrition inputs or outputs is limited, making it difficult to assess gaps in funding for nutrition programs.** Funds for nutrition-specific programs are directly spent on interventions with clear, measurable, and direct nutrition outcomes (e.g., micronutrient supplements, food fortification, increased food production). Chances of these being registered as part of a nutrition program are higher than for investments in interventions that are only indirectly involved in nutrition gains—"nutrition-sensitive" interventions (e.g., higher secondary education of adolescents to prevent early marriage and adolescent pregnancy, handwashing to prevent diarrhea to reduce intestinal malabsorption.) The required funds for these interventions as an extension of nutrition expenditures are often difficult to assess.

**In part, the widening gap in places where services are available, for example, villages where Kinh majority families and ethnic minority families both live, but ethnic minority families are unable to access services, is in part related to the capacity of staff working in health care delivery.** In managing a problem as intransigent and complicated as stunting of children in mountainous areas, everyone responsible for improving children's nutrition must be knowledgeable of (although not necessarily expert in) the multifactorial causes of stunting and their interconnections and consequent components. These involve all aspects of the social and political, emotional and physical, and intra- and interpersonal factors that are a part of the environment surrounding the child’s family, home, and community. This requires the cooperation and collaboration of multiple ministries, sectors, and departments—a function that was previously coordinated through an intersectoral steering committee at the central and provincial levels but that no longer exists.

**Human resource and institutional capacity is also needed to master new methodologies to increase participation of ethnic minority families in government programs.** With the migration of many lowland ethnic Vietnamese to the mountainous and central highland areas starting in the 1980s, many multicultural villages have been established. Monocultural villages are less common than they used to be, even in the northern mountains and central highlands, which means that ethnic minority households are in the same location as the Kinh majority who are accessing services provided to their communities. This being the case, the question arises as to why not all members of the community use these services if they are available. Community-level workers need communication strategies and research skills to find answers to these questions.
Causes of Stunting in Ethnic Minorities

Bivariate Causal Analysis of Determinants of Malnutrition

A bivariate analysis of immediate and underlying causes of stunting was derived from an analysis of NIN nutrition surveillance data. The major findings of statistical significance were the relationship between stunting, LBW, vitamin A supplementation, and the age of the child > two years (p<.0001). Two of these are understandable associations: LBW from nutritional deficiencies in pregnancy correlates with intrauterine causes of stunting and links the child’s health and nutrition with that of the mother. The association with a child older than two years is in agreement with evidence that stunting prevalence increases to its maximum at two years, after which the rate remains constant and does not decline (Victora and Shrimpton 2010). The association with vitamin A is of interest because other studies have shown little effect of vitamin A on stunting.

Not unexpectedly, there is less of an association with diarrheal diseases and fever measured by recall of an event in the two weeks before the survey. Acute diseases are unlikely to affect height but may affect weight. Diarrheal disease frequency, which is more difficult to measure, is a more important marker but is difficult to assess on the basis of this survey. (Recall of frequency of a common event beyond one to two weeks is unreliable.) (Feikin et al. 2010)

The age (≤ 18 years) and height (≤ 152 cm) of a mother are correlated with stunting of her children (p<.0001). The indirect or nutrition-sensitive causes that were statistically significantly correlated with stunting in children included the mother's lack of education, rural residence, and occupation as a farmer (p<.0001).

Examining the full range of immediate determinants (nutrition-specific) of malnutrition in ethnic minority women and children reveals that they fare worse on all indicators than the ethnic majority but one (early and exclusive breastfeeding). Ethnic minority women have higher rates of adolescent pregnancies and, before and during pregnancy, have poorer nutritional status, with lower BMI, higher rates of anemia, lower levels of vitamin A and other micronutrients, and more LBW babies as the outcome of poor intrauterine nutrition and care. Higher disease prevalence, with higher rates of parasitic and other infections, than their counterparts in the ethnic majority group compound these nutritional deficiencies.

Ethnic minority children also face daunting deficiencies. Although they have higher exclusive breastfeeding rates than Kinh children, the rates can still be improved and must at least be protected from competition from breast milk supplementation advertising. A comparison of MICS2014 with MICS2011 shows a disturbing trend of decreasing rates in ethnic minorities of early initiation and extended breastfeeding to two years, possibly as markers of increased exposure to the advertising of infant formula manufacturers, who reported spending more than USD10 million in Vietnam in 2009.
Despite the advantage conferred by early and exclusive breastfeeding, ethnic minority children have more bouts of diarrhea, likely contributing to high rates of environmental enteropathy, parasitic infestations, acute respiratory infection, intermittent (and, in some areas, chronic) food insecurity represented by lack of dietary diversity, and below minimum acceptable diets. They also have micronutrient deficiencies, including subclinical vitamin A, iron, and zinc deficiencies. They are born with LBW, and if they survive infancy, many become stunted, with intrauterine deficiencies affecting their potential cognitive development and earning power.

**These are significant deficiencies that have direct and specific effects on malnutrition.** They are visible and measurable and seem to be the most easily corrected. The government has created many policies and programs to address ethnic minorities who remain malnourished in a country of so many successes in efforts to improve the welfare of its citizens. Some of the attempts the government of Vietnam has made to reduce inequities affecting this group are described below and examined critically for answers to why the inequities persist.

**Nutrition-Specific Interventions to Prevent Malnutrition**

*Care for Women and Adolescents.*

**Insufficient attention is paid to adolescent health and nutrition, particularly for girls in ethnic minority communities who are not in school,** and particularly in preparation for pregnancy once they enter young adulthood (19-20 years). Care includes the same multisectoral inputs listed for pregnant women that combine nutrition-specific and nutrition-sensitive inputs: multiple micronutrient supplements, including weekly folate and iron from the time they enter higher secondary school; incentives for higher secondary school retention; mentoring and tutoring programs in lower secondary schools to help in preparation for higher secondary school; access to sexual and reproductive health services for girls and young women who are in and out of school; maximizing the boarding school environment for girls’ empowerment through education; access to vaccination (e.g., human papilloma virus); screening for tuberculosis; treatment for malaria and other diseases; deworming; and periodic vitamin A supplementation.

**Most programs for adolescent girls are school based and therefore less effective in ethnic minority communities, where dropout rates in upper secondary are high.** Once an adolescent girl leaves school for marriage, she becomes “invisible” to society until she becomes pregnant, after which she becomes of interest to the health sector. That period

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92 In the past, MOH, supported by UNICEF, offered young couples a “wedding gift” that included a number of items intended to sustain their health and nutrition: an insecticide-impregnated bed net, a month’s supply of weekly iron and folate, a packet of iodized salt, contraceptives to help them with birth spacing, a deworming tablet for each, and a bar of soap. The gift was well received, but the project was not sustainable because of funding constraints.
between leaving school and pregnancy is one of great vulnerability because of the lack of access to programs. Furthermore, various cultural and social barriers prevent these young women from accessing services even when they are available.

**Micronutrient Supplementation for Women**

Weekly iron and folate tablets were used successfully with school girls in 1995, but the program was discontinued because of lack of resources. Self-reporting of routine iron supplementation for pregnant women indicated that it reached only 62.7 percent of pregnant women (61.2 percent in mountainous areas). The PEMC program provided multi-micronutrient supplements for women in vulnerable areas, yet in 2015, coverage was only 20.5 percent of pregnant women and 6.4 percent of lactating women; urban women were most likely to acquire the supplements, paying for them themselves.

**Micronutrient Supplementation for Children**

Zinc deficiency in children remains a problem, with a wide gap between mountainous regions and urban centers. MOH recommends zinc supplementation after diarrhea in children, but because of health providers' lack of knowledge of its importance and lack of availability of the supplements in primary health care units, it has not entered common practice.

**Micronutrient Fortification for the General Population**

Food fortification (part of National Food Fortification from 2012-2017) reached a large number of people, even those in poor and vulnerable groups living in areas where the prevalence of deficiencies was estimated to be high, although uptake was largely by those able to afford to buy food, excluding many ethnic minority groups from its benefits.

The program for iodization of salt increased coverage from 33 percent to 92 percent between 1995 and 2005, although coverage fell to 60 percent in 2014 because of lack of government attention (lack of reinforcing policies) and the cost of potassium iodide. Mandatory food fortification was set to be in effect for salt (iodine), wheat flour (iron, zinc), and edible oils (vitamin A), until the food industry challenged the government, citing technical difficulties, possible problems of iodine interactions with other ingredients (salt), and problems with acceptance of products made with fortified wheat flour. Even in populations that consume these products and have good market access and knowledge of their advantages, food fortification and supplementation during pregnancy has yet to become common for pregnant women in Vietnam.

**Early, Exclusive, and Extended Breastfeeding**

Early and exclusive breastfeeding rates were higher for ethnic minorities, but between the 2011 and 2014 MICS, the gap between the four breastfeeding indicators changed. Ethnic minorities and the Kinh majority decreased their rate of early initiation, the ethnic minorities by a greater degree, and rates of exclusive breastfeeding and use of appropriate complementary foods increased for both, more so for ethnic minorities. Nevertheless, by the age of two years, the advantage that the ethnic minorities had in extending breastfeeding
beyond the first year in immunity and quality protein intake had decreased significantly; the Kinh majority increased their continuation of breastfeeding at two years by 5 percentage points, but ethnic minorities had decreased their prevalence by 17 percentage points.

It is hypothesized that these trends reflected, ironically, a decrease in overall poverty in the country between 2007 and 2012 from 57.5 percent to 49.2 percent, with the largest decreases among ethnic minorities (although the poverty gap between minority and majority groups persisted) (Cuong, Tung, and Westbrook 2015; WBG 2018). Decreases in poverty are inversely related to expansion of advertising for breast milk substitutes. Infant formula manufacturers are constantly seeking new markets. Seeing the growing purchasing power of women from ethnic minority households in mountainous areas, it was only a question of time before the industry focused its advertising on those potential new customers. Related to this as another possible associated cause is the transition of women to wage-earning labor in the formal sector, with less time available to breastfeed.

Minimum Acceptable Diet
The difference in minimum acceptable diet (a composite of minimum dietary diversity and minimum meal frequency) between ethnic minority groups and the Kinh majority persisted for children younger than two. Ethnic minorities consumed much less food from high-quality proteins in animal foods and fats and more from cereals and starches.

Integrated Management of Acute Malnutrition
MOH developed the IMAM program guidelines to prepare a response to natural disasters and severe weather events arising from climate change. Vietnam is one of five countries globally considered most prone to the effects of climate change: coastal populations vulnerable to rising sea level, storm surges, and extreme weather events; mountain populations; droughts; flash floods; mudslides; and erosion, particularly in the face of environmental degradation. NIN has introduced a local RUTF that has been successful in treating children with SAM in the community. For sustainability, the program must be able to continue without the external funding support to PEMC that UNICEF previously provided. A proposal to include SAM treatment in the basic intervention package of the child health insurance has not been successful thus far.

Disease Prevention and Management
Disease prevention and management to minimize the infectious diseases that affect nutrition directly is the third most important of the overall immediate interventions to prevent malnutrition in children (after adequate food and nutrient intake and feeding, caregiving, and parenting practices). The burden of disease falls heavily on pregnant women and children. Intrauterine infections (e.g., toxoplasmosis, rubella, syphilis and other sexually transmitted infections, malaria, tuberculosis) have significant effects on intrauterine growth, LBW, and stunting, as well as neonatal and infant mortality. In addition, the physiologically reduced immunity of pregnant women leaves them more vulnerable to infections such as malaria and can activate latent tuberculosis; each can lead to LBW and stunting. Prevention of these intrauterine infections depends on diagnosis and treatment
(where possible) before a woman becomes pregnant but is not included in screening of adolescents and young women.

**Childhood diseases that affect nutrition are almost all related to poor sanitation and environmental and personal hygiene and are preventable and treatable but, at a basic level, require a multisectoral collaborative approach.** Diarrhea becomes a threat to growth (and development) when it is frequent, a variable that is not readily measured in national surveys. (Recall beyond one to two weeks for something as common as diarrhea is notoriously unreliable.) The reason for including a question about having diarrhea in the two weeks before the survey (found in MICS and DHS) is to gauge the quality of the environment with regard to diarrhea. Environmental enteropathy, which results from chronic fecal-oral contamination, is believed to be found in people who live under poor sanitary conditions and are continuously exposed to fecal (animal and human) bacteria, by ingestion of food and water contaminated with feces. It affects not only growth, leading to stunting, but also neurocognitive development. Treatment is ineffective; prevention involving hand washing with soap and improvements in environmental and personal hygiene is the best approach.

**Nutrition-Sensitive Interventions to Prevent Malnutrition**

Nutrition-sensitive interventions and determinants are those that address underlying and basic factors that affect fetal and child nutrition and development and form the focal hubs (or delivery platforms) for multisectoral collaboration and cooperation. They create the foundation to support nutrition-specific interventions by providing food security (adequate land, seed, and compost for subsistence farming; agricultural extension support in the case of blight, infestation, or other causes of crop failure; sufficient income to buy appropriately diverse and sufficient food if home crops are not available; education regarding storage and preservation of surplus to create buffers to natural shocks), adequate resources and other support for child care for mothers at home and in the community, access to adequate health services and a clean and hygienic environment, and opportunities for age-appropriate education. It is at this level that the ability to implement interventions goes beyond the capacity of a single ministry or institute and requires multisectoral involvement. There are few programs or policies that bring together multisectoral inputs to correct malnutrition, a situation that the absence of nutrition in the two NTPs (NRD, SPR) does not help.

Because underlying determinants of undernutrition have an indirect effect on the nutritional status of women and children, they are often not recognized as being effective, not to mention of great importance in correcting persistent problems such as stunting. This is a major barrier to intersectoral cooperation. Adolescent pregnancy is an example. It is responsible for at least 20 percent of stunting in the target population. Keeping girls in secondary school, which is an evidence-based intervention proven to reduce the incidence of early marriage and pregnancy, requires collaboration of MOET, MARD, Ministry of Construction (in urban areas), and MOH, but when most representatives of MOET were asked what their involvement was in nutrition, they mentioned primary school feeding
programs. These programs are important for a variety of reasons, such as enrollment, retention, school performance, and social transfers, but not as important for improving nutritional status because they reach most children after the 1,000 days of greatest vulnerability (conception to two years old). Similarly, one of the reasons that girls drop out of school early is that separate toilets for girls and boys are not available in their school, but few representatives of MARD or the Ministry of Construction would immediately make the connection between the effect of girls’ toilets in secondary schools on nutrition by increasing girls’ retention in higher secondary school.

Agriculture and Food Security

Food security is still a challenge for ethnic minority groups, who have a higher poverty rate than the Kinh or Hoa people. Ethnic minority groups, who often reside in remote areas, have limited access to infrastructure, information, markets, and other services. Low-quality land and limited education, which can be a barrier to accessing nonagricultural work to supplement household incomes, are crucial elements of this group’s vulnerability. Dietary quality is also much poorer in ethnic minority communities than in Kinh majority communities, as evidenced by lower rates of minimum dietary diversity and minimum acceptable diets.

Ethnic minority families with low incomes and poor access to credit are unable to buy land available for private sale. As a result, their productive land holdings have been reduced to the point where they cannot support subsistence farming and produce enough surplus produce to sell in the market. Farmers have also opted for high-yield maize crops that are vulnerable to aflatoxins and require annual (cash) purchase of modified seeds and, with the pressure to increase production, also require the purchase of chemical fertilizers, the run-off of which pollutes streams and other water sources. Traditional night-soil fertilizer is used because of the need to increase production, increasing soil-transmitted parasites. Imported food is purchased to fill the gap that the change from subsistence to cash crop farming causes, leading to changes in traditional diets and loss of dietary diversity. With the new demands of a barely sustainable cash economy, farmers cope by selling more land, equipment, and other assets and reduce the quantity of the food for the table—a vicious circle. Migration to the cities is difficult for many who do not speak Vietnamese or who feel compelled to stay in their mountain homes for cultural reasons.

Each of these factors might have contributed to increased household food insecurity in poorer ethnic minority households and is fundamental to the persistence of inequity in nutritional outcomes. To address this challenge requires the involvement of multiple ministries, in this case, CEMA, MARD, and MOH. There is tension between national and household food security and a focus on commercialization of agriculture (rice) versus diversity of food production. The government wants to expand exports and build the national economy, but small-holder mountain farmers need to maintain subsistence and be able to feed their families without losing their homes or their cultural identity.
**Social safety nets**

Ethnic minorities and other poor rural families are eligible for free health care (covered by the noncontributory social health insurance scheme for the poor), free education, subsidized housing in many communities, and social transfers in the form of free access to school meal programs that are estimated to cover 10 percent of household expenditures per child in school. These social protection measures are important in the face of health shocks, which can be associated with a significant rise in health expenditures, which can reduce the funds available for non-health household expenditures such as food, nonfood, and education (Mitra et al. 2016). Selling productive assets is another way that marginal families meet expenses. Each of these could have profound effects on nutrition. Although social protection mechanisms are offered to help ethnic minority populations, participation is less than that of the Kinh majority, which poses a significant challenge to those implementing the programs.

**Care for Women and Adolescents**

There are some problems with lack of availability of resources and access to care, but even in areas where services are available and accessible, participation is limited. Education can improve the situation, but even with free education, participation by ethnic minorities is lower than by majority children. For young ethnic minority women in particular, efforts should be made to offer alternatives to early marriage and child-bearing, including scholarships for vocational training, microcredits for starting small businesses, mentoring for participation in local jobs or in local community governance, and participation in the LWU.

Working with adolescents and young women in these communities will require overcoming biases against ethnic minorities of Kinh majority staff in many health facilities and of language barriers. The ‘ombudsman’ concept is used in the corporate sector in Vietnam and in some government offices, and there are laws that protect the right of consumers to register a complaint, but a consumer advocate could help people navigate the system successfully. The purpose of the program would be to overcome the “functional distance” of ethnic minority woman from the health center—that distance being measured as physical and social distance. The advocate would help reduce the latter.

IPV, high fertility, and early marriage are barriers to proper care of women that also lead to stunting in children. IPV is higher in ethnic communities and twice as high in girls who marry before they are 18 years old. A study in Vietnam of IPV showed a statistically significant association between IPV and preterm birth (five times as great) and LBW. IPV is strongly associated with malnutrition in women and children; one study showed that children of women exposed to IPV in the previous year were 25 percent more likely to be stunted, but it is rarely mentioned as a nutrition-specific or -sensitive factor.

Having many babies leads to deficiency syndromes in mothers, who cannot recover calcium, protein, and other micronutrients fast enough to support subsequent pregnancies. Early marriage not only limits the potential of young mothers, but also
interferes with their and their babies’ nutrition as the two compete for nutrients. These important barriers are only indirectly related to monetary poverty (and may even be causes of such poverty), but they sustain behaviors that resist change and prolong gender inequity, which affects child health, nutrition, and development.

**Environmental Concerns**

Environmental degradation has profound implications for malnutrition; multidisciplinary approaches are needed to identify and solve problems. Degradation presents as poor personal and environmental hygiene, deterioration of farm land from overuse, deforestation and overexploitation of natural resources, pollution of water from human and chemical waste and salt water intrusion, natural disasters (typhoons, floods, droughts), climate change affecting planting and harvesting seasons, environmental changes affecting vectors and spread of diseases, and indoor air pollution. The relationship—associative and causal—between all of these and malnutrition was presented in chapters 3, 5, and 6. Without improvements in the environment, inequity in nutrition between ethnic minority groups and the Kinh majority will not be reduced, and stunting will not be reduced in either group.

The environmental problem, particularly as it relates to improving sanitation and hygiene, is an important example of the need to balance government initiatives arising from evidence-based research with community and cultural practices. Despite the validity of government solutions, local groups have their own beliefs and practices that are in conflict. Without adequate communication (often because of language incompatibility or from one-way communication instead of dialogue), an unspoken conflict arises that subverts the intention of the government program and leaves the ethnic minority without the benefit of a modern, safe way to manage sanitation. The answer is to use different communication techniques and in particular precede new initiatives with adequate community-based participatory research. See Rheinländer and colleagues (2010) for an in-depth description of this phenomenon.

**Cross-Cutting Conclusions**

**Analysis of Inequity and Differences Between Majority and Minority Groups**

Part of the problem in determining causality through statistical analysis lies in access to data based on a large enough sample that is specific to the target population. The most reliable source has been data from the MICSs, which have large sample sizes (~10,000 households, 38,500 members) and data disaggregated according to ethnicity of household head—Kinh/Hoa or ethnic minority. Unfortunately, in the most recent DHS (2014), anthropometry was not included, so correlation between stunting and other causal factors was not possible. This is a shortcoming, but determinants of stunting based on evidence derived from the literature could be correlated at least through general comparison of majority and minority. Causes were derived from interventions that reduced stunting.
The importance of this analysis was to determine differences between the ethnic minorities and the Kinh majority that would explain the persistence of stunting in one group and not in the other. In that respect, it was not to determine the causes of stunting (already known from the literature) or whether the interventions that have been shown to be globally effective are effective in Vietnam (those are evident from the fact that, for 86 percent of the population, the rate of stunting has been reduced by these interventions to 15 percent). It was two-fold: to describe what was different between the two groups and to determine why the ethnic minorities were consistently worse on health and nutrition indicators, even in environments that were seen to be supportive of the ethnic majority in terms of access to and use of health services.

*Causal Differences Between Ethnic Minorities and Kinh Majority*

Ethnic minorities have higher rates of stunting, wasting, and underweight than the Kinh majority, and at every level of analysis, the data show that “ethnic minorities” are worse off than their Kinh majority counterparts. The prevalence of stunting has decreased in both groups, but the improvement has not been as significant in ethnic minorities as in the Kinh majority, leading to an increase in the difference between the two groups. One observation from the analysis was that the determinants that affect the nutrition status of severely stunted children may be different from those that influence the status of moderately stunted children. This is too simplistic. It avoids a serious discussion of issues related to cultural beliefs and taboos.

The prevalence of stunting, because of its chronicity implies a wider range of differences between ethnic minorities and Kinh majority. Where differences in wasting implicate (with slight oversimplification) a household’s lack of food reserves and greater vulnerability to natural and man-made disasters, stunting is intergenerational and multidimensional. As a cause of the difference in stunting between ethnic minorities and the Kinh majority, the following are implicated (since each is greater in number or proportion in the ethnic minority groups): poor maternal nutrition (and social status) leading to IUGR, suboptimal IYCF, cultural beliefs and practices, food insecurity as measured by inadequate minimum dietary diversity, poor personal and environmental hygiene, poor access to essential maternal and child health and nutrition services, overall poverty, and cultural differences. All of these encompass the immediate, underlying, basic causes of childhood malnutrition.

This list makes clear that the causes of stunting in minority ethnic groups are multidimensional and linked to socially derived determinants of health that appear in the definition of multidimensional poverty, as well as economic models that tend to link causal elements to monetary poverty. Economic models suggest that the root of food and nutrition insecurity, degraded physical environments, poor health care, and poor health and nutrition education are primarily the result of inequitable distribution of wealth, leading to impoverished households that are unable to access health and nutrition services.
Poverty is associated with stunting in various ways, and access to health care from remote isolated villages is related to economics, but there are many examples in which this is not the only cause and in which monetary poverty might be the result as well as the cause of the problem. An important finding of this analysis is that, even when facilities are accessible and free, minority families do not avail themselves of the services as low-income Kinh households do under similar circumstances.

The findings of this analysis suggest that this refusal (or reluctance) to participate in the health system is related to internally derived constraints and externally created social exclusion. Many of the internally derived constraints are culturally based and have to do with constructs of a group’s identity that have evolved over generations (e.g., respect for the land, interpretation of natural events, culturally evolved explanations of natural phenomenon that go beyond modern science). These beliefs are part of the culture and constrain family members’ behavior in order to maintain membership in that society. Communication challenges intensify the constraints so that they grow over time and widen the gap between the groups, leading to a loss of trust that is difficult to regain. These problems are at the heart of the basic determinants of child undernutrition.

Basic Determinants of the Inequity Between Ethnic Minorities and the Kinh Majority

A Sense of Place
“Sense of place” is relevant to understanding a sense of resistance by ethnic minorities to what may be perceived as continuing influence or interference of outside actors on their way of life. It is the meanings and attachment to a setting that an individual or group holds (Tuan 1977). “Place attachment” implies an emotional bond between individuals or groups and their environment. “Meanings” are descriptive statements about a place, about what it is and what it is like—it is a more-intellectual aspect of sense of place than the emotional one that comes from attachment (Masterson et al. 2017). Historically in Vietnam, a violation of “sense of place” came from the movement of ethnic minority groups into smaller areas through internal (or external) migration or into village environments that were alien to their culture and identity; it was the selling off of once communally or ancestrally owned properties to private investors or previous attempts to reduce vertical inequity by assimilating individual families into the majority culture. In many instances, these each created a sense of alienation and marginalization that may explain a reluctance to accept “outside” concepts of health care, nutrition, or child rearing, no matter how good they are and

93 The individual is viewed outside the context of his or her community. This effectively disassociates the data from any cultural roots and individualizes it so that particular characteristics of family behavior can be subsequently described but without an understanding of where they come from. “Horizontal inequity” surveys the entire community of which the household is a part. As such, it can differentiate the internal from the external causes mentioned above but requires a deeper data set of rigorous qualitative data that can lead to an understanding of the complex interactions within a culturally identifiable ethnic group and between that cultural group and another, for example, between the cultural ethnic minority and the Kinh majority.
how much the government’s genuine desire to improve the quality of life of ethnic minorities drives them.

Alienation

Discussions with local officials from the majority population revealed some misconceptions about ethnic minority populations related to their lack of use of public services and poor development outcomes. Some of this is because of poor communication resulting from language barriers or from lack of the skills needed to generate a dialogue that could lead to greater understanding on both sides. Some of it came from caregivers’ feelings of frustration at the continuous rejection of the services they offered to minority groups that they believed would be to their benefit or from the feelings of community members, who felt that care providers talked to them in an inappropriate manner without concern for their feelings or interest in their questions. The frustration could lead to a general resistance to accepting assistance that was counter to traditional practice.

Multidimensional Poverty

Multidimensional Poverty

Poverty may not be adequately defined in monetary terms alone. Multidimensional poverty (nonmonetary poverty) is particularly relevant to understanding the situation of persistent inequity amongst minority ethnic groups.

Nobel Prize–winning economist Amartya Sen (1993) describes a multidimensional poverty measure he terms a “capability approach.” Instead of considering only distribution of resources such as money, land, or food, this approach addresses the “distribution of an individual’s effective abilities to achieve important and worthwhile goals.” Using a monetary approach alone, one misses the difference between individuals in their ability to convert income or available resources into achievements.

The concept of multidimensional poverty is expressed in the Multidimensional Poverty Index, which has been reported since 2010 along with the Human Development Index (figure 24). The Multidimensional Poverty Index complements measures of monetary poverty by capturing the severe deprivations that
individuals face with respect to education, health, and living standards. It offers a more comprehensive picture of the life of people in poverty and allows for comparisons between countries and regions and within countries according to ethnic group and urban versus rural location.

Pathways to optimal nutrition and food security have as much to do with practice (breastfeeding, hygiene, dietary choices) as they have to do with food availability, which would be more closely related to monetary poverty. Degradation of the physical environment, including personal and environmental sanitation, reflects persistent cultural practices that are inherent to communities, not only to individual households.

Human Resource Capacity in Participatory Processes
Human resource capacity inadequacies go beyond knowledge of nutrition or sexual and reproductive health and lack of general education. These are fundamental gaps that must be bridged and are usually approached with calls for more training and informal education opportunities, but of equal importance is the ability to communicate new information in a way that is not directive or demeaning but that empowers community members. This is the essence of participatory processes that are foundational to research, project design, monitoring and supportive supervision, and community-based research.

Developing capacity in community-based participatory research will deepen understanding of the behavior, beliefs, and culture of ethnic minorities. If done in a truly participatory matter, it has also been found to restore trust (Christopher et al. 2008; Jagosh et al. 2015) where minority groups have control over research questions, learn and practice participatory methods, analyze collected data, and apply it to local problem solving and decision making. Over time, communities realize that the process is designed for them to identify and solve their own problems. It must be mutual. That is, there must be a shared respect between caregiver and community, but as in most situations that start with an imbalance of power, it will be up to the more powerful people to make the first move.

Institutional Responsiveness
The shortcomings of the institutional response to the problems outlined are at the interface where the needs and demands of the community are not aligned with the offers of services by local government or community nongovernmental agencies. They represent a further breakdown in communication between ethnic minorities and service providers. After poverty in ethnic minorities persisted between 2012 and 2014 in spite of numerous government programs, the institutional response was to modify the concept, reduce the number of NTPs, and restructure them to match the changed context of poverty in these groups. Not much emphasis was put on the reasons for the lack of demand for these services.
Recommendations

This section provides recommendations to address the gaps and opportunities identified throughout this report. Global experiences from countries that have successfully addressed childhood malnutrition, for example in Peru (box 1) have also informed these recommendations.

Box 5. Peru’s Success Story in Reducing Chronic Undernutrition (Stunting)

In 2000, more than one in three Peruvian children under five years old were suffering from chronic malnutrition. These high levels of stunting remained virtually unchanged for the next eight years, during which they declined only 3 percentage points. From 2002 through 2010, Peru enjoyed 6.4 percent average annual economic growth, and hundreds of millions of dollars were invested in nutrition programs. Analyses confirmed the lack of correlation between the country’s economic performance and fiscal spending and changes in undernutrition rates, but by 2014, stunting rates had decreased dramatically, to 14.6 percent in children under five years of age. Although this prevalence was not as low as other nutrition indicators in the country (e.g., underweight prevalence was 3.5 percent in 2013), the decrease reflected impressive improvements. This ranks among the most successful recent achievements in child nutrition in the world and could be attributed to three main factors.

First, Peru rallied strong political commitment and a clear direction, expressed in measurable, time-bound goals. When His Excellency Alan Garcia was elected president, he committed to the “5-by-5-by-5 goal” in his inaugural speech: reduce stunting by five points in five years for the under five. This ambitious, yet feasible, goal was then turned into specific regional targets. With a clear focus of what was needed, the government then focused on how to do it.

Second, Peru adopted a multisectoral strategy supporting the demand and supply of nutrition services. Peru empowered parents by providing them with information to make stunting and its consequences visible. In addition, the government leveraged the potential of conditional cash transfers to poor families through an existing conditional cash transfer program, Juntos, to reduce child malnutrition by strengthening incentives for families to take children to nutrition and health services for growth promotion checkups and early child stimulation. To respond to the increased demand, the government expanded maternal and child nutrition services and increased coverage of clean water and proper sanitation.

Third, the government used financing for results and targeted communities with the greatest need. The Ministry of Finance used results-based budgeting to ensure that demand and supply efforts worked together to achieve established nutrition goals through the evidence-based Articulated Nutrition Program. Each agency was held accountable to improve specific indicators, such as the number of poor children enrolled in the Juntos conditional cash transfer and of child growth checkups and nutrition counseling sessions of poor families in targeted communities.

With this approach, Peru demonstrated a remarkable effort not only to curb stunting rates, but also to create strong commitment and collaboration across sectors to integrate nutrition into several sectoral programs and, in return, saved millions of lives.


The recommendations would benefit from further stakeholder consultations led by the government of Vietnam to determine the responsibility of different ministries and institutions, including short-, medium-, and long-term actions.
High-Level Nutrition Champion
Recommendation: Advocate for a high-level nutrition champion who has convening power and can enforce multisectoral nutrition convergence and accountability across agencies and interested development partners—especially in largely ethnic minority provinces.

Although recognition of nutrition in critical policy documents and the existence of high-level food and nutrition committees indicate the government's commitment to the food and nutrition agenda, the operationalization and functionality of these initiatives remains a challenge. The country lacks a high-level nutrition champion who will support the national nutrition agenda and lead resource mobilization efforts, like in countries that have succeeded in significantly reducing undernutrition (e.g., Peru, Senegal).

Effective Multisectoral Nutrition Coordination
Recommendation: Strengthen accountability mechanisms for a multisectoral response to malnutrition.

Multisectoral interventions require high-level government ownership and leadership by an office with convening power that can monitor and enforce convergence across ministries and interested stakeholders. The strong global and domestic effort to address malnutrition had contributed to a proliferation of initiatives and stakeholders involved in addressing the immediate and underlying determinants of malnutrition, but these efforts have been fragmented and lack focus; in the absence of strong government leadership and coordination, the stakeholders supporting policy development and program implementation tend to be driven by their institutional priorities. Hence a multi-stakeholder coordination platform for nutrition needs to be strengthened and given resources, strong government leadership, and a strong focus on ethnic minority regions and populations.

Specific actions to support this recommendation could include:
- Reconvening the Intersectoral Nutrition Steering Committee—with a specific subcommittee focusing on ethnic minority provinces—which could provide the structure for reengaging partners in this effort
- Reestablishing provincial steering committees that will facilitate motivation and accountability of all sectors involved in reducing malnutrition
- Convening a working group of interested stakeholders to consolidate nutrition-sensitive policies and programs across key ministries at the national and subnational levels

Financing for Nutrition
Recommendation. Secure domestic funding for target programs and expand social health insurance to cover expenses arising from nutrition emergencies. This, along with donor financing, is needed to deliver a comprehensive package of nutrition-specific and nutrition-sensitive programs in largely ethnic minority provinces and populations.

Better and more nutrition investments are necessary to achieve human development and
economic goals for vulnerable populations. The current level of resources (at the national and provincial levels) has not been sufficient to deliver the government’s programs. Development partners have provided some resources, principally for nutrition-specific programs, yet this support has not been sustained. As such, full coverage (nationally and specifically in the largely ethnic minority northern mountainous and central highlands regions) has not been achieved for almost any government and development partner programs. Sufficient domestic, donor, and private sector financing must be mobilized and made available, prioritizing interventions and programs with the greatest evidence of effectiveness.

Specific actions to support this recommendation could include:

- Advocating for nutrition with key ministries, including the Ministry of Finance, throughout the budget cycle
- Reviewing program-based budgeting to ensure that nutrition budget allocations can be identified (national and provincial) and evidence-based interventions are included
- Increasing efficiency of nutrition budget allocations by prioritizing financing programs that have evidence of effectiveness and allocating budgets proportionate to the burden of undernutrition
- Establishing a system for monitoring nutrition budget allocations and expenditures
- Piloting results-based financing for nutrition

**Institutions**

Recommendation: *Build institutional capacities and strengthen institutions to deliver quality services effectively and efficiently—with special focus on ethnic minority provinces.*

Institutional strengthening will be fundamental to achieving quality nutrition-specific and nutrition-sensitive services – delivered at scale – especially in the context of ethnic minority areas, where language and cultural differences are pervasive. Nutrition training and capacity building for frontline service providers is necessary to maximize the investment in the public sector that the government of Vietnam has made. Stronger human resource management and supportive supervision are necessary to support the skills (especially social BCC, interpersonal communication, qualitative research techniques) and ambitions of trained professionals, especially at lower levels. These skills, particularly in community-based participatory research, have been found to be effective in reestablishing trust and cooperation between communities and strengthening lines of communication to improve mutual understanding and participation, both missing from many communities.

Specific actions to support this recommendation include:

- Developing a competency-based capacity strategy for frontline health workers that incorporates nutrition-specific and nutrition-sensitive components
- Conducting in-service training and retraining of frontline health services providers at provincial through commune levels to deliver quality nutrition services
• Reviewing (and revising) job descriptions of doctors, nurses, and midwives in primary health facilities to include important nutrition functions
• Reviewing and ensuring adequacy of nutrition content in preservice training for health professionals
• Implementing the use of supportive supervision tools for nutrition in health facilities, especially primary health care facilities

Strong monitoring and evaluation, supported by appropriate data collection, will allow ministries to undertake evidence-informed decision making and provide the basis for monitoring progress against a common results framework. In addition to these activities, development partners—in particular—should increase their focus on implementing nutrition research and conducting rigorous program evaluations to improve service delivery in the ethnic minority contexts.

**National Target Programs (NTP-NRD and NTP-SPR)**

Recommendation: *Explicitly identify nutrition (childhood stunting) in ethnic minority populations as a priority, along with specific targets and reporting mechanisms, and earmark expenditures for NTP activities supporting nutrition (which are currently at the discretion of planners).*

The intended outcome would be to encourage local governments to spend more on nutrition-sensitive interventions than just infrastructure, as has been the case. Seeing as they are the country’s principal poverty programs, there should inherently be some priority given to nutrition, especially in ethnic minority communes.

**Service Delivery for Ethnic Minority Populations**

Recommendation 1: *Improve quality of public services to ethnic minority children.*

While continuing support to ensure access for children to public services, it is equally important to improve the quality of these public services for ethnic minority children. A review of policies on EMC suggests that the primary focus of existing policies is to ensure that ethnic minority children can go to school, receive healthcare, and have improved living conditions, but the quality of public services and basic infrastructure in remote areas and areas with high concentrations of ethnic minorities is considerably lower than the national average. Therefore, the future focus of policies and programs should also concentrate support to improve the quality of public services and infrastructure in the communes and provide adequate access to these utilities.

Recommendation 2: *Replace one-size-fits-all approach to ethnic minority service delivery with more innovative ethnically responsive approaches.*
With the exception of some support policies for very small ethnic minority groups, a one-size-fits-all approach has been taken to service delivery programs and policies. Few interventions have been provided with explicit awareness of differences between ethnic minority groups. Given cultural differences between ethnic minority groups, if the same intervention is used, there are differences in participation and beneficiaries between ethnic minority groups. Therefore, it is imperative to adopt innovative approaches that can ensure the sensitivity of interventions to the characteristics of individual ethnic minority groups.

**Sectoral Programs:**

**Nutrition Specific**

Recommendation: *Define and then scale-up the delivery of a package of evidence-based nutrition-specific interventions focused on the first-1,000-day window of opportunity.*

Substantial progress has been made in developing policies and strategies for an integrated approach to nutrition, but an evidence-based package of nutrition-specific interventions needs to be defined and made available to all ethnic minority populations through the government’s primary health care service. Specifically, MOH needs to focus on achieving full coverage of 10 evidence-based interventions recommended in the 2013 *Lancet* series on maternal and child nutrition (*box 2*), which if expanded to 90 percent coverage, it has been estimated could reduce stunting by 20 percent (Bhutta et al. 2013). Establishing and strengthening the community-based and, where possible, community-driven delivery platforms for these interventions can accelerate attainment of higher coverage. Where new delivery platforms are needed (e.g., targeting nonpregnant women and adolescent girls with iron-folic acid supplements, these should be rapidly pilot-tested and expanded.

Specific activities to support this recommendation could include:

- Expanding the specific nutrition intervention package to all high stunting communes and focus on increasing coverage of social BCC in optimal IYCF, deworming of pregnant women and children, preventative zinc supplementation, iron and folic acid supplementation for pregnant and lactating women and vitamin A supplementation
- Defining and strengthening community-based platforms for delivery of nutrition services, focusing on social BCC topics, including hygiene, reproductive health, parenting approaches, and optimal nutrition

<table>
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<tr>
<th>Box 6: Recommended Nutrition-Specific Interventions with Evidence of Effectiveness</th>
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<tr>
<td><strong>Before conception</strong></td>
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<td>Preconception folic acid supplementation or fortification</td>
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<td><strong>Pregnancy</strong></td>
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<td>Maternal multiple micronutrient supplementation</td>
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<td>Maternal balanced energy and protein supplementation</td>
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<td>Maternal calcium supplementation</td>
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<tr>
<td><strong>Early Infancy and Young Childhood</strong></td>
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<tr>
<td>Promotion of breastfeeding</td>
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<td>Appropriate complementary feeding</td>
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<td>Vitamin A supplementation</td>
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<td>Preventative zinc supplementation</td>
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<tr>
<td>Management of severe acute malnutrition</td>
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<td>Management of moderate acute malnutrition</td>
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• Initiating and expanding activities to address anemia in children and women of reproductive age
• Establishing an ethnic minority social BCC strategy, working group, and messages related to nutrition
• Delivering mass media campaigns focusing on optimum child growth and nutrition in the first 1,000 days
• Reviewing the cost-effectiveness of including RUTF for moderately and severely undernourished children as part of the social health insurance package

**Nutrition Sensitive**

**Agriculture Sector**

Recommendation: *Design nutrition-sensitive programs and actions focused on improving dietary quality by increasing demand for and production and market availability of diverse nutrient-rich foods, especially animal-source foods, vegetables, and fruits, while ensuring their safety (e.g., from aflatoxins).*

This might require a rethinking of how price, income, and other agricultural support can be shifted away from producing staple grains (rice) and prioritization of nutrition-sensitive, climate-smart agriculture aimed at eradicating poverty and food insecurity. Additional activities to improve postharvest handling and storage would increase food security and decrease exposure to aflatoxins. In the design of nutrition-sensitive agriculture programs, stronger links between agricultural activities and nutrition outcomes need to be defined and measured, as well as intermediate outcomes related to food group consumption, dietary diversity, household expenditures, and women’s empowerment.

Specific activities to support this recommendation could include:

• Building value chains and increasing market availability of nutrient-rich foods (e.g., legumes, dairy, flesh foods, fruits) in ethnic minority provinces
• Targeting women with inputs and access to productive resources, promoting labor-saving technologies
• Reorienting agriculture policies, subsidies, and research to support horticultural and livestock production
• Delivering messages on dietary diversity to stimulate demand for nutritious foods and increase household consumption of diverse foods
• Establishing a partnership between MARD and MOH on testing and control of aflatoxins
Health Sector

Recommendation: *Increase access to a comprehensive package of adolescent, maternal, and child health services that are sensitive to the cultural beliefs and practices of ethnic minority populations.*

Although health inputs such as facilities and the workforce have improved over the past decade nationally, but coverage of essential health services remains low in ethnic minority populations. Demand generation and outreach are necessary to stimulate consumption of health services, and additional incentives and performance-based management can help improve service delivery. Specific recommendations include expanding reproductive health and family planning services to ensure universal coverage, with particular emphasis on girls who are not in school and increasing the focus on adolescent health by working with young people to increase education and services for adolescent boys and girls in sexual and reproductive health and to explore alternatives to marriage and childbearing for vulnerable girls who are not in school.

Specific activities to support this recommendation could include:
- Developing and piloting platforms for nutrition and reproductive health information and services for adolescent girls
- Expanding access to culturally appropriate health and family planning services and counselling

Education Sector

Education services that can be nutrition sensitive span from preprimary through secondary education. In early childhood development, the focus needs to be on identifying effective institutional- and community-based platforms for parenting education (including early stimulation and nutrition) and early learning, extending coverage to reach younger children in creches as well as early childhood centers. In primary school, a rigorous review of the school meal program is needed to provide a better understanding of its effectiveness and potential in ethnic minority populations, not only from a food security and social inclusion perspective, but also as a social transfer benefit and mechanism for keeping girls in school. Integration of personal hygiene, nutrition, and reproductive health into the school curriculum is needed to educate children early so that they form good habits. School-based deworming can and should be rapidly introduced and expanded, along with access to WASH and gender-specific latrines in each school and weekly iron and folic acid supplementation for girls. Over the medium to long term, programs should be explored that can encourage girls’ secondary school completion. Links should be established with the WASH sector to guarantee adequate boys’ and girls’ latrines in every upper secondary school (including semi-boarding schools) in ethnic minority regions. Supportive tutorial services should be provided in ethnic minority regions in lower secondary to increase upper secondary entry and retention, particularly for girls.
Specific activities to support recommendations in the education sector could include:

- Reviewing the school milk and meal programs to assess their nutritional effect
- Piloting delivery of holistic early childhood development and parenting programs
- Reviewing and expanding delivery and quality of nutrition and reproductive health curricula in schools
- Incentivize EMthnic minority girls to complete upper secondary school, especially through reentry opportunities

**WASH Sector**

Recommendation: *Increase access to clean water, sanitation facilities, and hygiene promotion services of ethnic minority populations and link criteria in the NTP-NRD for safe water and latrines specifically to better child nutritional outcomes.*

In addition to hand washing with soap, improved environmental sanitation by reducing open defecation, constructing and using improved sanitation facilities, using clean water, and reducing water pollution can significantly reduce stunting. Because many of the practices of ethnic communities have a cultural history, this must be understood before behavior can be changed.

Specific actions to support this recommendation could include:

- Community-wide sanitation interventions for integration into existing nutrition programs to support stunting reduction in ethnic minority populations
- Propose policies and interventions that focus on community-wide behavioral change and outcomes, rather than on individual household investments in improved sanitation
- Strengthening of the seventeenth criterion on sanitation under the NTP-NRD so that government targets and incentives go beyond ending open defecation and focus on universal community-level access to improved sanitation
- Having local authorities pay more attention to “soft activities” (social BCC related to environmental and personal hygiene), which have not received sufficient attention and priority and consequently have limited budgetary allocations

**Social Protection Sector**

The Social Protection Sector has the responsibility for providing social safety nets and protective measures for the most nutritionally vulnerable. In this regard, cash transfers to vulnerable groups can be nutrition sensitive through spending for food for children and pregnant women.

Specific activities to support this recommendation could include:

- Review existing cash transfer program (under decree 136 for social assistance) for nutrition impacts on orphans
- Expand cash transfer program for children under 3 years old and pregnant women
Geographic Convergence of Critical Sectors
Recommendation: *Establish geographic convergence of critical sectors in ethnic minority provinces down to the household level that focuses on delivering a basic nutrition package to pregnant and lactating women and children younger than two.*

The geographic convergence of critical nutrition-specific and nutrition-sensitive program ministries including MOH, MOET, MARD, WASH, MOLISA, CEMA, VWU, and in ethnic minority communities would ensure that sector interventions (in agriculture, education, health and nutrition, social protection, WASH, and poverty reduction), although delivered in parallel, reach the same households to maximize their contribution to reducing stunting. To ensure uptake of services, it is critical to support supply of and demand for these interventions.

Data Collection, Monitoring and Evaluation
Recommendation: *Ensure availability of subnational, ethnicity-disaggregated nutrition and nutrition-related data for targeted policy advice and interventions.*

Data for critical nutrition indicators have not been disaggregated according to ethnic minority group in some of the major surveys, which leads to generalizations and inefficient use of resources (missing the needs of some groups and providing unnecessary support to others). For example, in the UNICEF MICS data, most indicators are disaggregated according to location, educational level, and economic quintile, with ethnicity as an added, separate category. Moreover, for important categories of micronutrients (e.g., iron, vitamin A), food consumption, and nutritive value, disaggregation is according to ecological region, poor versus nonpoor communes, or urban versus rural distinctions. Although these are important categories, they do not provide an accurate description of the equity gap between majority and minority ethnic groups. Disaggregated data is essential to better inform policy makers, program managers, and practitioners so that they can be held accountable, identify bottlenecks, and demonstrate progress.
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