



## CURRENT SITUATION AND TRENDS FOR FOOD SECURITY IN ANGOLA

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### Abstract

For many people the access to food ensuring enough calories, dietary diversity, continuity and good quality is still an everyday challenge. After three decades of civil war, Angola is one of the fastest growing economies of Sub-Saharan Africa, which is world leader in undernourishment and child mortality. The aim of the survey was to summarize recent findings of various international organizations monitoring food security mainly in developing countries. The author shows definitions regarding food security, gives details of the methodology highlighting the complexity of factors required to measure hunger. The overall trend over the last decade shows improvement, which is promising. However, malnutrition rates in the population remain high, in spite of the ongoing boost of various sectors of the economy. Huge regional inequalities point out the importance of rural development promotion programs, and the need of immediate action to reduce social disparities. The results demonstrate the need of focused approach in order to promote the improvement of the current situation. Resolving food-related problems should be a priority.

KEY WORDS: Angola; country studies; food policy; food security; measuring hunger.

### Introduction

In 2009 the Angolan Government announced the National Strategy for Food and Nutritional Security (ENSAN) and corresponding Action Plan for the Absolute Reduction of Poverty (PASAN). The National Council for the Security of Alimentation (CONSAN) and the Office for Food and Nutritional Security (GSA) have started operation. With their leadership a national network was established and planning of different programs and interventions have started with the intent to improve food security particularly of the most vulnerable sectors.

The strategy followed a set of instruments to fight poverty, within a contest of unity and national reconciliation, namely within the context of laws on land tenure, environment, waters, seeds and microcredit programs. The purpose was to secure alimentation, mainly through internal production by diversifying farming and fishery production in a sustainable way. The strategy established to begin cooperation with various ministries and other public institutions, local authorities, the private sector, the civil society, also international partners. (Reliefweb 2009, ENSAN 2009) To measure the outcome of governmental efforts, the country participates in different ongoing research activities of various international organizations, regarding food security and the current situation of hunger. New reports are issued every year by different departments of the United Nations (UN), the World Bank, and the Economist Intelligence Unit (EIU) among others. The aim is to survey the actual changes and longterm trends of food security around the world, with special attention to developing economies of Sub-Saharan Africa.

To capture the meaning and complexity of alimentary problems, we give recent definitions developed by competent organizations. According to the International Food Policy Research Institute (IFPRI):

**Hunger** is usually understood to refer to the distress associated with a lack of sufficient calories. The Food and Agriculture Organization of the United Nations (FAO) defines *food deprivation, or undernourishment*, as the consumption of too few calories to provide the minimum amount of dietary energy that each individual requires living a healthy and productive life, given that person's sex, age, stature, and physical activity level. (IFPRI, 2015 a)

**Undernutrition** goes beyond calories and signifies deficiencies in any or all the following: energy, protein, and/or essential vitamins and minerals. Undernutrition is the result of inadequate intake of food in terms of either quantity or quality, poor utilization of nutrients due to infections or other illnesses, or a combination of these factors. These, in turn, are caused by a range of factors, such as household food insecurity, inadequate maternal health and childcare practices, or inadequate access to health services, safe water, and sanitation (IFPRI, 2015 a).

**Malnutrition** refers more broadly to both undernutrition (problems caused by deficiencies) and overnutrition (problems caused by unbalanced diets, such as consuming too many calories in relation to requirements with or without low intake of micronutrient rich foods) (IFPRI, 2015 a).

Achieving food security means ensuring quality, diversity and continuity of food access, in addition to quantity for all members of the society.

The World Bank has created *Nutrition Profiles* of the countries with the highest burden of undernutrition to inspire action and investment in nutrition, to reduce child and maternal mortality, and to improve the economic potential of nations. (World Bank, 2011 a) Its baseline statements provide summary information about the extent, costs and causes of malnutrition, as well as potential solutions. The countries profiled include the 36

countries identified in The Lancet (Black et al., 2008) that account for 90% of the world's stunted children, and 32 smaller countries with rates of stunting and/or underweight greater than 20%. The country profiles focus on three key messages:

A, Malnutrition remains the single largest cause of child mortality.

Over one-third of child deaths are due to undernutrition, mostly from increased severity of disease. Malnourished children who survive tend to start school late, are more likely to drop out, and have lower adult earnings. The resulting compromised human capital means that malnutrition robs many developing countries of at least 2-3% of economic growth.

B, Economic growth alone does not solve malnutrition.

Poverty is an undeniably significant factor in child malnutrition, but in many countries malnutrition rates are surprisingly high even in the wealthiest quintile of households.

C, Investment in nutrition is cost-effective.

Although there are simple and extremely cost-effective interventions available, many countries have not implemented these at scale. On one hand, *nutrition-specific interventions* are needed, such as breastfeeding promotion, vitamin and mineral supplements and deworming. On the other hand, *nutrition-sensitive development* across many sectors, including agriculture, education, social protection, transport, gender, the food industry, health, among others is also necessary to ensure that development agendas fully utilize their potential to contribute to reductions in malnutrition. (World Bank, 2011 b)

## Material and methods

The aim of the author was to summarize recent findings of three reliable international organizations focusing on wide range of options for the precise measurement of food security and hunger, highlighting Angola. Each organization has developed its own methodology for scoring alimentation related issues, created databases by countries, regions and at a global scale. Data for the quantitative indicators were drawn from national and international statistical sources, while qualitative indicators were either results of their own research, or they were based on information from banks, government websites or independent surveys. Obviously, there are similarities among the points of view, especially comparing *Food Index* by the Foundation of Oxford Committee for Famine Relief (Oxfam) and the *Global Food Security Index (GFSI)* by the EIU. Their research emphasizes economic and social challenges as *causes* of the subsequent results. The main points include food

availability, affordability and safety, while their fourth viewpoint differs from one another. Oxfam scans the occurrence of non-communicating diseases (hypertension and type 2 diabetes) as results of inadequate nutrition, while the EIU focuses on the effect of natural resources including the adaptation capacity to climate change or demographic stresses. On the other hand, the third organization, the IFPRI, draws conclusions by studying the *results* of the challenges: undernourishment, child wasting, stunting and mortality. It also categorizes the countries by the severity of hunger, and gives the trends of hunger for each of them.

Although the methods differ, their results are similar and helpful to overview the main problem and difficulties the countries are facing.

## Results and discussion

“Good Enough to Eat” – The Food Index by the Oxfam Foundation

OXFAM - founded in 1942 in Great Britain - is engaged in providing aid for people afflicted by poverty and famine. In 2014, the foundation published a study about the general problems of alimentation, named “Good Enough to Eat” database. To capture aspects of the food market, the most recently available figures of eight established global data source was used.

The result, the so called: *Food Index*, shows the food related problems of citizens living in different countries and continents. Oxfam was searching for answers to four questions:

1. **Is there enough food available?** Measures malnutrition and the ratio of undernourished children in the population based on the official data of FAO and the World Health Organization (WHO).
2. **Are food prices affordable for local residents?** The ratio between food prices, the prices of other consumer goods, and the variability of prices are taken into consideration, using FAO and International Labour Organization (ILO) databases.
3. **Food quality.** Gives information about the variety of alimentation, access to clean drinking water, based on FAO data.
4. **Diseases caused by food consumption.** The evaluation of the presence of obesity and type 2 diabetes is based on WHO data.

To standardize the different scales and provide a globally comparable final result, the standard MIN/MAX rescaling method was used, generating re-scaled values of 0-100. Minimum values meant the best, maximum values indicated the worst result. Then a comparison process was elaborated and the order of the collaborating countries was determined. The Oxfam research was successfully performed in 125 countries all over the world. Countries providing incomplete data were not allowed to participate in the research. (Oxfam, 2014 b).

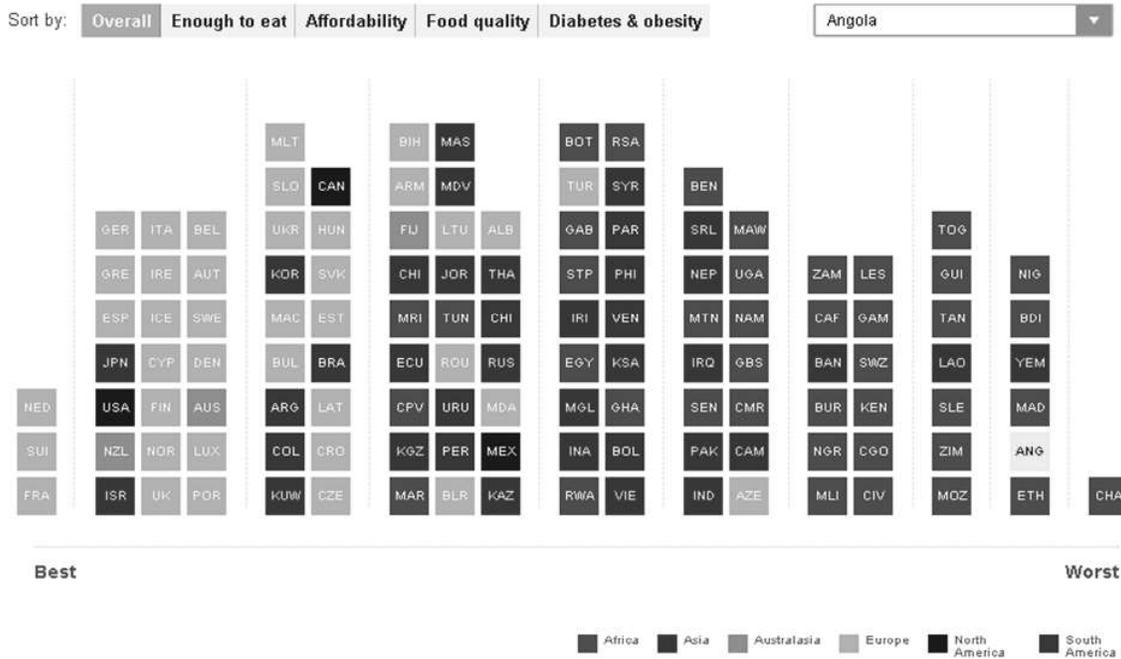


Fig. 1. Rankings of countries according to Oxfam's Food Index 2014, highlighting Angola

Source: <https://www.oxfam.org.uk/what-we-do/good-enough-to-eat>

The results show that the 19 of the best alimented 20 countries are Europeans. The leading country is The Netherlands with the best scores for food quantity, quality, prices, accessibility, variability and less alimentation-related diseases. Among the runner-ups, the

majority of the last 30 countries are African. Angola, with the 123rd position of the data providing 125 countries in 2014 could only beat Ethiopia and Chad. Detailed raw data, category scores and category rankings for Angola are shown in Table 1.

Table 1. Raw data, scores and rankings for Angola according to Oxfam's Food Index, 2014

ANGOLA	Category	Raw data	Source	Sub-category score	Category Score (0-100)	Category ranking (1-125)
Enough to eat	Undernourishment	24.4	FAO, 2011-2013	32		
	Underweight children	15.6	FAO, 2007	34	33 (0-89)	98 <sup>th</sup>
Afford to eat	Food price level	2.41	FAO, 2012	79		
	Food price inflation volatility	0.314	ILO, 2000-2008	100	90 (6-90)	125 <sup>th</sup>
Quality of food	Diet diversification	60.0	FAO, 2008-2010	64	65 (0-86)	114 <sup>th</sup>
	Access to safe water	53.4	FAO, 2011	66		
Food for heath	Diabetes	6.9	WHO, 2008	12	10 (3-54)	29 <sup>th</sup>
	Obesity	6.4	WHO, 2008	8		
						Overall ranking 123 <sup>rd</sup>

Source: Author's own construction based on findings of *The Food Index 2014* by the Oxfam Foundation

Angola achieved extremely low scores for high food prices, low variability of alimentation, low access to clean water (only 50% of the population, data by FAO), also for the presence of malnutrition.

The findings of food consumption related diseases do not mention food-related infectious diseases, such as acute diarrhea, typhoid fever or parasitic infections, which are common in developing countries. Measuring diseases caused by excessive calorie intake, can put developing countries to the top, as they lack various

factors which have known influence on the appearance of non-communicating diseases.

OXFAM's Food Index highlights of the areas of critical concern for many countries and indicates some important failings of the global food system that must be addressed (Oxfam, 2014 a).

“Global Food Security Index” by the EIU

The Economist Intelligence Unit (EIU) is functioning as an in-house research unit for The Economist newspaper, exercises full and final editorial control over

all content, including data gathering, analysis and forecasting, since 1946. A panel of experts from the academic, non-profit and government sectors are engaged to help select and prioritize food security indicators through a transparent, annually revised methodology. From 2012, their goal is to transform reality into measurable variables that allows the food security ranking of countries. The main aspects are:

1. **Affordability:** measures the ability of consumers to purchase food, their vulnerability to price shocks and the presence of programs and policies to support customers when shocks occur.
2. **Availability:** measures the sufficiency of the national food supply, the risk of supply disruption, national capacity to disseminate food and research efforts to expand agricultural output.

3. **Quality and safety:** measure the variety and nutritional quality of average diets, as well as the safety of food.

4. **Natural Resources and Adjustment:** added in 2017, it is considered as an adjustment factor that assesses a country's exposure to the impacts of climate-related and natural resource risks, also the adaptation capacity. (The EIU, 2019b)

The four category scores are calculated from the weighted mean of underlying indicators and are scaled from 0 (the worst) to 100 (the best). The overall score is calculated from a single weighted average of the first three category scores. The components of each aspect, the category scores and the differences from the average scores (%) are summarized in Table 2 (The EIU, 2017, 2019a).

**Table 2.** Food security indicators and rankings for Angola. Detailed category scores and scores of deviations from the average, according to GFSI 2017, 2019

Main Indicators	Category score (0-100)		Rank (1-113)		Detailed Indicators	Score		Deviation from the Average (%)	
	2017	2019	2017	2019		2017	2019	2017	2019
Years	2017	2019	2017	2019					
Affordability	21.9	51.3	103	89	Food consumption as a share of household expenditure, 2017	0.0	89.8	-58.6	-6.6
					Change in average food costs, 2019				
					Proportion of population under global poverty line	40.8	66.3	-32.2	-17.2
					GDP per capita (US \$)	4.6	4.5	-9.9	-13.3
					Agricultural import tariffs	62.8	70.1	-13.6	-5.5
					Presence and quality of food safety net programmes	25.0	50.0	-40.5	-24.3
					Access to financing for farmers	25.0	25.0	-36.3	-38.9
Availability	42.5	40.5	100	105	Sufficiency of supply	41.2	44.2	-15.3	-16.6
					Public expenditure on agricultural R&D	12.5	0.7	-2.5	-4.3
					Agricultural infrastructure	41.7	24.1	-15.9	-25.0
					Volatility of agricultural production	79.0	70.8	-7.2	-10.4
					Political stability risk	35.3	50.0	-11.5	+0.4
					Corruption	0.0	0.0	-37.4	-38.5
					Urban absorption capacity	54.4	55.8	-12.2	-26.2
					Food loss	55.5	55.5	-29.4	-29.4
Quality and Safety	35.8	44.9	94	92	Dietary diversity	35.7	37.9	-20.7	-17.9
					Nutritional standards	65.4	65.4	-13.7	-2.0
					Micronutrient availability	26.0	54.5	-17.9	-5.8
					Protein quality	23.1	23.0	-26.3	-24.0
					Food safety	44.6	53.1	-35.9	-29.4
Years	2017	2018							
<b>Overall ranking</b>	<b>101</b>	<b>100</b>							

Source: Author's own construction based on the annual baseline models of EIU's GFSI

According to GFSI data, in 2017 Angola was ranked 101<sup>st</sup> of the analyzed 113 countries. Among the challenges (indicator score below 25 of 100) we can identify extremely low scores for corruption (0/100), and GDP per capita (4.6/100). As a result of low income combined with high food prices, the country scored 0/100 for the very high share of food consumption as a household expenditure. For most families food prices are so high, that they can only satisfy their basic needs with limited variety of food. They consume less fresh

vegetable and fruit, with the preference of less perishable carbohydrate and low-quality protein, which is also one of the challenges (23.1/100).

By 2019 only a sole indicator, the political stability risk could exceed the average score (+0,4). The rest of the components remain in the negative range, underlining the complexity of nutritional problems in Angola. Although the country has advanced to 92<sup>nd</sup> position by 2018, they could not maintain it for long, by 2019 declined to the 100<sup>th</sup> position. According to EIU, the overall trend of

food security during the last seven years period shows a +2,8 point improvement. In 2016 an unexpected relapse occurred thanks to the economic effect of a sudden decline of oil prices. The one-sided economy, based on the extraction of crude oil, was incapable to compensate the loss of income, automatically causing financial difficulties to this day.

From 2017 a fourth category called *natural resources and resilience* was added with seven new components. *Exposure* details the occurrence of natural phenomena, like temperature rise, drought, flooding, storm severity, sea level rise, also the country's commitment to manage these exposures. *Water* refers to the quality and quantity

of water available for agricultural purposes, while *Land* outlines land degradation, grasslands and forest change. *Oceans* deals with eutrophication, marine biodiversity and marine protected areas, *Sensitivity* means the extent of food import and natural capital dependency, also the status of disaster risk management. *Adaptive capacity* overviews the effectivity of the national agricultural risk-management system, the early warning measures and the climate smart agriculture. At last, *Demographic stresses* represent population growth and urbanization between 2015 and 2020. Table 3 shows the category scores and global ranking by component for Angola, calculated for 2018 and 2019 (The EIU, 2019b).

**Table 3.** Natural resources and resilience – component and overall rankings for Angola, 2018-2019

Components	Global Ranking (1-113)		Category Score		Min. / Max. Values	
	2018	2019	2018	2019	2018	2019
Year	2018	2019	2018	2019	2018	2019
Exposure	45 <sup>th</sup>	46 <sup>th</sup>	66.4	66.4	33.9-79.4	26.9-79.4
Water	37 <sup>th</sup>	37 <sup>th</sup>	65.9	65.9	3.0-97.8	3.0-97.8
Land	94 <sup>th</sup>	63 <sup>rd</sup>	76.6	79.1	57.6-97.2	32.2-94.4
Oceans	76 <sup>th</sup>	100 <sup>th</sup>	48.0	18.0	0.4-100	0.3-82.9
Sensitivity	98 <sup>th</sup>	26 <sup>th</sup>	39.3	47.9	14.4-92.6	8.1-98.5
Adaptive capacity	68 <sup>th</sup>	68 <sup>th</sup>	41.7	41.7	0-100	0-100
Demographic stresses	106 <sup>th</sup>	108 <sup>th</sup>	18.9	19.8	6.4-99.6	5.4-94.2
Overall result	87 <sup>th</sup>	75 <sup>th</sup>	54.5	52.1	40.7-81.7	39-75.5

Source: Author's own construction based on the findings of EIU's GFSD

### The "Global Hunger Index" by IFPRI

Since its foundation in 1975, the International Food Policy Research Institute (IFPRI) is dedicated to provide research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition in developing countries. Functioning with more than 600 employees in over 50 countries IFPRI's strategy focuses on five research areas.

- Fostering climate-resilient and sustainable food supply;
- Promoting healthy diets and nutrition for all;
- Building inclusive and efficient markets, trade systems and food industry;
- Transforming agricultural and rural economies;
- Strengthening institutions and governance.

IFPRI's regional and country programs play a critical role in responding to demand for food policy research and in delivering holistic support for country-led development (IFPRI, 2019). IFPRI annually announces the results of their global research, the *Global Hunger Index* (GHI). Analyzing various sources of the most recent data, GHI is a tool designed to comprehensively measure and track hunger at global, regional, and national levels. GHI scores are calculated each year to assess progress and setbacks in combating hunger. It provides a way to compare levels of hunger between countries and regions, and call attention to those areas of the world where hunger levels are the highest, and where the need for additional efforts to eliminate hunger is the greatest (IFPRI, 2015 a)

Measuring hunger is complicated. GHI scores are calculated using a three-step process that draws on

available data from various sources to capture the multidimensional nature of hunger. ("Hunger" refers to the index, based on four component-indicators shown in Figure 2.)

First, for each country, values are determined for four indicators:

1. **Undernourishment:** the share of the population that is undernourished (that is, whose caloric intake is insufficient); data provided by FAO;
2. **Child wasting:** the share of children under the age of five who are wasted (that is, who have low weight for their height, reflecting acute undernutrition); data from UNICEF statistical tables, WHO's Global Database on Child Growth and Malnutrition as well as recent reports of the Demographic and Health Surveys (DHS), also their Multiple Indicator Cluster Surveys (MICS), and from the World Bank;
3. **Child stunting:** the share of children under the age of five who are stunted (that is, who have low height for their age, reflecting chronic undernutrition); data from the same sources as of child stunting; and
4. **Child mortality:** the mortality rate of children under the age of five (in part, a reflection of the fatal mix of inadequate nutrition and unhealthy environments. Data are sources from United Nations Interagency Group for Child Mortality Estimation (UN IGME).

Using a combination of indicators offers several advantages. They reflect caloric deficiencies as well as poor nutrition. The undernourishment indicator captures the nutrition of the population as a whole, while the indicators specific to children reflect the nutrition status of a vulnerable subset of the population for whom the lack of dietary needs leads to a high risk of illness, poor physical and cognitive development, and death. The inclusion of both child wasting and child stunting allows

the index to document both acute and chronic undernutrition. By combining multiple indicators, the index reduces the effects of random measurement errors (IFPRI, 2015 a).

Second, each of the four component indicators is given a standardized score on a 100-point scale based on the highest observed level for the indicator on a global scale in recent decades.

Third, standardized scores are aggregated to calculate the GHI score for each county, with each of the three dimensions (inadequate food supply; child mortality; and child undernutrition, which is composed equally of child stunting and child wasting) given equal weight.

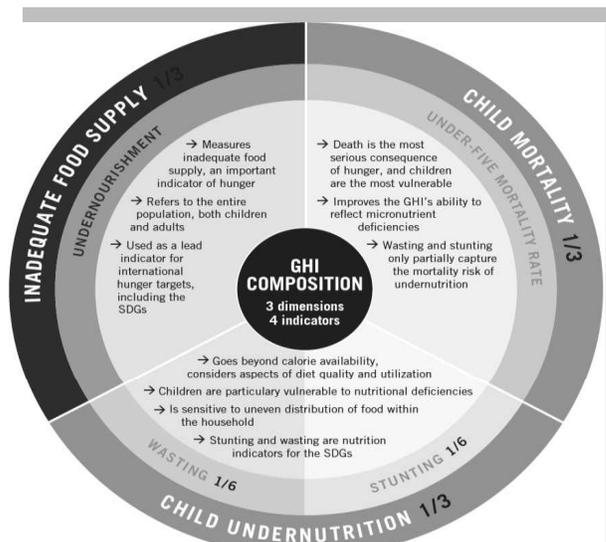


Fig. 2. Composition of the Global Hunger Index by IFPRI

Source: <https://www.globalhungerindex.org/about/>, based on Wiesmann et al. (Wiesmann et al, 2015)

Table 4. GHI Severity Scale

≤ 9,9	10,0 – 19,9	20,0 – 34,9	35,0 – 49,9	≥ 50,0
low	moderate	serious	alarming	extremely alarming

Source: [www.globalhungerindex.org](http://www.globalhungerindex.org)

This threestep process results in GHI scores on a hundred-point GHI Severity Scale, where 0 is the best score (no hunger) and 100 is the worst. The scale in Table 4 shows the severity of hunger from *low* to *extremely alarming*, associated with the range of possible GHI scores. For the calculation of the 2018 GHI scores, data are from previous years, using the most current ones available for each country.

GHI for Angola

In 2018 Angola ranked 95 out of the 119 qualifying countries. GHI overall score trends form 2000 to this day are shown in Figure 3.

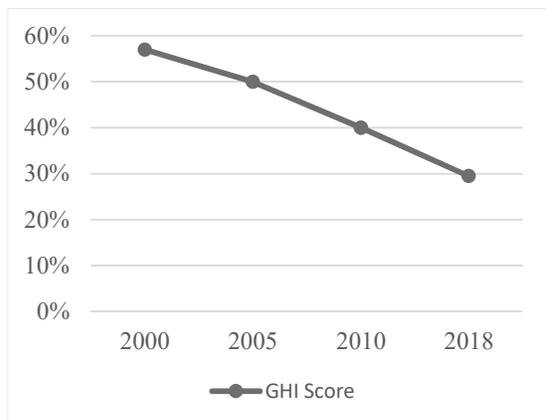


Fig. 3. GHI Score Trend for Angola (2000 - 2018)  
Source: [www.globalhungerindex.org/results](http://www.globalhungerindex.org/results)

The decrease from *extremely alarming* in the civil war period is reassuring, however in 2018, reaching the score of 29.5 Angola still suffers from a level of hunger that is considered *serious* (IFPRI, 2015 b).

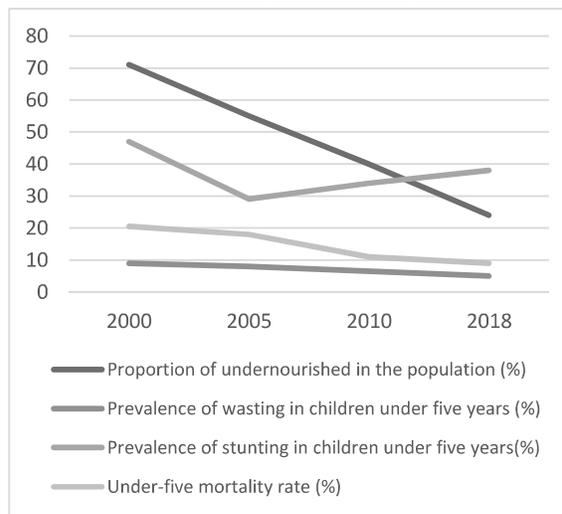


Fig. 4. Trend for Indicator Values for Angola (2000 - 2018)

Source: [www.globalhungerindex.org/results](http://www.globalhungerindex.org/results)

The evaluation of the four separate indicators demonstrates the composition of the overall trend.

According to the results shown in Figure 4, GHI component *the proportion of undernourishment in the population* shows the most significant decrease from over 70% of the population in 2000 to 24% in 2018. It is a huge accomplishment accompanied by the significant decrease of two more indicators, the *prevalence of child wasting* and the *under-five mortality rate*.

The research reveals though the reversal of a downward trend on *prevalence of stunting in children under five years*, from 2005. The indicator can draw attention to chronic undernutrition that still occurs even in families living among better conditions.

In addition, there is a significant inequality between various subnational regions regarding child stunting shown by original survey reports taken from 18 subnational units by UNICEF/WHO/World Bank between 2013 and 2017. There is a 29% difference between the lowest and highest child stunting rates (22-51%), with a national average of 37% (IFPRI, 2018).

GHI's international comparison shown in Figure 5 reveals Angola's outstanding improvement, with the highest reduction in hunger of the data providing countries.

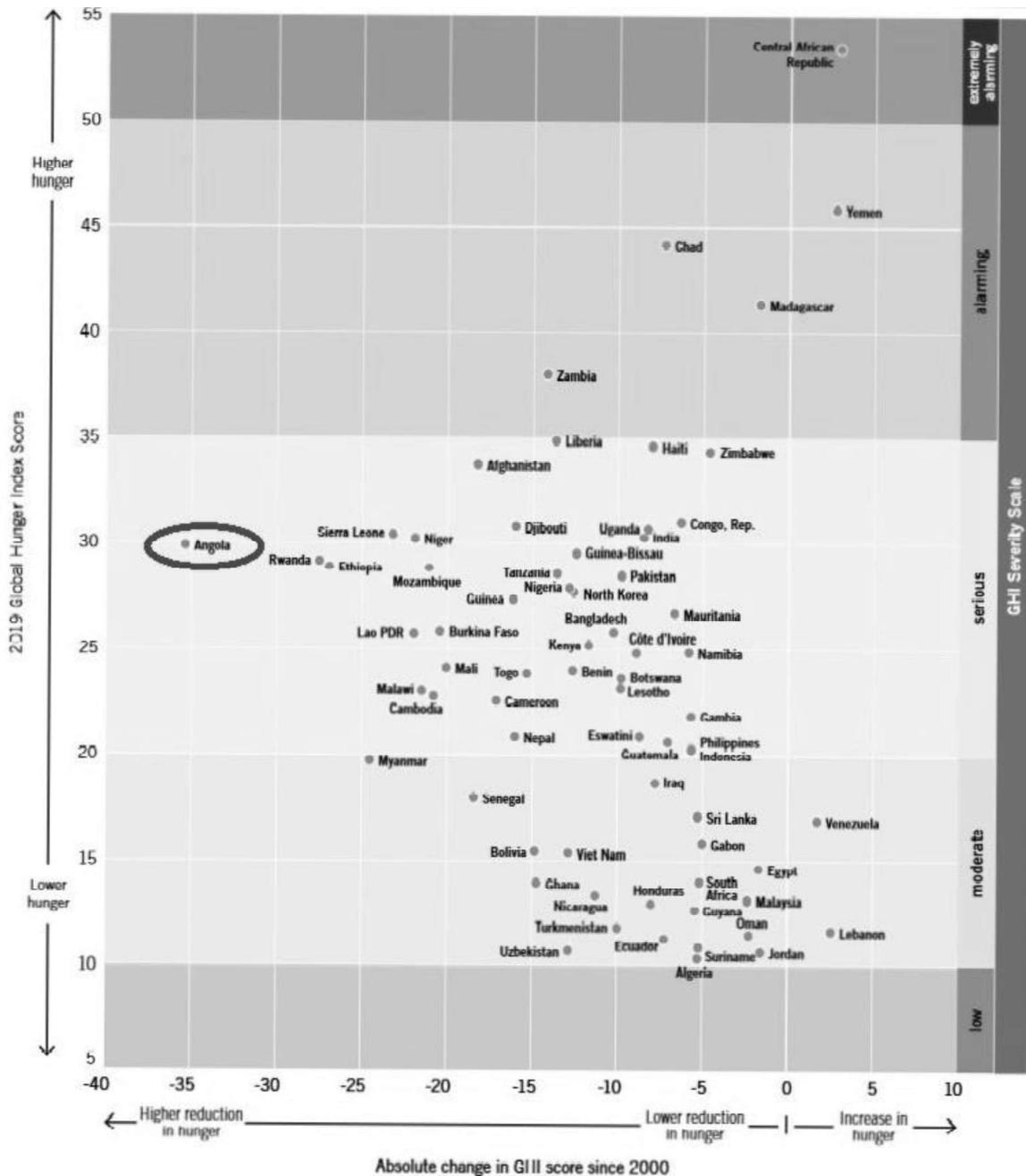


Fig. 5. Comparing GHI Scores and Progress by Countries since 2000, highlighting Angola

Source: [www.globalhungerindex.org/results](http://www.globalhungerindex.org/results).

The figure illustrates the change in GHI scores since 2000 in absolute values. The results cannot be compared to results from similar figures in previous GHI reports because of data revisions and because previous figures featured the percentage change since 2000. Some likely poor performers may not appear due to missing data.

## Conclusions

Although there are significant methodological differences between the detailed researches, their final conclusion and global ranking is mainly similar. Despite an existing national strategy (ENSAN), the food industry and supply chain in Angola performs way behind its possibilities, and remains among the worst rated countries both globally and regionally. GHI scores for Sub-Saharan Africa are dramatically worse than those of other regions of the world, indicating *serious* levels of hunger, showing stark contrast to other, more developed regions.

It is a huge accomplishment though that the country could achieve the UN Millennium Development Goal (MDG) 1/c, halving 1990 rates of child underweight by 2015. Furthermore, among 119 countries Angola could produce the highest reduction of hunger between 2000 and today, according to GHI. Due to recent efforts the improvement of political stability can be observed and decisive steps are taken to eradicate corruption.

Yet, malnutrition rates in the population remain high, approximately 14-18%. The main problem is still the limited access to nutritious food and clean water. To this day, nearly half of the households in Angola are food insecure, according to a measure of per capita access to calories. Many more households likely lack access to diverse diet year around. There is a significant inequality between regions due to poor climatic conditions in recent years, leading to prolonged droughts, reduced harvests, and loss of livestock in the southern provinces, proving high susceptibility to natural resource risks combined with low adaptation capacity. These effects of climate change point out the importance of rural development promotion programs, and the need of immediate action. The extent of efforts is still insufficient regarding the ongoing boost of various sectors of the economy. Children are at risk of impaired physical and cognitive development (UNICEF, 2018). As they grow up, the direct and indirect economic costs of lost productivity can be estimated. The World Bank underlines that because of vitamin and mineral deficiencies, Angola loses over US\$ 1.8 billion in GDP annually.

The international community is committed to achieving the *Sustainable Development Goals (SDG)*, including *SDG2*, known as *Zero Hunger*, which aims to end hunger, ensure food security, improved nutrition, and promote sustainable agriculture by 2030. The World Bank is currently supporting the \$134 million Second Phase of the Angola Emergency Multi-Sector Recovery Project which aims to increase food security and access to health care and other basic services. To address the root

causes of hunger, increased efforts are required to work more deeply and broadly on the issue.

“*ZeroHunger*” seems a less and less achievable goal over time. The economic consequences of the coronavirus epidemic could devastate the results achieved so far. Although in the current situation targeted government measures have been taken to improve access to health care and education, relaunch of international projects and increased involvement of private capital would be needed in addition to expanding data collection to support much-needed further research.

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RECEIVED: 12 September 2020

ACCEPTED: 1 December 2020

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