Package: BEMPdata (via r-universe)

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Title Access the Bangladesh Environmental Mobility Panel Dataset

Version 0.2.3

Description Provides functions to download and work with the Bangladesh Environmental Mobility Panel (BEMP), a household panel survey tracing the impacts of riverbank erosion and flooding on (im)mobility, socio-economic outcomes, and political attitudes along the Jamuna River in Bangladesh (2021-2024). Wave datasets (20 files across 14 survey rounds) are hosted on Zenodo (<doi:10.5281/zenodo.18229497>) and downloaded on demand with local caching. Bundled data include a merged cross-wave codebook and wave metadata.

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Suggests bslib, DT, ggplot2, dplyr, testthat (>= 3.0.0), knitr, rmarkdown

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`bemp_cache_clear` *Clear the local BEMPdata cache*

Description

Deletes all locally cached BEMP files. The next call to `get_wave()` or `get_codebook()` will re-download from Zenodo.

Usage

```
bemp_cache_clear(confirm = FALSE)
```

Arguments

`confirm`	Logical. Set to `TRUE` to skip the interactive confirmation prompt (useful in scripts). Default `FALSE`.

Value

Invisibly returns `TRUE` if the cache was cleared, `FALSE` if the user declined.

Examples

```
if (interactive()) {
  bemp_cache_clear(confirm = TRUE)
}
```

bemp_cache_info *Show information about the local BEMPdata cache*

Description

Reports the location and size of the local cache directory where downloaded BEMP files are stored.

Usage

```
bemp_cache_info()
```

Value

Invisibly returns the cache directory path. Called for its side effect of printing cache information.

Examples

```
bemp_cache_info()
```

codebook *Merged BEMP codebook across all waves*

Description

A data frame containing the combined codebook for all 20 BEMP wave datasets. Each row describes one variable in one wave. Built from the per-wave codebook CSV files hosted on Zenodo; regenerate with `source("data-raw/build_data.R")`.

Usage

```
codebook
```

Format

A data frame with one row per variable per wave. Key columns:

- `wave`: Wave identifier, e.g. `"w1"`, `"w6_m"`, `"w14_v"`.
- `variable_name`: Variable name as it appears in the dataset.
- `variable_label`: Short English label for the variable.
- `block`: Thematic block within the questionnaire.
- `question`: Short question description.
- `question_type`: Question type (e.g. single-choice, numeric).
- `question_text`: Full question text in English.
- `question_text_bn`: Full question text in Bangla.

- appears_in_waves: String listing all waves in which this variable appears, with observation counts.

Additional columns val_0, val_1, ... contain English value labels for coded response options; 0_bn, 1_bn, ... contain the corresponding Bangla value labels. Other columns include item_source, item_text, item_text_bn, skip_logic, block_display_logic, block_randomization, question_display_logic, comment, and dataset.

Source

Zenodo (concept DOI 10.5281/zenodo.18229497), bemp_codebooks_as_csv.zip

---

get_codebook *Get the codebook for one or all BEMP waves*

Description

Returns the codebook for a specific wave, or the merged codebook across all waves. Codebooks are downloaded from Zenodo on first use (~4 MB) and cached locally. Alternatively, use the pre-built codebook object that ships with the package for offline use.

Usage

```
get_codebook(wave = "all", refresh = FALSE)
```

Arguments

wave	Character. Wave identifier (e.g. "w1", "w6_M") or "all" (default) to return the merged codebook for every wave. See wave_overview.
refresh	Logical. Re-download from Zenodo even if already cached. Default FALSE.

Value

A tibble with one row per variable. Key columns:

- wave: wave identifier
- variable_name, variable_label
- block, question, question_type
- question_text, question_text_bn (Bangla)
- appears_in_waves: cross-wave appearance string
- Value label columns (val_0, val_1, ...)

Examples

```
# Use a temporary cache so downloaded files are cleaned up after the session
old_cache <- Sys.getenv("BEMPDATADIR")
Sys.setenv(BEMPDATADIR = file.path(tempdir(), "BEMPdata"))

# Codebook for the baseline wave
cb_w1 <- get_codebook("w1")

# Merged codebook (all waves)
cb_all <- get_codebook()

Sys.setenv(BEMPDATADIR = old_cache)
```

---

get_wave *Download and return a BEMP wave dataset*

Description

Downloads the requested wave dataset from Zenodo on first use and returns it as a tibble. All wave files share a single zip archive per format, so the first call downloads every wave at once (~6 MB for CSV, ~14 MB for Stata); subsequent calls are instant because files are cached locally.

Usage

```
get_wave(wave, format = "csv", refresh = FALSE)
```

Arguments

`wave`	Character. Wave identifier. Use lowercase with an underscore suffix for migrant (`_M`), non-migrant (`_N`), or village-profile (`_V`) sub-questionnaires. Examples: `"w1"`, `"w6_M"`, `"w12_N"`, `"w14_V"`. See wave_overview for the full list.
`format`	Character. `"csv"` (default) or `"dta"` (Stata). CSV returns a tibble; DTA returns a labelled tibble via haven::read_dta with value labels attached.
`refresh`	Logical. Re-download from Zenodo even if already cached. Default `FALSE`.

Value

A tibble with one row per survey respondent.

Examples

```
# Use a temporary cache so downloaded files are cleaned up after the session
old_cache <- Sys.getenv("BEMPDATADIR")
Sys.setenv(BEMPDATADIR = file.path(tempdir(), "BEMPdata"))

# Baseline in-person wave
w1 <- get_wave("w1")
```

```
# Wave 6, migrant questionnaire (accepts upper or lower case)
w6m <- get_wave("w6_M")

# Village profile, Wave 14, in Stata format with value labels
w14v <- get_wave("w14_V", format = "dta")

Sys.setenv(BEMPDATADIR = old_cache)
```

`lookup_variable` *Search for variables across all BEMP waves*

Description

Searches the bundled codebook for variables whose name, label, or question text matches a pattern. Useful for finding a variable when you know a keyword but not the exact variable name.

Usage

```
lookup_variable(pattern, fields = c("name", "label", "question"))
```

Arguments

`pattern`	Character. A regular expression (case-insensitive). For simple keyword searches just supply a word, e.g. `"income"`.
`fields`	Character vector. Which fields to search. One or more of `"name"`, `"label"`, `"question"`. Default: all three.

Value

A tibble with columns `wave`, `variable_name`, `variable_label`, `block`, and `question` for all matching variables, sorted by wave.

Examples

```
# Find all income-related variables
lookup_variable("income")

# Search only variable labels for migration-related items
lookup_variable("migrat", fields = "label")
```

run_app *Launch the BEMP Data Explorer Shiny app*

Description

Opens an interactive data explorer with three tabs:

Codebook Browser Search and filter variables across all waves by keyword, thematic block, or wave. Click any row to see the full question text and value labels.

Variable Inspector Select a wave and variable to view its distribution (bar chart for categorical, histogram for numeric) and summary statistics.

Download Assistant Select a wave and a subset of variables, preview the data, and download as CSV.

Usage

```
run_app(...)
```

Arguments

`...`	Additional arguments passed to `shiny::runApp()`, e.g. `port = 4321` or `launch.browser = FALSE`.

Value

Called for its side effect of launching a Shiny app.

Examples

```
if (interactive()) {
  run_app()
}
```

wave_overview *Overview of BEMP survey waves*

Description

A small reference table describing each of the 20 BEMP wave datasets: survey round, mode (in-person / phone), and questionnaire type.

Usage

```
wave_overview
```

Format

A data frame with 20 rows and 4 columns:

wave Wave identifier (character), e.g. `"w1"`, `"w6_M"`.

survey_round Integer survey round number (1–14).

type Survey mode: `"in-person"` or `"phone"`.

questionnaire Questionnaire type: `"main"`, `"migrant"`, `"non-migrant"`, or `"village profile"`.

Examples

```
wave_overview
wave_overview[wave_overview$type == "in-person", ]
```

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