Climate Change Awareness in the Arab Barometer Wave 5 Survey

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Data & Code

Get the data

The Arab Barometer Wave V 2018-2019 is based on a nationally representative probability sample of the population aged 18 and above. In most countries, the sample includes 2,400 citizens. The data were conducted in face-to-face public opinion surveys (CAPI and PAPI). See technical reports by country for country-specific information. You can find the data, codebooks and all relevant information on the Arab Barometer website.

Our dataset contains country weighted counts of different answer options and the re-weighted values of the answers given to the Arab Barometer Wave 5 question:

`Q108` : *How serious a problem do you think the following issues are: Is* **climate change** *a very serious problem, a somewhat serious problem, not a very serious problem, not at all a serious problem?*

Get the country averages and aggregates from Zenodo

Get the plot in `jpg` or `png` from figshare.

Get the plot

Get the code

Recoding the Survey

See the codebook of the survey.

`Q108` : [PROGRAMMER: SEE SPECIFIC ITEMS] How serious a problem do you think the following issues are: Is **climate change** a very serious problem, a somewhat serious problem, not a very serious problem, not at all a serious problem?

```
ab5 <- pull_survey ( arab_waves, id = "Arab_Barometer_5") %>%
  select ( all_of(c("rowid", "country","date", "wt", "a1", "Q108_1") )) %>%
  mutate ( country = as_factor(.data$country),
           region = as_factor(.data$a1),
           climate_cat  = as_factor(.data$Q108_1),
           climate_num = case_when (
             as_character(.data$climate_cat) == "very serious" ~ 3,
             as_character(.data$climate_cat) == "serious" ~ 2,
             as_character(.data$climate_cat) == "not serious" ~ 1,
             as_character(.data$climate_cat) == "not at all serious" ~ 0,
             TRUE ~ NA_real_ ),
           wt = as_numeric(.data$wt),
           date = as.Date(.data$date)) %>%
  select ( all_of(c("rowid", "country", "region", "climate_cat", "climate_num", "wt", "date"))) %>%
  filter ( !is.na(.data$climate_num)) %>%
  mutate (
```

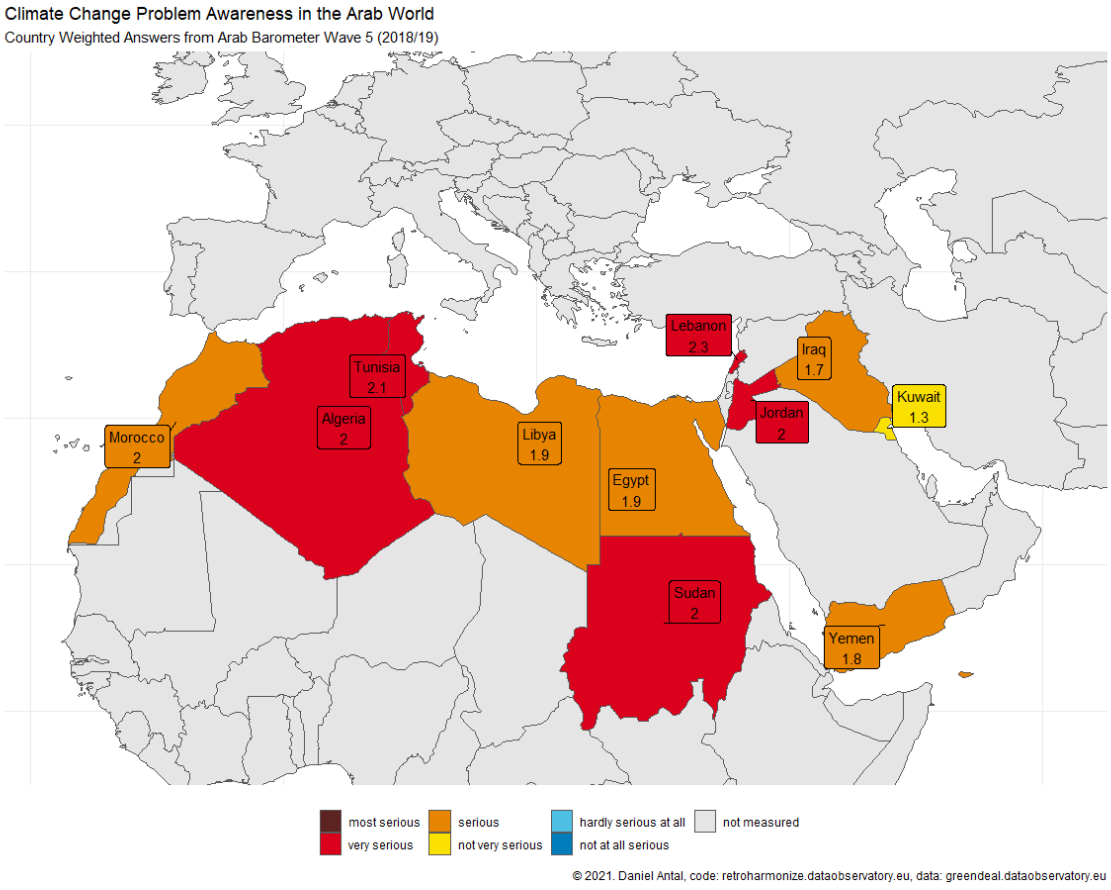

Figure 1: DOI: 10.6084/m9.figshare.14854359

```
    # In Yemen a few cases do not have post-stratification weights
    wt = ifelse (is.na(.data$wt), 1, .data$wt ))
```

A few cases where the post-stratification weight was missing were imputed with a weight of 1.

Creating country summaries

Again, in Yemen, the interview dates are missing. We create the interview period descriptive data with the earliest and latest recorded interview date per country.

Because `Q108` rotated various issues of concern, and did not ask only about climate change, the average post-stratification weight mean by country sligthly alters from 1. To make sure that percent values add up, we correct with this deviation in the next step.

```
ab_climate_weight_correction <- ab_climate %>%
  group_by (.data$country) %>%
  summarise ( climate_cat_sum = sum(.data$climate_cat_pct))
```

```
ab_climate_summary <- ab_climate %>%
  left_join ( ab_climate_weight_correction, by = "country" ) %>%
  mutate ( climate_cat_pct = .data$climate_cat_pct /.data$climate_cat_sum )  %>%
  mutate ( climate_category = snakecase::to_snake_case(.data$climate_category)) %>%
  mutate ( climate_category  = ifelse(.data$climate_category=="don_t_know",
                                      "climate_do_not_know",
                                      paste0("climate_", .data$climate_category)))
```

We use a weighted numerical representation of the `Q108. [P How serious a problem do you think [...is] climate change: a very serious problem, a somewhat serious problem, not a very serious problem, not at all a serious problem?` We provide two re-coding to categories as seen below for the country weighted average answers.

```
ab_climate_change_eval <- ab_climate_periods %>%
  left_join (  ab_climate_summary %>%
                 select ( all_of (c("country", "climate_category", "climate_cat_pct"))) %>%
                 mutate ( climate_category = gsub(
                   "climate_", "climate_pct_", .data$climate_category)) %>%
                 pivot_wider ( names_from = .data$climate_category,
                               values_from = .data$climate_cat_pct,
                               values_fill = 0 ),
               by = "country") %>%
  left_join ( ab_climate_summary %>%
                select ( all_of (c("country", "climate_category", "climate_cat"))) %>%
                pivot_wider ( names_from = .data$climate_category,
                              values_from = .data$climate_cat,
                              values_fill = 0),
              by = "country") %>%
  left_join ( ab5 %>%
                select ( all_of(c("country", "climate_num", "wt")))  %>%
                mutate ( climate_num = ifelse ( .data$climate_num > 4,
                                                NA_real_,
                                                .data$climate_num )) %>%
                mutate ( climate_num = .data$climate_num*.data$wt) %>%
                group_by ( .data$country ) %>%
                summarise ( mean_weight = mean(.data$wt),
                            climate_num = mean(.data$climate_num, na.rm=TRUE) / .data$mean_weight
                ) %>%
```

```
                select ( -.data$mean_weight) %>%
                ungroup(),
              by = "country") %>%
  left_join ( ab_climate_summary %>%
                select ( all_of(c("country"))) %>%
                distinct_all(),
              by = "country") %>%
  mutate ( climate_cat  = case_when (
    climate_num >=2.5 ~  "very serious",
    climate_num >=1.5 ~ "serious",
    climate_num >= 0.5 ~ "not very serious",
    climate_num <= 0 ~ "not at all serious",
    TRUE ~ NA_character_
  ),
  climate_cat_2  = case_when (
    climate_num >=2.5 ~  "most serious",
    climate_num >= 2 ~   "very serious",
    climate_num >= 1.5 ~ "serious",
    climate_num >= 1.0 ~ "not very serious",
    climate_num >= 0.5 ~ "hardly serious at all",
    climate_num <= 0.5 ~ "not at all serious",
    TRUE ~ NA_character_
  )) %>%
  mutate ( climate_cat =
             forcats::fct_relevel(
               .data$climate_cat, rev(c("very serious", "serious",
                                        "not very serious"))),
           climate_cat_2 =
             forcats::fct_relevel(
               .data$climate_cat_2, rev(c("most serious", "very serious",
                                          "serious","not very serious",
                                          "hardly serious at all",
                                          "not at all serious"))))
```

```
write.csv ( ab_climate_change_eval,
            here("data-raw", "arabb", "arab_barometer_5_climate_change_by_country.csv"), row.names = FA
```

The creators of `retroharmonize` are not affiliated with either Arab Barometer, or the organizations that designs, produces or archives their surveys.

We started building an experimental APIs data is running regions regularly and improving known statistical data sources. See: Digital Music Observatory, Green Deal Data Observatory, Economy Data Observatory.

The retroharmonize R package

The aim of the retroharmonize R package is to provide tools for reproducible retrospective (ex-post) harmonization of datasets that contain variables measuring the same concepts but coded in different ways. Ex-post data harmonization enables better use of existing data and creates new research opportunities. For example, harmonizing data from different countries enables cross-national comparisons, while merging data from different time points makes it possible to track changes over time. It is developed and released in the rOpenGov open source developer community.

For a tutorial to work with the Arab Barometer survey data see:

Daniel Antal, & Ahmed Shaibani. (2021, June 26). Case Study: Working With Arab Barometer Surveys for the retroharmonize R package (Version 0.1.6). Zenodo. https://doi.org/10.5281/zenodo.5034759

Citing the retroharmonize R package For main developer and contributors, see the package homepage.

This work can be freely used, modified and distributed under the GPL-3 license:

```
citation("retroharmonize")
```

```
##
## To cite package 'retroharmonize' in publications use:
##
##   Daniel Antal (2021). retroharmonize: Ex Post Survey Data
##   Harmonization. R package version 0.1.17.
##   https://retroharmonize.dataobservatory.eu/
##
## A BibTeX entry for LaTeX users is
##
##   @Manual{,
##     title = {retroharmonize: Ex Post Survey Data Harmonization},
##     author = {Daniel Antal},
##     year = {2021},
##     note = {R package version 0.1.17},
##     url = {https://retroharmonize.dataobservatory.eu/},
##   }
```

Contact For contact information, see the package homepage.