

Package: washinvestments (via r-universe)

October 3, 2026

Title Multilateral Development Bank Investment in Water and Sanitation

Version 0.0.2

Description Dataset on multilateral development bank (MDB) investment in water supply and sanitation: 1,872 project records of the World Bank, the African Development Bank and the Asian Development Bank, approved between 1963 and 2020, compiled to assess territorial trends, technology choices, distribution of financial burdens, and reforms to institutional arrangements. Most records are for projects in Africa and Asia.

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URL <https://github.com/openwashdata/washinvestments>,
<https://openwashdata.github.io/washinvestments/>

BugReports <https://github.com/openwashdata/washinvestments/issues>

Encoding UTF-8

Roxygen list(markdown = TRUE)

Depends R (>= 2.10)

LazyData true

Language en-GB

Date 2024-05-16

Config/Needs/website rmarkdown, tidyverse, epoxy

X-schema.org-keywords open data, washdata, multilateral development banks, investment, water supply, sanitation, Africa, Asia

X-schema.org-spatialCoverage Global, 149 countries in Africa, Asia, Latin America and the Caribbean, Europe and Oceania

X-schema.org-temporalCoverage 1963-01-01/2020-12-31

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Repository <https://openwashdata.r-universe.dev>

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Description

Data set on multilateral development bank (MDB) investment in water supply and sanitation: 1,872 project records of the World Bank, the African Development Bank and the Asian Development Bank, approved between 1963 and 2020, compiled to assess territorial trends, technology choices, distribution of financial burdens, and reforms to institutional arrangements. Most records are for projects in Africa and Asia.

Usage

washinvestments

Format

A tibble with 1872 rows and 52 variables

id Identification code provided by the MDBs for each project

mdb Abbreviation of multilateral development bank, from which the database entry was retrieved: IBRD = World Bank, AfDB = African Development Bank and ADB = Asian Development Bank

project_name Name of the project provided by the MDBs for each project

region Intermediate Region Code name according to the UNSD-Methodology (UN M49 Standard) in which the project is implemented (UN Statistics Division 2022)

multi_country Indicates if a project is carried out in more than one country: 1 = Project is carried out in more than one country and 0 = Project is carried out in only one country

country Name of the country in which the project was implemented: Values = Country Names and N/A = Multi Country 'TRUE'

iso_country_code A three-letter country code which may allow a better visual association between the codes and the country names. For values see: UN M49 Standard, N/A = Multi Country 'TRUE'

city Name of the city in which the investment project was implemented. MDBs state if the localities are cities, towns or rural areas. If not, the localities were identified in web searches to see whether they qualify as a city or town according to national standards: City name = project is implemented only in one city or town, MULTI = Investments & activities in multiple cities and N/A = only if Context is Rural

year Year of investment project approval as provided by the MDBs (1963-2020)

context Morphological and social context of investment project implementation: Urban = urban settlement, Rural = rural settlement and Both = urban and rural settlements are affected. Either national / sectoral programs or projects with activities in urban and rural contexts

sector Distinct range of activities and infrastructures that are different from others: Sanitation = Only wastewater / sanitation related activities, Sanitation + = Sanitation and other activities different to water supply, Water = Only water supply related activities, Water + = Water supply and other activities different to sanitation, Water & Sanitation = Only water supply and sanitation related activities and Water & Sanitation + = Water supply and sanitation and other activities different to both

subset The dataset is divided into three different subsets to structure data collection efficiently and to align with the research focus on understanding investment behaviour of MDB with regards to urban water and sanitation: 1 = Context is Rural, 2 = Context is Urban, 3 = MDB is IBRD, Context is Urban or Both, Sector is Water, Water +, Sanitation, Sanitation +

amounttotal_2020usd The total amount that is being invested in the project in 2020 USD

amountmdb_2020usd The value for the amount committed for the investment project that is provided by the bank identified in the MDB variable in 2020 USD

sponsor1 Name of the sponsor ranked 1 of up to 7 by the amount it contributes to the investment (sponsor1 provides the largest amount): IBRD = World Bank, ADB = Asian Development Bank, AfDB = African Development Bank, Gov = Borrowing governments own contribution, Com = Recipient communities own contribution, Other Multi-Bi = Any multilateral or bilateral organization contributing to the investment, Privat = Any private source of finance contributing to the investment, N/A = No sponsor is recorded

amount1 Contribution by sponsor1 to the project: Values = Amounts in original currency and N/A = No sponsor is recorded

sponsor2 Name of the sponsor ranked 2 of up to 7 by the amount it contributes to the investment (sponsor1 provides the largest amount): IBRD = World Bank, ADB = Asian Development Bank, AfDB = African Development Bank, Gov = Borrowing governments own contribution, Com = Recipient communities own contribution, Other Multi-Bi = Any multilateral or bilateral organization contributing to the investment, Privat = Any private source of finance contributing to the investment, N/A = The project has fewer than 2 sponsors

amount2 Contribution by sponsor2 to the project: Values = Amounts in original currency and N/A = The project has fewer than 2 sponsors

sponsor3 Name of the sponsor ranked 3 of up to 7 by the amount it contributes to the investment (sponsor1 provides the largest amount): IBRD = World Bank, ADB = Asian Development Bank, AfDB = African Development Bank, Gov = Borrowing governments own contribution, Com = Recipient communities own contribution, Other Multi-Bi = Any multilateral or bilateral organization contributing to the investment, Privat = Any private source of finance contributing to the investment, N/A = The project has fewer than 3 sponsors

amount3 Contribution by sponsor3 to the project: Values = Amounts in original currency and N/A = The project has fewer than 3 sponsors

sponsor4 Name of the sponsor ranked 4 of up to 7 by the amount it contributes to the investment (sponsor1 provides the largest amount): IBRD = World Bank, ADB = Asian Development Bank, AfDB = African Development Bank, Gov = Borrowing governments own contribution, Com = Recipient communities own contribution, Other Multi-Bi = Any multilateral or bilateral organization contributing to the investment, Privat = Any private source of finance contributing to the investment, N/A = The project has fewer than 4 sponsors

amount4 Contribution by sponsor4 to the project: Values = Amounts in original currency and N/A = The project has fewer than 4 sponsors

sponsor5 Name of the sponsor ranked 5 of up to 7 by the amount it contributes to the investment (sponsor1 provides the largest amount): IBRD = World Bank, ADB = Asian Development Bank, AfDB = African Development Bank, Gov = Borrowing governments own contribution, Com = Recipient communities own contribution, Other Multi-Bi = Any multilateral or bilateral organization contributing to the investment, Privat = Any private source of finance contributing to the investment, N/A = The project has fewer than 5 sponsors

amount5 Contribution by sponsor5 to the project: Values = Amounts in original currency and N/A = The project has fewer than 5 sponsors

sponsor6 Name of the sponsor ranked 6 of up to 7 by the amount it contributes to the investment (sponsor1 provides the largest amount): IBRD = World Bank, ADB = Asian Development Bank, AfDB = African Development Bank, Gov = Borrowing governments own contribution, Com = Recipient communities own contribution, Other Multi-Bi = Any multilateral or bilateral organization contributing to the investment, Privat = Any private source of finance contributing to the investment, N/A = The project has fewer than 6 sponsors

amount6 Contribution by sponsor6 to the project: Values = Amounts in original currency and N/A = The project has fewer than 6 sponsors

sponsor7 Name of the sponsor ranked 7 of up to 7 by the amount it contributes to the investment (sponsor1 provides the largest amount): IBRD = World Bank, ADB = Asian Development Bank, AfDB = African Development Bank, Gov = Borrowing governments own contribution, Com = Recipient communities own contribution, Other Multi-Bi = Any multilateral or bilateral organization contributing to the investment, Privat = Any private source of finance contributing to the investment, N/A = The project has fewer than 7 sponsors

amount7 Contribution by sponsor7 to the project: Values = Amounts in original currency and N/A = The project has fewer than 7 sponsors

ppp_sanitation The form of the public private partnership (PPP) or private sector participation (PSP) arrangement promoted or implemented. For the distribution of ownership, risks and revenues between public and private actors, refer to Budds & McGranahan (2003). For details on the different PPP categories refer to World Bank (2017): Promotion = Either PPPs or PSP are generally promoted, capacity building or institutional reforms explicitly aim to facilitate PPPs or PSP. But no execution of a specific arrangement is planned under the project, Construction = PPP arrangements focusing solely on design, engineering and construction of infrastructure, Service-O&M = PPP arrangements for service delivery and/or O&M without any ownership of infrastructure asset, Lease-Affermage = The infrastructure is leased to a private actor for a distinct period. The government typically remains responsible for capital expenditures, BOT-type = A private actor builds, operates, and then transfers the infrastructure back to a public actor, Concession = A private actor buys the right to invest in a particular sector for a particular time, Divestiture = Assets and the right to pursue business in a basic service are sold to a private entity

ppp_water The form of the public private partnership (PPP) arrangement implemented with regards to water supply. Same values as for ppp_sanitation

amount_sanitation The total amount allocated for sanitation related project components: Values = Amounts in original currency, N/A = sector does not include sanitation, NED = available documents did not allow to differentiate between sanitation and other investments

- amount_water** The total amount allocated for water supply related project components: Values = Amounts in original currency, N/A = sector does not include water supply, NED = available documents did not allow to differentiate between water and other investments
- primaryc** Number of primary cities targeted in a project: Numbers = the number of primary cities targeted in a project, MULTI = An uncountable number of primary cities are addressed under the project. This is mainly true for regional or national projects that do not explicitly mention all cities.
- secondaryc** Number of secondary cities targeted in a project: Numbers = the number of secondary cities targeted in a project and MULTI = An uncountable number of primary cities are addressed under the project
- towns** Number of towns targeted in a project: Numbers = the number of secondary cities targeted in a project and MULTI = An uncountable number of primary cities are addressed under the project
- network_infrastructure** Indicates whether sewerage sanitation infrastructures are financed under the project: TRUE = Sewerage sanitation infrastructures are financed under the project, FALSE = No sewerage sanitation infrastructures are financed under the project
- n_drains_sewers** Indicates whether sewers or drains are financed under the project: TRUE = Sewers, drains, or other conveyance infrastructures are financed under the project, FALSE = No sewers, drains or conveyance infrastructures are financed under the project
- n_treatment** Indicates whether wastewater treatment plants are financed under the project: TRUE = Wastewater treatment capacity through a wastewater treatment plant (WWTP) or sewage treatment plant (STP) is financed under the project, FALSE = No Wastewater treatment capacity through a wastewater treatment plant (WWTP) or sewage treatment plant (STP) is financed under the project
- non_network_infrastructure** Indicates whether non-sewerage sanitation infrastructures are financed under the project. The classification of infrastructure components into the different functional groups along the sanitation service chain (following five variables) is based on Tilley et al. (2014): TRUE = non-sewerage infrastructures are financed under the project, FALSE = no non-sewerage infrastructures are financed under the project
- nn_containment** Indicates whether containment infrastructures (shared and private), such as pit latrines are financed under the project: TRUE = containment infrastructure is financed, FALSE = no containment infrastructure is financed
- nn_transport** Indicates whether emptying or transport technologies, such as transfer stations and vacuum trucks are financed under the project: TRUE = emptying/transport technologies are financed, FALSE = no emptying/transport technologies are financed, NA = for all entries that were not coded under Subset 3, NED = only if on-site hardware is true
- nn_treatment** Indicates whether faecal sludge treatment plants or other non-sewerage treatment infrastructures are financed under the project: TRUE = treatment infrastructure is financed, FALSE = no containment infrastructure is financed
- nn_disposal** Indicates whether disposal infrastructures are financed under the project: TRUE = disposal infrastructure is financed, FALSE = no containment infrastructure is financed
- nn_reuse** Indicates whether reuse infrastructures are financed under the project: TRUE = reuse infrastructure is financed, FALSE = no containment infrastructure is financed
- ur1** Indicates whether institutional reforms aim to battle inefficiencies by reducing leakages, improving metering and billing and introducing efficient technologies. The variables UR1–UR5

are based on the definition and detailed description of the different steps of the ‘maturity ladder for the urban water sector’ from Goksu et al. (2019): TRUE = reforms to battle inefficiencies are financed, FALSE = no reforms to battle inefficiencies are financed

- ur2** Indicates whether institutional reforms aim to build capacity at the organizations (utilities/departments) responsible for providing access to water supply and sanitation by amongst others institutional strengthening, financial training, training in environmental monitoring, technical assistance for operation and maintenance and training in (integrated) planning: TRUE = reforms to build capacity are financed, FALSE = no reforms to build capacity are financed
- ur3** Indicates whether institutional reforms aim to align institutions and incentives by introducing full cost recovery principles/tariffs and improving customer management. Through promoting institutional, organizational, regulatory, and sector reforms or by increasing the autonomy of utilities through decentralization and corporatization: TRUE = reforms to align institutions and incentives are financed, FALSE = no reforms to align institutions and incentives are financed
- ur4** Indicates whether institutional reforms aim to incentivise performance through performance contracts and performance based financing, by private sector participation and building utilities’ creditworthiness: TRUE = reforms to incentivise performance are financed, FALSE = no reforms to incentivise performance are financed
- ur5** Indicates whether institutional reforms aim to ‘go to the market’ through pursuing specific PPP arrangements are financed under the investment project: TRUE = reforms to increase private partnerships are financed, FALSE = no reforms to increase private partnerships are financed
- er1** Indicates whether institutional reforms address authorities to improve the enabling environment for non-sewered sanitation and the sanitation economy. The variables ER1-ER3 are based on the suggestions of WSUP (2020) and IWA (2021) for reforming the sanitation sector to scale non-sewered infrastructures: TRUE = reforms to create an enabling regulatory environment are financed, FALSE = no reforms to create an enabling regulatory environment are financed
- er2** Indicates whether institutional reforms address private sector service providers and aim to incentivise them to enter the sanitation economy or regulate their activities: TRUE = reforms to regulate sanitation service providers are financed, FALSE = no reforms to regulate sanitation service providers are financed, NA = for all entries that were not coded under Subset 3
- er3** Indicates whether institutional reforms address households or communities and aim to increase awareness of and demand for non-sewered sanitation solutions or to set up service co-production arrangements: TRUE = reforms to create demand and awareness for sanitation are financed, FALSE = no reforms to create demand and awareness for sanitation are financed, NA = for all entries that were not coded under Subset 3

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