Federal Ministry
for Economic Cooperation
and Development

PIK giz KFW

Style Guide – Development of Climate Risk Profiles

While most countries recognise the importance of adaptation to climate change, there is **limited access to reliable information** on climate impacts and risks. Furthermore, much of the knowledge and information that exists is only legible to scientists and technical experts. There is thus a lack of **easy-to-read and compact formats** which **can be compared across different countries** and world regions.

PIK's Climate Risk Profiles (CRPs) seek to overcome these shortcomings and **support policymakers in climate mainstreaming** and adaptation planning. These profiles were developed as part of the AGRICA project which provides comprehensive climate risk assessments for the agricultural sector in selected countries in sub-Saharan Africa. The CRPs present a compact **overview of present and future climate impacts and risks** at the national level for relevant sectors in selected partner countries of German Development Cooperation. The profiles focus on evolving trends for future climatic conditions under two greenhouse gas (GHG) emissions scenarios, including projected changes in temperature and precipitation. In addition, the CRPs include different **sector-specific risk assessments** focus on climate impacts on water resources, agriculture, infrastructure, ecosystems and human health.

Since their publication, the CRPs have received very positive feedback from a variety of stakeholders, including the respective governments of the partner countries, international organisations, research institutes, civil society and the private sector. Furthermore, various organisations have expressed their interest in **expanding this series to other countries** – both on the African continent and beyond. Against this background, PIK is opening the process of CRP development, aiming to enable interested organisations to **jointly develop CRPs** for countries which are not yet covered.

Hence, this style guide has been created in order to establish **quality standards** and to ensure **comparability** with the existing CRP series. It aims to support interested organisations in developing their own CRPs by offering them access to PIK data and the established platform for presenting their final results.

On the next pages, the following questions will be answered:

1. Why collaborate with us?
2. What are the steps in developing a climate risk profile?
3. What could a climate risk profile look like?

1. Why collaborate with us?

Collaborating with us entails a variety of benefits for our partner organisations. First, partner organisations benefit from the project team's overall experience in the CRP process, including its conceptualisation, programming, research, writing and dissemination. The development of our CRPs started already back in 2018 and has been a dynamic learning process ever since, involving different stakolders from government, academia and international cooperation. The result of this learning process is a high-quality product which can be used for climate mainstreaming as well as for adaptation planning and implementation. Further information on this process can be found in Chapter 2.

Second, another advantage is the access to PIK's modelling outputs, which are based on the latest climate input data and climate impact simulations from the Intersectoral Impact Model Intercomparison Project (ISIMIP). Modelling outputs will be provided as figures and maps indicating future climatic changes for the years 2030, 2050 and 2080.

Finally, the collaborative development of CRPs will ensure immediate recognition and affiliation with the PIK-CRP brand and increase the visibility of further CRPs through the publication on the AGRICA website.

2. What are the steps in developing a climate risk profile?

The development of a CRP involves a process which includes several steps, starting from the first contact to the final approval and publication (Figure 1), which will be described in more detail below.

Figure 1: Steps in developing a climate risk profile.

Step 1: Expression of interest
Organisations contact PIK to express their interest in creating a CRP for a specific country or several countries. PIK reviews the inquiry regarding the existing CRPs and those currently under development. For contact details, please see page 6.

Step 2: Formal agreement with PIK
PIK and the interested organisation then sign a formal agreement regarding the usage of PIK's modelling outputs, compliance with the style guide and publication on the AGRICA website. Please note: PIK's modelling outputs must not be used for other purposes than for the CRP development. Any other usages are subject to PIK approval.

Step 3: Compilation and sharing of the CRP package
PIK compiles the CRP package and shares it with the partner organisation. This package includes:

- Figures of projected climatic changes (PNG and PDF format) and corresponding values (TXT and XLS format)
- A topographical map of the country, including agro-ecological zones, and two to four climate graphs (depending on the complexity of the country's topography)
- Fonts, logos and icons

For more information on the figures as well as a list of available indicators, please see Annexes 1 and 2. Information on fonts, logos and icons as well as the continent map can be found in Chapter 3.3.

Step 4: Development of the first draft
The partner organisation develops a first draft of the CRP based on the style guide and the provided figures (see Chapter 3).

Step 5: Feedback by PIK
The partner organisation shares the first draft of the CRP in an editable format with PIK. PIK reviews the first draft and shares its feedback in written format with the partner organisation.

Step 6: Revision of the first draft and development of the final draft
The partner organisation revises the first draft based on PIK's feedback, before transferring it into a professional layout in PDF format. The layout of the final draft will be shared with PIK.

Step 7: Final approval and publication on the PIK/AGRICA website
PIK reviews the final draft and shares its feedback. The partner organisation integrates potential feedback and PIK approves the final product, before publishing it on the AGRICA website.

The time between the initial contact (Step 1) and the publication of the CRP on the AGRICA website (Step 7) should not exceed six months.

3. What should a climate risk profile look like?

3.1 General structure

Summary (p. 1)[1]
PIK's CRPs open with a clearly structured summary page, which provides a brief introduction to the CRP and lists the key results in tabular form. It includes a map of the continent with the respective country highlighted. The following reference to the PIK CRP should be placed below the title of the CRP:

"This Climate Risk Profile was developed as part of a collaboration with the Potsdam Institute for Climate Impact Research (PIK) and is based on the Climate Risk Profiles developed within the AGRICA project funded by BMZ."

Introduction (p. 2 to 3)
The subsequent two pages provide a more detailed introduction to the country. This introduction is divided into two parts: general information on the country context and more specific information on the topography and the environment. As part of the general country context, information is provided regarding the population, the economy and the vulnerability of major economic sectors towards climate impacts. Regarding the topography and the environment of the country, information is focused on the landscape, climate, major water resources, such as rivers or lakes, agro-ecological zones and environmental issues, such as deforestation or soil erosion.

For a list of frequently cited sources, please see Annex 3.

Projected climatic changes (p. 4 to 6)
Projected climatic changes present a core element of the CRPs. Projections show changes under two greenhouse gas (GHG) emissions scenarios for temperature (mean annual air temperature and number of very hot days) and precipitation (mean annual precipitation sum and number of days with heavy precipitation), in addition to soil moisture and evapotranspiration. These indicators should be included in the CRP to allow for comparability with other country profiles.

Sectoral assessments (p. 7 to 11)
The sectoral assessments present another core element of the CRPs. This sectoral perspective was chosen to directly address relevant key stakeholders, such as representatives from ministries and national agencies in partner countries, addressing questions related to, for example, water, irrigation and sanitation, or others devoted to food security and agriculture. PIK's CRPs focus on five sectors (water resources, agriculture, infrastructure, ecosystems and health), all of which are particularly affected by climate impacts. We therefore recommend including all these sectors. However, as priorities may vary, we agree to variations in the selection of these sectors, if at least three of the five sectors mentioned above are covered by the CRP.

[1] Page numbers in this subchapter refer to page numbers in the AGRICA CRPs.

3.2 Formal requirements

Language
CRPs should be written in British English. It is recommended to also provide a translation of the CRPs in countries where other official languages are spoken. For example, the AGRICA CRPs for the francophone African countries were translated into French.

Numbers
In the CRPs, words are used for numbers smaller than 10 and numerals starting from 10 and above. Furthermore, spaces are used to separate thousands, e.g. '3 000 km'. For numbers in the millions, the word 'million' is used instead of writing the number in full, e.g. '445 million USD' or '1.4 million people'. For decimal numbers, only one decimal place is given.

Symbols, currencies and abbreviations
In the CRPs, the symbol '%' is used and preceded by a space, e.g. '25.2 %'.

USD is used as the only currency to ensure consistency and easy convertibility. Monetary information provided in other currencies should be converted to USD. The currency code is used and written after the amount, e.g. "1 736 USD".

The CRPs use metric units according to the International System of Units (SI), except for hectares; and abbreviate measurements, including for height/length/depth, area and temperature. The following metric units frequently appear in the CRPs:

- Height/length/depth: mm (millimetre), cm (centimetre), m (metre), km (kilometre)
- Area: hectare (ha)
- Temperature: °C

All metric units are preceded by a space. Other than for metric units, abbreviations are avoided, and words are written in full. This is also the case for 'for example' and 'such as'. Exceptions are made for long words, such as 'approximately', which can be used with its abbreviated form 'approx.'.

Referencing style
CRPs use the referencing style by the Institute for Electrical and Electronics Engineers (IEEE). The IEEE is a numeric style, in which citations are numbered in order of appearance, with each citation number being enclosed in square brackets. Once a source has been cited, the same number is used for all subsequent citations of the same source. For example:

"Burkina Faso has a population of 20 million with an annual population growth rate of 2.9 % [1]."

Length of CRPs
The CRPs should not exceed a total length of 15 pages in order to ensure brevity and comparability.

3.3 Design and layout

a. Logos

→ See a in Figure 3

A distinctive design element of the CRPs are the logos on page 1. The position is based on a division between the logo of the donor organisation on the one hand and implementing organisations on the other hand.

The donor logo should be placed on the top left of page 1, including a protective zone around it, in which no other element may be placed. The width of the protective zone may not be smaller than the size of the eagle in the donor logo. The background, on which the donor logo is placed, should be white (Figure 2).

Figure 2: Logo of the Federal Government of Germany including protective zone.

The logos of implementing organisations should be placed on the top right of page 1. It is recommended to limit the total number of logos to a maximum of four in order to ensure clarity. The PIK logo should be included here as well.

b. Colour spectrum

→ See b.1 to b.3 in Figure 3

The primary colour of the CRP can be freely chosen, except for light orange[2], which is the colour of the AGRICA CRPs. It is recommended to choose a colour from the colour spectrum provided by the German Federal Government (see Annex 4). Bright colours, which constitute the main focus of the colour spectrum, create a positive atmosphere, while muted colours convey seriousness and credibility.

The following shading of the main colour should be used in all CRPs:

b.1 General background on page 1:	20 %
b.2 Background of icons on page 1:	40 %
b.3 Bars on the top and bottom of all pages:	80 %

[2] Light orange (CMYK: 0, 28, 100, 0; RGB: 247, 187, 61) as well as any lighter shadings of this colour should not be used by other organisations.

c. Icons

→ See c in Figure 3

The summary on page 1 is visualised through corresponding icons. These icons will be provided by PIK, and we therefore recommend using them to support the comparability of the different CRPs. However, organisations are free to use their own icons if desired.

d. General map

→ See d in Figure 3

The general map on page 1 shows the location of the country on the respective continent.

A world map will be included in the CRP package, from which the continent can be cut out. The ground colour grey should be maintained, while the respective country can be highlighted in a colour matching the primary colour of the CRP. This map shows no further information than the official national borders.

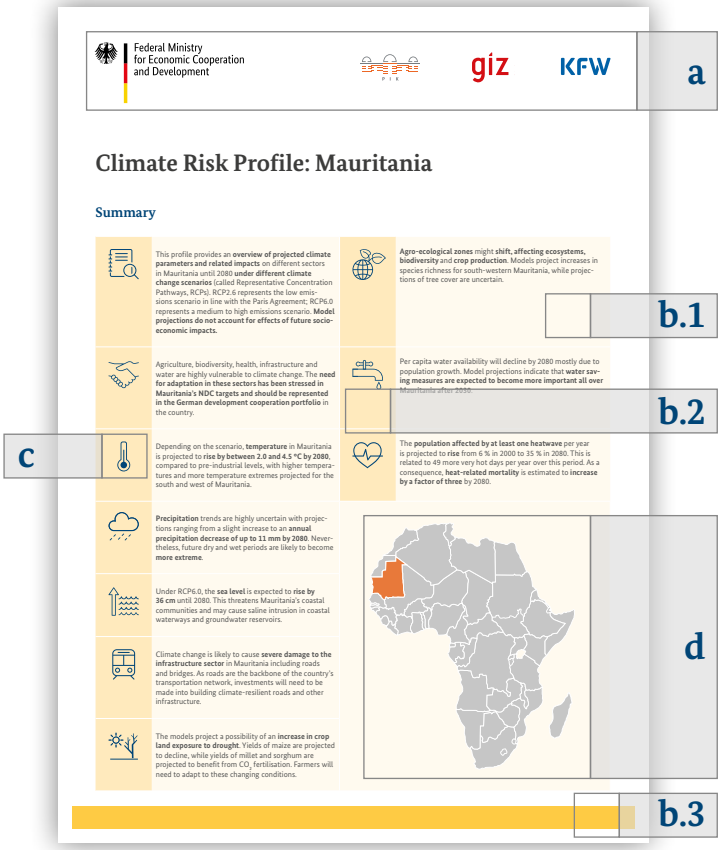

Figure 3: Design sample, cover page of the climate risk profile.

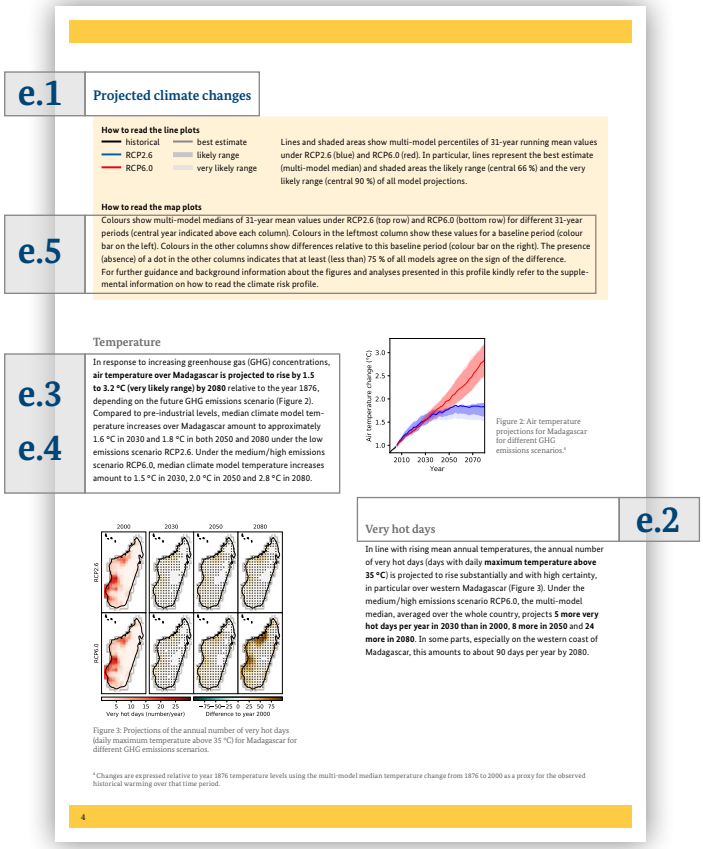

Figure 4: Design sample of the climate risk profile.

e. Fonts

→ See e.1 to e.5 in Figure 4

The CRPs use the fonts by the German Federal Government, which are BundesSans and BundesSerif. The fonts are characterised by clarity and optimal legibility. These fonts should be used in the CRPs and can be requested via publikationen@bmz.bund.de.

The following types are used depending on their purpose:

e.1	Headings:	BundesSerif Bold
e.2	Subheadings:	BundesSerif Bold
e.3	General text body:	BundesSans Regular
e.4	Highlights in the general text body:	BundesSans Bold
e.5	Boxes:	BundesSans Regular + Bold

f. Photos

→ See f in Figure 5

Photos are an integral element of the CRP design and layout. By showing relevant situations in partner countries photos link scientific evidence with real-life challenges related to climate impacts and thus help to increase the relatability of the target audience.

The following criteria should be kept in mind when selecting photo material:

- Light: Natural light sources ensure that images appear authentic and unaltered.
- Colours: Colouring and colour saturation are realistic and natural. Strong or weak colour saturation should be avoided as well as black-white photos.
- Natural and authentic situations: People do not pose and are portrayed in authentic situations.
- Focus: The thematic focus of the photos is clear, and the situations depicted are understandable and clear.

Figure 5: Design sample of the climate risk profile.

© Adobe Stock Photo

© Adobe Stock Photo

Most photos are available from the Adobe Stock and Flickr databases, with the following folders recommended for climate change and agricultural topics:

https://www.flickr.com/photos/ciat/albums/72157631885298620
https://www.flickr.com/photos/cgiarclimate/albums/with/72157625491897692
https://www.flickr.com/photos/iwmi/albums
https://www.flickr.com/photos/cifor/albums/page2
https://www.flickr.com/photos/iita-media-library/with/6909768099
https://www.flickr.com/photos/worldbank/with/5320654445
Please note that photos must be purchased, or the author needs to be asked for permission.

Contact at PIK

If you are interested in collaborating with PIK and creating a climate risk profile, please contact:

Julia Tomalka
Working Group: Adaptation in Agricultural Systems; Research Department II: Climate Resilience;
Potsdam Institute for Climate Impact Research (PIK); E-Mail: tomalka@pik-potsdam.de

On behalf of:
Federal Ministry for Economic Cooperation and Development (BMZ)
BMZ Bonn
Dahlmannstraße 4
53113 Bonn, Germany
www.bmz.de

Scientific content developed by:
Potsdam Institute for Climate Impact Research (PIK)
Telegraphenberg A 31
14473 Potsdam, Germany
http://www.pik-potsdam.de

Scientific coordination:
Christoph Gornott (PIK)

Main authors:
Julia Tomalka (PIK),
Christoph Gornott (PIK)

Contributors:
Enrico Grams (GIZ),
Sibylla Neer (GIZ)

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Annexes

The following annexes provide additional information on (1) figures, (2) available indicators, (3) frequently cited sources and (4) available colour spectrums.

Annex 1: Information on figures

Figures of projected climatic changes are generated for two future greenhouse gas (GHG) emissions scenarios (called Representative Concentration Pathways, RCPs) under the SSP2 socio-economic pathway. RCP2.6 represents the low emissions scenario in line with the Paris Agreement, whereas RCP6.0 represents a medium to high emissions scenario. Projected changes are shown for the early, mid and late 21st century and represented by 31-year means centred around 2030, 2050 and 2080.

The CRPs are largely based on climate data and climate impact simulations carried out in phase 2b of the ISIMIP Project (ISIMIP2b; www.isimip.org). All impact model simulations are based on the same harmonised input data including climate data from four global climate models (GCMs). These four GCMs were selected from the larger CMIP5 (phase 5 of the Coupled Model Intercomparison Project) ensemble, based on criteria including data availability, model performance and climate sensitivity.

The CRPs contain two types of figures or plots: line plots and map plots. In line plots, lines and shaded areas show multi-model percentiles of 31-year running mean values under RCP2.6 (blue) and RCP6.0 (red). Lines represent the best estimate (multi-model median) and shaded areas the likely range (central 66 %) and the very likely range (central 90 %) of all model projections. Figure 3 gives an example showing a typical line plot of annual precipitation change in mm per year for Madagascar.

In map plots, colours show multi-model medians of 31-year mean values under RCP2.6 (top row) and RCP6.0 (bottom row) for different 31-year periods (central year indicated above each column). Colours in the leftmost column show these values for a baseline period (colour bar on the left). Colours in the other columns show differences relative to this baseline period (colour bar on the right). The presence (absence) of a dot in the other columns indicates that at least (less than) 75 % of all models agree on the sign of the difference. For further guidance and background information about the figures and analyses presented in the CRPs, please refer to the Supplemental Information document, which can be found in the Downloads section on the AGRICA website and provides more detailed information on the database, models and methods used in the development of the CRPs. Figure 4 shows a typical map plot of the number of very hot days per year for Burkina Faso.

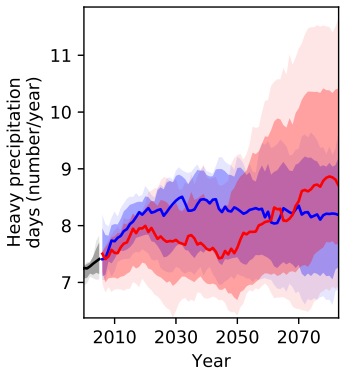

Figure 3: Line plot showing the annual mean precipitation projections for Madagascar for different GHG emissions scenarios, relative to the year 2000.

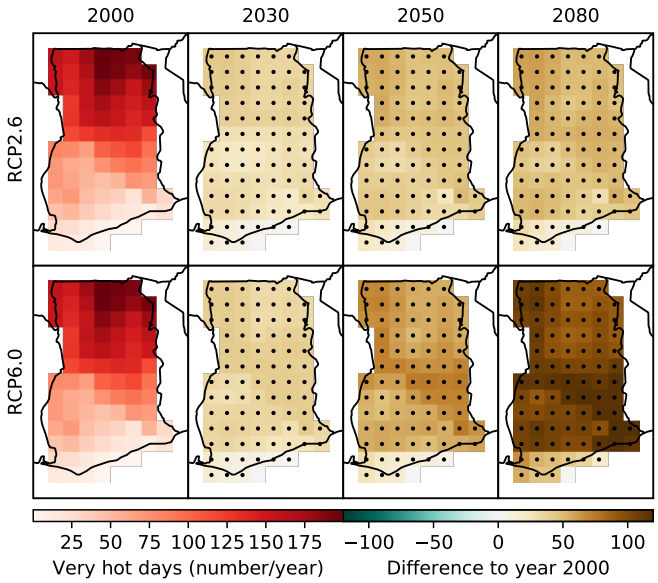

Figure 4: Map plot showing projections of the annual number of very hot days (daily maximum temperature above 35 °C) for Burkina Faso for different GHG emissions scenarios.

Annex 2: Available indicators

The following indicators are available as figures and shared as part of the CRP package (listed in the order as they appear in the AGRICA CRPs):

Indicator	Line plot	Map plot	File name
Air temperature	✓	✓	airtemp
Very hot days	✗	✓	veryhotdays
Sea level rise (only available for countries with direct access to the sea)	✓	✗	sealevel
Precipitation	✓	✓	precip
Heavy precipitation days	✓	✓	heavy_precip_frequency
Soil moisture	✓	✓	soilmoist
Potential evapotranspiration	✓	✓	potevap
Water availability	✓	✗	water_capita
Runoff	✓	✓	runoff
Exposure of crop land area to droughts	✓	✗	exposure_droughts_croplandarea
Cassava (yields)	✓	✗	cassava
Cow peas (yields)	✓	✗	cowpeas
Groundnuts (yields)	✓	✗	groundnuts
Maize (yields)	✓	✓	maize
Millet (yields)	✓	✗	millet
Rapeseed (yields)	✓	✗	rapeseed
Rice (yields)	✓	✓	rice
Soybeans (yields)	✓	✓	soybeans
Sugar beets (yields)	✓	✗	sugarbeets
Sugar cane (yields)	✓	✗	sugarcane
Sunflowers (yields)	✓	✗	sunflowers
Wheat (yields)	✓	✓	wheat
Exposure of major roads to floods	✓	✗	exposure_floods_majorhighwaylength
Exposure of urban land area to floods	✓	✗	exposure_floods_urbanlandarea
Exposure of GDP to heatwaves	✓	✗	exposure_heatwaves_gdp
Number of species	✗	✓	species
Tree cover	✗	✓	treecover
Exposure of population to heatwaves	✓	✗	exposure_heatwaves_population
Heat-related mortality	✓	✗	heat_related_mortality

Annex 3: Frequently cited sources

The following list provides an overview of sources frequently cited in the CRPs.

Indicator	Source	Link
Agriculture, forestry and fishing, value added (% of GDP)	World Bank World Development Indicators	https://databank.worldbank.org/source/world-development-indicators
Crops, area harvested (ha)	FAOSTAT Database	http://www.fao.org/faostat/en/#data/QC
Crop land (ha)	FAOSTAT Database (via selected indicators for each country)	http://www.fao.org/faostat/en/#country
Exports and imports	Observatory of Economic Complexity	https://oec.world
GDP per capita (constant 2010 US$)	World Bank Database	https://data.worldbank.org/indicator/NY.GDP.PCAP.KD
Gini Index	World Bank Database	https://data.worldbank.org/indicator/SI.POV.GINI
Human Development Index (HDI)	UNDP HDI	http://hdr.undp.org/en/content/latest-human-development-index-ranking
Industry (including construction), value added (% of GDP)	World Bank World Development Indicators	https://databank.worldbank.org/source/world-development-indicators
Irrigation and drainage development	FAO AQUASTAT	http://www.fao.org/nr/water/aquastat/data/query/index.html?lang=en
Migrant stock	UNDESA	https://www.un.org/en/development/desa/population/migration/data/estimates2/estimates19.asp
ND-GAIN Vulnerability Index	Notre Dame Global Adaptation Initiative	https://gain.nd.edu/our-work/country-index
Population	World Bank Database	https://data.worldbank.org/indicator/SP.POP.TOTL
Population density	NASA SEDAC	https://sedac.ciesin.columbia.edu/data/set/gpw-v3-population-density/maps?facets=region:africa
Population growth rate	World Bank Database	https://data.worldbank.org/indicator/SP.POP.GROW
Poverty headcount	World Bank Database	https://data.worldbank.org/indicator/SI.POV.DDAY
Prevalence of undernourishment	World Food Programme	https://www.wfp.org/publications/state-food-security-and-nutrition-world-sofi-report-2020
Remittances	World Bank Migration and Remittances Data	https://www.worldbank.org/en/topic/migrationremittancesdiasporaissues/brief/migration-remittances-data
Services, value added (% of GDP)	World Bank World Development Indicators	https://databank.worldbank.org/source/world-development-indicators
Climate data for "Present climate" box	ClimateCharts.net	https://climatecharts.net
Agro-ecological zones for Africa	International Institute of Tropical Agriculture	https://csi.maps.arcgis.com/apps/MapSeries/index.html?appid=7539d22ab46147ce9888589aea4b1a11
State of national infrastructures	Logistics Cluster and World Food Programme Logistics Capacity Assessments	https://dlca.logcluster.org/display/public/DLCA/LCA+Homepage
Tree cover	Global Forest Watch or World Bank Database	https://www.globalforestwatch.org https://data.worldbank.org/indicator/AG.LND.FRST.ZS
Malaria incidence	WHO World Malaria Report	https://www.who.int/malaria/publications/world_malaria_report/en
Information on food security	FEWS NET	https://fews.net
Information on humanitarian emergencies	UN OCHA	https://www.unocha.org/media-centre/humanitarian-reports

Annex 4: Available colour spectrums

The following colour spectrums are available and can be freely chosen by partner organisations.

Colour	CMYK	RGB (decimal)	Shading
Violet			
	64 | 80 | 16 | 08	127 | 090 | 121	80 %
	32 | 40 | 08 | 04	191 | 173 | 188	40 %
	16 | 20 | 04 | 02	223 | 214 | 222	20 %
Dark Red			
	12 | 80 | 40 | 44	147 | 063 | 087	80 %
	06 | 40 | 20 | 22	201 | 159 | 171	40 %
	03 | 20 | 10 | 11	228 | 207 | 213	20 %
Red			
	00 | 80 | 52 | 08	205 | 051 | 099	80 %
	00 | 40 | 26 | 04	230 | 153 | 177	40 %
	00 | 20 | 13 | 02	242 | 204 | 216	20 %
Orange			
	00 | 72 | 80 | 04	215 | 115 | 096	80 %
	00 | 36 | 40 | 02	235 | 185 | 175	40 %
	00 | 18 | 20 | 01	245 | 220 | 215	20 %
Yellow			
	00 | 00 | 72 | 00	250 | 230 | 097	80 %
	00 | 00 | 36 | 00	253 | 243 | 176	40 %
	00 | 00 | 18 | 00	254 | 249 | 216	20 %
Light Green			
	24 | 00 | 80 | 00	205 | 213 | 090	80 %
	12 | 00 | 40 | 00	230 | 234 | 173	40 %
	06 | 00 | 20 | 00	243 | 244 | 214	20 %
Olive			
	56 | 28 | 80 | 08	122 | 150 | 097	80 %
	28 | 14 | 40 | 04	189 | 203 | 176	40 %
	14 | 07 | 20 | 02	222 | 229 | 215	20 %

Colour	CMYK	RGB (decimal)	Shading
Dark Green			
	80 | 00 | 56 | 44	051 | 125 | 106	80 %
	40 | 00 | 28 | 22	153 | 190 | 181	40 %
	20 | 00 | 14 | 11	204 | 222 | 218	20 %
Green			
	80 | 00 | 80 | 16	051 | 157 | 110	80 %
	40 | 00 | 40 | 08	153 | 206 | 183	40 %
	20 | 00 | 20 | 04	204 | 231 | 219	20 %
Turquoise			
	80 | 00 | 32 | 24	051 | 154 | 162	80 %
	40 | 00 | 16 | 12	153 | 205 | 209	40 %
	20 | 00 | 08 | 06	204 | 230 | 232	20 %
Light Blue			
	40 | 00 | 00 | 00	153 | 215 | 240	80 %
	20 | 00 | 00 | 00	204 | 235 | 247	40 %
	10 | 00 | 00 | 00	230 | 245 | 251	20 %
Blue			
	80 | 32 | 00 | 00	051 | 146 | 197	80 %
	40 | 16 | 00 | 00	153 | 201 | 226	40 %
	20 | 8 | 00 | 00	204 | 228 | 240	20 %
Petrol			
	72 | 00 | 00 | 36	051 | 141 | 169	80 %
	36 | 00 | 00 | 18	153 | 198 | 212	40 %
	18 | 00 | 00 | 09	204 | 227 | 236	20 %
Dark Blue			
	80 | 40 | 00 | 36	051 | 111 | 145	80 %
	40 | 20 | 00 | 18	153 | 183 | 200	40 %
	20 | 10 | 00 | 09	204 | 219 | 228	20 %