

External assessment 2022

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**Stimulus book**

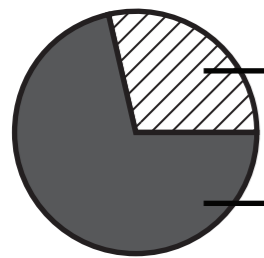
# Geography

## General instruction

- Work in this book will not be marked.

# Stimulus 1: Map of West Africa Sahel showing movement of refugees and internally displaced persons (IDPs), 2020

## Key



IDP and returnees

Refugees

▲ Refugee camps

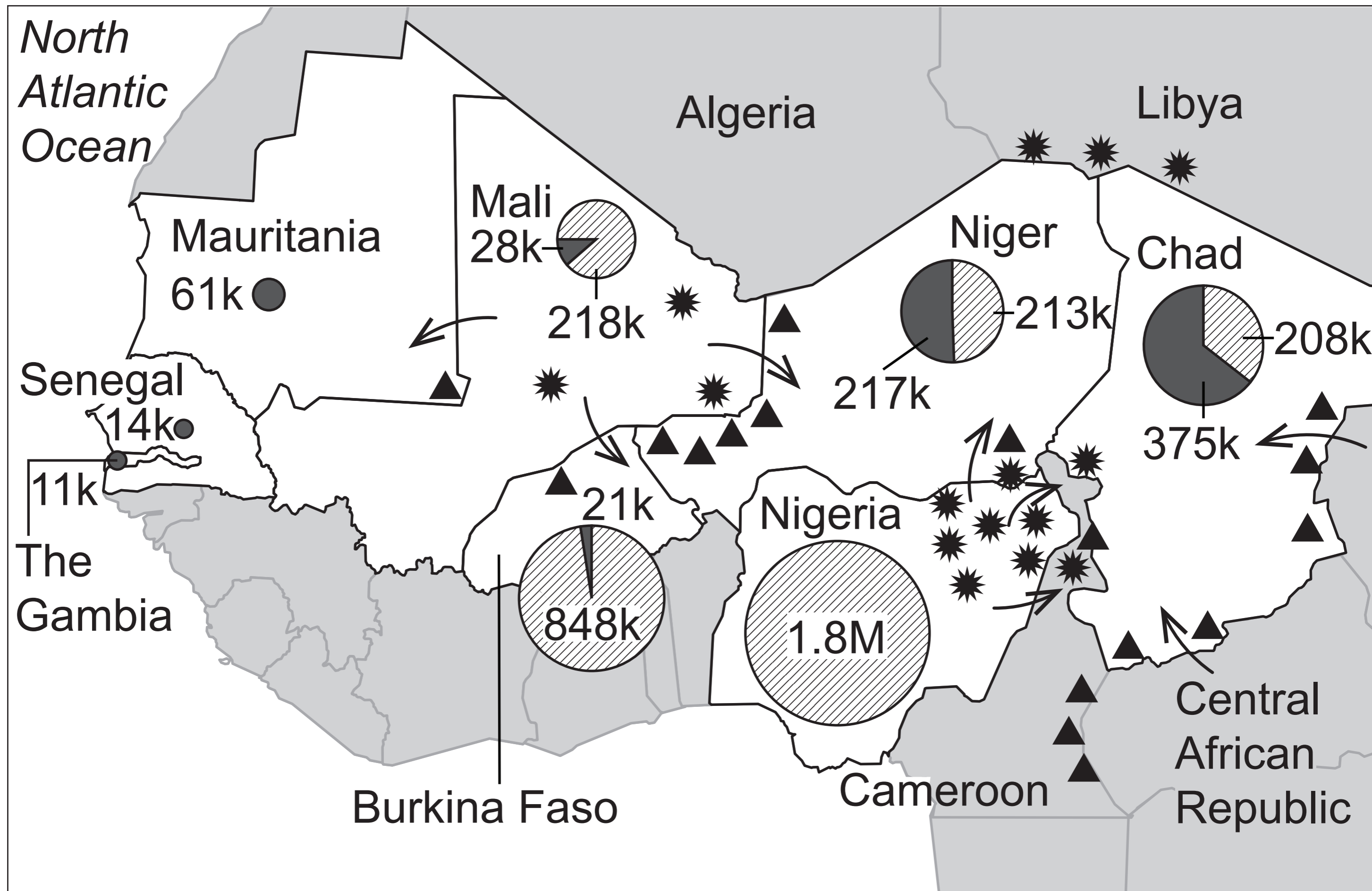
✱ Conflicts



Cross-border population movements


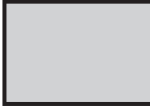
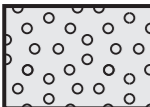
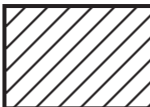
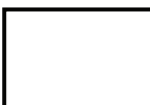


Maps are not to scale

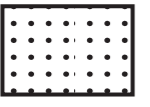

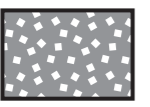


## Stimulus 2: Map of West Africa Sahel showing land use and irrigation systems

### Key — Land use

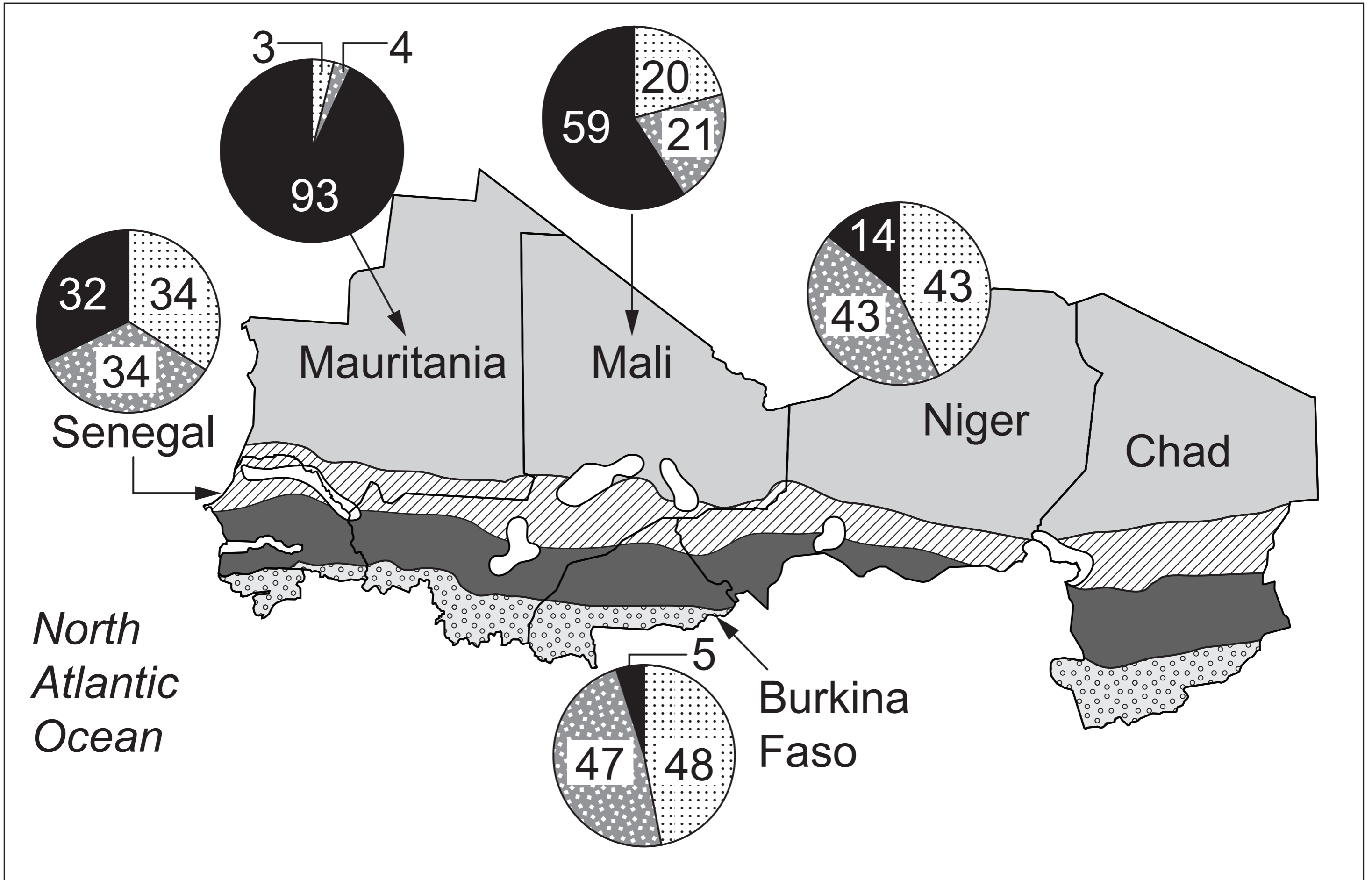
- |  |   |
|--|---|
|  Rice/root crops mixed  |  Arid and nomadic pastoralism          |
|  Root crops             |  Irrigated agriculture/<br>pastoralism |
|  Irrigated agriculture |   |

### Key — % type of agriculture

- |   |
|---|
|  Rainfed   |
|  Irrigated |
|  Cropland  |






Maps are not to scale



### Stimulus 3: Map of West Africa Sahel showing food security stress

Population (millions) experiencing food stress	
The Gambia	0.33
Mauritania	0.61
Senegal	0.72
Chad	1.11
Mali	1.12
Burkina Faso	1.79
Niger	1.93

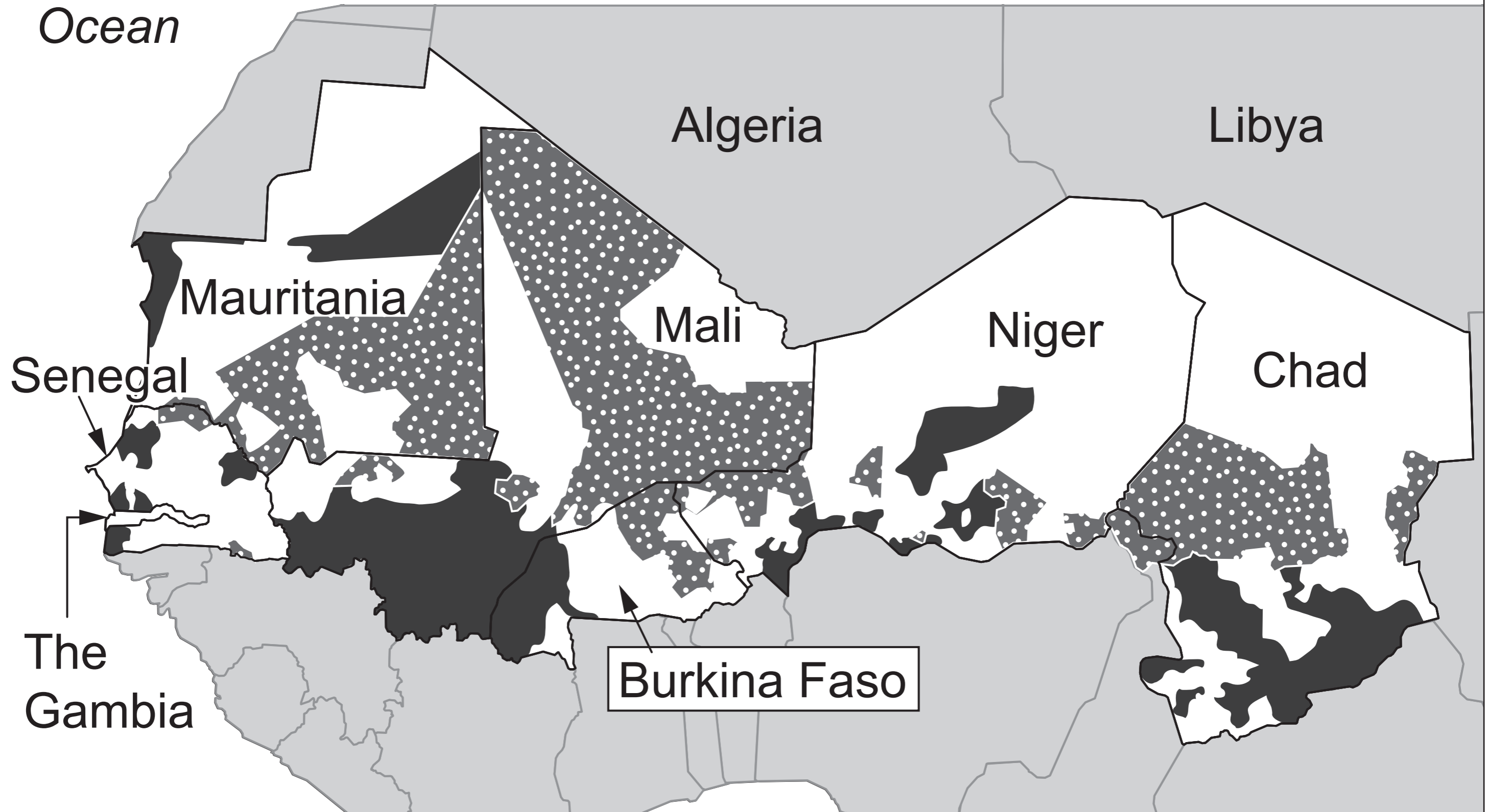
**Key**

-  Crisis
-  Under pressure
-  Minimal



Maps are not to scale

*North  
Atlantic  
Ocean*



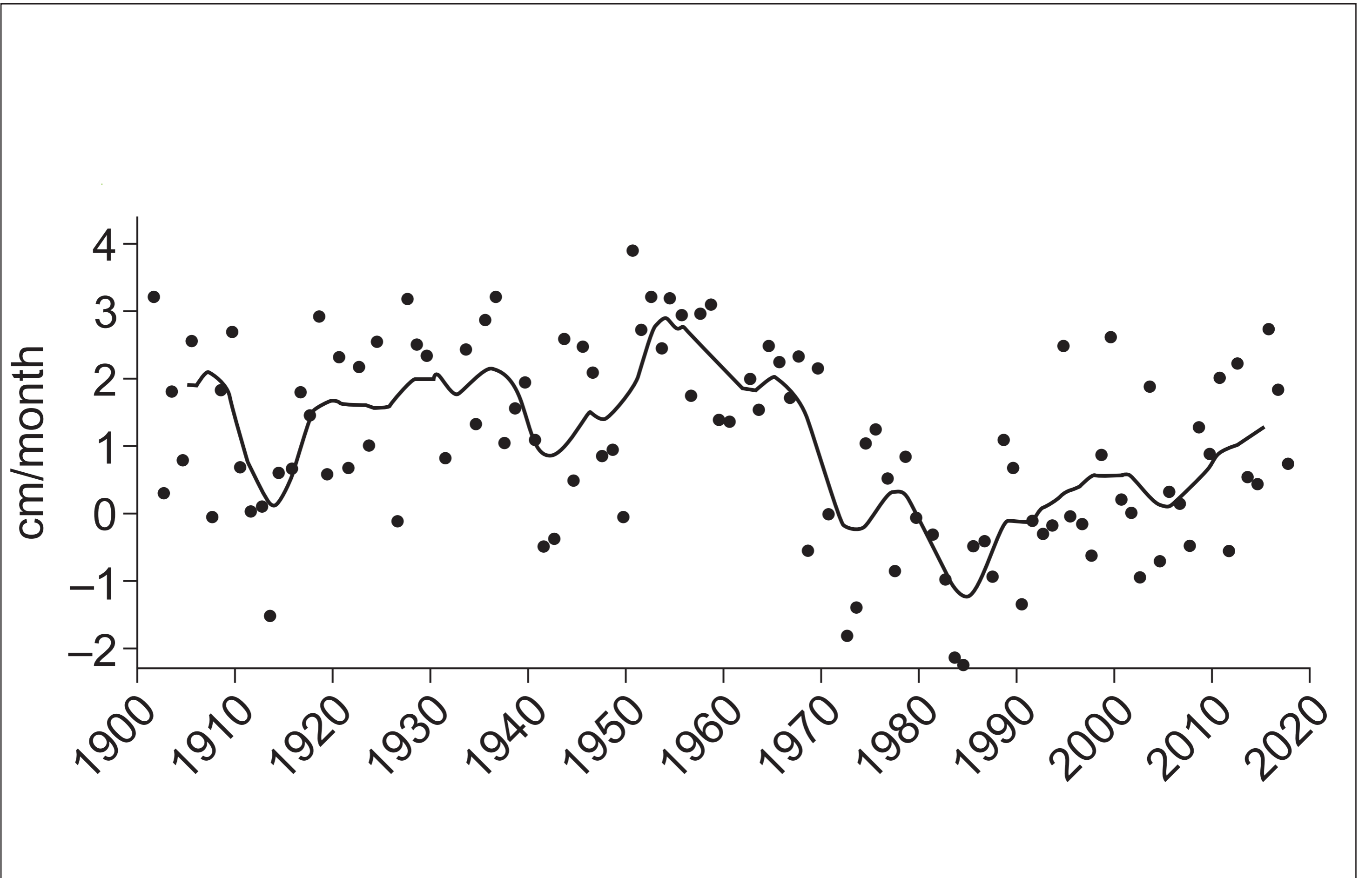
Burkina Faso

## Stimulus 4: West Africa Sahel rainfall index, 1900–2020

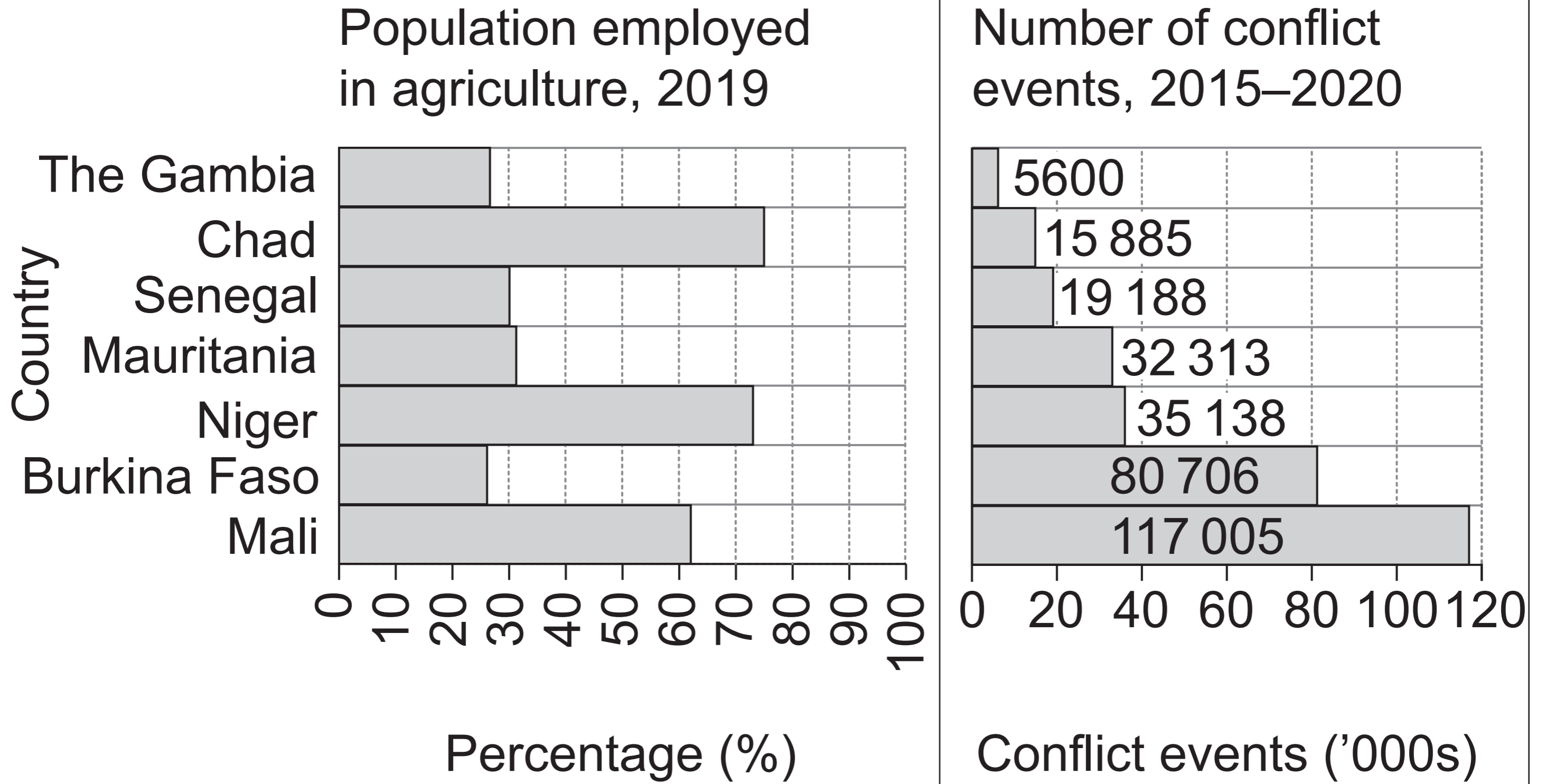
### Key

- Average yearly rainfall anomaly
- Mean yearly rainfall (trend)

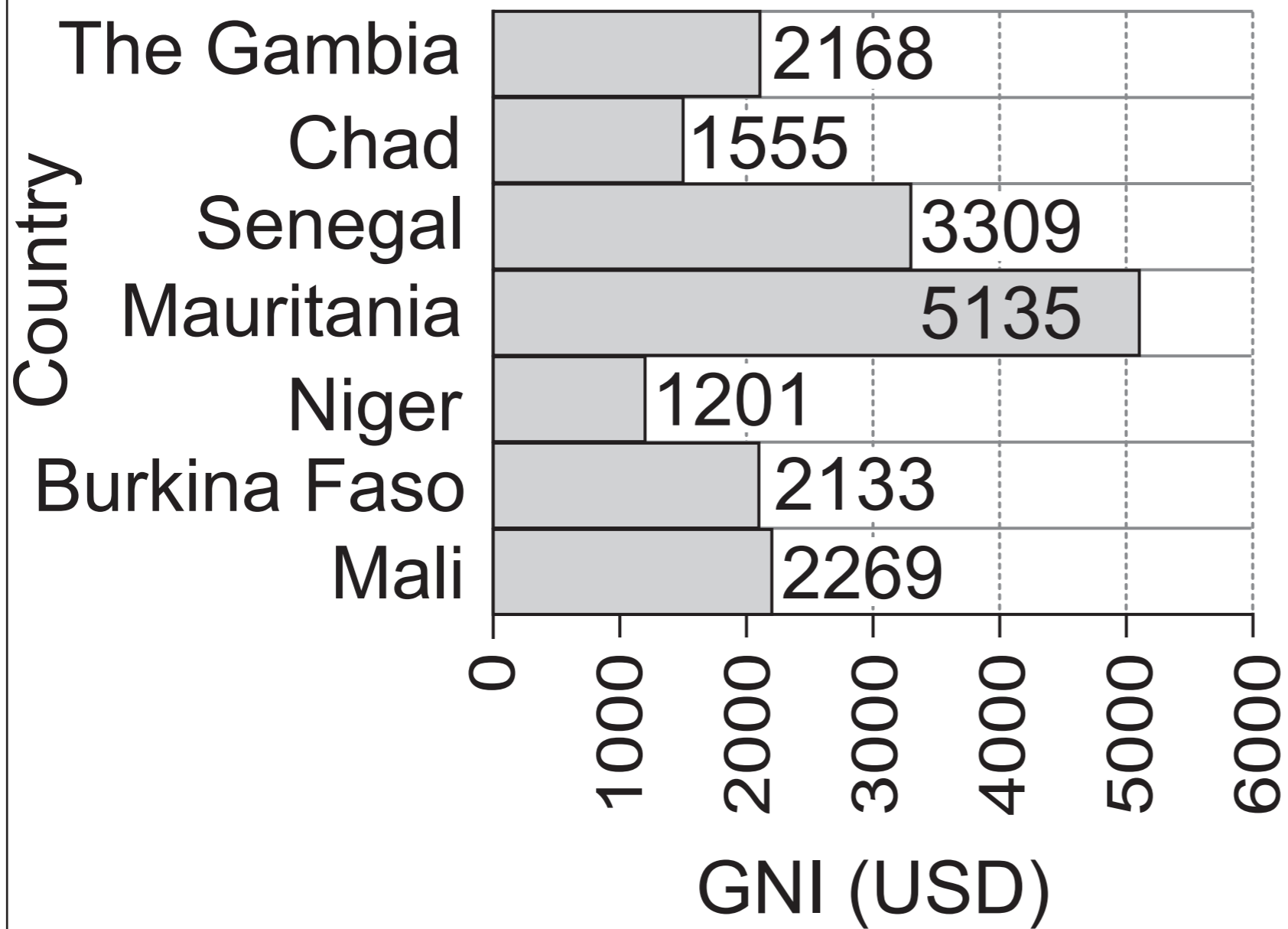




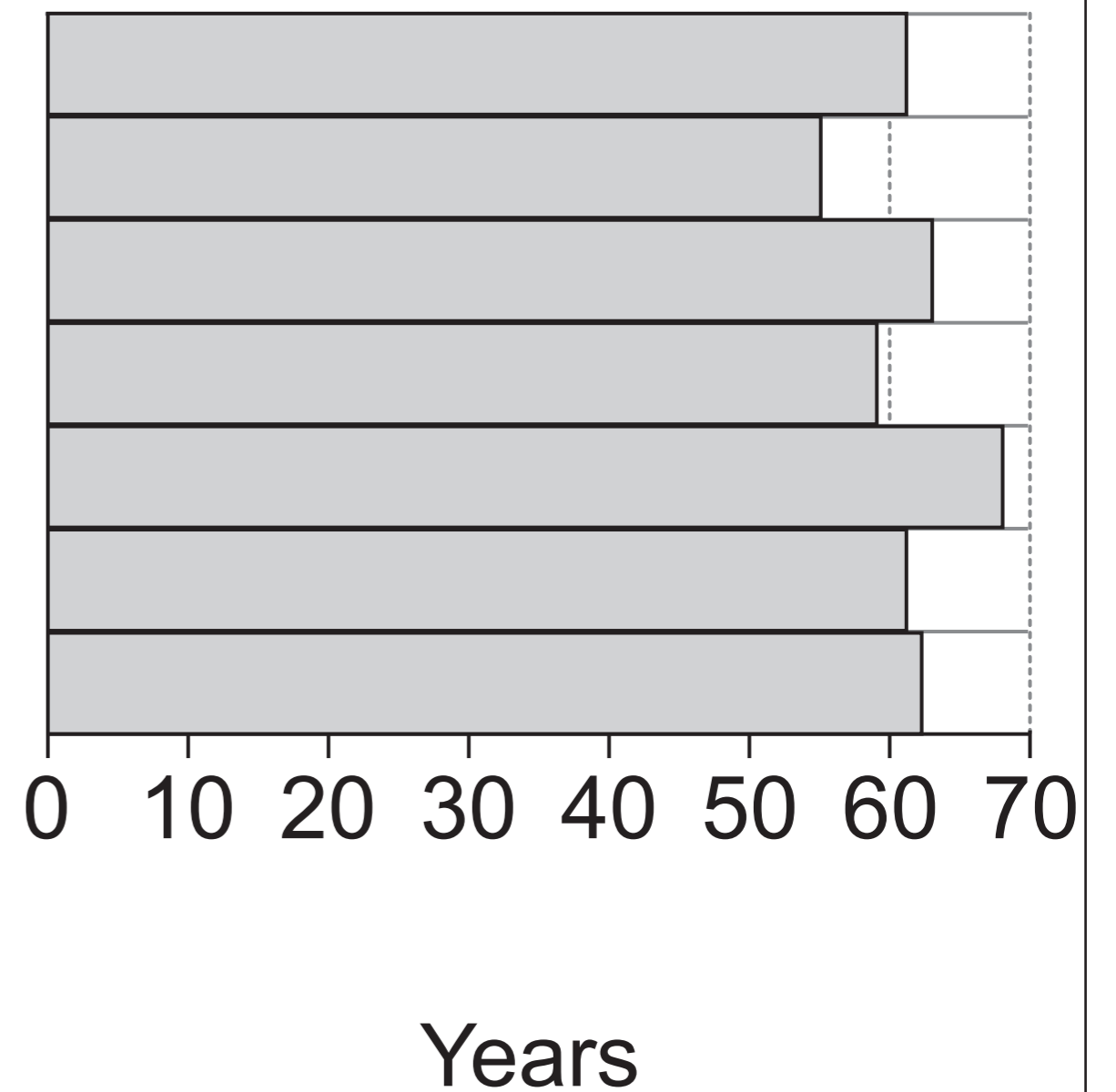
## Stimulus 5: Development and conflict indicators



Gross national income per capita (GNI), 2019



Life expectancy, 2019



## References

### Stimulus 1

Data sourced from United Nations Office for the Coordination of Humanitarian Affairs 2020, ‘Sahel regional dashboard: IDPs and refugees’ in *Overview of humanitarian needs and requirements: Sahel crisis*, [www.humanitarianresponse.info/fr/operations/west-and-central-africa/document/sahel-2020-sahel-overview-humanitarian-needs-and](http://www.humanitarianresponse.info/fr/operations/west-and-central-africa/document/sahel-2020-sahel-overview-humanitarian-needs-and). Licensed under a Creative Commons Attribution 4.0 International license.

Map adapted from United Nations Office for the Coordination of Humanitarian Affairs 2016, ‘The Sahel’, p. 5, [https://reliefweb.int/sites/reliefweb.int/files/resources/sahel\\_info\\_sheet\\_march\\_lowres.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/sahel_info_sheet_march_lowres.pdf)

### Stimulus 2

Type of agriculture data from Samasse, K, Hanan, NP, Anchang, JY and Diallo, Y 2020, ‘Figure 7: The relative importance (%) of the five Sahelian countries in cropland area across West Africa...’ in *A high-resolution cropland map for the West African Sahel based on high-density training data, Google Earth engine, and locally optimized machine learning*, *Remote Sensing*, vol. 12, issue 9, p. 11, [www.mdpi.com/2072-4292/12/9/143](http://www.mdpi.com/2072-4292/12/9/143)

Land use data from USAid 2017, ‘West Africa Sahel livelihood systems’, *Climate change risk profile: West Africa, Sahel*, [www.climatelinks.org/resources/climate-risk-profile-west-africa-sahel](http://www.climatelinks.org/resources/climate-risk-profile-west-africa-sahel)

Map inspired by Samasse, K, Hanan, NP, Anchang, JY and Diallo, Y 2020, ‘Figure 10: Cropland extent across gradient of mean annual precipitation’ in *A high-resolution cropland map for the West African Sahel based on high-density training data, Google Earth engine, and locally optimized machine learning*, *Remote Sensing*, vol. 12, issue 9, p. 11, <https://www.mdpi.com/2072-4292/12/9/143>

### Stimulus 3

Adapted from WFP 2019, ‘Food insecurity projected situation (June–August 2020)’, *World Food Programme*, <https://geonode.wfp.org/wfpdocs/food-insecurity-projected-situation-june-august-2020-over-sahel-ch-november-2019/>

### Stimulus 4

Adapted from Benedikt.Seidl 2008, ‘Sahel rainfall timeseries’, *Wikimedia Commons*, [https://commons.wikimedia.org/wiki/File:Sahel\\_rainfall\\_timeseries\\_en.svg](https://commons.wikimedia.org/wiki/File:Sahel_rainfall_timeseries_en.svg), (Public domain).

### Stimulus 5

Population employed in agriculture data from International Labour Organization 2021, ‘Employment in agriculture (% of total employment)’, *The World Bank*, <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=ML-BF-NE-SN-MR>

GNI data sourced from UNDP 2023, ‘Human development index (HDI) (excel spreadsheet)’, United Nations Development Programme, <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI>

Number of conflict events data from Raleigh, C, Linke, A, Hegre, H & Karlsen, J 2010, ‘Introducing ACLED-armed conflict location and event data’, *Journal of Peace Research*, vol. 47, issue 5, pp. 651–660, <https://acleddata.com/data-export-tool>

Life expectancy data sourced from UNDP 2023, ‘Human development index (HDI) (excel spreadsheet)’, United Nations Development Programme, <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI>