
World Food Programme
HungerMap LIVE
15-Feb-2021
Select a country
Hunger and Covid-19 Weekly Snapshots
Global Hunger and Covid-19 Daily Snapshot
Covid-19 statistics by country income group
valid as of 2021-02-14 23:59
Confirmed cases
Deaths
High income 57,729,635 1,189,156
Upper middle income 33,520,967 913,132
Lower middle income 16,960,160 282,919
Low income 537,489 13,031
See disclaimer for more info
Story of Hunger
0.94B
Total number of people with insufficient food consumption
Hunger Map LIVE
hungermap.wfp.org
Hunger Alerts
Marked deterioration in food consumption from 90 days ago.
Covid-19 Alerts
Countries with ≥ 400 cases /100,000 in the last 14 days.
Conflict Alerts
Countries with ≥ 1 fatality /200,000 in the last 30 days.
15
Number of countries with very high levels of hunger
Prevalence of insufficient food consumption
Very Low 0-5%
Low 5-10%
Moderately low 10-20%
Moderately high 20-30%
High 30-40%
Very high Above 40%
Hazards
Conflict
Undernourishment
Current Food Consumption
Vegetation
Rainfall
IPC/CH
Home
Glossary
Methodology
Disclaimer
Source: WFP, © Mapbox, © OpenStreetMap, Improve this map

Hunger Map LIVE

Objective: **To help assess, monitor and predict the magnitude and severity of hunger in over 90 countries in close to real-time.**

Data Integration

Consolidates all data sources in one central system

Near real-time monitoring

Daily updates from WFP's near real-time monitoring systems

Hunger Predictions

Nowcast the food security situation in the countries WFP works

Data Visualization

Converts data into user-friendly visualisations

Near real-time monitoring for food security

Objective:
Provide streaming analytics (continuous updates) on food security to facilitate:

1. Timely diagnosis of the situation and awareness among stakeholders
2. Rapid triggering of further analysis or surveys as necessary
3. Better decision making to inform more effective and targeted operational response and programming
4. More effective advocacy and resource mobilisation

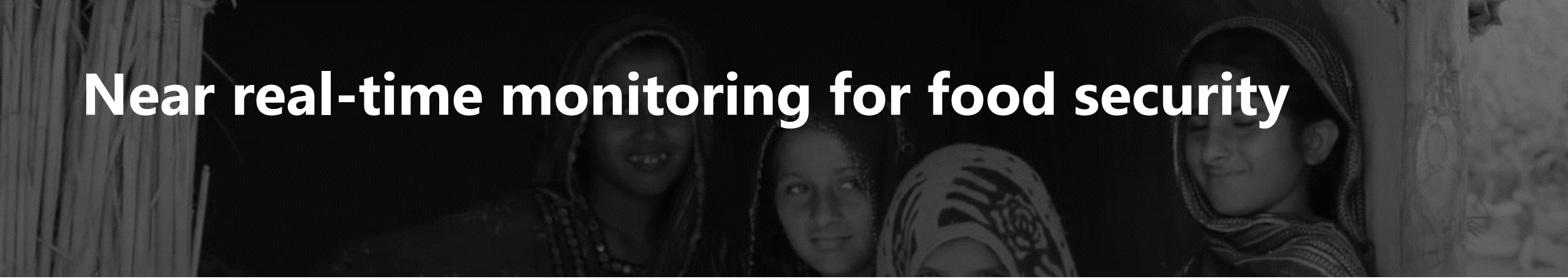
How it works:

Continuous data collection conducted remotely (through live calls)

Representative data on the food security situation in a country

Same indicators as Integrated Food Security Phase Classification analyses

Data analysed automatically and results made available in near real-time



Near real-time monitoring for food security

Established Systems
38 countries

2018

- Nigeria
- Yemen
- Syrian Arab Republic

2019

West and Central Africa Expansion

- Burkina Faso
- Cameroon
- Central African Republic
- Chad
- Mali
- Mozambique
- Niger
- Democratic Republic of the Congo

January 2020

Central America Expansion

- Colombia
- El Salvador
- Guatemala
- Honduras

March 2020

- Afghanistan
- Iraq

May - August 2020

May

- Haiti
- Uganda
- Malawi

June

- Côte d'Ivoire
- Ethiopia
- Liberia
- Madagascar
- United Republic of Tanzania
- Sierra Leone

July

- Republic of the Congo

August

- Somalia
- Zambia
- Nicaragua

September - November 2020

September

- Guinea
- Zimbabwe

October

- Angola
- Kenya

November

- Benin

December 2020 - February 2021

- Mauritania
- Namibia
- Senegal

Hunger predictions

For **first-level administrative areas** where near real-time food security data is not available, the number of people with insufficient food intake and the number of people with crisis-level or above coping strategies is estimated with a **predictive model**.

Information is first consolidated in a unified **data lake**

Population (CIESIN)	Market prices (WFP)
Night-time Light Images (EOG)	Macroeconomic indicators (Trading Economics)
Rainfall (CHIRPS)	Undernourishment (FAOSTAT)
Vegetation index (MODIS)	Food security indicators: Food Consumption Score, reduced Coping Strategies Index (WFP)
Conflict (ACLED)	

The predictive model is trained using historical food security data spanning 63 countries across 14 years (2006-2019).

Hunger predictions

Predicted **indicators**:

- Prevalence of people with insufficient food consumption (i.e. FCG ≤ 2)
- Prevalence of people using crisis or above crisis food-based coping (i.e. rCSI ≥ 19)

Predictors / independent variables:

- Latest FCS/rCSI measurement [when available]
- Number of conflict-related fatalities per inhabitants
- Rainfall
- Vegetation index
- Cereal price variation
- Implied inflation
- GDP & nightlight intensity
- Undernourishment
- Spatio-temporal coordinates (latitude, longitude, month)

Model specification: Gradient boosted decision tree ensembles (**XGBoost**)

Hunger predictions

Model validation

The accuracy of the model was tested performing k-fold cross-validation (with k=4) on 100-bootstrapped models trained on subsamples (with replacement) of the training data.

The following results were obtained on the test sets:

	FCS		rCSI	
	With past FCS data	No past FCS data	With past rCSI data	No past rCSI data
Coefficient of determination (R^2)	0.71 ± 0.02	0.48 ± 0.02	0.81 ± 0.02	0.63 ± 0.01
Mean absolute error (MAE)	0.081 ± 0.002	0.115 ± 0.002	0.061 ± 0.002	0.092 ± 0.002

Next steps

- Integrate new data from the continuous monitoring systems
- Explore new and refined predictors/independent variables
- Improve the model explainability (i.e. open the “black box”)
  - Peer-reviewed paper
  - Visual explanations of each predictor’s contribution

Challenges

- Little & non standardized data in non-computer friendly format
- Finding globally available and regularly updated open data with desired spatial and temporal resolution for all the desired predictors
- Scaling primary data collection to 60+ countries
- Infrastructure maintenance to ensure real-time information

https://hungermap.wfp.org/

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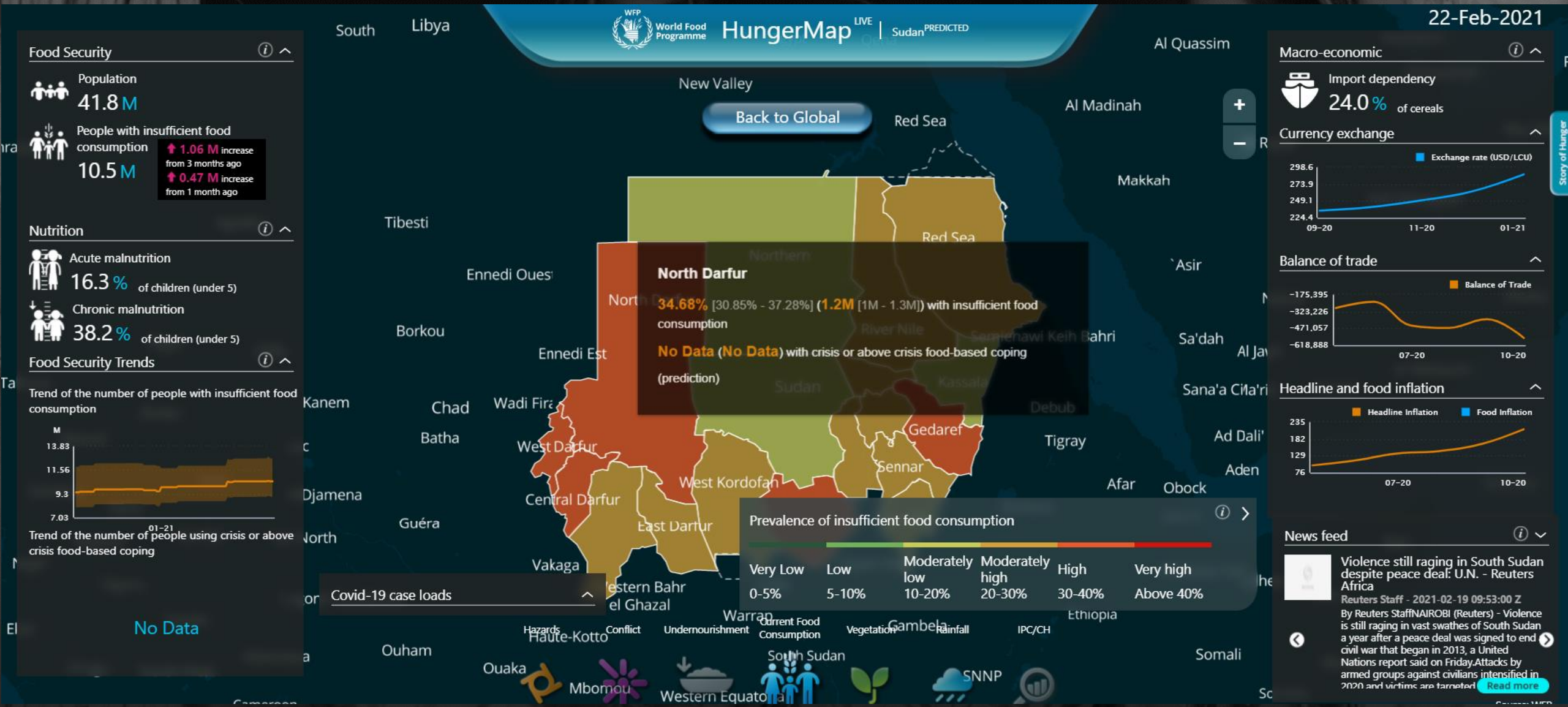
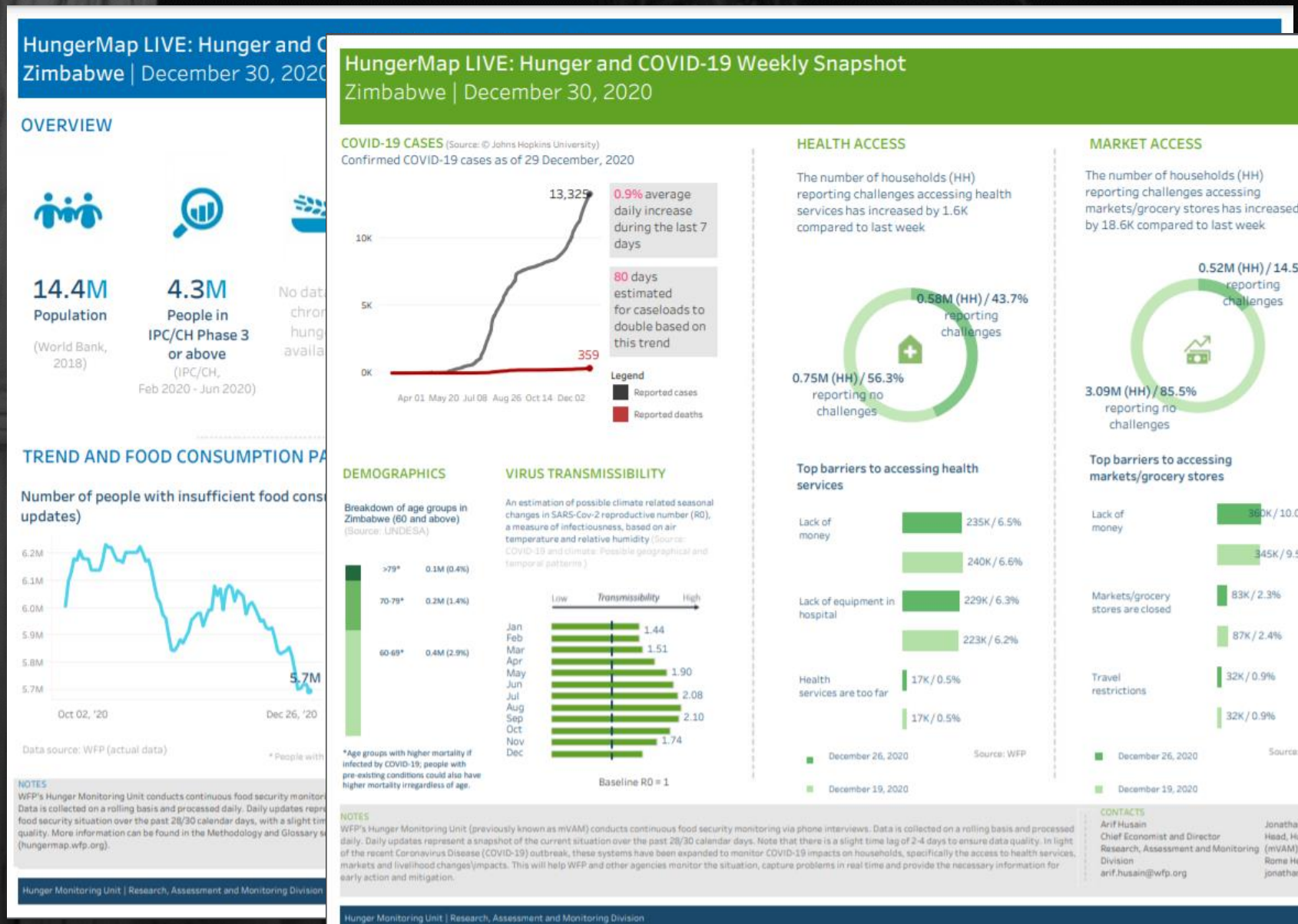


Products available for COs and partners

Weekly Hunger and COVID-19 Snapshots



HungerMap LIVE: Hunger and C
Zimbabwe | December 30, 202C

OVERVIEW

14.4M
Population
(World Bank, 2018)

4.3M
People in IPC/CH Phase 3 or above
(IPC/CH, Feb 2020 - Jun 2020)

TREND AND FOOD CONSUMPTION PA

Number of people with insufficient food cons
updates)

6.2M
6.1M
6.0M
5.9M
5.8M
5.7M
5.7M
Oct 02, '20
Dec 26, '20

Data source: WFP (actual data)

NOTES
WFP's Hunger Monitoring Unit conducts continuous food security monitor
Data is collected on a rolling basis and processed daily. Daily updates repre
food security situation over the past 28/30 calendar days, with a slight tim
quality. More information can be found in the Methodology and Glossary s
(hungermap.wfp.org).

Hunger Monitoring Unit | Research, Assessment and Monitoring Division

HungerMap LIVE: Hunger and COVID-19 Weekly Snapshot
Zimbabwe | December 30, 2020

COVID-19 CASES (Source: © Johns Hopkins University)
Confirmed COVID-19 cases as of 29 December, 2020

13,325
10K
5K
0K
359
Apr 01 May 20 Jul 08 Aug 26 Oct 14 Dec 02

0.9% average daily increase during the last 7 days

80 days estimated for caseloads to double based on this trend

Legend
Reported cases
Reported deaths

DEMOGRAPHICS

Breakdown of age groups in Zimbabwe (60 and above)
(Source: UNDESA)

>79* 0.1M (0.4%)
70-79* 0.2M (1.4%)
60-69* 0.4M (2.9%)

*Age groups with higher mortality if infected by COVID-19; people with pre-existing conditions could also have higher mortality irregardless of age.

VIRUS TRANSMISSIBILITY

An estimation of possible climate related seasonal changes in SARS-Cov-2 reproductive number (R0), a measure of infectiousness, based on air temperature and relative humidity (Source: COVID-19 and climate: Possible geographical and temporal patterns)

Low Transmissibility High

Jan 1.44
Feb
Mar 1.51
Apr
May 1.90
Jun
Jul 2.08
Aug
Sep 2.10
Oct
Nov 1.74
Dec

Baseline R0 = 1

HEALTH ACCESS

The number of households (HH) reporting challenges accessing health services has increased by 1.6K compared to last week

0.58M (HH) / 43.7% reporting challenges
0.75M (HH) / 56.3% reporting no challenges

Top barriers to accessing health services

Lack of money 235K / 6.5%
240K / 6.6%
Lack of equipment in hospital 229K / 6.3%
223K / 6.2%
Health services are too far 17K / 0.5%
17K / 0.5%

December 26, 2020
December 19, 2020
Source: WFP

MARKET ACCESS

The number of households (HH) reporting challenges accessing markets/grocery stores has increased by 18.6K compared to last week

0.52M (HH) / 14.5% reporting challenges
3.09M (HH) / 85.5% reporting no challenges

Top barriers to accessing markets/grocery stores

Lack of money 360K / 10.0%
345K / 9.5%
Markets/grocery stores are closed 83K / 2.3%
87K / 2.4%
Travel restrictions 32K / 0.9%
32K / 0.9%

December 26, 2020
December 19, 2020
Source: WFP

LIVELIHOOD COPING

The number of households (HH) using crisis or emergency livelihood coping strategies (LCS) has decreased by 12.9K compared to last week

0.70M (HH) / 19.3% no coping or stress
2.91M (HH) / 80.7% crisis or emergency

Top livelihood coping strategies

Reduce non-food expenses 1,931K / 53.5%
1,934K / 53.6%
Spend savings 1,775K / 49.2%
1,787K / 49.5%
Engage in begging 1,696K / 47.0%
1,728K / 47.9%
Consumed seed stocks 1,594K / 44.2%
1,609K / 44.6%
Sell more animals than usual 1,527K / 42.3%
1,539K / 42.6%

December 26, 2020
December 19, 2020
Source: WFP

NOTES
WFP's Hunger Monitoring Unit (previously known as mVAM) conducts continuous food security monitoring via phone interviews. Data is collected on a rolling basis and processed daily. Daily updates represent a snapshot of the current situation over the past 28/30 calendar days. Note that there is a slight time lag of 2-4 days to ensure data quality. In light of the recent Coronavirus Disease (COVID-19) outbreak, these systems have been expanded to monitor COVID-19 impacts on households, specifically the access to health services, markets and livelihood changes\impacts. This will help WFP and other agencies monitor the situation, capture problems in real time and provide the necessary information for early action and mitigation.

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vam food security analysis

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Thank you

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