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ANGOLA NUTRITION GAP ANALYSIS

Christine McDonald, Ziauddin Hyder, Humberto Albino Cossa

December 2011
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Health, Nutrition and Population (HNP) Discussion Paper

Angola Nutrition Gap Analysis

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This paper was prepared for an analysis of the Angola nutrition gap analysis
World Bank, Washington, United States, March 2012
LIST OF ACRONYMS

ARI   Acute Respiratory Infection
CHW   Community Health Worker
CNAC  National Council for Children (*Conselho Nacional da Criança*)
GAM   Global Acute Malnutrition
GDP   Gross Domestic Product
GNI   Gross National Income
HAZ   Height-for-Age Z score
HD    Human Development
HDI   Human Development Index
IDA   Iron Deficiency Anemia
IFA   Iron-folic acid
IMR   Infant Mortality Rate
LBW   Low birthweight (<2,500 g)
MDG   Millennium Development Goal
MHSS  Municipal Health Services Strengthening Project
MICS  Multiple Indicator Cluster Survey
MIS   Malaria Indicator Survey
MINARS Ministry of Social Assistance and Reintegration
MMR   Maternal Mortality Rate
MoA   Ministry of Agriculture
MoH   Ministry of Health
NFNP  National Food and Nutrition Policy
NFSNS National Food Security and Nutrition Strategy
NGO   Non-Governmental Organization
NHP   National Health Policy
NHS   National Health Service
NNS   National Nutrition Survey
ORS   Oral Rehydration Solution
SAM   Severe Acute Malnutrition
SUN   Scale Up Nutrition
U5MR  Under 5 Mortality Rate
UNICEF United Nations Children’s Fund
VAD   Vitamin A Deficiency
WAZ   Weight-for-Age Z score
WB    World Bank
WFP   World Food Programme
WHZ   Weight-for-Height Z Score
WHO   World Health Organization
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EXECUTIVE SUMMARY

Despite remarkable economic growth in the past decade, undernutrition remains a serious public health problem in Angola. High rates of child stunting and micronutrient deficiencies are contributing to an under-five mortality rate of 161 deaths per 1,000 live births, limiting the growth and development of children, hindering productivity, and preventing the country from reaching Millennium Development Goals 1 and 4.

In response to this situation, the objectives of this report are to: a) synthesize available information on the nutrition situation in Angola; b) discuss the three main determinants of undernutrition using the UNICEF conceptual framework; c) summarize existing nutrition policies and programs in the country; and d) propose next steps for action. In order to accomplish these objectives, data from the 2007 National Nutrition Survey, the 2001 Multiple Indicator Cluster Survey (MICS), the 2006-2007 Malaria Indicator Survey, the 2008 MICS/Combined Household Budget Survey, and the Food and Agricultural Organization were primarily relied upon in tandem with a series of interviews with local representatives in the field of nutrition and health.

According to latest estimates from the 2007 National Nutrition Survey (NNS), nearly 30% of children under 5 are stunted, more than 8% are wasted, and 15.6% are underweight. Micronutrient deficiencies are also pervasive: 30% of preschool children and more than half of pregnant women are anemic, almost two-thirds of preschool-aged children are vitamin A deficient, 20% of young children are at risk of developing iodine deficiency disorders, and almost half of the population is at risk of inadequate zinc consumption. Furthermore, infant and young child feeding practices are poor with less than one-third of infants being exclusively breastfed for 6 months of age. Although the prevalence of undernourishment in the population has been declining in the past decade, child stunting remains high at nearly 30%, and more than 50% of people consume less than three meals per day.

The nutrition policy agenda is slowly gaining momentum in the country. The National Food Security and Nutrition Strategy released in 2009 include nutrition actions for Children Under 5. The National Nutrition Policy is in the process of being finalized. High priority problems include the dearth of up-to-date, reliable, and comprehensive information on the nutrition situation in the country, severe shortages of trained nutritionists, and an exclusion of nutrition from community-based health activities.

The following recommendations are proposed as next steps: 1) incorporate the collection of nutrition data into routine, planned surveys; 2) finalize the National Nutrition Policy, conduct a rigorous gap analysis, and develop a costed implementation plan to effectively scale-up nutrition activities in the country; 3) enhance capacity-building efforts in the field of nutrition; 4) improve nutrition surveillance and screening activities and; 5) incorporate nutrition into community-based activities.
Keywords: Angola, chronic nutrition, pregnant and lactating women and children, micronutrient deficiency, nutrition action plan.

Disclaimer: The findings, interpretations, and conclusions expressed in the paper are entirely those of the authors, and do not represent the views of the World Bank, its Executive Directors, or the countries they represent.

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CHAPTER 1: INTRODUCTION

**Rationale**

1. This assessment is intended to provide an initial basis for future World Bank (WB) support to scale-up nutrition (SUN) activities in Angola. More specifically, it aims at: a) synthesizing available information on the nutrition situation in Angola; b) discussing the three main determinants of undernutrition using the UNICEF conceptual framework; c) summarizing existing nutrition policies and programs in the country; and d) recommending next steps for action.

2. Angola is facing several serious nutrition problems that are resulting in adverse human development (HD) outcomes, including health and hindering economic growth. Although the Government of Angola (GoA) is committed to improving the health of its population, and accordingly, invests approximately 5% of GDP in the health sector (1), the area of nutrition has received little attention over the years. Angola has one of the highest under-five mortality rates (U5MR) in the world at 161 per 1,000 live births (2), and it is well-accepted that maternal and child undernutrition contribute to more than one-third of child deaths\(^5\) (Figure 1).

**Figure 1. Causes of mortality in children under 5 (3)**

![Globally, undernutrition contributes to more than one third of child deaths](image)


In addition to increasing the risk of mortality, undernutrition can increase the susceptibility to, duration, and severity of various morbidities, which can put an undue burden on the health system. Undernutrition in the early years of a child’s life can also cause permanent cognitive impairments, which will thwart Angola’s economic productivity and development, primarily through compromising their school performance, and labor productivity as an adult. For example, anemia, alone, is associated with a 2.5%
reduction in adult wages (4). Overall, undernutrition is estimated to reduce a country’s gross domestic product (GDP) by 2 to 3 percent (5).

3. Nutrition is fundamental to several of the Millennium Development Goals (MDGs) including MDG 1 (Eradicate extreme poverty and hunger); MDG 4 (Reduce child mortality); and MDG 5 (Improve maternal health). Furthermore, investing in nutrition has proven to be extremely cost-effective and reaps high returns. In fact, the 2008 Copenhagen Consensus found that five of the top ten investments for national development were related to nutrition (Table 1).

Table 1: Results of the 2008 Copenhagen Consensus(6)

<table>
<thead>
<tr>
<th>Solution (ranked from most cost-effective to least)</th>
<th>Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Micronutrient supplements for children (vitamin A and zinc)</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>2. The Doha development agenda</td>
<td>Trade</td>
</tr>
<tr>
<td>3. Micronutrient fortification (iron and salt iodization)</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>4. Expand immunization coverage for children</td>
<td>Diseases</td>
</tr>
<tr>
<td>5. Biofortification</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>6. Deworming and other nutrition programs for school-aged children</td>
<td>Malnutrition and Education</td>
</tr>
<tr>
<td>7. Lowering the price of schooling</td>
<td>Education</td>
</tr>
<tr>
<td>8. Increasing and improving girls’ schooling</td>
<td>Women</td>
</tr>
<tr>
<td>9. Community-based nutrition promotion</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>10. Provision of support for women’s reproductive health</td>
<td>Women</td>
</tr>
</tbody>
</table>

4. A variety of recent efforts, including the *Lancet Series on Maternal and Child Undernutrition* (7, 8) and the WB’s *Repositioning Nutrition as Central to Development* (5) have synthesized relevant scientific evidence and proposed a set of cost-effective interventions that have demonstrable results. The majority of these interventions are targeted to the crucial “window of opportunity” between conception and the first two years of life during which time chronic undernutrition and irreversible damage to growth and cognitive development can be prevented (Figure 2). Even more recently, *Scaling Up Nutrition: A Framework for Action* (9) was developed to provide an outline of the emerging framework of key considerations, principles and priorities for action to address undernutrition. This guidance will be invaluable to move the nutrition agenda forward in Angola. However, as a first step, a more detailed assessment of the nutrition landscape in Angola is urgently needed in order to better understand the current context, and identify key priorities in the scale-up of activities to improve the nutritional status of the population. The current assessment is intended to serve this purpose.
Figure 2. The window of opportunity for addressing undernutrition

Source: World Bank, 2006
**Scope and Methodology**

5. Given considerable time and budgetary constraints, the assessment involved the following activities:

1) A review of all available literature, including the 2007 National Nutrition Survey (NNS) (10), the 2001 Multiple Indicator Cluster Survey-2 (MICS-2)(11), 2006-2007 Malaria Indicator Survey (MIS)(12), the 2008-2009 Multiple Indicator Cluster Survey-3 (MICS-3)/Combined Household Budget Survey (13), the Food and Agriculture Organization’s database on food security (14), the WB’s Interim Strategy Note, documentation pertaining to the WB’s Multiple Health Services Strengthening Project (MHSS)(15), as well as other program reports and national policy documents.

2) Two one-week missions to Angola were conducted in February 2011 and June 2011 to meet with WB country staff; GoA representatives (primarily within the Ministry of Health’s (MoH) National Directorate of Public Health, the Nutrition Unit and the Ministry of Planning); UN agencies; and relevant Non-Governmental Organizations (NGOs) working in the field of nutrition. Interviews were conducted to learn about existing activities pertaining to nutrition, the status of the nutrition policy agenda, current capacity, priority areas of intervention, and perceived barriers.

6. The dearth of recent data on the nutrition, food security, and health situation in Angola deserves special mention, as it constrained the scope of this analysis. In addition, a number of factors challenge the reliability and general application of existing data: (i) The last census was conducted in the 1970s, so there are no accurate denominators for many indicators; (ii) There have been large population movements coming into the country from Zambia and Congo, but also within the country from Luanda to provincial capital and from provincial capitals to the surrounding areas, which makes it difficult to draw comparisons based on survey data; (iii) national level indicators also hide significant variations by income quintile.

7. The most recent national-level nutrition data comes from the 2007 NNS, which is now four years old. It should also be noted that there are several methodological differences between the 2007 NNS and 2001 MICS-2, including geographical representativeness, questions administered, and anthropometric standards employed, which makes it difficult to directly compare results over time. Furthermore, there is virtually no reliable and recent data on food security, food expenditure, or food consumption in Angola. These data limitations hinder the comprehensiveness of this report and emphasize the need for a study of food security and livelihoods in order to address this gap.
Angola: Country Context

Geography

8. Angola is situated on the west coast of southern Africa and is bordered by Namibia on the south and the Democratic Republic of the Congo on the north (Figure 3). It is a geographically diverse country with a semi-arid coastal zone that stretches from Namibia to Luanda, a wet interior plateau, a dry savannah in the southeast, and a tropical forest in the north. With a land mass of 1.2 million km² and an estimated population of 18 million people, Angola is sparsely populated and 41% of the population lives in rural areas (16, 17). Although the GoA doesn’t formally classify Angola’s 18 provinces into administrative regions, the 2007 NNS created the following groups, which are referred to throughout this report: North: Cabinda, Uige, Zaire; Northeast: Kwanza North, Malange; Capital: Bengo, Luanda; East: Lunda North, Lunda South, Moxico; West: Benguela, Kwanza South; South: Cunene, Huila, Namibe; South Central: Bie, Huambo, Kwando Kubango.
Ethnic and Cultural Diversity

9. There are a variety of ethnic groups in the country including the Ovimbundu, Ambundu Akwambundu, Bakongo, Lunda-Cokwe, Nganguela, Nyaneka-Humber, Ovambo, and Helel Herero (16). All of these ethnic groups are of Bantu origin, and the Ambundu, Ovimbudu, and Bakongo collectively represent approximately 75% of the population (16). Portuguese is Angola’s only official language; however, there are more than 20 additional dialects including Umbundu, Kimbundu, Kikongu, Fiote, Tchokwe, N’ganguela and Kunhama (16).

Economy and Infrastructure

10. Angola is rich in several natural resources including petroleum, diamonds, iron ore and other minerals. In 2008, Angola became the largest oil exporter in Africa with oil production and its supporting activities contributing about half of the country’s GDP and approximately 90% of exports. High international oil prices fueled Angola’s rapid growth rate in recent years, which averaged 15% per year between 2004 and 2008, and also increased rates of urbanization. However, the economy contracted with the global
recession in 2009. Per capita GDP was US$4,843 in 2010 and is expected to expand by 6.7% and 7.5% in 2011 and 2012, respectively (18). Despite economic gains over the past decade, the Gini coefficient, an indicator of income equality, remains high at 58.6 (17) and Angola ranks 146 out of 169 countries on the Human Development Index (19). Furthermore, more than 40% of the population lives below the poverty line (16). Subsistence agriculture remains the primary livelihood for the majority of the population with maize, sorghum, millet, bananas, sugarcane, coffee, and corn representing the most commonly grown crops.

11. There are significant geographical disparities in access to improved water and sanitation facilities. In urban areas, 70% of the population has access to an improved drinking water source and 56% of the population has access to an improved sanitation facility; however, in rural areas these rates drop to 40% and 16%, respectively (20).

12. The population growth rate is 2.03% and the total fertility rate is one of the highest in the world at 5.6 children per woman (21). Average life expectancy at birth is only 48 years and 43.6% of the population is under 15 years of age, creating a high dependency ratio for the active population (20). Approximately 70% of adults over 15 years of age are literate (21).

13. Angola is still in the process of rebuilding much of its infrastructure after a 27-year civil war that ended in 2002. Up to 1.5 million lives were lost and approximately 4 million people were displaced over the course of the war. Several health facilities were also destroyed, including more than 70% of primary health care units. Landmines are still dispersed over much of the countryside, inhibiting access to services. It is estimated that only 30-40% of the population has access to basic health services.

Health Situation

14. Angola is facing a wide range of serious public health problems. The under-five mortality rate (U5MR) is the eleventh highest in the world at 161 per 1,000 live births, which translates into 116,000 under-five deaths each year (2). Approximately one-third of these deaths are caused by maternal and child undernutrition (3). Less than half of all births are attended by a skilled health professional, which has dire consequences for mothers and is reflected in the high maternal mortality rate (MMR) of 610 per 100,000 live births (21). A number of infectious diseases are highly prevalent in the population. Although the prevalence of HIV/AIDS is relatively low at 2% (21), malaria, acute respiratory infections (ARI), diarrheal disease, tuberculosis, and trypanosomiasis account for 70% of all deaths (10). Malaria remains the leading cause of mortality and is responsible for 35% of demand for curative services, 20% of hospitalization, 40% of perinatal deaths, and 25% of maternal mortality (10). It is also important to note that, as rates of urbanization continue to increase, dietary habits and lifestyle factors are likely to become more Westernized, which could increase the risk of chronic disease.

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1 Access to an improved water source is defined as the availability of at least 20 liters per person a day from a household connection, public standpipe, borehole, protected well or spring.
CHAPTER 2: CURRENT NUTRITION SITUATION IN ANGOLA

Background on the 2007 National Nutrition Survey

15. The 2007 NNS was used as the primary source of data on undernutrition (10). This survey was conducted by the MoH with support from UNICEF and the WHO, and represents the most recent and comprehensive national nutrition survey of its kind in Angola. Prior to publication of the 2007 NNS, information on nutritional status came from the 1996 and 2001 MICS that were limited to certain areas of the country due to security issues during the war.

16. A two-phase probability proportional to size sampling technique was employed to select a sample of 9090 households across all 18 provinces, of which 97.8% participated. The primary objectives of the NNS were to:
   1) Assess the nutritional status of children 6-59 months of age;
   2) Estimate the coverage of interventions related to health and nutrition of mothers and their children, focusing on vitamin A supplementation (VAS) of children 6-59 months of age, iron folic-acid (IFA) supplementation of pregnant women, consumption of iodized salt, and measles immunization;
   3) Assess the level of knowledge and practices of mothers about breastfeeding, the use of ORS in cases of diarrhea, and frequency of meals; and
   4) Assess the availability of food in the households surveyed.

17. The NNS report disaggregates key findings by region and province, residence in urban vs. rural areas, child sex, and age. Unfortunately, however, indicators of socioeconomic status and education were not collected. It should be noted that the 2006 WHO Child Growth Standards were employed in the analysis and presentation of anthropometric measures. It is important to keep this in mind when comparing results with earlier findings (e.g. the 2001 MICS), which used the NCHS/WHO Growth References. Given the major methodological differences between the 2001 and 2007 anthropometric data, it is not possible to accurately illustrate trends over time.

Child Anthropometric Status

18. Three anthropometric indicators are most commonly used when describing child undernutrition at a population level:
   • Height-for-age\(^2\) that is at least two z-scores below the median of the international reference reflects chronic undernutrition or stunting. This condition results from long-term undernutrition and poor health.

\[^2\] Length-for-age if the child is under two years of age
• Weight-for-height\(^3\) that is at least two z-scores below the median of the international reference reflects acute malnutrition or wasting, which describes a recent or current severe process leading to significant weight loss, usually a consequence of acute starvation or severe disease.

• Weight-for-age that is at least two z-scores below the median of the international reference reflects underweight, which could imply stunting, wasting, or both, and is a more general, albeit less useful, indicator of undernutrition.

19. The WHO has established a system for classifying the degree of public health significance for stunting, wasting, and underweight among children under five years of age. These cut-off points are shown alongside national rates from the 2007 NNS in Table 2. According to the WHO classification system, stunting, wasting, and underweight are all considered to be of “medium” public health significance.

<table>
<thead>
<tr>
<th>Form of undernutrition</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>WHO classification</td>
<td></td>
</tr>
<tr>
<td>Stunting</td>
<td>&lt;20</td>
</tr>
<tr>
<td>Wasting</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Underweight</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Angola 2007 NNS</td>
<td></td>
</tr>
<tr>
<td>Stunting</td>
<td>29.2</td>
</tr>
<tr>
<td>Wasting</td>
<td>8.2</td>
</tr>
<tr>
<td>Underweight</td>
<td>15.6</td>
</tr>
</tbody>
</table>

Table 2: Public Health Significance of Child Undernutrition in Angola (22)

Stunting

20. Child stunting is a serious public health concern in Angola. Beyond two years of age, deficits in linear growth are largely irreversible, and can have detrimental consequences in later life. Stunting is associated with impaired motor and cognitive development, and may reduce IQ by 5 to 11 points (5). These impairments can adversely impact productivity as an adult. In fact, a 1% loss in adult height as a result of childhood stunting is associated with a 1.4% loss in productivity (5). Furthermore, adolescent girls or women who were stunted during childhood are more likely to have an obstructed labor or experience other complications during delivery, subsequently heightening the risk of maternal mortality.

21. Although the national average rate of stunting shows “medium level of public health significance” according to WHO’s cut-off point, the high level of the stunting in the West, south, and Central South regions calls for immediate action. It is important to note that the rate of severe stunting (i.e. HAZ < -3) in 2007 was critically high at 12.2%.

\(^3\) Weight-for-length if the child is under two years of age
When examining stunting rates in greater detail, disparities by region, sex, and area of residence become apparent. In the West, South, and Central South regions, stunting rates were higher than the national average at 34.3%, 33.7%, and 31.3%, respectively (Figure 4). Although the prevalence of stunting was similar in rural areas (33.0%) and major cities outside of Luanda (30.1%), rates were considerably lower in Luanda (19.6%) (Figure 5).

**Figure 4. Prevalence of Child Stunting, Wasting, and Underweight by Region**

![Prevalence of Child Stunting, Wasting, and Underweight by Region](image)
22. The 2007 NNS also revealed that stunting rates were higher among boys (32.4%) vs. girls (26.1%), which may reflect a greater biological resiliency to chronic undernutrition among girls. **Figure 6** shows that even among the 6-11 month age group, more than one-fifth of children were stunted. This emphasizes the critical importance of appropriate complementary feeding practices, disease prevention, and optimal care in early life. The trend of increasing stunting rates as nutritional deficits accumulate with age is also apparent in **Figure 6**.
Underweight

23. Because weight-for-age does not take a child’s length/height into account, it is not possible to differentiate whether a child is underweight due to acute or chronic nutritional deficiencies. Although this indicator isn’t as useful as height-for-age or weight-for-height, it is nevertheless commonly used in programmatic settings. Moreover, the prevalence of child underweight is used to track progress toward MDG1c. In 2007, the NNS reported that the national prevalence of child underweight was 15.6%. UNICEF’s Tracking Progress on Child and Maternal Undernutrition (3) notes that the average annual reduction of child underweight between 1990 and 2008 in Angola was 7.6%. If progress continues at this rate, Angola will be on track to achieving the MDG1 target of halving the prevalence of child underweight between 1990 and 2015.

24. Figure 4 shows that, like stunting, rates of underweight were above the national average in the West, South, and Central South region, in addition to the Eastern region. Similarly, rates of underweight were higher in rural vs. urban areas (Figure 5). The prevalence of underweight was slightly higher among boys (16.6%) vs. girls (14.6%), although the difference was not as striking as the case of stunting.

Wasting

25. Acute malnutrition, or wasting, reflects recent weight loss resulting from inadequate intake of food often coupled with recurring or persistent illnesses. If children with moderate acute malnutrition (i.e. WHZ between -2 and -3) are not identified early, the condition will progress to severe acute malnutrition (SAM) (i.e. WHZ <-3), which
requires specialized nutritional rehabilitation and carries a risk of mortality that is more than nine times that of children with a WHZ >-1 (7).

26. The prevalence of global acute malnutrition (GAM) or wasting (i.e. WHZ < -2) in 2007 was 8.2%, and more than half of acutely malnourished children actually had SAM. In 2001, the reported rate of GAM was 6.0%; however, this rate cannot be directly compared to 2007 levels, since the surveys were conducted in different areas and rates were calculated using different anthropometric standards. The 2007 survey was able to cover a greater geographical area and is more representative of the entire country.

27. The observation from Figures 4 and 5 that 2007 wasting rates were particularly high in the capital of Luanda is also somewhat peculiar, but may reflect rural to urban migration patterns, reduced access to subsistence agriculture in urban settings, and the presence of infections such as HIV. Rates did not vary considerably according to sex (boys: 8.2%, girls: 8.1%). However, in Figure 4 there is a noticeable peak in wasting rates among children 12-23 months of age. Since wasting is caused by inadequate food intake and/or concurrent infections such as HIV, malaria, and parasitic infections, this finding may reflect poor complementary feeding practices and consumption of nutrient-poor foods.

Vitamin and Mineral Deficiencies

28. Adequate intake of essential vitamins and minerals, also known as micronutrients, is critical for optimal growth, development, and general health. Iron, iodine, vitamin A, and zinc deficiencies are the most common micronutrient deficiencies in most developing countries. Several, interconnected factors can cause these deficiencies including insufficient dietary intake of diverse, nutrient-rich foods; the presence of disease that increases nutrient requirements and/or losses; and suboptimal care. While improving dietary quality would resolve most micronutrient deficiencies and should be a long-term goal, a variety of factors can make this difficult to achieve in the short-term. Therefore, a multi-pronged approach that also includes cost-effective interventions such as supplementation and fortification is necessary.

29. Accurate assessment of micronutrient deficiencies usually includes the use of biochemical markers. Unfortunately, the 2007 NNS did not collect such data. Therefore, national estimates published in the WHO’s Worldwide Prevalence of Anemia: 1993-2005 (23), Angola’s 2006-2007 Malaria Indicatory Survey (MIS) (12), the WHO’s Global Prevalence of Vitamin A Deficiency in Populations at Risk: 1995-2005 (24), as well as Micronutrient Initiative’s recent report Investing in the Future (25) will be relied upon to obtain estimates of the prevalence of some micronutrient deficiencies. This data will be paired with data on the coverage of various micronutrient interventions from the 2007 NNS and 2001 MICS.

Iron Deficiency Anemia

30. Anemia is defined according to a low level of circulating red blood cells and is measured by a low hemoglobin level. Anemia can result from a variety of factors, the
most significant of which is iron deficiency. Iron deficiency anemia (IDA) is the most common micronutrient deficiency, and affects approximately two billion people worldwide. Iron is important for motor and cognitive development in childhood, and for physical activity, in general. Eliminating anemia in adults can increase productivity by up to 17%, an amount which is equivalent to 2% of GDP (25).

31. IDA can occur throughout the lifecycle; however, young children and pregnant women are at greatest risk, since these are periods of rapid growth and development. Breastmilk contains a sufficient amount of iron for the first six months of life, but beyond that age, an infant’s stores are depleted and iron-rich complementary foods are critical. Iron requirements are also particularly high during pregnancy, given the additional needs of the growing fetus and placenta. Iron supplementation is routinely recommended to support those needs and to lower the risk of preterm birth, low birthweight, and maternal mortality due to hemorrhage.

32. Table 3 shows the prevalence of anemia in relation to WHO standards of public health significance. The prevalence of 29.7% among preschool-aged children is considered a problem of “moderate” public health significance, whereas rates of 57.1% among pregnant women and 52.3% among non-pregnant women are both considered “severe” public health problems.

<table>
<thead>
<tr>
<th>Category of Public Health Significance</th>
<th>No public health problem</th>
<th>Mild public health problem</th>
<th>Moderate public health problem</th>
<th>Severe public health problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO classification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence of anemia</td>
<td>≤ 4.9</td>
<td>5.0-19.9</td>
<td>20-39.9</td>
<td>≥ 40</td>
</tr>
<tr>
<td>Prevalence of Anemia in Angola</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preschool-aged children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnant women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-pregnant women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

33. The 2006-2007 MIS collected additional information on rates of severe anemia, defined as a hemoglobin < 8g/dL, in children 6-59 months of age, pregnant women 15-49 years of age, and non-pregnant women 15-49 years of age. Overall, these rates were 3.6%, 3.0%, and 1.3%, respectively (12). However, significant disparities become evident when these data are disaggregated by background characteristics. Figure 7 shows that among children 6-59 months of age, rates of severe anemia are highest in the 6-23 month age group, which likely implies that the complementary foods being introduced into the child’s diet don’t contain adequate amounts of iron.
This theory is also supported by data in Figure 8, which illustrates that rates of severe anemia among children are inversely related with wealth. This finding makes intuitive sense, as wealthier families are more able to afford more expensive complementary foods that are rich in heme iron. Foods of animal origin contain heme iron which is 3-4 times more bioavailable than plant-based non-heme iron. However, this hypothesis does not appear to hold true during pregnancy, as rates of severe anemia appear higher among richer women.
Figure 8. Prevalence of severe anemia (hemoglobin < 8.0 g/dL) by wealth quintile

Figure 9 also shows a similar anomaly: the prevalence of severe anemia during pregnancy is greater among women living in urban vs. rural areas. Based on these findings, it may be tempting to assume that access to IFA supplements is greater in rural vs. urban areas. However, findings from the 2007 NNS do not support this assumption. Overall, an estimated 83.2% of women reported taking IFA supplements during their last pregnancy. When examined by area of residence: the rates were 96.0% in Luanda, 88.8% in other urban areas, and 72.0% in rural areas. However, the duration of supplement consumption and overall compliance are not clear from the NNS data. Additional research is required to better understand this finding.
Figure 9. Prevalence of severe anemia (hemoglobin < 8.0 g/dL) in urban vs. rural areas (12)

Vitamin A Deficiency

36. Vitamin A has a number of functions in the human body. Most notable are its roles in immune function and the visual system. Globally, vitamin A deficiency (VAD) is the leading cause of preventable blindness and can increase the susceptibility to several illnesses. Twice annual vitamin A supplementation of children 6-59 months of age has been proven to reduce child mortality by 23% and childhood blindness by 70% (8).

37. According to the WHO’s Global Prevalence of Vitamin A Deficiency in Populations at Risk: 1995-2005 (24), in 1999 the prevalence of VAD, defined according to a serum retinol < 0.7 umol/L, among preschool-aged children and pregnant women was 64.3% and 15.0%, respectively. Furthermore, 1.4% and 10.9% of respective children and pregnant women surveyed, exhibited signs of night blindness, the level categorized by WHO as a public health problem.

38. Although the recommended policy entails semi-annual distribution of vitamin A supplements to all children 6-59 months of age, both the 2008-2009 Combined Household Budget survey/MICS-3 and the 2007 NNS evaluated the proportion of children who received a vitamin A supplement in the six months prior to the survey. There is a significant discrepancy in findings from the two surveys. According to 2008-2009 data, only 16.7% of Angolan children 6-59 months of age received at least one dose of vitamin A in the 6 months prior to the survey (13). Coverage rates in urban and rural areas were 14.5% and 19.3%, respectively (13). The 2007 NNS reports a much higher national coverage rate of 67.8% (10). Furthermore, according to the 2007 NNS, in the capital of Luanda, other urban cities, and rural areas 82.2%, 77.2%, and 53.3% of children received at least one Vitamin A supplement in the past 6 months, respectively8.
Figure 10 examines geographical differences in the 2007 NNS child vitamin A supplementation data more closely by presenting coverage rates by region. In the East, South, and Central South regions, the coverage rates are all below the national average. The dramatic differences between the results of the two surveys are likely due to methodological differences, as it is extremely unlikely that true coverage rates would change so dramatically in only one-two year’s time.

Figure 10. Percentage of children who received vitamin A supplementation in the past 6 months by region

Iodine Deficiency

39. Iodine deficiency is the leading cause of preventable mental retardation in the world (7). This nutrient is absolutely critical for optimal brain development. Maternal iodine status is particularly important during pregnancy. While severe deficiency can cause an irreversible condition called cretinism, even mild, subclinical iodine deficiency in mothers during pregnancy can impair motor and cognitive development of the fetus. Populations with chronic iodine deficiency have a 13.5 point reduction in IQ (5).

40. Two main strategies are typically employed to prevent iodine deficiency: salt iodization, and the provision of iodized oil capsules to pregnant women. After 14 years of advocacy, Angola’s national assembly passed a law in September 2010, which stated that all people should consume adequately iodized salt. This was a major political achievement; however, a significant proportion of salt on the market still isn’t adequately iodized. Monitoring and evaluation systems are not in place and enforcement of salt iodization policies by producers remains challenging.
41. The 2007 NNS reported that 44.7% of households consumed adequately iodized salt (iodized at > 15 ppm) (10). Based on this data, nearly 20% of Angolan children are at high risk of contracting iodine deficiency disorders (IDD). The 2007 coverage rate reflects an increase from the 2001 rate of 35% reported by MICS-2 (11); however, considerable progress is required to reach the goal of universal salt iodization. The 2007 NNS revealed that 35.5% of households consumed partially iodized salt, but that nearly 20% were consuming salt that did not contain any traces of iodine (10). These rates reveal the importance of not only increasing access to iodized salt, but also ensuring that iodization standards are stringently enforced.

42. Figure 11 illustrates striking regional differences in coverage rates. In general, people living in Luanda consume more salt that is adequately iodized in comparison to other urban and rural areas. The North and Northeast regions exhibit particularly low consumption rates at 16.8% and 19.8%, respectively (10). Of particular note is the province of Zaire where only 0.3% of households consumed adequately iodized salt. This observation can be supported by anecdotal evidence that northern provinces receive cheaper, non-iodized salt that is smuggled from the DRC.

Figure 11. Proportion of households consuming adequately iodized salt (>15 ppm) by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National average</td>
<td>44.7</td>
</tr>
<tr>
<td>North</td>
<td>16.8</td>
</tr>
<tr>
<td>Northeast</td>
<td>19.8</td>
</tr>
<tr>
<td>East</td>
<td>55.7</td>
</tr>
<tr>
<td>West</td>
<td>42.5</td>
</tr>
<tr>
<td>South</td>
<td>51.6</td>
</tr>
<tr>
<td>Central South</td>
<td>54.6</td>
</tr>
<tr>
<td>Capital</td>
<td>51.4</td>
</tr>
</tbody>
</table>

*Zinc Deficiency*

43. Zinc is an important micronutrient in child health as it increases immunity, enhances resistance to infection, and promotes growth and development of the nervous system. The *Lancet* series provided evidence that zinc deficiency increases the risk of pneumonia, malaria, and diarrhea (8). The WHO recommends that zinc supplements be provided for 10-14 days in combination with oral rehydration solution (ORS) as treatment
for diarrhea as it has been shown to reduce the incidence of diarrhea in children by 27% (25). Zinc supplementation can also reduce the incidence of acute lower respiratory infections by 15% and increase resistance to recurrent episodes of diarrhea (8).

44. Angola has not yet enacted a policy of zinc supplementation for the treatment of diarrhea among children 6-59 months of age and the 2007 NNS did not include an assessment of zinc deficiency. However, the Micronutrient Initiative estimates that 46.0% of the population is at risk of inadequate zinc (25).
CHAPTER 3: THE DETERMINANTS OF UNDERNUTRITION IN ANGOLA

The UNICEF Framework

45. In 1990, UNICEF developed a conceptual framework to better understand the determinants of malnutrition (Figure 12) (26). The framework recognizes that malnutrition can manifest in the form of overnutrition or undernutrition (chronic undernutrition, acute undernutrition, or micronutrient deficiencies), which can ultimately result in death. A variety of causes contribute to malnutrition. The most immediate causes are inadequate dietary intake and the existence of disease. Beneath these causes are three underlying determinants: i) limited food security, ii) inadequate care, and iii) an unhealthy environment and suboptimal health services. At the base of the framework are a variety of more macro factors pertaining to human, economic, and organizational resources and control, as well as the political, ideological, and economic structure. While it is important to understand all levels of the hierarchy in the context of Angola, this report focuses on the underlying causes, specifically the issues of food security, access and utilization of health services, and infant and young child feeding practices, as they represent the most appropriate level at which interventions, programs, and policies can be designed and implemented to improve nutritional status.

Figure 12. UNICEF Conceptual Framework for the Causes of Malnutrition (26)
Food Security in Angola

46. Food security exists when “all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (27). There are multiple dimensions to food security, including food availability, economic accessibility, food consumption, utilization, and stability. Furthermore, multiple approaches exist for measuring this complex issue. Unfortunately, accurate food security data in Angola is sparse, and nationally representative, comprehensive household-level surveys focusing exclusively on the food security situation have not been carried out. Although the 2007 NNS attempted to measure the access and consumption dimensions of food security by asking respondents whether they had access to land for agriculture, raised animals for household consumption, and consumed less than three meals on the day prior to the survey, these data do not paint a comprehensive picture of the food security situation in the country. Some national-level statistics on food availability are reported every few years as part of the Food and Agriculture Organization’s State of Food Insecurity in the World report. However, these statistics are derived from food balance sheets, which calculate per capita food supply as the amount of food produced and imported in a country, minus exports, amounts fed to livestock and used for seed, and losses that occur during storage and transportation. They do not reflect actual human consumption, and do not capture geographic, demographic, or intra-household disparities. Despite these constraints, the following sections attempt to summarize some of the food security-related issues.

Macroeconomic conditions

47. As previously illustrated, surging oil production and rising global oil prices provided the basis for tremendous economic growth in Angola since the end of the civil war in 2002. As shown in Figure 13, the trend in GDP growth mirrored that of rising oil prices, which is not surprising given the fact that oil exports account for over 50% of the country’s GDP. However, government spending and credit growth increased rapidly in line with oil revenues, which placed the country in a precarious position when oil prices dropped in 2009. The IMF reported that Angola’s economy had slowed drastically and fiscal and external positions turned from large surpluses to deficits (28). Although the government tightened fiscal and monetary policies in response to these macroeconomic imbalances, the response did not restore market confidence in economic policies and the spread between official and parallel exchange rates widened. In late November 2009, the IMF approved a $1.4 billion loan, the largest financing package to date for a sub-Saharan African country during the global economic crisis, to Angola in order to mitigate the repercussions of the shocks. Since then, the economy has slightly recovered and GDP growth, rebounding from 0.7% in 2009 to 3.0% in 2010, and is expected to expand by 6.7% and 7.5% in 2011 and 2012, respectively (29).
One may think that Angola’s newfound wealth might trickle down to the general population, reducing poverty rates and potentially increasing economic access to food. Unfortunately, temporal data are not available to assess whether rates of poverty or income inequality have changed in recent years, and data on food prices in Angola are not available through the FAO’s database.

**Food Production and Availability**

48. Although oil production and its related activities is the major contributor to Angola’s economy, an estimated 63% of the workforce is employed by the agricultural sector. The major growing season is between September and December, although some vegetables are cultivated in humid areas between May and August. The majority of agricultural activities are carried out by individual families and smallholder farms cover 97% of the total planted surface. Maize is the major food crop, followed by millet and sorghum. Between 2006 and 2010 annual maize production averaged 838,000 tons (30). There was a bumper harvest in 2010 when 1.32 million tons were produced; however, projections for 2011 were estimated at only 591,000 tons due to flooding and localized crop losses. This amount covers a mere 32% of the national requirement, which means that cereal import requirements will increase.

49. According to the FAO’s *State of Food Insecurity in the World* (SOFI) data (14), the prevalence of undernourishment in the population decreased from 52% in 2000-2002

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4 The FAO defines undernourishment as the condition of people whose dietary energy consumption is continuously below a minimum dietary energy requirement for maintaining a healthy life and carrying out a light physical activity with an acceptable minimum body-weight for attained height.
to 41% in 2006-2008. It is difficult to attribute specific causes that were driving this decline. Although oil-related economic prosperity is likely a contributing factor, **Figure 14** shows that rates of undernourishment have apparently been declining steadily from 67% in 1990-1992, even throughout the civil war. Furthermore, in the same time period, the average caloric deficit of the undernourished population shrunk from 420 kcal/person/day to 320 kcal/person/day.

**Figure 14. Prevalence of undernourishment in the population of Angola**

![Graph showing prevalence of undernourishment in Angola](image)

**Food consumption**

50. **Figure 15** shows that estimated average consumption in Angola has also been increasing and now exceeds the estimated minimum dietary requirement of 1750 kcal/person/day in Angola. Although this progress is encouraging, estimated consumption is still below the regional average in sub-Saharan Africa (**Figure 15**).
The FAO SOFI report also publishes data on food consumption patterns that are similarly estimated from food balance sheets in the case of Angola. A look at the most recent data from 2006-2008 shows that consumption of cassava, maize, constitute 19%, 17%, and 13% of overall consumption, respectively. Although cassava intake has declined slightly since 1990-1992, these three foods have constantly made up approximately 50% of overall energy consumption since 1990-1992. Furthermore, the contribution of animal products to total energy consumption has remained at a low 8% since 1995-1997.

Food Security Data from the 2007 NNS and other Regional Surveys

The 2007 NNS attempted to measure the access and consumption dimensions of food security by asking respondents whether they had access to land for agriculture, raised animals for household consumption, and consumed less than three meals on the day prior to the survey. Unfortunately, no data were obtained on household food expenditure, intra-household food allocation, actual food consumption or dietary diversity. It should also be noted that the questions pertaining to land access and animal rearing were only applicable in rural areas. Of the 60.5% of households living in rural areas, 42.5% had access to land for agriculture (18.0% did not), and 22.3% reared animals for household consumption (37.6% did not) (10). When asked about the frequency of meal consumption, overall, 51.8% of households reported consuming less than three meals on the day prior to the survey (10). However, marked differences were apparent when results were examined according to area of residence. In rural areas, more than
70% of respondents consumed less than three meals per day. However, in Luanda, this proportion fell to 40.2% (10). These differences are illustrated in Figure 16.

Figure 16. Proportion of respondents consuming less than three meals on the day prior to the survey, by area of residence

53. In 2004, the World Food Programme (WFP) carried out a rapid assessment in rural areas, which revealed that the Central Plateau including the provinces of Huambo, Huila, and parts of Bié were the most vulnerable areas of the country to food insecurity, mainly because of a high population density, limited access to land (partly due to the land mines situation), and nutrient-deplete soils. In 2004-2005, WFP and the MoA conducted a food security survey in these same areas, which revealed that 19% of the population was food insecure and 30% were very vulnerable to food insecurity. In 2008, a separate study was carried out by the MoA in the province of Benguela after a period of drought (31). This study measured the food gap index, which was defined according to access to food and dietary diversity, and revealed that 50% of families had a “high” food gap, and 10% of families had a “very high” food gap.

Food Security Policies and Safety Nets

54. As previously mentioned, international assistance has transitioned from a focus on humanitarian assistance to development. In 2006, the WFP closed its operations in the country after 30 years of direct involvement. However, in May of 2010, plans were declared to support the GoA’s Food Safety Plan, an integrated program of assistance to family farms. The program will provide technical agricultural tools and will facilitate access to markets with the goal of increasing production and consumption of nutrient-dense foods. At the same time US$350 million were allocated to Angola in the form of loans for the 2010 crop season in order to support production of small and middle farmers and fishermen.
In May 2009, the GoA approved the National Food Security and Nutrition Strategy (NFSNS), which has the main objective of ensuring that all Angolans are food secure. This strategy embraces the broader, long-term strategic development plan for 2025 and the medium term development plan (2009-2013) defined by the GoA, as well as the national Poverty Reduction Strategy. It recognizes the cross cutting characteristics of food security and emphasizes the required involvement of various state actors such as the Ministries of Agriculture, Social Security, Health, Education, Labor, Family and Women’s Promotion, among others, but also highlights the need for an active partnership with the private sector, both for-profit and NGOs. All processes pertaining to the NFSNS are coordinated through the National Council on Food and Nutrition Security, which has a consultative, coordination, and consensus-building role for all stakeholders and is directly linked to the office of the President.
**Child Health**

56. There is an intimate, cyclical relationship between infection and undernutrition whereby infection increases the risk of undernutrition and undernutrition increases the risk to and severity of certain infections. Given this association, interventions to prevent and treat childhood illnesses are critical to promoting optimal nutritional status. Furthermore, it is important that the linkages between child health and nutrition be considered when designing and delivering interventions. Fortunately, the 2007 NNS recognized this importance and inquired about the frequency of various morbidities amongst the children included in the survey. These data are summarized by region in Figure 1. It is evident that illnesses are widespread with more than half of children having experienced some type of illness in the past two weeks. Upon further examination it is apparent that fever is most commonly reported, followed by diarrhea, and acute respiratory illness. This general trend is consistent across regions; however, the rate of each symptom varies considerably. For example, although the South Central region appears to have the lowest prevalence of “any illness” at 50.8%, the individual rates of diarrhea and ARI are among the highest at 35.0% and 13.1%, respectively.

**Figure 1. Prevalence of various illnesses/symptoms in the 2 weeks prior to the survey, by region**

57. The 2007 NNS also reported on the coverage and utilization of health services for child illnesses. Of the children who experienced an illness in the two weeks prior to the survey, 80.2% received treatment. When type of health care was examined, 35.4% of cases treatment was provided in hospitals and 30.7% was provided in health centers. It is somewhat surprising that the proportion of children who received treatment was similar in Luanda and rural areas, at 75.7% and 76.6%, respectively; however, in urban areas outside of Luanda, the rate increased to 86.8%. Furthermore, the proportion of cases
being treated in hospital was greatest in rural areas and urban areas outside of Luanda (37.9%) as opposed to 24.5% in Luanda. This difference may be partially explained by a greater use of private health services in Luanda.

58. The provision of oral rehydration solution (ORS) is critical for the management of diarrhea. The 2007 NNS investigated the use of ORS and found that only two-thirds of children who experienced diarrhea in the two weeks prior to the survey received ORS. It is important to also point out that the management of diarrhea should also entail zinc supplementation for the management of diarrhea along with the provision of ORS. Although the WHO and UNICEF issued this recommendation in 2004, Angola’s MoH has not yet adopted it as part of their national health policy, and it was not evaluated in the 2007 NNS.

**Infant and Young Child Feeding Practices**

59. Infant and young child feeding (IYCF) practices directly affect the nutritional status of children under two years of age, and ultimately impact child growth, development and survival. The WHO recommends the following that all infants:
- Initiate breastfeeding within one hour of birth and be fed colostrum;
- Exclusively breastfeed for the first six months of life
- Receive age-appropriate, nutrient-dense, locally available foods from six months of age
- Continue to breastfeed beyond 12 months of age

A set of fifteen indicators for comprehensively assessing IYCF practices was recently published by the WHO. Unfortunately, this guidance was not available at the time of Angola’s 2007 NNS. However, the NNS did assess the proportion of infants that were ever breastfed, the timing of initiation of breastfeeding, and the proportion of infants that were exclusively breastfed until six months of age. Results show that 90% of Angolan infants are breastfed at some time; however, only 54.9% of infants initiate breastfeeding immediately after birth. Rates are below the national average in the Northeast, South Central, and Capital regions, where only 41.0%, 30.8%, and 50.9% of infants, respectively, initiate breastfeeding immediately after birth.

60. When the country is taken as a whole, only 31.1% of infants in Angola are exclusively breastfed for the recommended first six months of life. Figure 18 highlights regional differences: in the Eastern region, the rate falls to 11.4%, and in the Western region the rate increases to 43.1%. In general, the rate is higher in urban as opposed to rural areas, which may reflect better access to IYCF information that is promoted through the Baby Friendly Hospital Initiative.
Figure 18. Proportion of infants who exclusively breastfeed for six months, by region
CHAPTER 4: POLICIES AND PROGRAMS PERTAINING TO NUTRITION IN ANGOLA

Policy Environment

Angola’s Health System and National Health Policy

61. Although Angola’s National Health Policy (NHP) (32) does not specifically focus on nutrition, it provides useful information on the structure of the national health system, current challenges, and priority health actions. This insight is helpful given the linkages between health and nutrition, the position of the nutrition unit within the MoH’s National Directorate of Public Health, and the crucial involvement of the health sector in delivering nutrition interventions. Angola’s national health care delivery system is organized into three hierarchical levels (32):

1. **Primary health care** is represented by health posts, health centers, district hospitals, nursing stations and doctors’ offices, and is the population’s first point of contact with the public health system.
2. The **secondary or intermediate level** is represented by general hospitals that receive referrals from the primary level.
3. **Tertiary referral hospitals** provide the most specialized care and receive referrals from general hospitals.

62. According to the 2010 NHP, it is estimated that only 30-40% of the population has access to health services (32). The public sector (i.e. the National Health Service (NHS)) is the main provider of health care nationally; however, the private sector provides care to some portion of the population in major urban centers, and some people also seek traditional medical care. The current ratio of one health center for every 20,000 residents highlights the lack of basic health services to meet the needs of the population (32).

63. Human resources in the health services field remain a major challenge in the country. There is approximately one doctor for every 20,000 inhabitants and 1.75 nurses for every 1,000 inhabitants (32). There are also major geographical disparities in the distribution of human resources across the country: 85% of physicians work in Luanda and provincial capitals, while only 15% work in rural areas (32). The NHP cites working conditions, salaries and compensation mechanisms, limited incentives to work in rural areas, and limited career advancement opportunities as problems that have contributed to an overall lack of motivation in the health sector (32). There is also a major need for more public colleges of medicine and health sciences and programs to train health professionals.

64. A major constraint for the development and implementation of nutrition activities in the country is the shortage of well-trained nutritionists. There are less than five
nutritionists with a university degree and there aren’t any mid-level nutritionists who are employed in the public sector. Although 40 nutritionists are apparently registered with the Angolan Nutritionist Association, they all work in the private sector in Luanda. Nurses or auxiliary nurses are typically responsible for carrying out the nutrition-related activities, such as the management of acute malnutrition, for which there is some pre-service training curricula. However, there is a need to improve the skills of these professionals through continuous on-the-job training. Otherwise, the country does not have any formal nutrition program at university or mid levels, and all existing nutritionists were trained abroad.

65. Table 4 outlines the key strengths, weaknesses, opportunities, and threats in the health system as outlined in the NHP.

Table 4. Strengths, Weaknesses, Opportunities, and Threats in the Health System

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universality of free care</td>
<td>Difficulty coordinating health interventions and acting on the main determinants of health</td>
<td>Economic growth</td>
</tr>
<tr>
<td>Existence of a critical mass of human resources</td>
<td>Weak planning/management capacity at all levels</td>
<td>Economic stability to support investment</td>
</tr>
<tr>
<td>Major investments in health</td>
<td>Decentralization without financial autonomy to local health bodies</td>
<td>Leadership and support to combat sexually transmitted infections, HIV/AIDS endemic diseases, and health in general</td>
</tr>
<tr>
<td>Progressively increasing proportion of the budget being spent in the health sector</td>
<td>Poor management of available resources at all levels</td>
<td>Progressive increases in the health budget</td>
</tr>
<tr>
<td>Greater availability of management tools and mechanisms</td>
<td>Some investments that are inconsistent with health proprieties</td>
<td>Progressive structure of civil society</td>
</tr>
<tr>
<td>Strong Leadership</td>
<td>Lack of transparency in some management decisions</td>
<td>Weak health information and communication systems</td>
</tr>
<tr>
<td></td>
<td>Low coverage of health services</td>
<td>Incomplete supervision and evaluation</td>
</tr>
<tr>
<td></td>
<td>Uneven distribution and inadequate recruitment of skilled health professionals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limited opportunities for training in health</td>
<td></td>
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<tr>
<td></td>
<td>Unattractive salaries and poor staff performance</td>
<td></td>
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<tr>
<td></td>
<td>Weak health information and communication systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incomplete supervision and evaluation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Existence of programs to fight poverty and achieve the MDGs</td>
</tr>
</tbody>
</table>
• Partnerships with the international community

**Threats**

• Difficulty sustaining levels of health funding
• High rates of illiteracy
• Gender inequality
• Poor water and sanitation conditions
• Unplanned industrialization and introduction of technologies without mechanisms that safeguard the preservation of the environment

With these issues in mind, the key priorities of the health system are 25:

1. Reduce maternal and infant mortality
2. Control communicable and non-communicable diseases
3. Improve the adequacy of human resources and health technology
4. Secure sustainable funding
5. Improve the efficiency of the health system’s resource management

66. The NHP was drafted to establish strategic guidelines to achieve these priorities and to ultimately improve health status and general quality of life of the population. The NHP recognizes health as a fundamental human right and is based on the principles of respect for human dignity, universal high-quality care, social justice, accountability, and individual and collective responsibility. It emphasizes that the values of solidarity, accessibility, equity, ethics, gender, and cultural identity must be prioritized when implementing the NHP across the country. The specific objectives of the NHP include the following (32):

1. Restructure and develop the NHS, prioritizing access for the entire population to primary health care;
2. Reduce infant and maternal mortality and morbidity;
3. Promote and preserve an overall context and an environment conducive to health;
4. Empower individuals, families and communities in promoting and protecting health.

67. Clearly these objectives and general principles are relevant to nutrition efforts in the country. Of particular note, however, is the mention of the importance of nutrition in the NHP. An emphasis is put on the Integrated Management of Childhood Illness (IMCI) framework and it is recommended that special attention be given to malaria, diarrheal diseases, ARIs, and malnutrition. Furthermore, breastfeeding, iron supplementation, distribution of vitamin A supplements and deworming medication are included in the list of priority interventions for reducing maternal and infant mortality. Unfortunately, a detailed implementation for the delivery of such interventions is not yet included in the NHP reducing the programmatic strength of this policy document.
68. In 2007, the National Council for Children (CNAC; Conselho Nacional da Criança) was formed with the general goal of overseeing a national agenda for children in Angola (33). CNAC is composed of high-level representation from sixteen Ministries, plus the National Institute for Angolan Children, as well as eighteen permanent seats for civil society representatives. CNAC has been tasked with implementing and monitoring activities related to Angola’s 11 Commitments for Children (33). These commitments constitute the base of the national agenda for children and were approved by the GoA during the 3rd National Child Forum in 2007. Permanent CNAC Commissions were established to provide technical and executive support to the CNAC Executive Body in four main areas, each focusing on a subset of commitments. The eleven commitments are broadly based on the MDGs, but also include commitments pertaining to early child education, protection, and budgeting. Table 5 outlines the commissions and commitments. Food and nutritional security is recognized as an important priority for children, and falls under the Public Policy for Children 0-5 years of age commission.

Table 5. National Council for Children (CNAC) Commissions and the 11 Commitments for Children (33)

<table>
<thead>
<tr>
<th>Commission</th>
<th>Commitment</th>
</tr>
</thead>
</table>
| 1. Public policy, children 0-5 years of age | 1. Life Expectancy  
2. Food and Nutritional Security  
3. Birth Registration  
4. Early Childhood Education |
| 2. Public policy to prevent juvenile delinquency, children 6-18 years of age | 5. Primary Education  
6. Juvenile Justice |
8. Prevention and Mitigation of Violence Against Children  
9. Family Capacities |
| 4. Administrative and financial policy, sustainability of results | 10. Children and the Media  
11. Children in the State Budget |

69. The formation of CNAC and the approval of the 11 Commitments for Children represent an important step forward as national policies shift from relief to development. By including representation from sixteen Ministries, CNAC acknowledges the multisectoral nature of child survival, development, and protection, and the need to work collaboratively. One of CNAC’s key activities is the organization of an annual National
Forum for Children, which brings together national, provincial, and municipal authorities to discuss national priorities and actions for children. The National Policy for Children Under 5 was released at the most recent Forum in June 2011 and includes a strategy of nutrition for young children. The general objective of this strategy is to ensure good nutritional status, growth and development of children, especially during the first two years of life. The specific objectives are: ensuring good nutritional status, growth and development of children, especially during the first two years of life. The specific objectives of the strategy are the following:

For women and mothers:
- Increase the percentage of mothers who breastfeed immediately after delivery
- Increase the percentage of mothers who practice exclusive breastfeeding for 6 months
- Increase the percentage of pregnant women who receive IFA supplements

For children:
- Begin to implement in all 164 municipalities the supplementation program
- Increase the coverage of vitamin A supplementation for children 6-59 months of age
- Reduce rates of wasting, stunting, and underweight in children under-5

For the health system:
- Ensure that 50% of health facilities with delivery rooms are baby friendly health facilities
- Increase the coverage and use of iodized salt
- Expand the integrated management of malnutrition at community and health facility levels

National Food Security and Nutrition Strategy

70. In March 2009, the government and stakeholders approved Angola’s National Food Security and Nutrition Strategy (NFSNS) (34). This initiative was coordinated by the Food Security Office within the MoA with efforts from a technical team of representatives from the Ministries of Agriculture, Social Welfare, Trade, Education, Family and Promotion of Women, Fisheries, Planning, Health, Environment, and Finance. The NFSNS aims to achieve the following goals:

1. Promote coordination of all initiatives on food and nutrition security;
2. Encourage wide participation from diverse stakeholders at all levels;
3. Facilitate social dialogue and consultation; and
4. Participate in the mobilization of funds and promote synergies in support of the overall effectiveness of combating food insecurity and vulnerability in the country.
Furthermore, the NFSNS outlines the following specific objectives:

1. Sustainably increase and diversify agricultural and livestock production as well as fisheries to improve levels of food supply;
2. Ensure the availability, stability, and sustainability of food supply by promoting linkages between areas with surpluses and higher levels of consumption in order to restore the domestic market;
3. Improve access to food through guarantees of social protection, especially for disadvantaged groups.

70. The strength of the NFSNS is that it recognizes the cross-cutting nature of food insecurity and the importance of involving multiple sectors, including civil society and the private sector, in designing and implementing effective initiatives to improve food security. One issue of particular importance in the NFSNS is salt iodization. Although the NFSNS refers to a law that aims to regulate the distribution and production of iodized salt, enforcement at border control points continues to be a challenge and the vast majority of imported salt remains un-iodized. A special task force on salt iodization has been created under the Ministry of Commerce, which also includes representatives from the Ministry of Agriculture and Fisheries and the MoH. This task force is working to develop new approaches to effective control of the salt iodization policy and is also preparing a new plan to boost local production of iodized salt.

71. The National Council for Food Security and Nutrition (NCFSN) was formed alongside the NFSNS to play an advisory role in overseeing activities pertaining to the strategy. Other tasks of the NSFSN are to:
   • Provide a framework for dialogue and joint reflection on food security;
   • Formulate a draft bill on food security;
   • Implement and monitor public policies that are related to food security in the country.

The need for an information system on food security and nutrition is also recognized in the NFSNS.

iv. National Food and Nutrition Policy and Topic-Specific PoliciesSupported by the Ministry of Health

72. Apart from the NFSNS, will be the National Food and Nutrition Policy (NFNP). This policy is being spearheaded by the Nutrition Unit under the MoH’s National Directorate of Public Health in collaboration with the MoA, Ministry of Social Services, UNICEF, WHO, the Food and Agriculture Organization, industry and trade partners, and other stakeholders. The Nutrition Unit is currently working with stakeholders to finalize the NFNP and is anticipating that the NFNP will be completed and released in the first quarter of 2012. Meanwhile, and to ensure that nutrition activities will begin to be implemented, the MoH Nutrition Unit with support of UNICEF and WHO has designed
the National Nutrition Strategy that was presented above, and will guide the programmatic activities related to nutrition while the national policy is being prepared.

73. The NFNP will be a key initiative in moving the national nutrition agenda forward. However, the MoH already has specific policies pertaining to specific nutrition topics. For example, the Baby Friendly Hospital Initiative and the Code on Marketing of Breast Milk Substitutes are in place, which both emphasize the importance of appropriate breastfeeding practices, among other things. The MoH has also released Guidelines for Community-based Management of Acute Malnutrition (CMAM), which were recently used in training workshops in July 2011, as well as National Guidelines for Infant Feeding in the context of HIV. The MoH has also recently collaborated with UNICEF to launch the Child Friendly Schools Initiative, which focuses on the health and nutrition of school children.

Current Programs

74. Since the end of the war, some efforts are in place to transit nutrition-related efforts from a focus on emergency operations to a more development-oriented approach. This transition has been accompanied by a withdrawal of several NGOs that provided emergency nutrition interventions during the war and the necessity for the GoA (specifically the MoH, MoA, and Ministry of Social Assistance and Reintegration) to assume greater responsibility for coordinating nutrition and food security activities. UNICEF and WHO have been key partners in providing funding, technical assistance, and implementation support. Table 6 summarizes the key programs pertaining to nutrition that are currently underway in Angola. However, please note that detailed information for each program was limited, preventing one to make informed judgment on coverage and achieved results.

<table>
<thead>
<tr>
<th>Program/Activity</th>
<th>Description of Nutrition Components</th>
<th>Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Therapeutic Nutrition Centers and Community-Based Management of Acute Malnutrition</strong></td>
<td>Treatment of acute malnutrition among children 6-59 months of age</td>
<td>MoH with procurement assistance from UNICEF</td>
</tr>
<tr>
<td><strong>Municipal Child Days</strong></td>
<td>Twice yearly campaign that distributes vitamin A supplements for children 6-59 months of age and deworming tablets</td>
<td>MoH and UNICEF</td>
</tr>
<tr>
<td><strong>Baby Friendly Hospital Initiative</strong></td>
<td>Focuses on appropriate breastfeeding practices</td>
<td>MoH and UNICEF</td>
</tr>
<tr>
<td><strong>Salt iodization and activities to lower iodine deficiency</strong></td>
<td>Salt iodization</td>
<td>Ministry of Agriculture and Fisheries, UNICEF</td>
</tr>
<tr>
<td><strong>IFA supplementation of pregnant women</strong></td>
<td>Provision of IFA supplements to pregnant women as part of antenatal care</td>
<td>MoH</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td><strong>Multi-partner Program to Achieve the MDGs in 3 provinces</strong></td>
<td>Provision of supplementary food for children orphaned by HIV/AIDS</td>
<td>MoH, MoA, MINARS, WHO, UNICEF, UNDP, FAO</td>
</tr>
<tr>
<td><strong>Supplementary Feeding Program for HIV-affected orphans</strong></td>
<td>Milk and porridge are provided to infants</td>
<td>MINARS</td>
</tr>
<tr>
<td><strong>Community Infant Centers</strong></td>
<td>Nutrition surveillance is incorporated into epidemiological surveillance system and 2006 WHO Growth Standards are Introduced in 3 municipalities</td>
<td>WHO, UNICEF, MoH</td>
</tr>
</tbody>
</table>

In addition to these formal programs, the MoH envisions that community health workers (CHWs) should be responsible for providing nutrition education and conducting periodic nutrition surveillance activities at the community level. However, additional discussions are needed to determine how best to integrate these activities into the CHWs existing role; to develop streamlined policies, guidelines, and training materials; and to determine the best way to compensate CHWs for performing these activities.
CHAPTER 5: NEXT STEPS AND THE WAY FORWARD

75. After reviewing the available data, it is clear that several nutritional problems of great public health significance persist in Angola: those require immediate attention and unified action. Our series of interviews with key representatives from the MoH, UN agencies, and other partners revealed a remarkable consensus in the key issues and responses that should be prioritized. These priority areas of intervention could serve as a potential framework for support from the WB and other development partners.

_Incorporate the collection of comprehensive nutrition data into routine, planned surveys_

76. The scarcity of high-quality, comprehensive, and up-to-date data on the current nutrition situation in Angola is a critical problem that should be given top priority. The 2007 NNS is now four years old and updated data are needed to effectively plan and prioritize the implementation of various nutrition interventions and activities throughout the country. Ideally, the collection of food security, household food expenditure and consumption data; as well as dietary diversity and biochemical data (e.g. hemoglobin) should be incorporated into routine, ongoing surveys, such as the Multiple Indicator Cluster Survey, so that a more complete and detailed assessment of the nutrition situation can be provided and changes in the nutrition situation can be described. Of course, this will only be worthwhile if the planned surveys are actually conducted according to schedule.

_Finalize the National Nutrition Policy and conduct a rigorous gap analysis to identify priority nutrition interventions and a country-specific plan for scaling up nutrition_

77. Although plans for the NNP have been in progress for several months, this policy has not yet been published. Support should be provided to ensure that the MoH is able to stay on track with their goal of releasing the NNP in the first quarter of 2012. This policy will be distinct from the NFSNS and will be a critical step to developing a comprehensive, multisectoral, and unified response to undernutrition in Angola. It will also be helpful to conduct a costing analysis of the NNP to help prioritize and plan the implementation of various interventions.

78. Consensus has been reached by the international nutrition community on which evidence-based, cost-effective priority interventions should be included in national nutrition policies (9, 35). These priority interventions along with their potential delivery platforms and associated cost-effectiveness ratios are presented in Table 7. Although a subset of these interventions is being implemented in Angola under the auspices of various sectors, others, such as zinc supplementation for the treatment of diarrhea, micronutrient powders for young children, vitamin A supplementation for postpartum women, and iron fortification of staple foods for the general population, have not yet been formally adopted in any policy document. It may be useful to view this proposed package as the backbone to Angola’s NNP.
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Potential Delivery Platforms</th>
<th>Estimated benefit:cost savings or cost-effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavior change interventions</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1. Breastfeeding promotion and support | • Community nutrition programs  
• Antenatal and delivery care  
• Neonatal outreach programs  
• Mass media approaches  
• Conditional cash transfers | US$53-153 per DALY saved for behavior |
| 2. Complementary feeding for infants after the age of 6 months | • Community nutrition programs | US$500-1,000 per DALY saved |
| 3. Hand-washing with soap and promotion of hygiene behaviors | • Community nutrition programs  
• Market-based delivery systems plus social marketing  
• Hygiene promotion programs | Not available |
| **Micronutrient and deworming interventions** | | |
| 1. Vitamin A supplementation for children 6-59 months of age | • Child health days  
• Vitamin A campaigns  
• Routine health care visits combined with outreach | US$3-16 per DALY saved |
| 2. Zinc supplementation as a part of diarrhea management for children 6-59 months of age | • Primary health care system  
• Child health days  
• Market-based delivery systems plus social marketing | US$73 per DALY saved |
| 3. Multiple micronutrient powders for children 6-23 months of age | • Community nutrition programs  
• Child health days  
• Primary health care system | US$12.20 per DALY saved |
| 4. Deworming for children 12-59 months of age | • Child health days  
• Vitamin A campaigns  
• Primary health care | 6:1 benefit cost ratio |
5. Iron-folic acid supplements for pregnant women
   - Antenatal care
   - Community nutrition programs
   - Neonatal outreach and safe motherhood programs
   - Child health days
   - Conditional cash transfers
   US$66-115 per DALY saved

6. Iron fortification of staples
   - Market-based delivery systems
   - Social marketing
   8:1 benefit cost ratio

7. Salt iodization
   - Market-based delivery systems
   30:1 benefit cost ratio

8. Iodine supplements for pregnant women in highly endemic areas of iodine deficiency
   - Antenatal care
   - Community nutrition programs
   Not available

Complementary and Therapeutic Feeding

1. Prevention or treatment of moderate malnutrition in children 6-23 months of age
   - Service delivery through community nutrition programs or primary health care system or market-based delivery systems
   US$ 41 per DALY saved for community-based management of acute malnutrition

2. Treatment of Severe Acute Malnutrition in children 6-59 months of age
   - Identification of children through primary health care, referral through community nutrition programs or child health days
   - Service delivery via CMAM, referral to primary health care system (if necessary)

79. As the NNP is being finalized, it would also be valuable to conduct a rigorous gap analysis of the nutrition situation in the country to better understand what interventions are already being implemented - by whom, at what scale, and at what level of effectiveness. The collection of such data will identify the gaps and opportunities for scaling-up nutrition interventions and will guide the identification of which interventions should be prioritized in each sector.
80. In addition to outlining policies and interventions, the NNP should define specific objectives, relevant target populations, and key activities. Support should also be provided to develop a costed implementation plan to accompany the NNP, so that the objectives of the NNP can be realized. The Plan must also define the role of the different stakeholders from the public and private sectors, including the for-profit and the non-profit organizations of the Angolan society.

81. A national nutrition policy advocacy plan should be developed to accompany findings from the proposed gap analysis and the finalized NNP. The advocacy plan should highlight key results, identify nutrition priorities, underscore the importance of investing in nutrition, and lay out a plan for scaling-up, building capacity, and corralling political commitment.

*Increase Capacity-Building Efforts and Training Opportunities in the Field of Nutrition*

82. A critical issue which is hindering Angola from making progress in the nutrition sector is the lack of trained nutrition professionals within the country. Currently, there is no university-level program in nutrition and medical doctors receive very little training in nutrition. Support is urgently needed to increase training opportunities and build capacity within the country. Ideally, at least 168 nutritionists should be trained to meet the needs of each municipality, as well as 18 nutrition supervisors that would function at the provincial level. The MoH envisions introducing a nutrition curriculum in the existing mid-level health schools that are present in almost all provinces. In the short-term, existing nurses and doctors, especially pediatricians, should receive intensive refresher training on the prevention and treatment of malnutrition.

*Enhance Nutrition Surveillance and Screening Activities*

83. Efforts are needed to improve the nutrition surveillance and monitoring and evaluation system, so that current and reliable nutrition data are available. As of now, a standardized nutrition surveillance system is not in place, neither are routine screening activities to identify children with acute malnutrition. These activities are important to monitor the nutrition situation in the country and to track the effectiveness of ongoing and newly introduced interventions and programs. IT equipment, new personnel, and various trainings will be required to put the system in place, and the continued roll-out of the 2006 WHO Growth Standards should accompany these surveillance and screening efforts. The WHO is extremely committed to this initiative and has been piloting a new nutrition surveillance program in three municipalities, which will later serve as “best practice” examples.

*Incorporate Nutrition into other Community-based Activities*

84. Thoughtful consideration and discussion will be required to identify ways in which key nutrition activities and interventions that are proposed in the NFSNS, the nutrition strategy for young children/National Policy for Children Under 5, and the upcoming NFP can be incorporated into going community-level health, agricultural, and other social activities. There are clear opportunities to coordinate the implementation of certain activities, and the potential to enhance efficiency is great; however, it is likely that
additional training and support for existing CHWs, an increase in human resources, and a bolstering of monitoring and evaluation efforts will be required.
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Results from Community Health-Seeking Behavior Vignettes and a Traditional Herbal Medicine Practitioner Survey

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