

SMART+ surveys in East Wollega zone, Oromia region

August, 2024

Ethiopia

KEY MESSAGES

- Global acute malnutrition (GAM) prevalence in children aged 6-59 months was 10.2%, classified as **High** according to WHO/UNICEF standards. Sasiga and Nunu Kumba districts had a very high GAM rate (>15%)¹, indicating the need for targeted intervention.
- Considering seasonality, although the survey was conducted in the lean seasons, there were aggravating factors like malaria outbreak, evidenced by 35.1% fever prevalence among children aged 6-59 months.
- Results indicate insufficient dietary intake among children aged 6 to 23 months, directly contributing to acute malnutrition. Only 19.4% of children in this age group met the minimum acceptable diet (MAD) and 26.7% met the minimum dietary diversity (MDD), signifying a high to very high risk of worsening acute malnutrition.
- The results indicate that 29.3% of the population had a poor Food Consumption Score (FCS), suggesting a risk of deterioration to even poorer levels if the situation worsens. Additionally, 22.9% of the assessed population was experiencing moderate or severe hunger (HHS), also indicating a risk of further decline under worsening conditions.
- Vitamin A coverage (79.1%) was not within the acceptable range of UNICEF threshold of 80%, and the measles vaccination rate (87.5% for 9-59 months and 80.8% for 9-23 months) is below the global threshold of 95% herd immunity.

CONTEXT & RATIONALE

East Wollega zone has been severely affected by conflict and insecurity since 2018. The ongoing conflict in the zone has had detrimental effects on protection, health, food security, and access to humanitarian aid for affected populations.¹ In the Displacement Tracking Matrix (DTM) site assessment round 35, there were estimated over 67,000 internally displaced persons (IDPs) in East Wollega.² Owing to accessibility challenges in the zone, recent SMART surveys on nutrition, mortality, food security have not been conducted. Consequently, Federal Emergency Nutrition Coordination Unit (FENCUC) recommended a survey to fill these information gaps. The current SMART+ survey is intended to address these gaps, providing crucial data to support the nutrition cluster and its partners in making well-informed, evidence-based decisions.

Survey Aim

To address information gaps, REACH conducted a SMART+ survey in East Wollega, focusing on malnutrition, mortality, infant feeding, health, WASH conditions, and food security. The data collected will aid evidence-based decision-making for the nutrition cluster and partner organizations. For further details on the survey's objectives, refer to the comprehensive report.

METHODOLOGY:

The survey utilized a two-stage cluster sampling method based on the SMART methodology, which covered 69 clusters (92% of the planned clusters), resulting in data from 750 households with 621 children (aged 6-59 months). The survey was carried out from August 19 to 29, 2024, which coincided with the *lean* season.

Map 1: Assessment coverage, East Wollega



Nutritional status for children between 6 and 59 months

Table 1: WHO/UNICEF Classification for severity of malnutrition, by prevalence²

Indicators	Prevalence Thresholds Level (%)				
	Very Low	Low	Medium	High	Very high
Wasting (WHZ)	< 2.5	2.5 - < 5	5 - < 10	10 - 15	> 15
Overweight (WHZ)	< 2.5	2.5 - < 5	5 - < 10	10 - 15	> 15
Stunting (HAZ)	< 2.5	2.5 - < 10	10 - < 20	20 - > 30	> 30
	Acceptable	Poor	Serious	Critical	
Underweight (WAZ)	< 10	10 - < 20	20 - > 30	> 30	

Prevalence of acute malnutrition in Weight for Height Z-score (WHZ)

Table 2: Prevalence of Acute Malnutrition by WHZ (and/or oedema) by severity, by sex.

Indicator	All (N=610)	Boys (N=310)	Girls (N=300)
Prevalence of GAM (<-2 z-score and/or oedema)	10.2% [7.3 - 14.0]	11.6% [8.3 - 16.0]	8.7% [5.3 - 13.9]
Prevalence of moderate acute malnutrition (MAM) (<-2 to >= -3 z-score, no oedema)	7.9% [5.6 - 11.0]	10.0% [7.2 - 13.7]	5.7% [3.3 - 9.6]
Prevalence of severe acute malnutrition (SAM) (<-3 z-score and/or oedema)	2.3% [1.1 - 4.8]	1.6% [0.6 - 4.4]	3.0% [1.1 - 7.9]

The prevalence of GAM based on weight-for-height (WHZ) among children 6-59 months was **10.2%** (7.3-14.0, 95% CI), **which is classified as high (10-15) according to WHO/UNICEF classification for severity by prevalence for wasting for GAM.** Severe acute malnutrition (SAM) was found for 2.3% of children (1.1-4.8), while 7.9% (5.6-11.0) had moderate acute malnutrition (MAM). Girls had higher prevalence of SAM (3.0%, 1.1-7.9) compared to boys while boys had higher prevalence of MAM and GAM compared to girls.

Prevalence of acute malnutrition based on Mid Upper Arm Circumference (MUAC)

Table 3: Prevalence of acute malnutrition based on MUAC cut offs and/or oedema, by sex.

Indicator	All (N=618)	Boys (N=315)	Girls (N=303)
Prevalence of global acute malnutrition (<125mm and/or oedema)	7.9% [5.3 - 11.8]	6.7% [4.0 - 10.8]	9.2% [5.6 - 14.9]
Prevalence of moderate acute malnutrition (<125 and >=115 mm, no oedema)	4.2% [2.8 - 6.3]	4.1% [2.1 - 7.8]	4.3% [2.6 - 7.0]
Prevalence of severe acute malnutrition (<115 mm and/or oedema)	3.7% [2.1 - 6.6]	2.5% [1.0 - 6.1]	5.0% [2.4 - 9.9]

The MUAC-based GAM prevalence stood at **7.9%** (5.3-11.8), including 3.7% (2.1-6.6) of children that were found to be in SAM, with a higher prevalence observed among girls (5.0%, 2.4-9.9) than boys (2.5%, 1.0-6.1). **Children aged 6 to 17 months showed higher rates of wasting, with 13.8% (WHZ) and 13.0% (MUAC) classified as experiencing wasting respectively, suggesting heightened vulnerability to acute malnutrition in this age range.**

Prevalence of combined GAM and SAM based on WHZ and MUAC cut offs

Table 4: Prevalence of combined GAM and SAM based on WHZ and MUAC cut offs and/or oedema, by sex.

Indicator	All (N=619)	Boys (N=315)	Girls (N=304)
Prevalence of combined GAM (WHZ <-2 and/or MUAC < 125 mm and/or oedema)	13.2% [9.9 - 17.6]	13.7% [9.9 - 18.6]	12.8% [8.6 - 18.8]
Prevalence of combined SAM (WHZ <-2 and/or MUAC < 125 mm and/or oedema)	4.4% [2.4 - 7.7]	3.2% [1.5 - 6.6]	5.6% [2.6 - 11.5]

The prevalence of combined GAM, as defined by WHZ <-2 and/or MUAC < 125 mm and/or presence of oedema, was slightly lower for girls (12.8%, 95% CI: 8.6% - 18.8%) compared to boys (13.7%, 95% CI: 9.9% - 18.6%). Conversely, **these combined results also indicate a slightly higher prevalence of SAM among girls (5.6%, 95% CI: 2.6% - 11.5%) compared to boys (3.2%, 95% CI: 1.5% - 6.6%).**

Prevalence of chronic malnutrition

Table 5: Prevalence of chronic malnutrition by HAZ, by sex

Indicator	All (N=598)	Boys (N=304)	Girls (N=294)
Prevalence of stunting (HAZ < -2 SD)	37.0% [32.0 - 42.2]	41.4% [35.1 - 48.0]	32.3% [26.3 - 39.0]
Prevalence of moderate stunting (HAZ >=-3 to -2 SD)	23.4% [19.9 - 27.4]	25.7% [20.7 - 31.3]	21.1% [16.5 - 26.5]
Prevalence of severe stunting (HAZ <-3 SD)	13.5% [10.3 - 17.5%]	15.8% [11.6 - 21.1]	11.2% [7.8 - 15.9]

Stunted growth or a low Height-for-Age Z-score (HAZ) means persistent undernourishment, hindering children from attaining their complete physical and cognitive capabilities.³

The prevalence of chronic malnutrition (HAZ < -2 SD) was **37.0%** (95% CI: 32.0% - 42.2%) among all children which **indicate very high undernutrition according to the WHO/UNICEF classification for severity of malnutrition by prevalence (> 30%)**. A slightly higher prevalence of chronic malnutrition was observed among boys, with 41.4% classified as stunted compared to 32.3% among girls. Furthermore, stunting peaked at 45.6% among children aged 18 to 29 months.

Prevalence of Underweight

Table 6: Prevalence of underweight by WAZ (severity and sex among children 6-59 months (SMART exclusion))

Indicator	All (N=604)	Boys (N=311)	Girls (N=293)
Prevalence of underweight (WAZ < -2 SD)	21.4% [17.4 - 25.9]	24.8% [19.7 - 30.7]	17.7% [13.5 - 23.0]
Prevalence of moderate underweight (WAZ >=-3 to -2 SD)	14.7.0% [11.7 - 18.4]	17.4% [12.7 - 23.4%]	11.9 % [8.7 - 16.2]
Prevalence of severe underweight (WAZ <-3 SD)	6.6% [4.6 - 9.5]	7.4% [5.2 - 10.5]	5.8% [3.3 - 10.1]

Underweight or a low Weight-for-Age Z-score (WAZ) is a combined metric of height-for-age and weight-for-height, taking into account both acute and chronic malnutrition.³

About **6.6%** (4.6%,9.5%) of children in the surveyed area were severely underweight. Boys were slightly more severely underweight 7.4% (5.2%,10.5%) than girls 5.8% (3.3%,10.1%). The prevalence of underweight increased in older age groups, reaching **26.1%** among children aged 54 to 59 months. Children aged 30 to 41 months had the lowest prevalence of underweight at **19.6%**.

Prevalence of malnutrition in women (MUAC measurement)

Physiological status

Table 7: Prevalence of MUAC Malnutrition in women aged 15-49

Level	Freq.	Proportion	95% CI
Prevalence of MUAC <210mm, non-pregnant/non-lactating women	32	6.2%	(4.3%,8.8%)
Prevalence of MUAC < 230mm, non-pregnant/non-lactating women	140	27.2%	(22.7%,32.1%)
Prevalence of MUAC <210mm, pregnant women/lactating women with an infant less than 6 months	12	8.1%	(4.6%,14.0%)
Prevalence of MUAC < 230mm, pregnant women/lactating women with an infant less than 6 months	57	38.5%	(31.5%,46.0%)

The adjusted national threshold for malnutrition of MUAC < 230 mm indicate the prevalence of undernutrition is 27.2% for non-pregnant/non-lactating women and 38.5% for pregnant and/or lactating women.⁴

Maternal malnutrition is a critical factor in maternal, neonatal, and child health outcomes. Malnutrition during pregnancy is linked to increased risks for children's outcomes.⁵

Skilled attendant delivery

53.2% of women who gave birth in the five years prior to data collection had assistance from a skilled provider during delivery.¹⁰

Figure 1: Almost half (46.8%) of women who gave birth in the five years prior to data collection were not assisted by a skilled provider during delivery. This included:

- Traditional birth attendant **23.2%**
- Relative / friend **17%**
- No assistance **6%**

♥ Mortality

Under-five Mortality Rate (U5MR) was 0.00 deaths per 10,000 children per day, while adults aged 18 to 49 Crude Mortality Rate (CMR) showed a higher rate at 0.09 deaths per 10,000 people per day (95% CI: 0.02 to 0.35). Males had a Crude Mortality Rate (CMR) of 0.06 deaths per 10,000 people per day (95% CI: 0.01-0.33), while females had a slightly higher rate of 0.12 deaths per 10,000 people per day (95% CI: 0.03-0.44). **Both the CMR and U5MR were below the emergency thresholds of 1/10,000/day and 2/10,000/day respectively.**

Table 8: Crude and under five mortality rate (deaths per 10,000 people per day)

Population	Unit	Rate (95% CI)
Crude Mortality Rate	Death/10000 people/day	0.09 (0.02-0.35)
U5 Mortality Rate	Death in children under five/10000/per day	0.00 (0.00-0.63)

33.3% of deaths in assessed households were attributed to non-traumatic causes, while 66.7% were unknown.

👶 Infant and Young Children Feeding (IYCF) Practice

69.1% of children aged under 6 months were reported to be exclusively breastfed

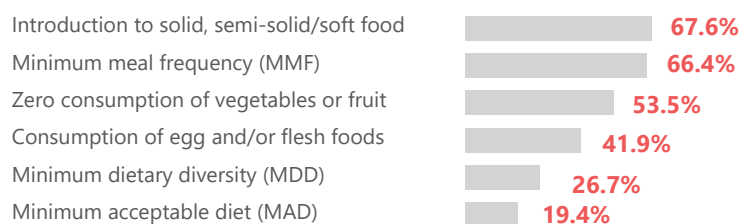
26.5% of children under two years were reportedly bottle fed

Figure 2: Prevalence of infant and young children feeding practices



While 57.6% of children aged 6-8 months had been introduced to complementary solid, semi-solid, or soft foods at the recommended age (6-8 months), **only 19.4% of children aged 6-23 months received a minimum acceptable diet (MAD) and 26.7% of children achieved the minimum dietary diversity (MDD)**, which is respectively indicative of a very high and high risk of deterioration of acute malnutrition.⁷

Figure 3: Prevalence of complementary feeding among children 6-23 months



Egg and/or fresh food consumption was reported for 41.9% of children, while 28.1% consumed sweet beverages. In addition, **53.5%** of children in this age group did not consume any vegetables or fruits.

👶 Children's health and vaccination

Morbidity

Figure 8: Percentage of acute respiratory infection (ARI), fever and diarrhea symptoms among children aged 6-59 months in the two weeks prior to data collection



During diarrhea episodes, 15.8% of children received Oral Rehydration Solution (ORS), 15.8% were administered zinc, and 7.2% received both ORS and zinc.

In terms of health-seeking behavior, 69.2% of children exhibiting Acute Respiratory Infection (ARI) symptoms received healthcare services from facilities or providers. Similarly, 76.4% of children with fever and 66.2% of those experiencing diarrhea also received care from healthcare sources.

Ensuring adequate coverage of deworming interventions is crucial for promoting the health and well-being of children by mitigating the risks associated with parasitic infections.

Measles vaccination coverage for children aged 9-59 months old and 9-23 months old

Figure 4: percentage of measles vaccination coverage among 9-59 months old

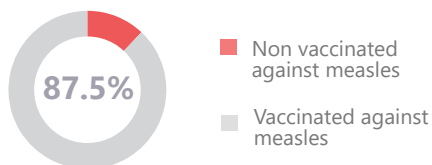
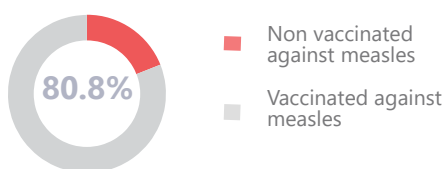


Figure 5: percentage of measles vaccination coverage among 9-23 months old

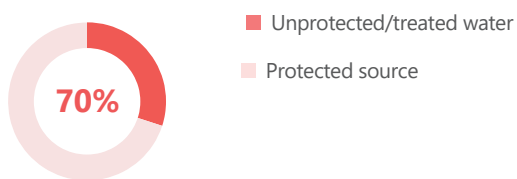


Insufficient immunisation is a key underlying cause of acute malnutrition. The measles vaccination coverage for children age 9-23 months and 9-59 months indicates a medium to risk of deterioration of acute malnutrition levels.

Water, Sanitation and Hygiene (WASH)

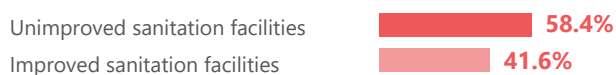
Water

Figure 9: Water source for drinking and cooking, by % of households



Sanitation

Figure 10: Sanitation facilities used, by % of households



Food security and coping strategies

Indicators of food security suggest an IPC AFI Phase 2 (Stress) situation, with 29.3% of those surveyed showing a borderline Food Consumption Score (FCS) and 22.9% experiencing moderate to severe hunger. Notably, Guto Gida, Sasiga, Wama Hagalo, and Nunu Kumba had at least 20% of their surveyed populations facing moderate hunger (HHS). Guto Gida also exhibited borderline food consumption score (FCS) further confirming the IPC AFI Phase 2 (Stressed) classification. This indicates a potential worsening of food insecurity if current conditions persist.

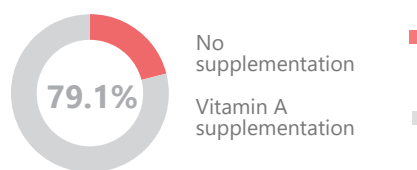
Deworming coverage

Figure 6: Percentage of children aged 12-59 months receiving deworming treatment in the six months prior to data collection



Vitamin A supplementation

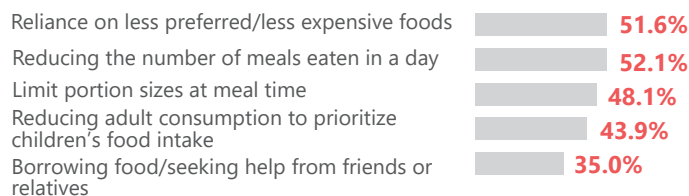
Figure 7: Percentage of Vitamin A vaccination coverage among children 6-59 months old



Children aged 6-59 months supplemented with Vitamin A coverage was below the UNICEF objectives of 80% coverage, and is indicative of a low risk of deterioration of acute

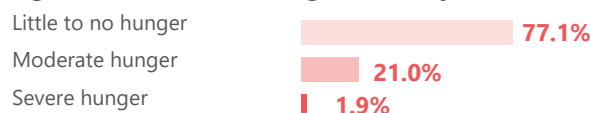
Negative coping strategies

The mean Reduced Coping Strategy Index (rCSI)⁸ was **10.46**, which indicated Stress (IPC Phase 2) classification thresholds for rCSI, of which the main coping strategies used in the seven days prior to data collection were:



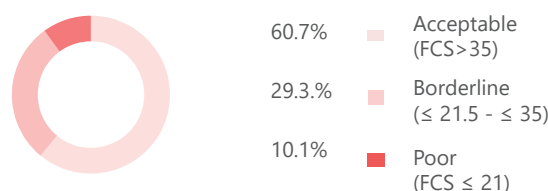
Household hunger score

Figure 12: Household Hunger Score, by % of households



Food consumption score

Figure 13: Food consumption score, by % of households



CONCLUSION

The **high** prevalence of acute malnutrition, as per WHO/ UNICEF classification, necessitates an effective intervention. The survey underscores the need for a holistic approach and it should integrate nutrition-sensitive interventions with efforts to improve food security, promote healthy feeding practices, enhance sanitation, and boost deworming, immunization and vitamin A supplementation to meet UNICEF targets and prioritize strategies to treat and prevent childhood illnesses, particularly malaria. Addressing malnutrition in East Wollega requires collaborative efforts across sectors, including security, health, nutrition, agriculture, and water and sanitation.

RECOMMENDATIONS

Following consultations with the Ethiopian Emergency Nutrition Coordination Unit (ENCUC), the following recommendations were proposed:

Acute malnutrition and food security

- Targeted Interventions in High-Risk Areas like Sasiga, Guto Gida districts including CMAM programs, MHNTs, nutrition education/IYCF.
- Livelihood support programs to enhance household resilience and income generation opportunities in the Guto Gida and Sasiga districts.
- Improve access to seeds, farm tools and fertilizer to improve agricultural productivity where access is impeded.
- Systematic nutrition screening for pregnant and lactating women during antenatal care and postpartum follow-ups, with targeted counseling on diet diversity

Infant and Young Children Feeding (IYCF) Practice

- Implement community-based interventions to promote dietary diversity using locally available nutrient-rich foods.

WASH and Health

- Intensify outreach programs to increase coverage of deworming, and measles vaccination particularly targeting underserved and hard to reach communities.
- Strengthen integrated management of childhood illness and expand access to malaria treatment and prevention particularly for hard to reach communities.

METHODOLOGY

The SMART+ survey was conducted in nine districts of East Wollega's lowland zone from August 19 to 29, 2024, coinciding with the lean season. Its objective was to gather statistically representative data on nutrition, food security, livelihood, and WASH indicators. A two-stage cluster sampling method based on SMART methodology was used to ensure accuracy. In the first stage, clusters were randomly selected using probability proportional to size (PPS), ensuring every household had an equal chance of selection regardless of village population size.

For more details on the methodology, please refer to the [terms of reference](#) and the long report.

LIMITATIONS

- As the survey was conducted during the lean season or hunger gap, the results may be affected, as peaks of acute malnutrition are expected during this time.
- The data was collected during the rainy season, which limited access to some clusters.
- Additionally, the presence of armed forces and security risks further complicated the situation. As a result, five of the fourteen planned districts were avoided due to the security challenges.

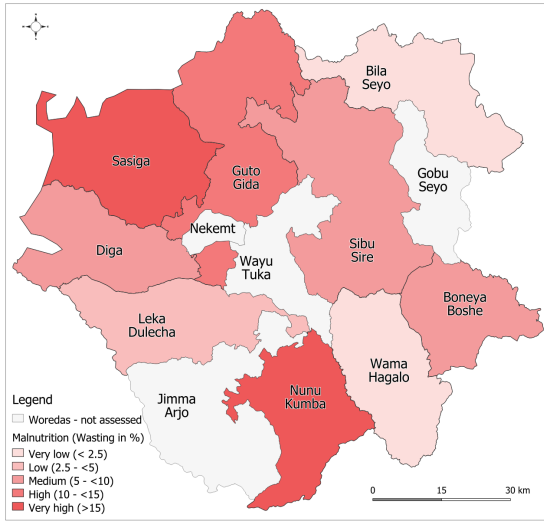
ENDNOTES

- 1 The calculated sample size was representative at the zonal level, not the district level. Therefore, these results are indicative and do not reflect the estimated prevalence precisely.
- 2 [ETHIOPIA. PROTECTION AND SOLUTIONS MONITORING \(PSM\) Report #11. Oromia Region \(East, West and Kellem Wollega\). December 2023.](#)
- 3 [DTM Ethiopia Site Assessment Round 35. https://dtm.iom.int/datasets/ethiopia-site-assessment-round-35](https://dtm.iom.int/datasets/ethiopia-site-assessment-round-35)
- 4 Ministry of Health, [National Guideline for the Management of Acute Malnutrition in Ethiopia, 2019](#)
- 5 [UNICEF, Maternal Nutrition Programming, 2020](#)
- 6 Early initiation of breastfeeding, defined as beginning breastfeeding within one hour of birth, helps protect the newborn from infections and reduces newborn mortality. [WHO, Early initiation of breastfeeding, 2017.](#)
- 7 IFE Core Group, [Infant and Young Child Feeding in Emergencies, Operational Guidance for Emergency Relief Staff and Programme Managers, 2017](#)
- 8 The [Reduced Coping Strategy Index \(rCSI\)](#) is an indicator used to understand the frequency and severity of change in food consumption behaviors in the 7 days before data collection when households are faced with food shortages.
- 9 [Skilled attendants during delivery include doctors, nurse/midwife, auxiliary midwife](#)
- 10 [UNICEF, Coverage at a crossroads: New directions for vitamin A supplementation programmes, 2018](#)

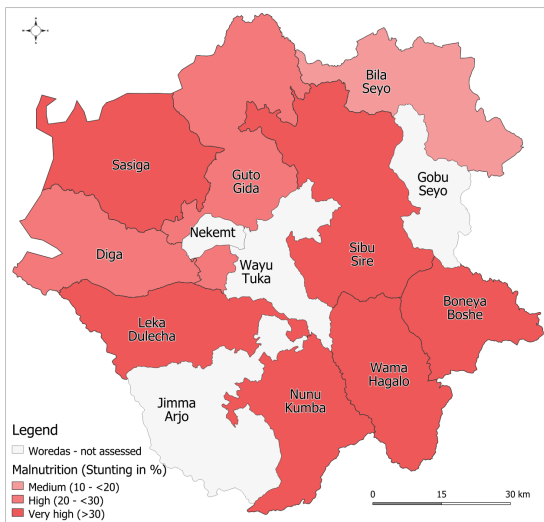
ANNEX:

Acute malnutrition

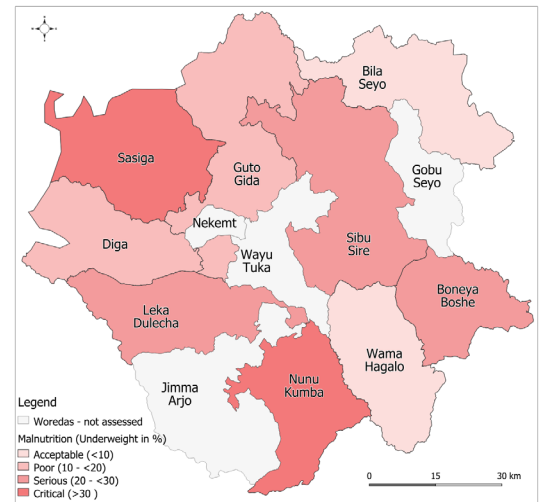
Map 2: Woreda level assessment of Wasting severity



Map 3: Woreda level assessment of Stunting severity

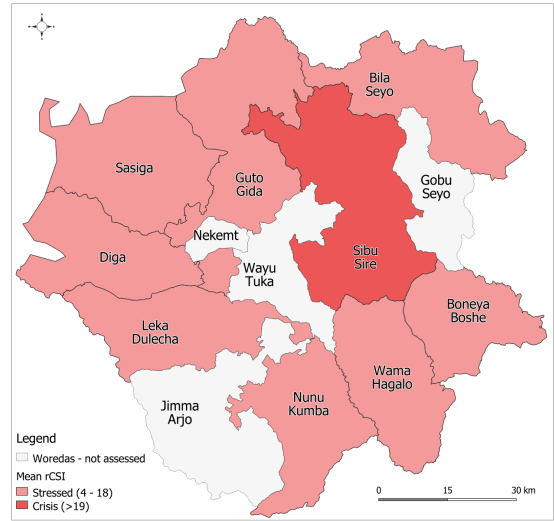


Map 4: Woreda level assessment of Underweight severity

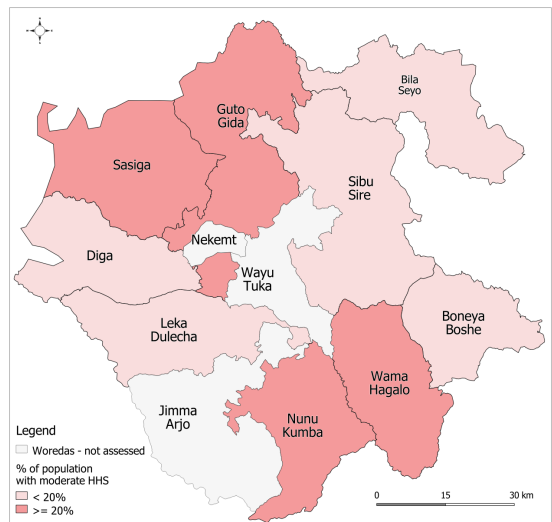


Acute food insecurity

Map 5: rCSI distribution among woredas



Map 6: Proportion of Moderate to Severe HHS among woredas



Map 7: FCS distribution among woredas

