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# Food Security

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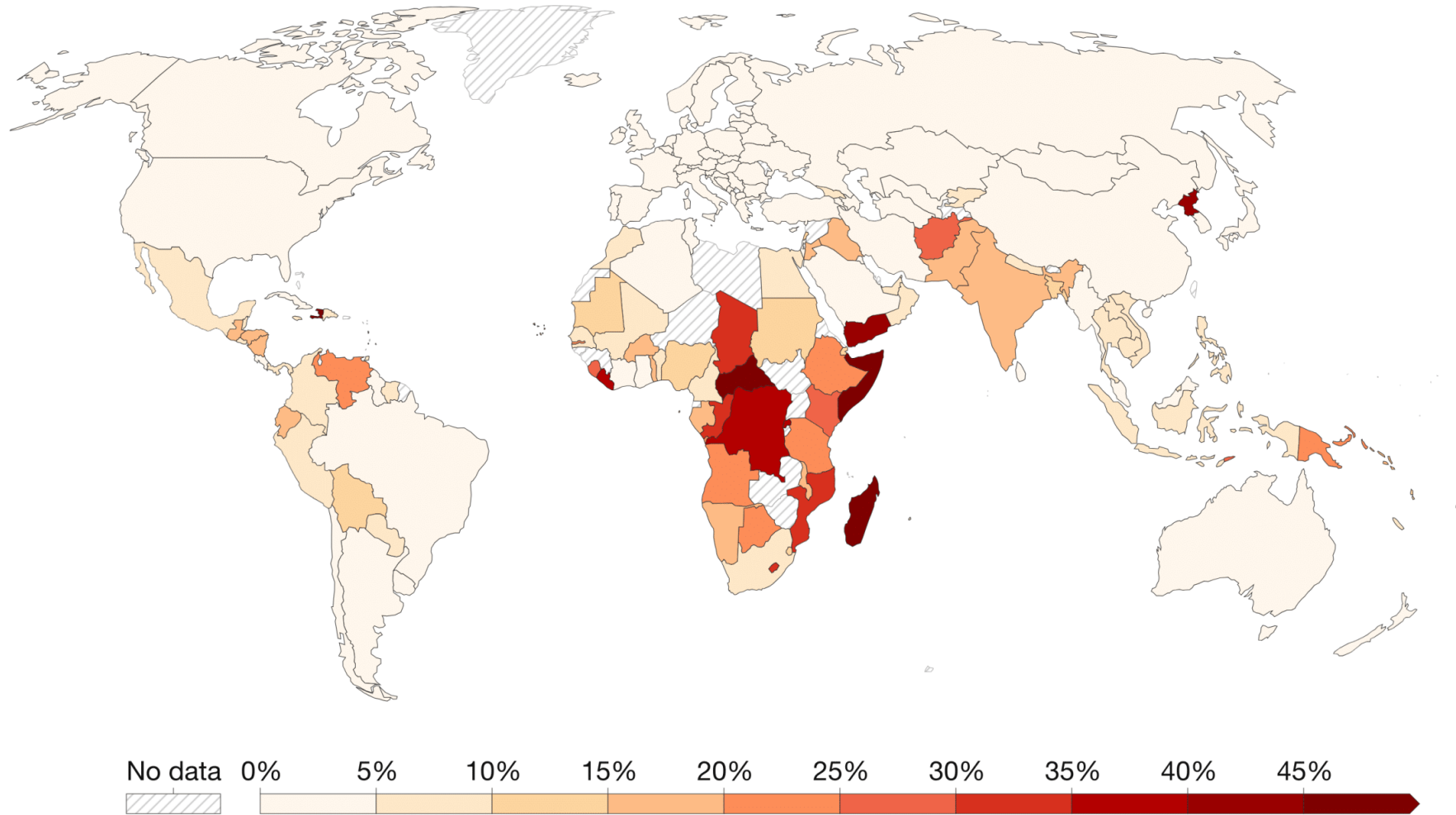
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# What is Food Security?

“all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life”.

# Share of the population that is undernourished, 2020

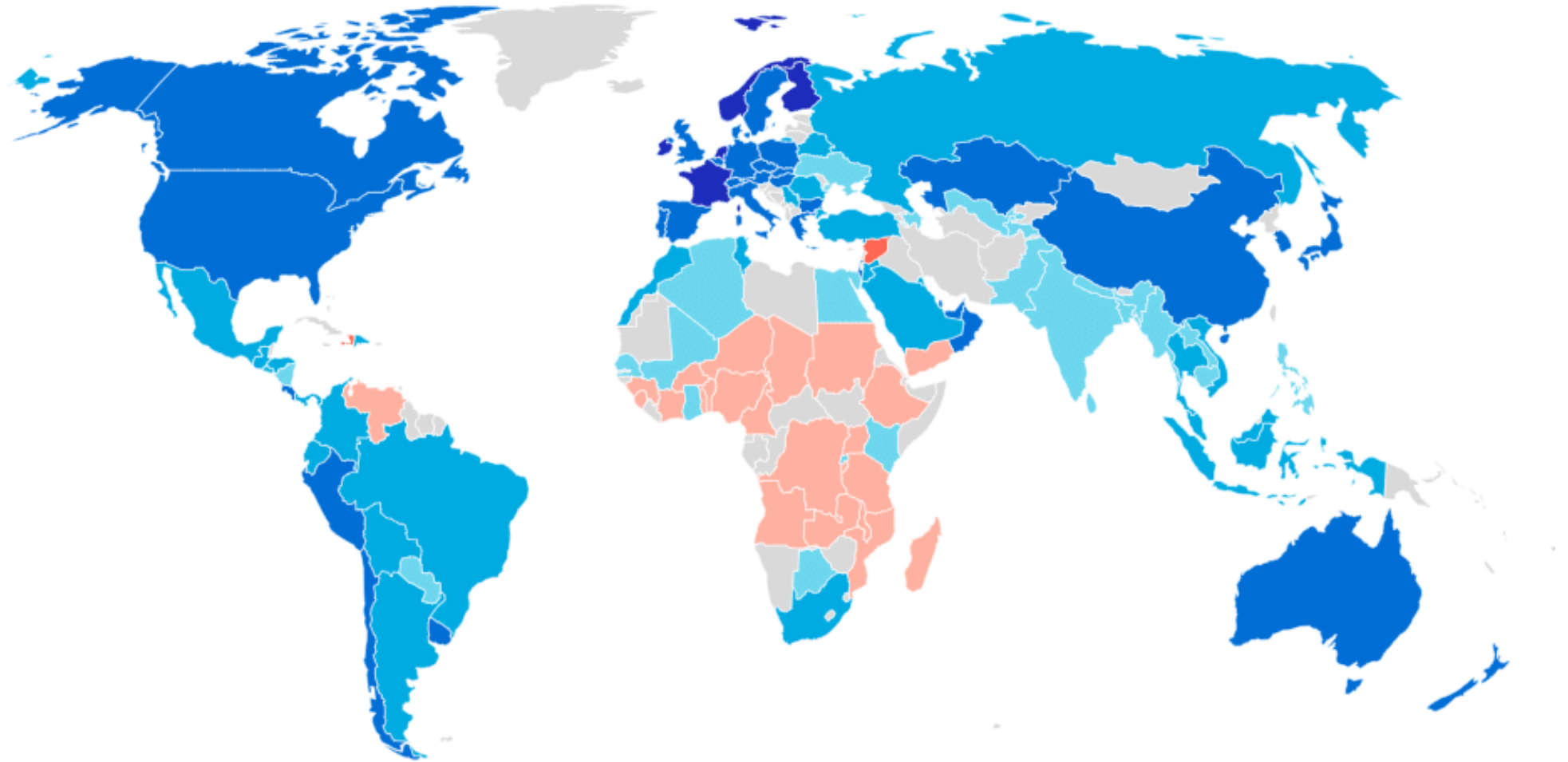
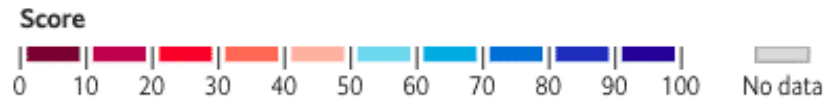
Share of individuals that have a daily food intake that is insufficient to provide the amount of dietary energy required to maintain a normal, active, and healthy life.



**Data source:** Food and Agriculture Organization of the United Nations (via World Bank)

**Note:** Countries and regions with rates below 2.5% are coded as "2.5%" in the FAO dataset.

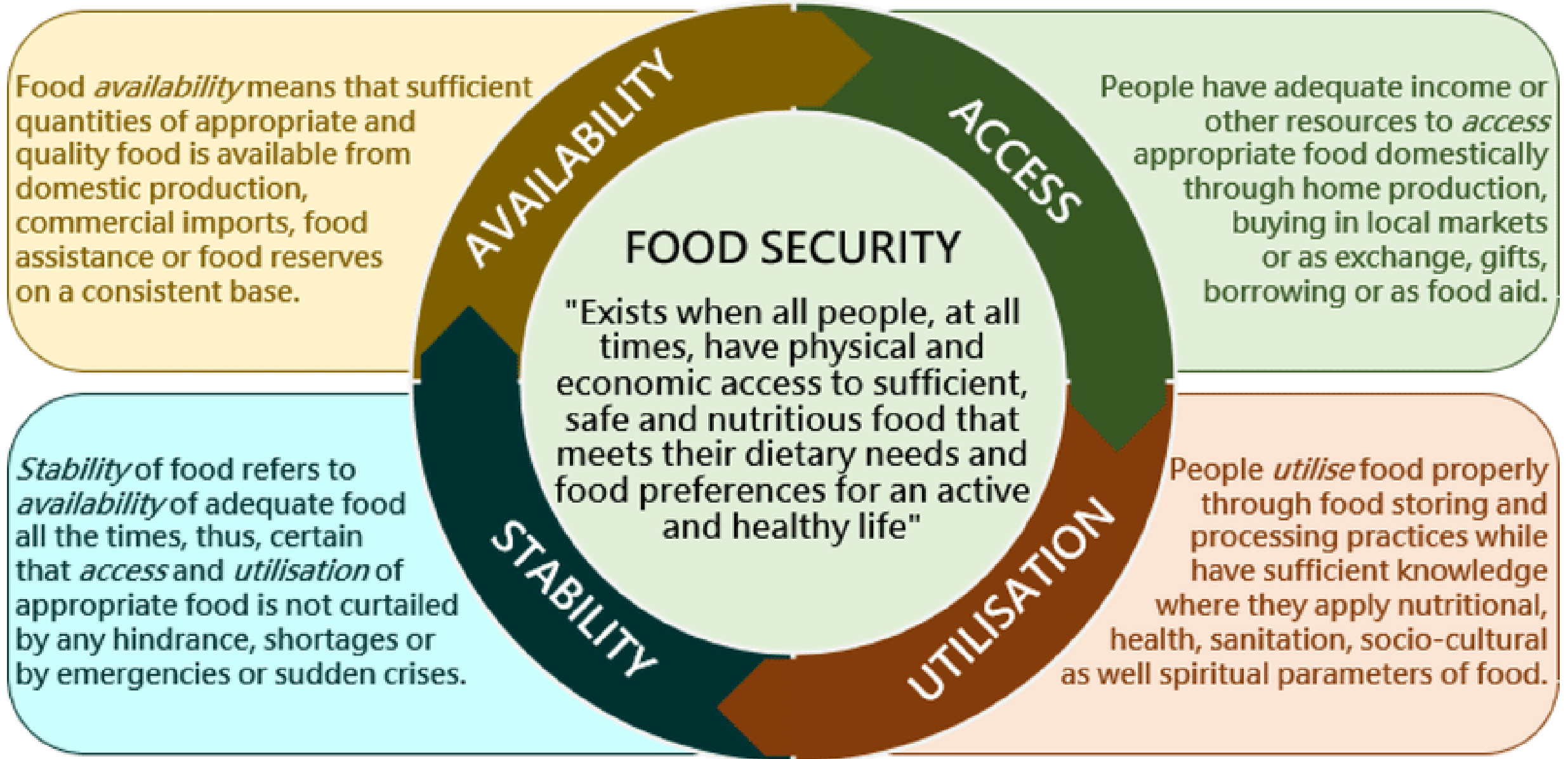
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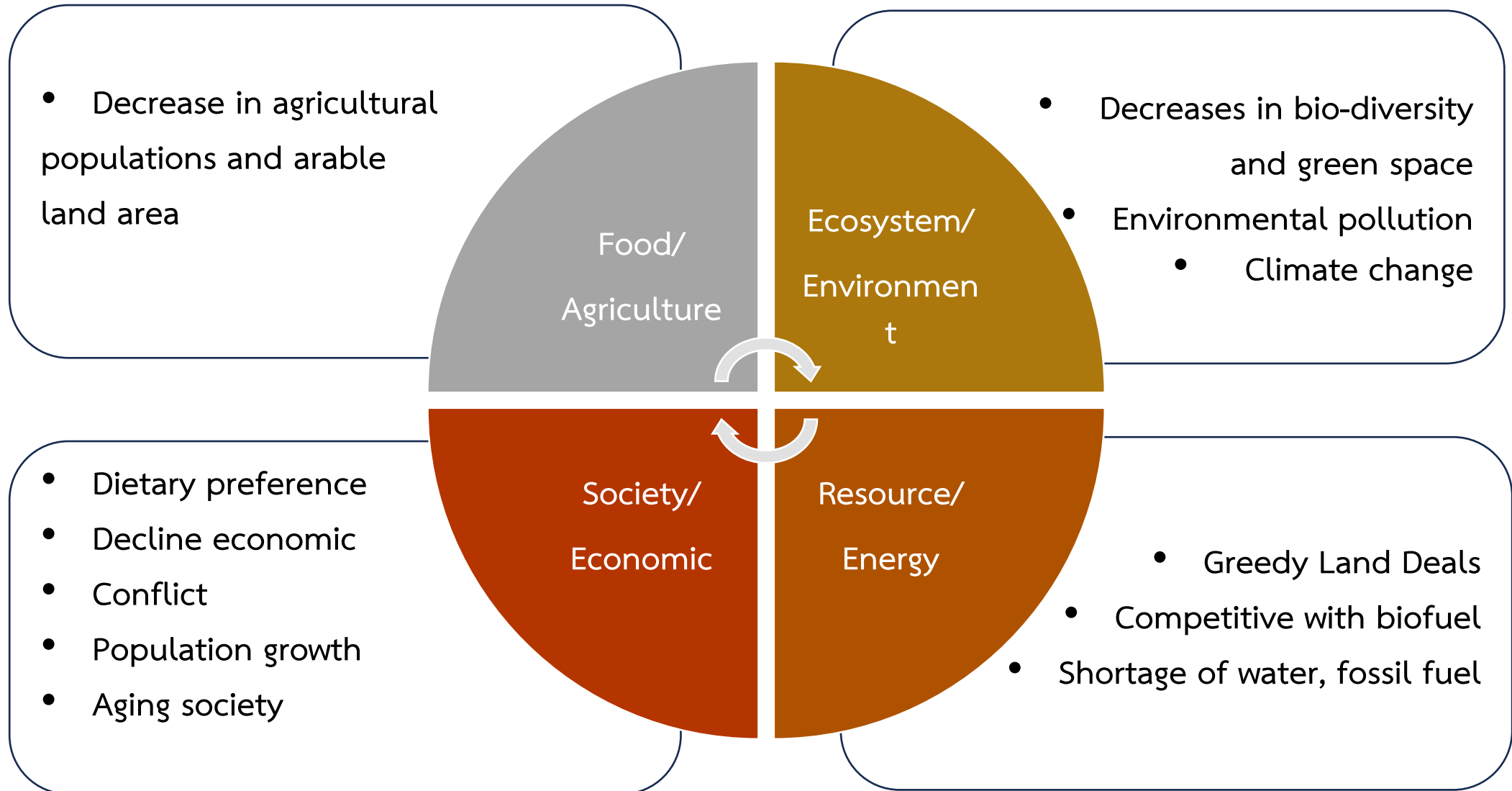
Global Food Security Index 2022. Image: The Economist

# What is Food Security?





# Food security and sustainability becomes an issue





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# Characteristics of hot wind



1	Wind direction	From North-western
2	Air temperature	> 45°C
3	Relative humidity	< 50% (High VPD)
Associate with low soil moisture content		



ISHS Acta Horticulturae 1293: VI International Symposium on Lychee, Longan and Other Sapindaceae Fruits

## Climate change affecting off-season longan (*Dimocarpus longan* Lour.) production at alluvial plains of Thailand

**Authors:** A. Pichakum, N. Traisuwan, C. Kammak, W. Chintakovid  
**Keywords:** flowering, hot wind, extreme temperature, high light intensity  
**DOI:** [10.17660/ActaHortic.2020.1293.33](https://doi.org/10.17660/ActaHortic.2020.1293.33)

### Abstract:

Off-season longan is an important commercial fruit crop at the alluvial plains of the central region in Thailand such as Sumutsakhon and Ratchaburi provinces. During the high demand season in late December and early February, flowers' growth has to encounter great loss from climate changes namely "hot wind". In order to monitor and evaluate the effect of "hot wind", on flowers, the present experiment was undertaken in a longan orchard at Ban Phaeo districts, Samutsakhon. The results revealed that "hot wind", occurring on July 11-12, 2017, has complex characteristics. There was a sudden change in microclimate and wind from the northwestern (300-330° in a clockwise direction from the North) was detected prior to a suddenly increased air temperature, decreased relative humidity, increased VPD (vapor-pressure deficit), while the soil moisture content decreased. After that damage in flowers was observed, especially in young inflorescences with a size of below 5 cm long, and thus influenced their off-season productivity. The major evidence occurred during July to September. Significant decrease in vegetative growth of new flush and young leaves occurred, and then the transformation of flower buds to vegetative buds was about 80%. New flushes stopped their growth, after that some damaged flower buds showed the transformation returning to vegetative phase. The above information could be a key playing an important role in establishment of performance or strategies to alleviate the "hot wind" in the future.

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Article

# Bioactive Compounds Produced in Leaves of Mulberry (*Morus alba* L.) Transplants under Modified Environments of Root and Aerial Zones

Aye Nwe Win <sup>1,2</sup>, Darunmas Sankhuan <sup>1</sup>, Watcharra Chintakovid <sup>3</sup> and Kanyaratt Supaibulwatana <sup>1,\*</sup> 

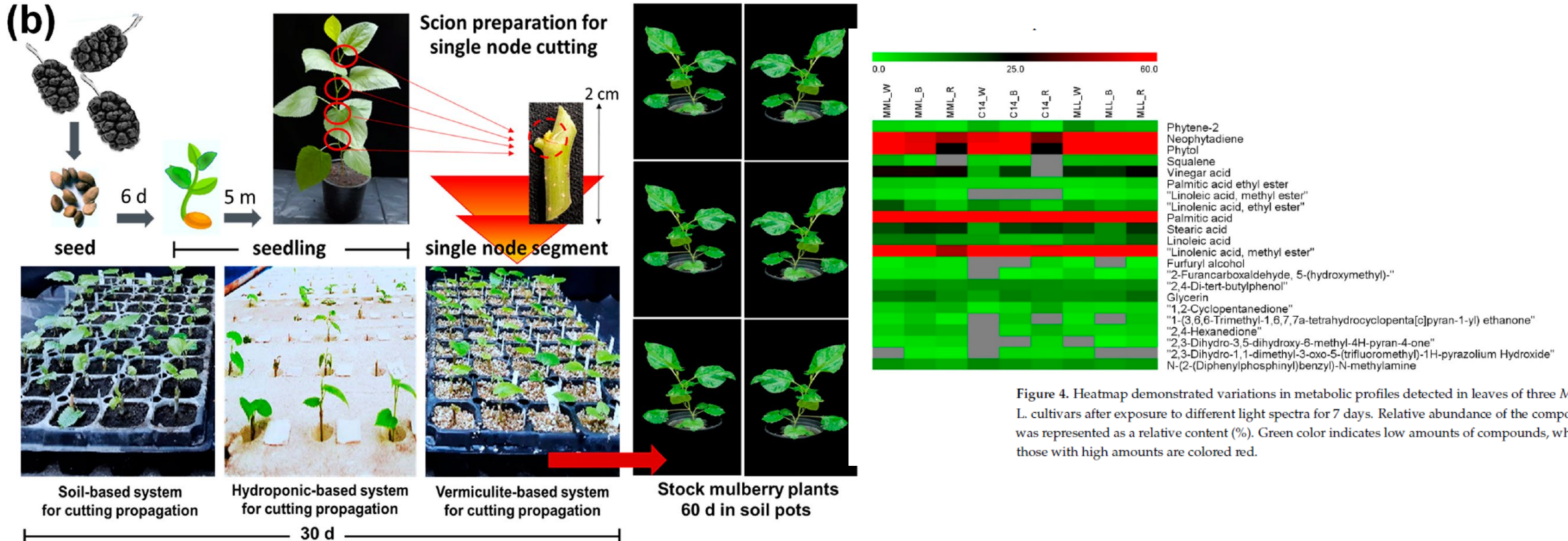


Figure 4. Heatmap demonstrated variations in metabolic profiles detected in leaves of three *M. alba* L. cultivars after exposure to different light spectra for 7 days. Relative abundance of the compounds was represented as a relative content (%). Green color indicates low amounts of compounds, whereas those with high amounts are colored red.

Thank you for your attention

