

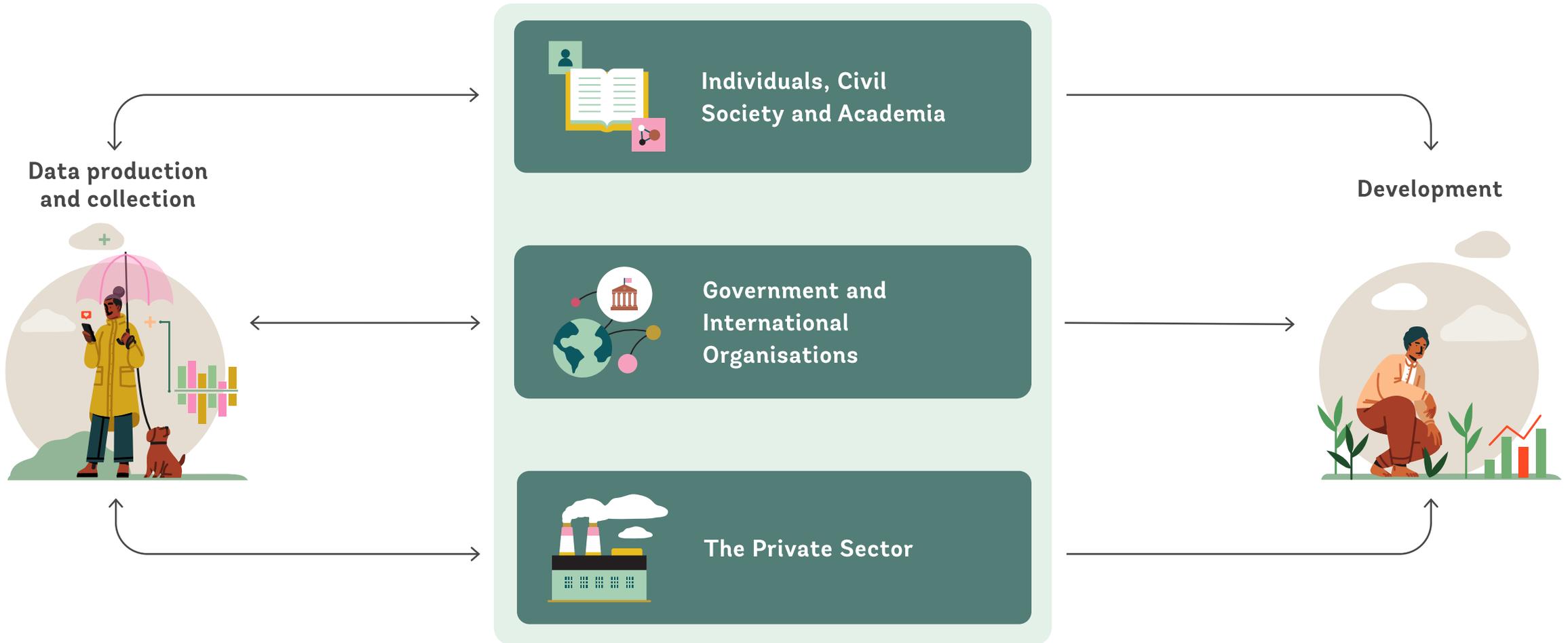
Data saves lives

Odisha's investment in data:
from **10,000** fatalities to just **38**



Cydone Phailin
Photo credit: IFRC

Data for development: 3 pathways

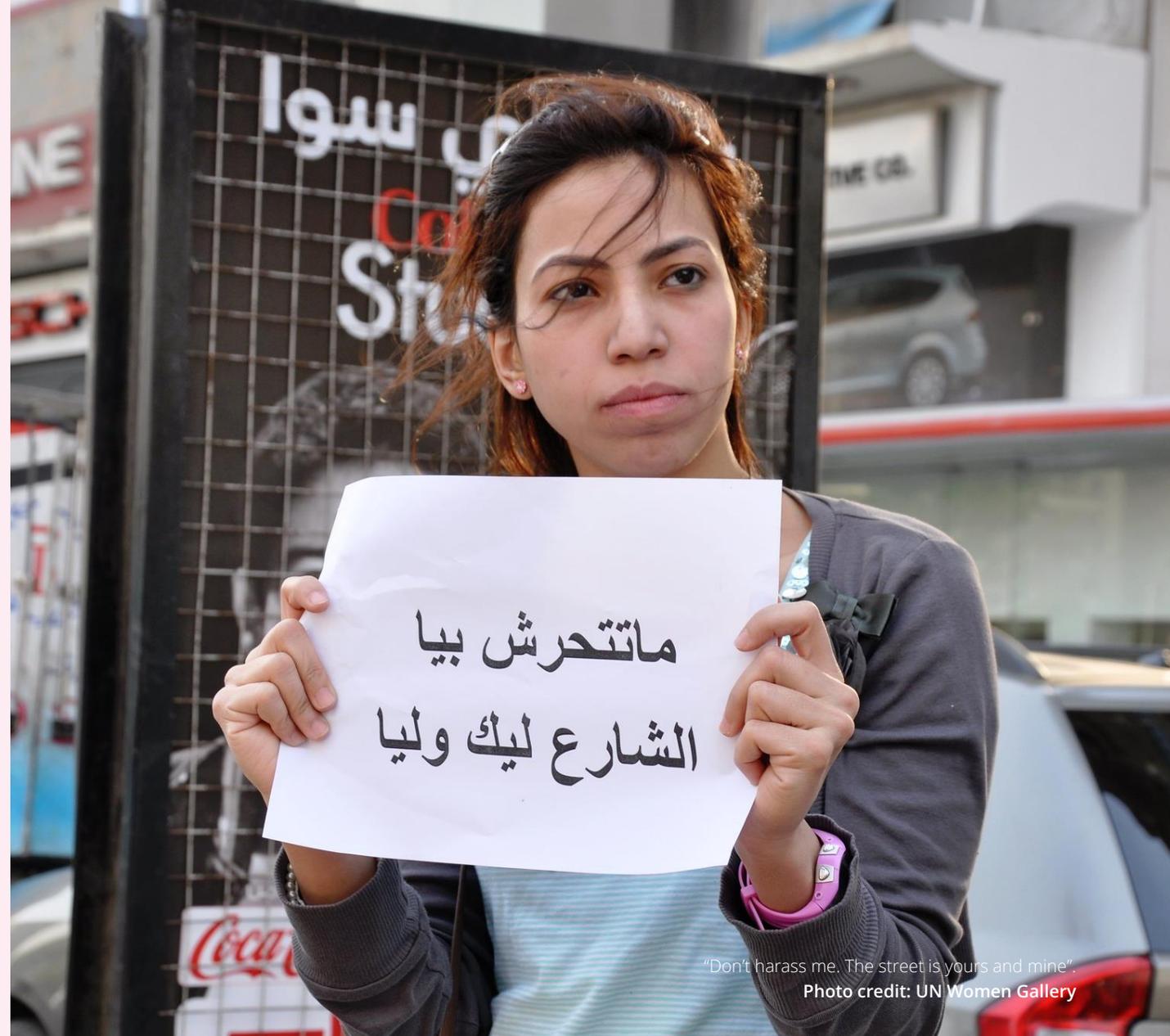


Egypt

HarassMap

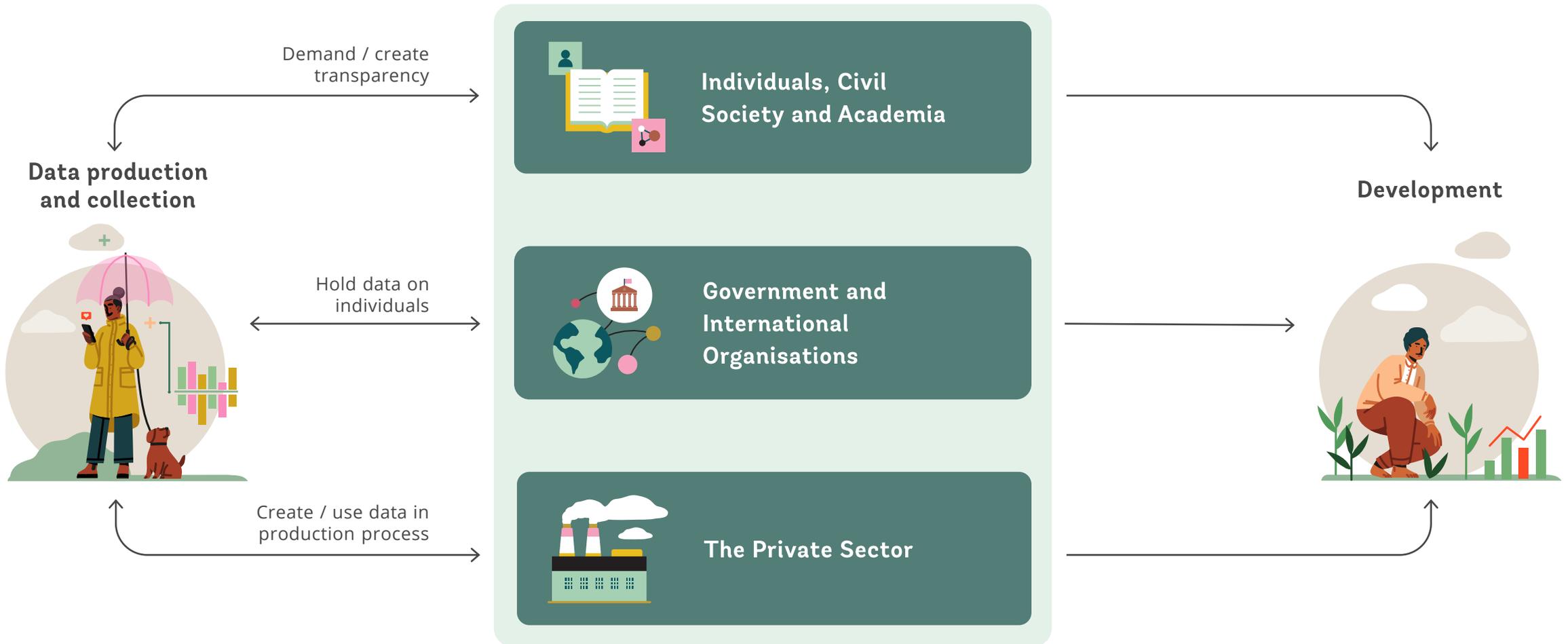
Citizen data for public good

Citizens can create data to fill gaps in public and private data, to address the problems they face. HarassMap is a citizen-generated map based on individual reports of sexual harassment.



"Don't harass me. The street is yours and mine".
Photo credit: UN Women Gallery

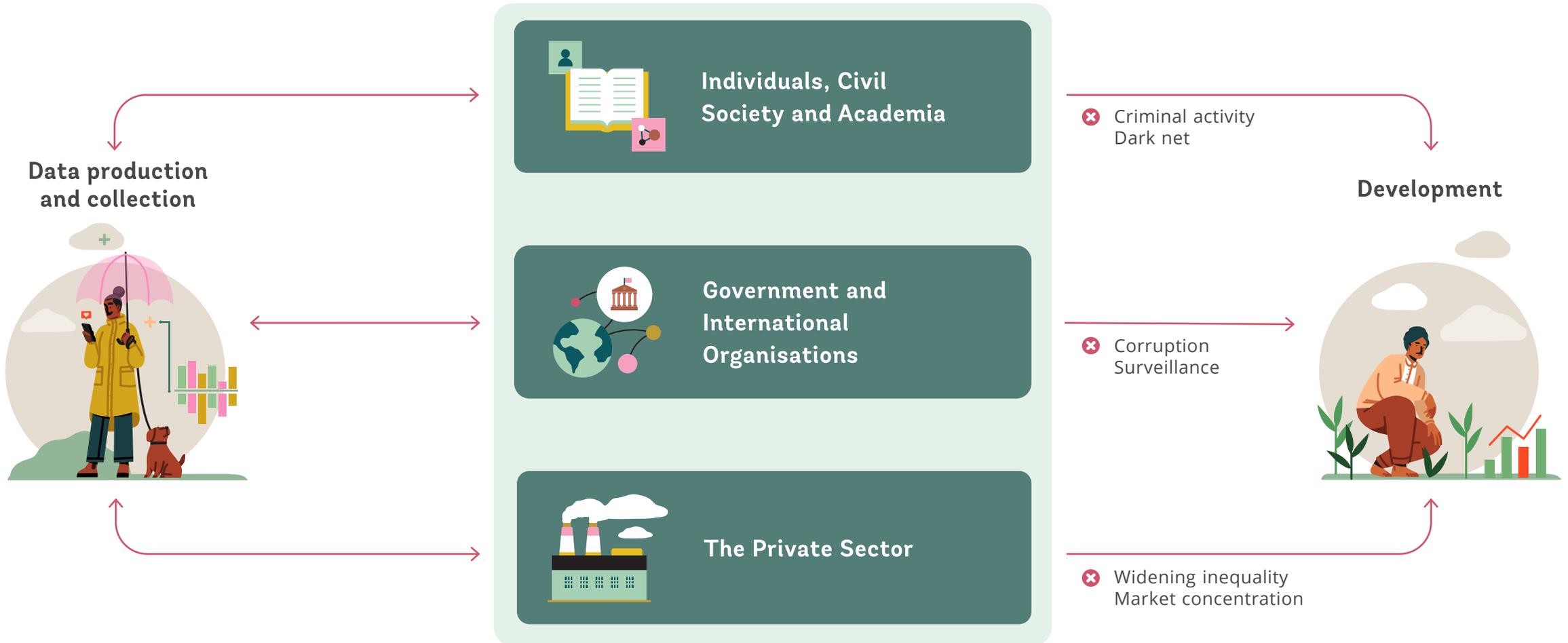
Data for development: 3 pathways



Data for development: potential benefits



Data for development: potential harms



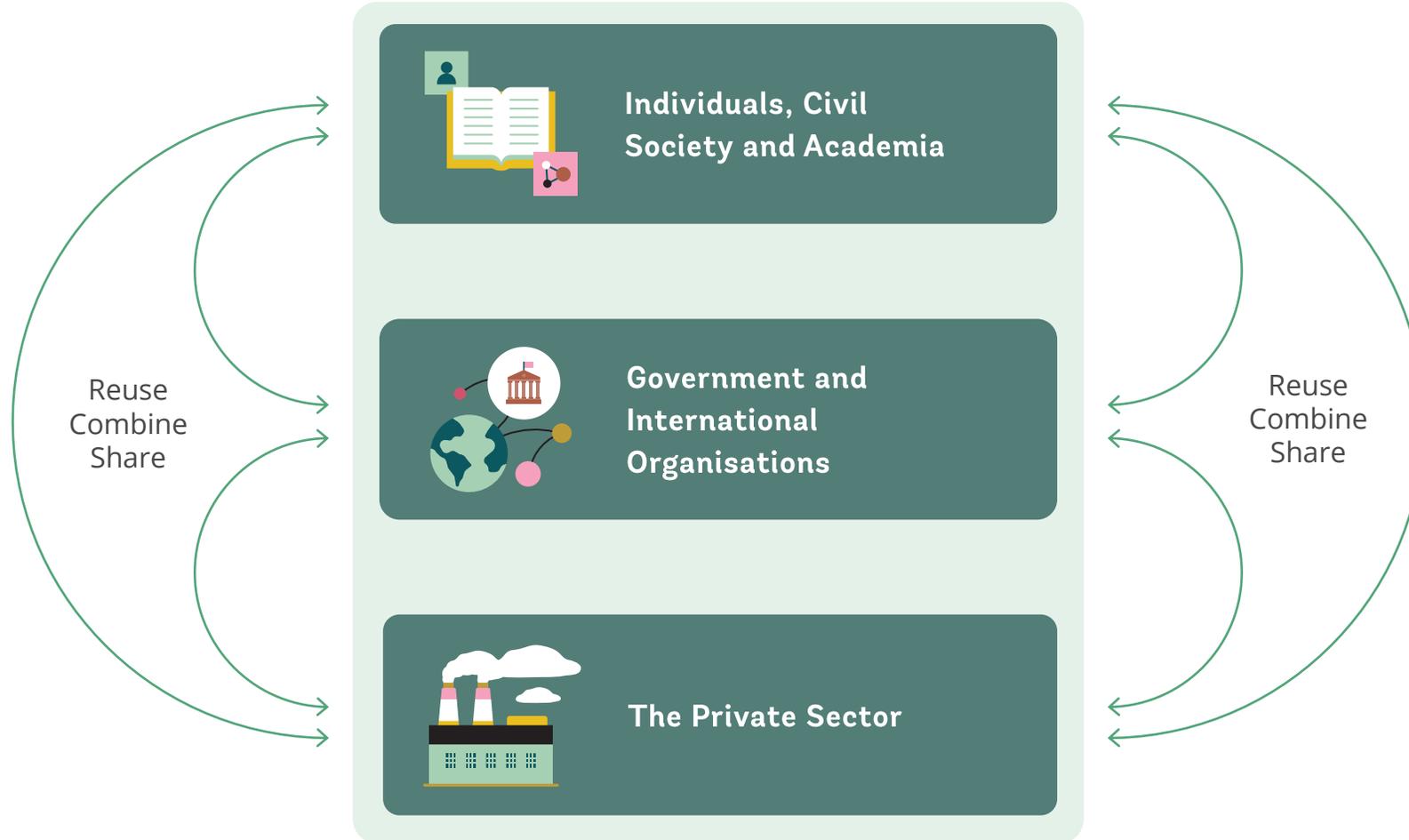
Not just another report on data

- A **poverty lens** on the value of data
- Prioritising poor people and poor countries



The Government of Madagascar provide 80,000 extreme poor households with regular cash transfers, such as here in Betafo
Photo credit: Mohammad Al-Arief / World Bank

Unlocking potential by reusing data



Kenya

Road traffic deaths

Combining and repurposing sources

Researchers worked with the National Police Service to create the first digital and geolocated administrative dataset of individual crashes in Nairobi. Combining digitized official paper records with commuter reports on traffic conditions revealed new insights: 5% of roads experienced 50% of road traffic deaths.

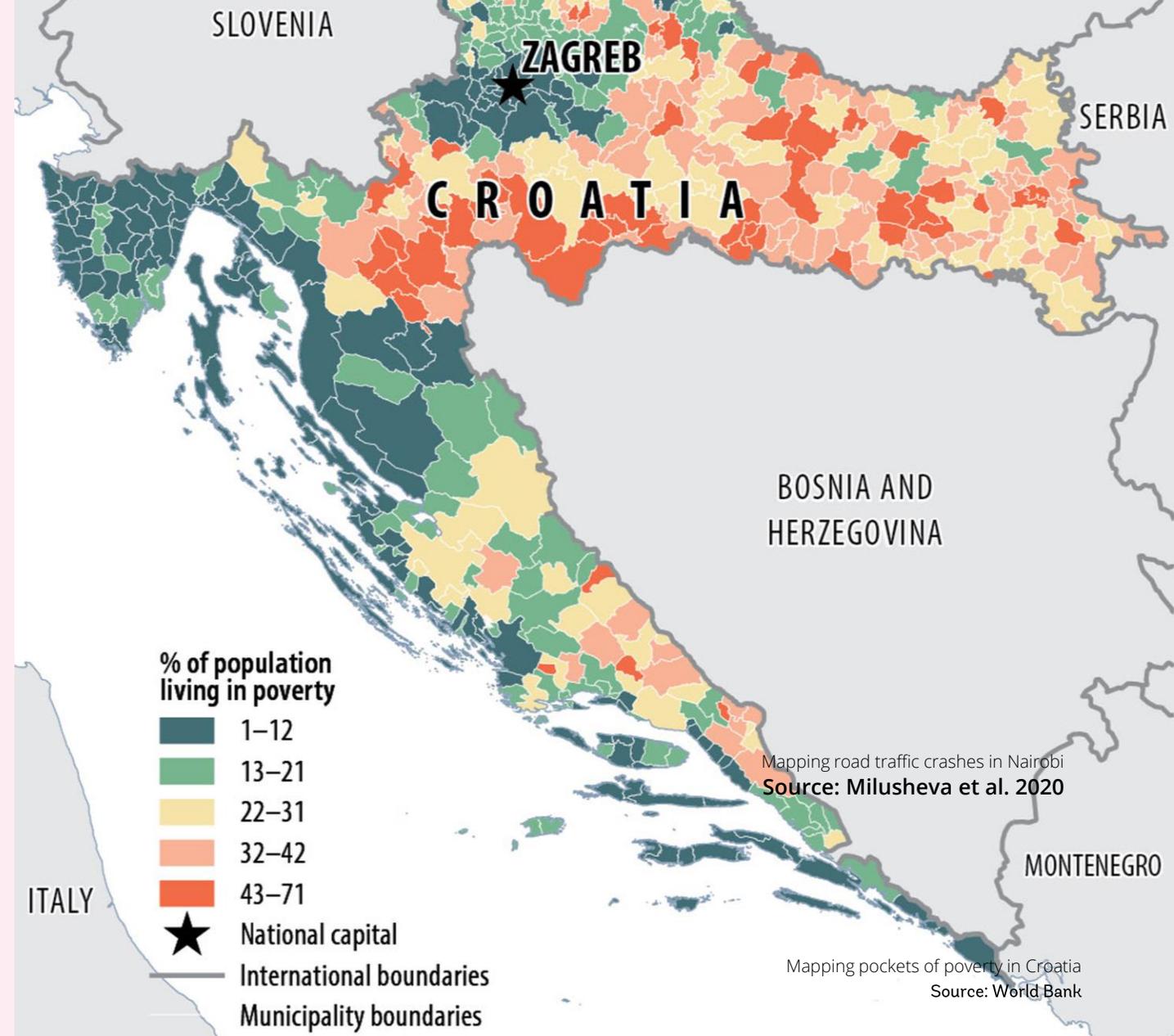


Croatia

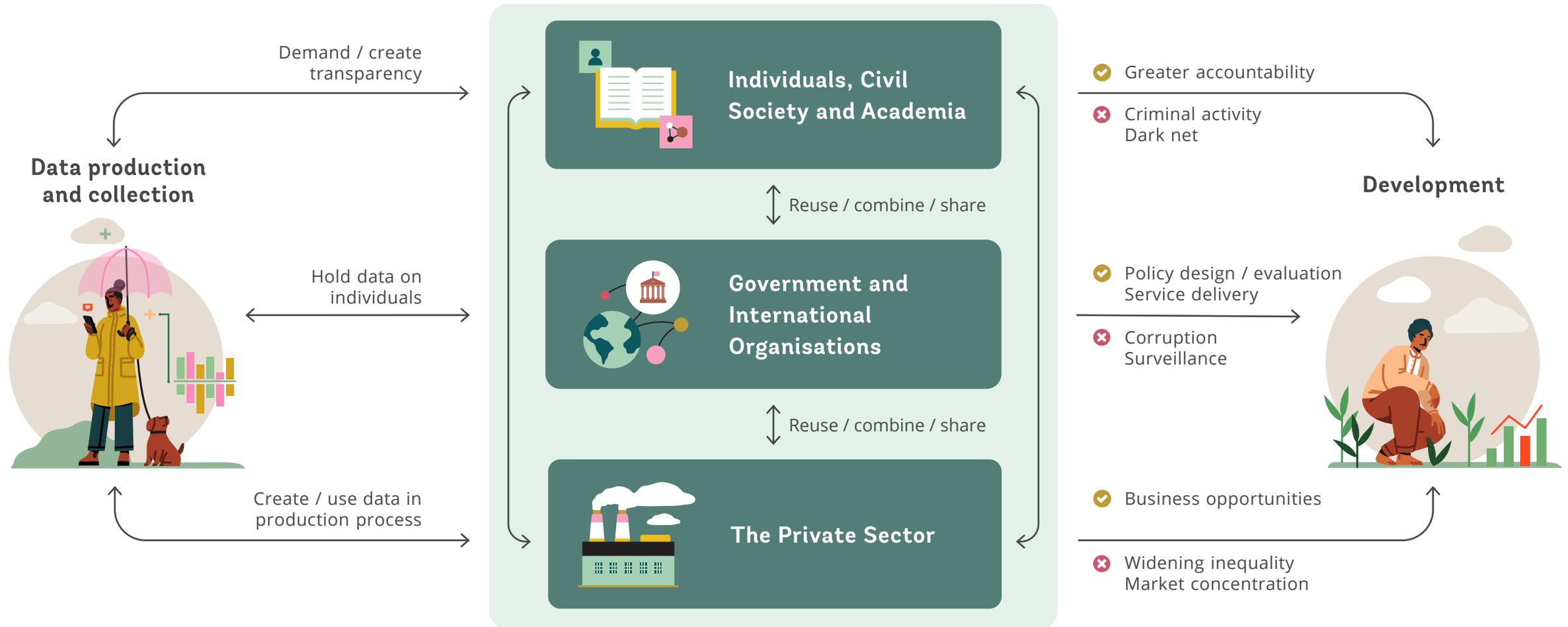
Pinpointing poverty

Combining sources

Traditional household survey data was previously used to determine deprivation and allocate EU funding, based on regional GDP. This means that resources weren't reaching poor municipalities in nonpoor regions. Combining the household data with the population census and administrative data revealed large differences in living standards within regions, fuelling proposals for new funding divisions.



Data for development: 3 pathways

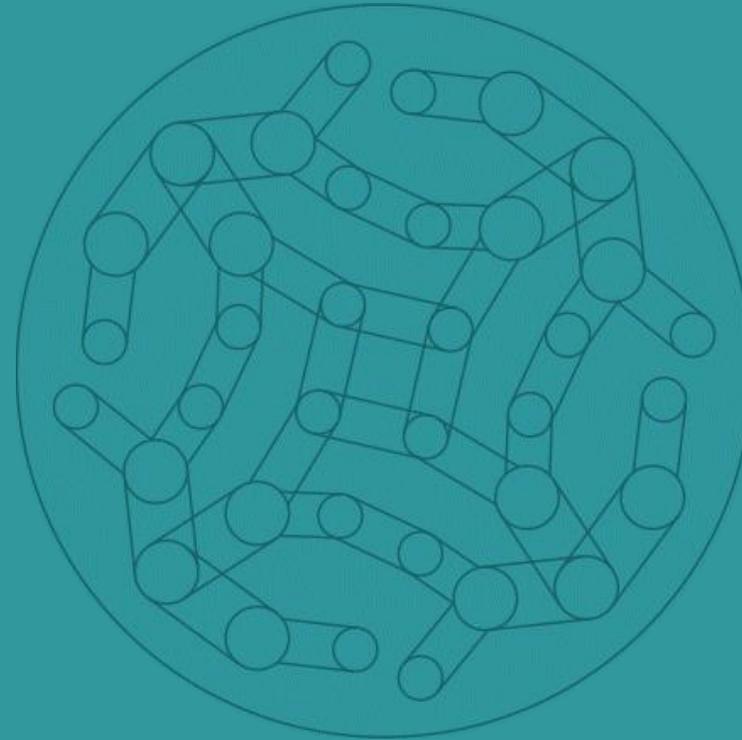


The social contract for data



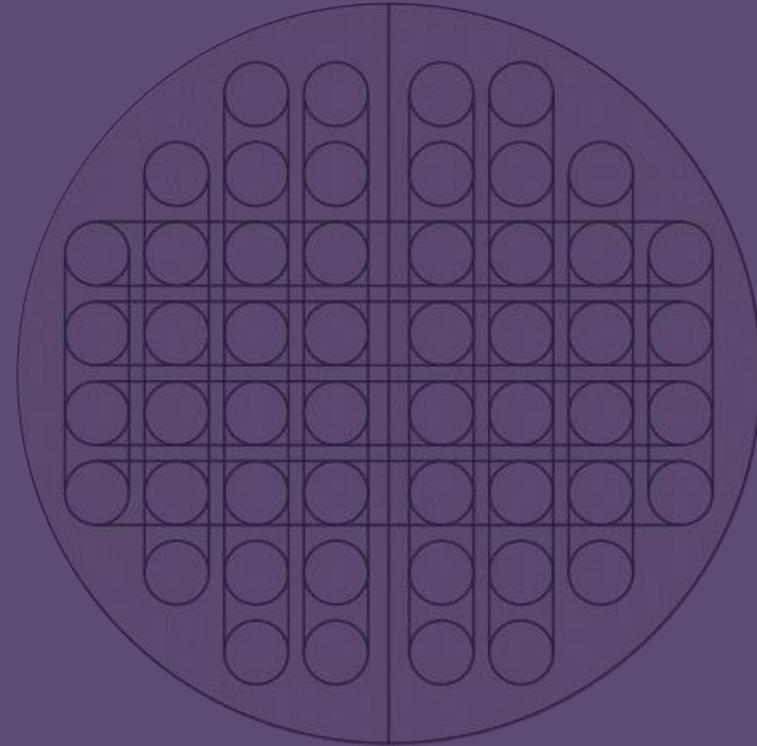
Value

Economic and social value comes from sharing, reusing, and combining data sources to generate greater insight



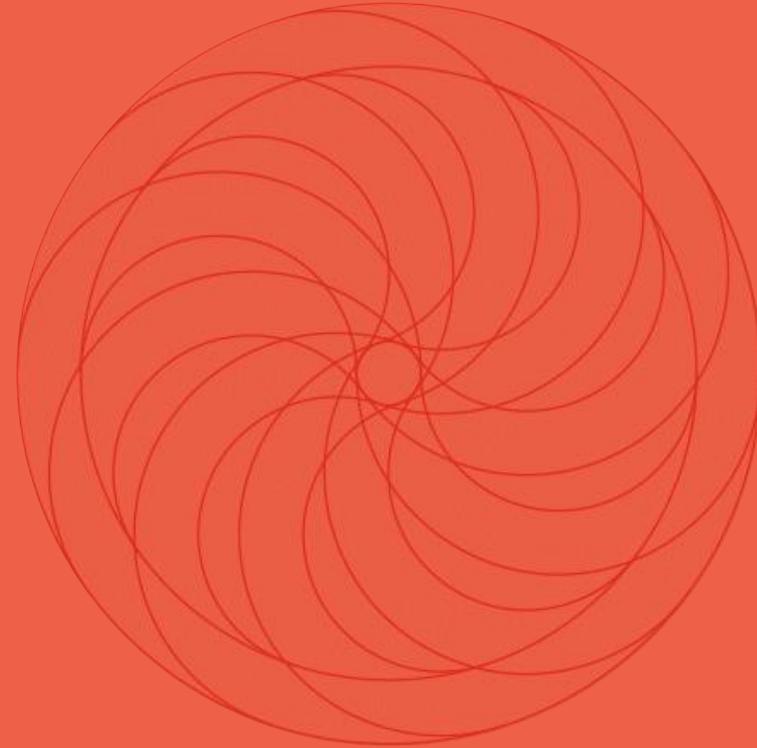
Equity

Data capture, infrastructure, and trade need to include poorer communities and countries equitably. All must benefit from use of data.



Trust

Data must be protected from misuse such as discrimination & cybercrime. Data must be credible -- Transparency and monitoring of data use are critical



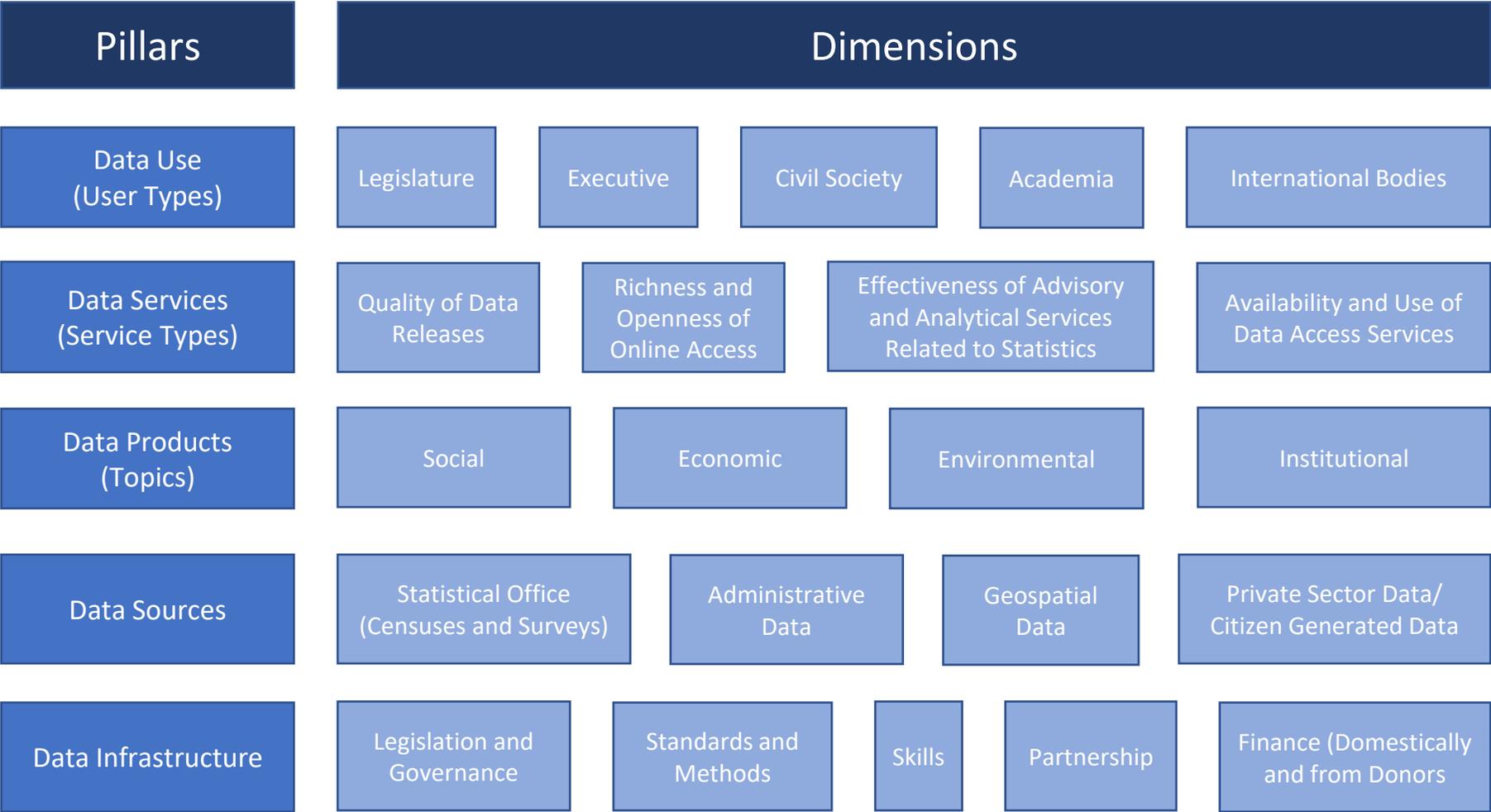
Statistical Performance Indicators



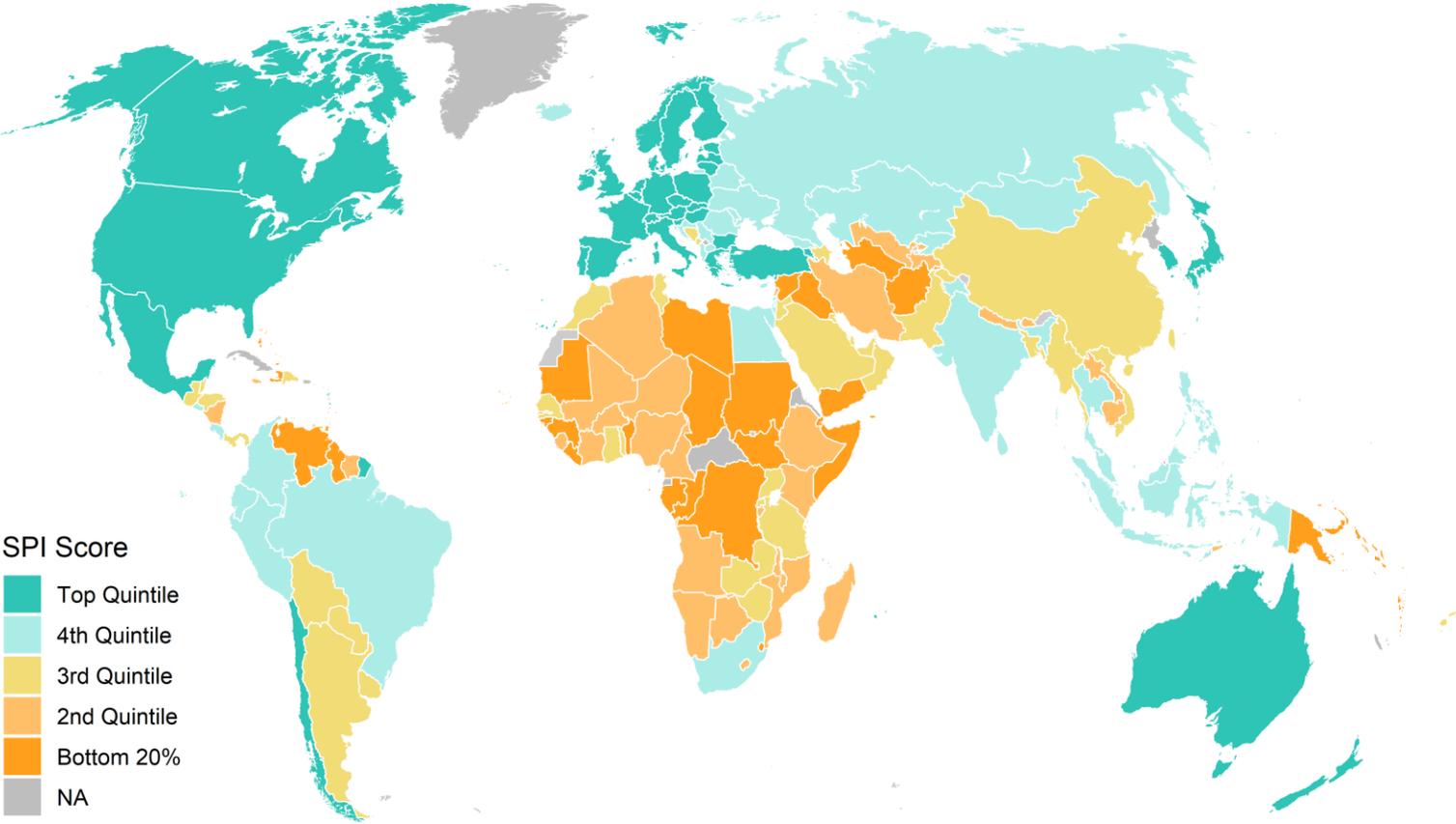
The SPI is:

- Forward looking
- Measures less advanced systems, and more advanced systems
- Covers entire national statistical system
- Open Data + Open Code
- Gives countries incentives to build modern statistical systems

Statistical Performance Indicators



Global Landscape of Statistical Performance



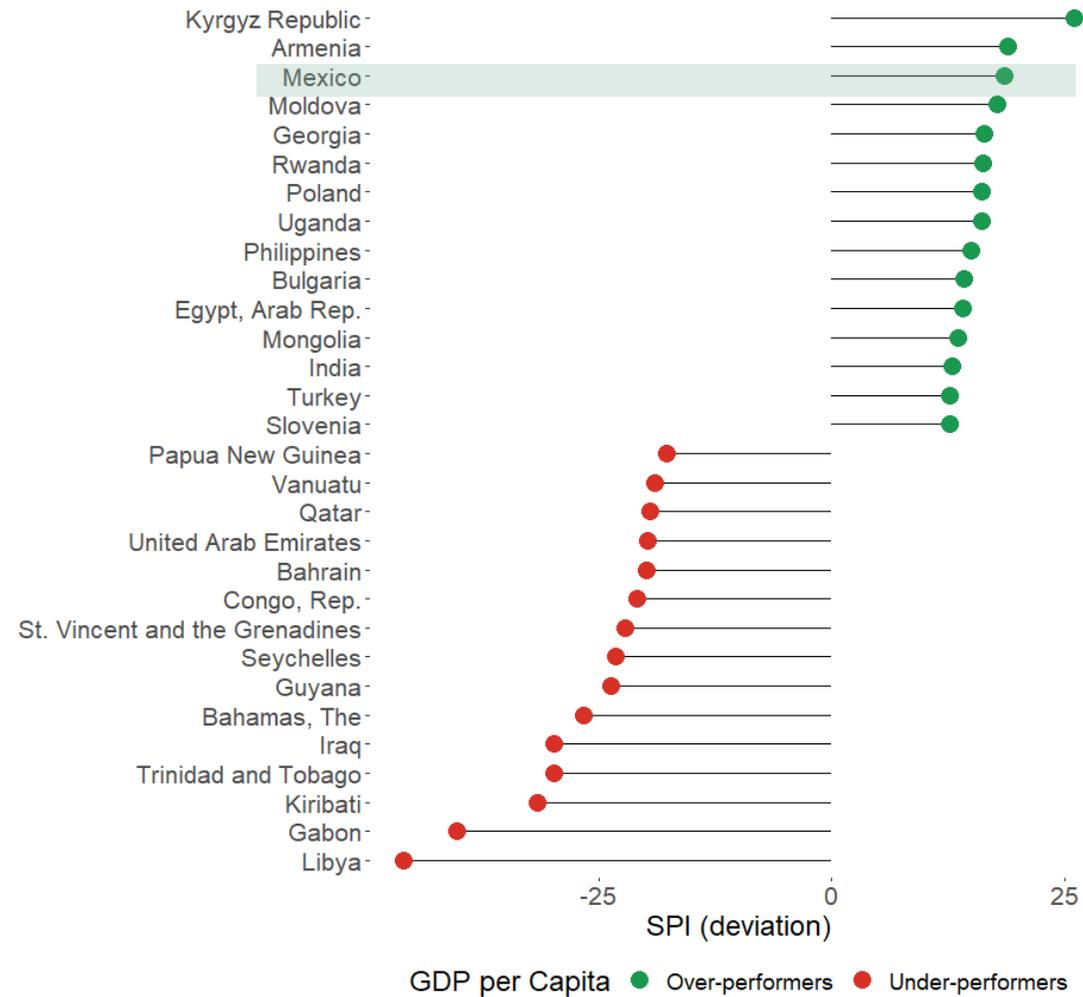
Source: World Bank. Statistical Performance Indicators

Country performance varies tremendously within regions

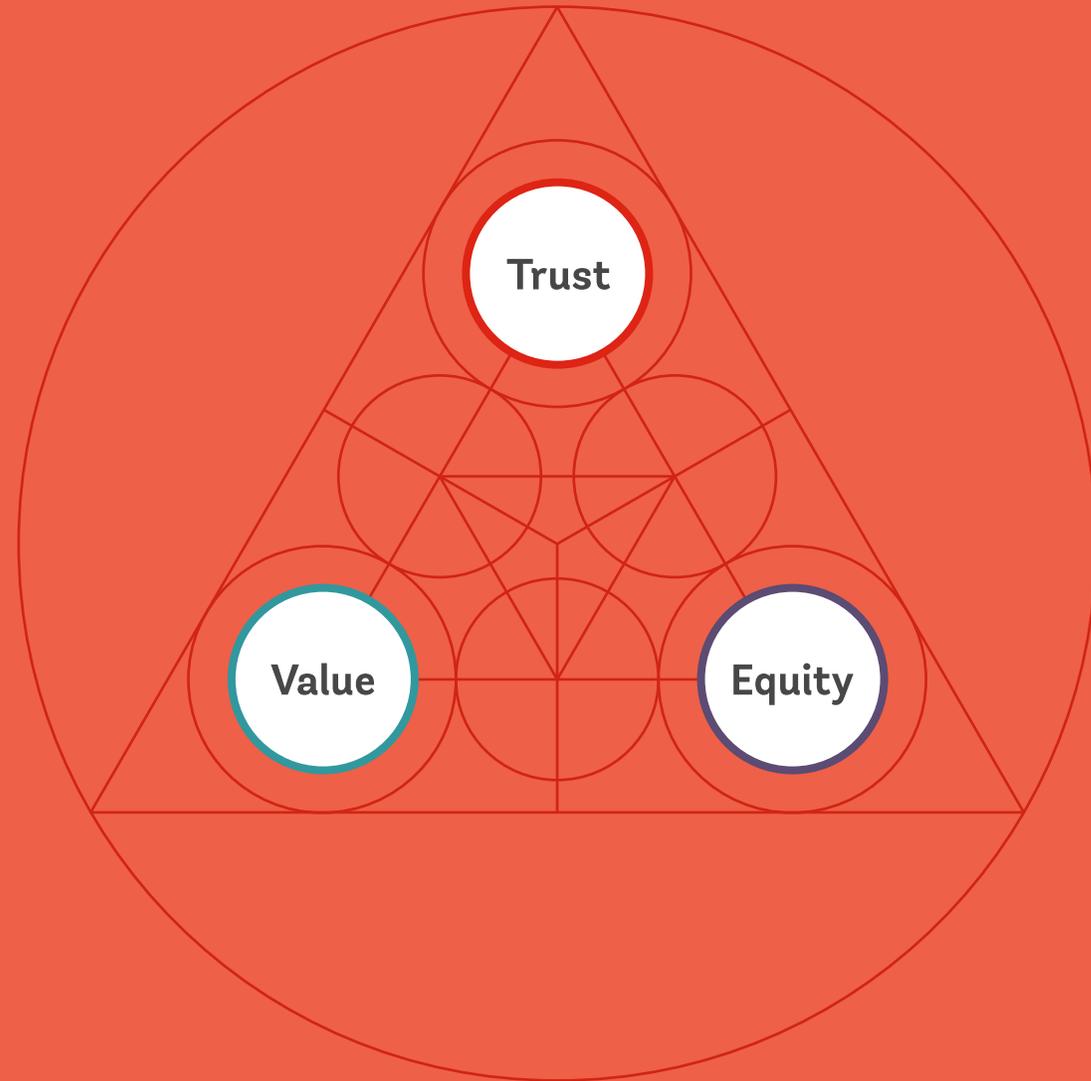


Source: World Bank Statistical Performance Indicators

Over/Underperformers



The three elements of a social contract for data: Value, Equity and Trust

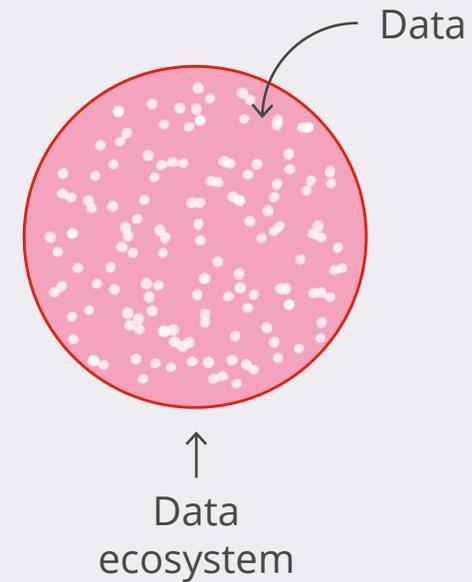


Working towards an integrated national data system (INDS)

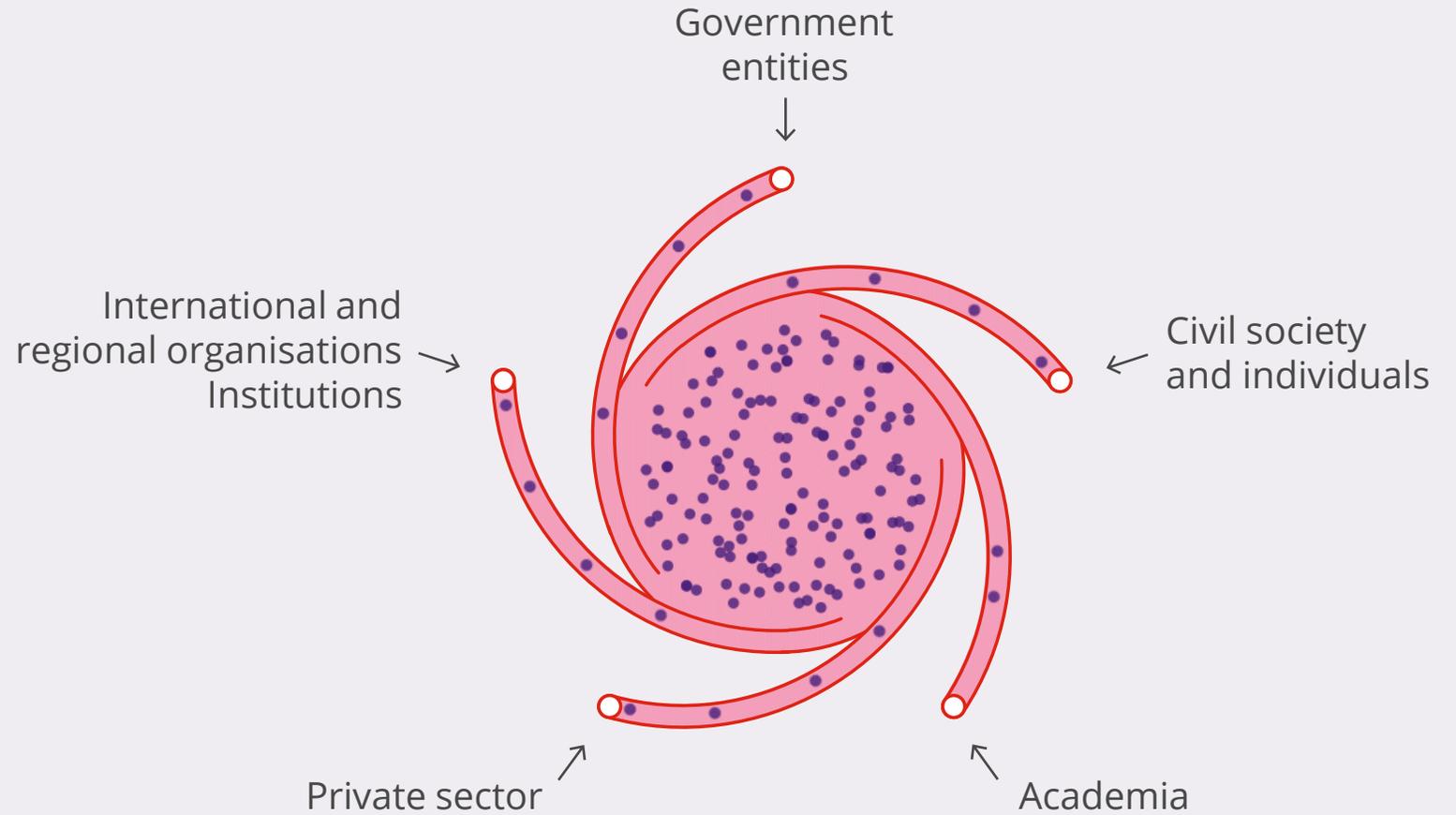


Data in the INDS must be:

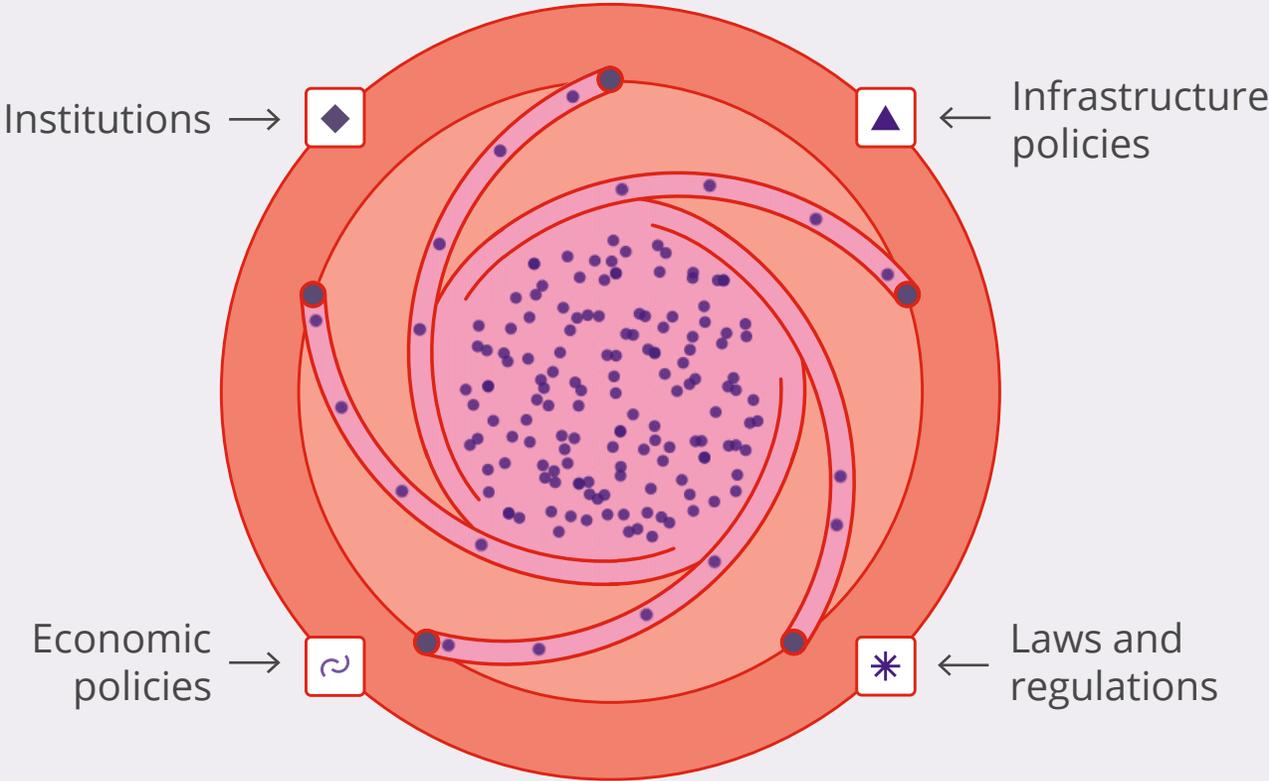
- Produced
- Protected from misuse
- Open
- Quality controlled
- Used and reused



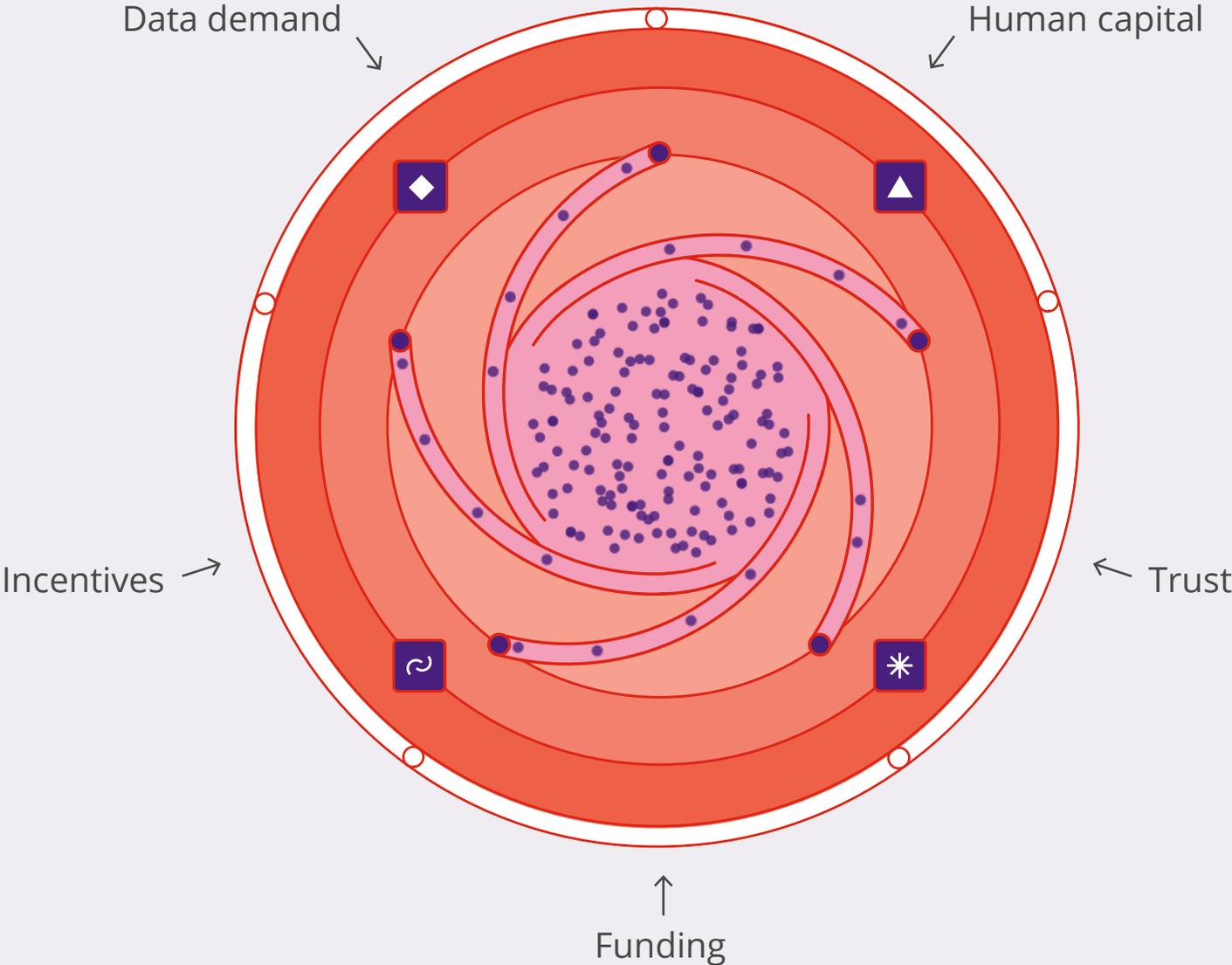
Participants in the INDS create and share data



Four pillars support the INDS



Five foundations sustain the INDS



Data governance: a framework to enforce the social contract



Infrastructure policies



Laws and regulations



Economic policies



Institutions

National

Universal
broadband coverage
.....
Domestic data
infrastructure

Safeguards
.....
Enablers

Antitrust
.....
Trade
.....
Taxation

Government
entities
.....
Other stakeholders

International

Global technical
standards
.....
Regional collaboration

Cybersecurity
conventions
.....
Interoperability
standards

International
tax treaties
.....
Global trade
agreements

International
organisation
.....
Cross-border
cooperation

Data governance layer 1: Infrastructure policies



Infrastructure policies



Laws and regulations



Economic policies



Institutions

National

Universal
broadband coverage
.....
Domestic data
infrastructure

Safeguards
.....
Enablers

Antitrust
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Trade
.....
Taxation

Government
entities
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Other stakeholders

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Regional collaboration

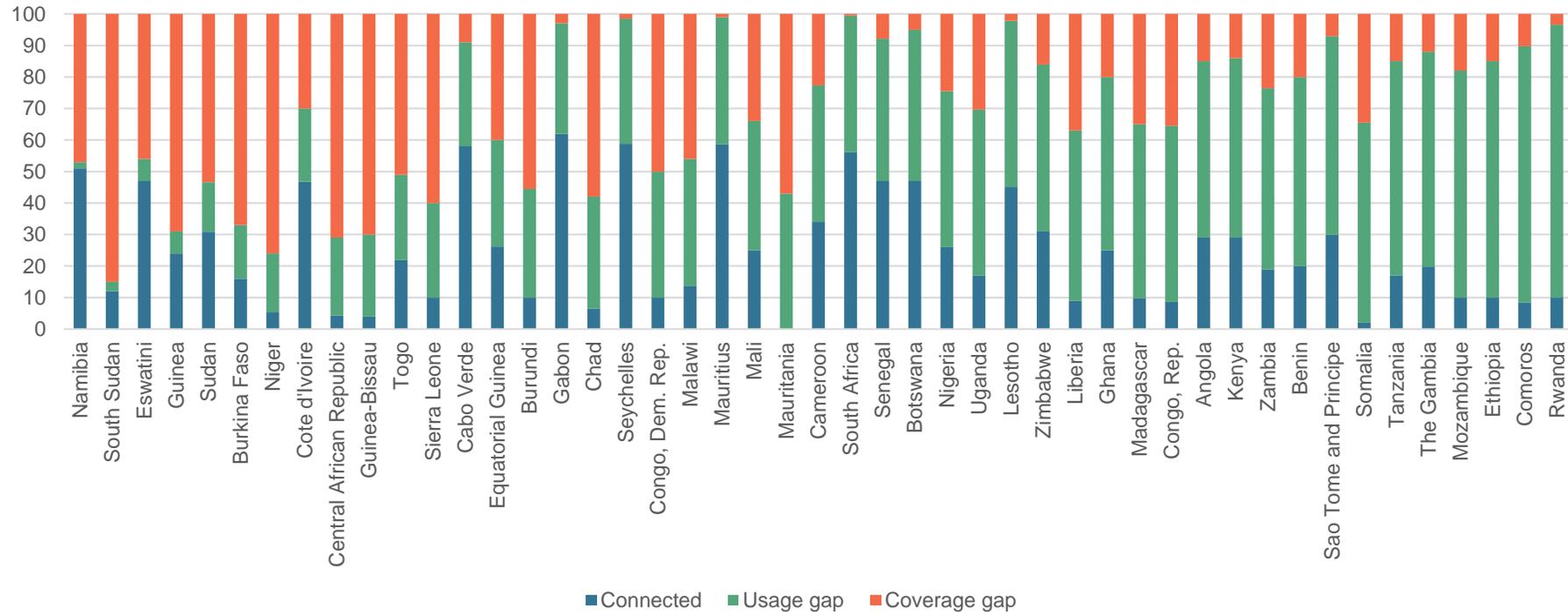
Cybersecurity
conventions
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tax treaties
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cooperation

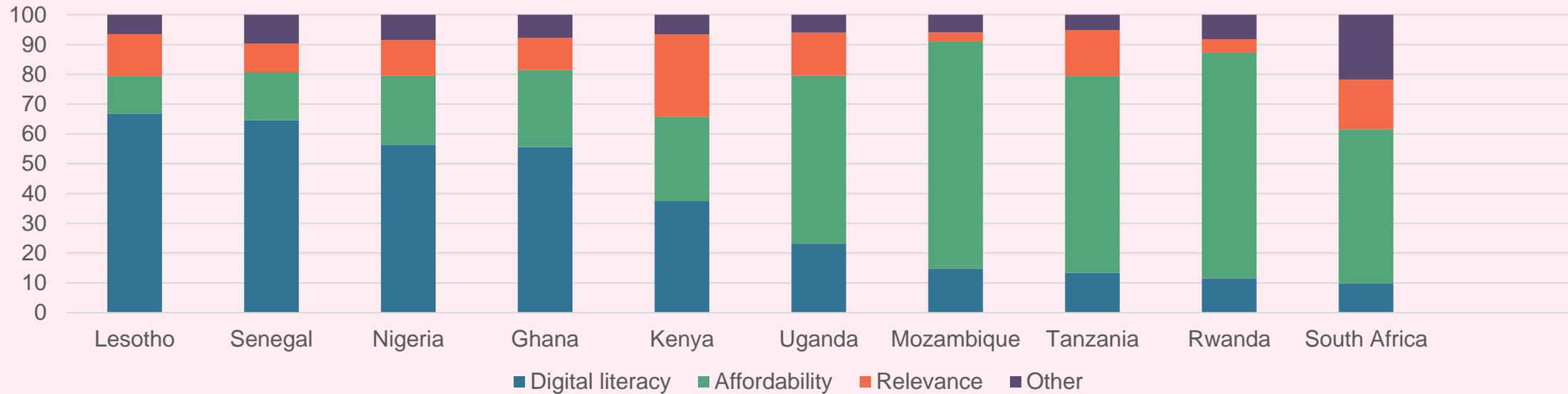
A majority of African countries now have usage gaps that far exceed their coverage gaps

Percentage of population in the coverage and usage gaps for 3G service

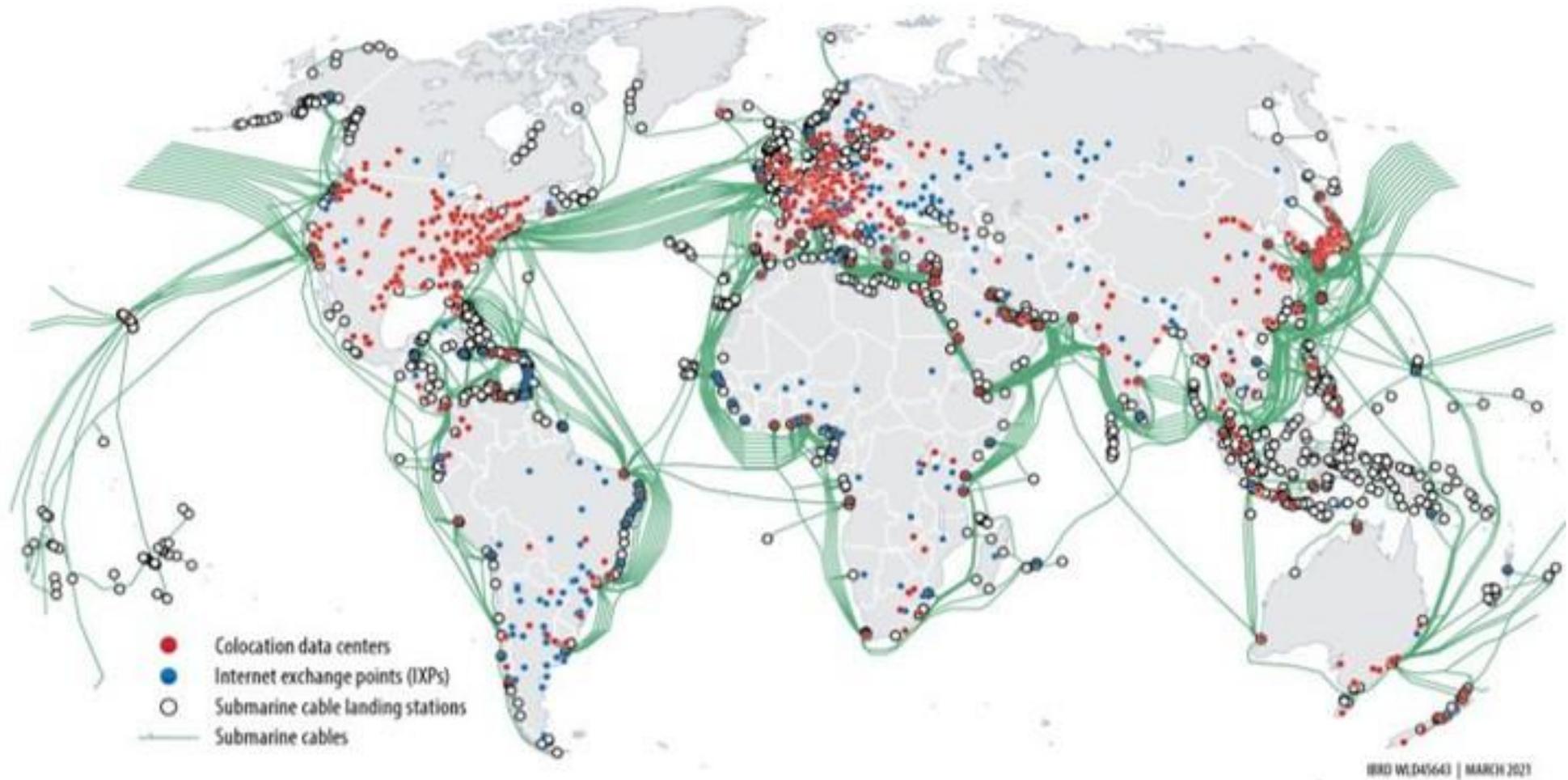


Africans' reasons for remaining in the usage gap are mainly literacy in some countries and mainly affordability in others

Percentage of population giving different reasons for lack of uptake of data services



National data infrastructure plays an increasingly critical role



Sources: PeeringDB, Interconnection Database, <https://www.peeringdb.com/>; PCH Packet Clearing House, Packet Clearing House Report on Internet Exchange Point Locations (database), accessed December 14, 2020, <https://www.pch.net/ixp/summary>; TeleGeography, Submarine Cables (database), <https://www.submarinecablemap.com/>. Data at http://bit.do/WDR2021-Map-5_1.

Data governance layer 2: Laws and regulations



Infrastructure policies



Laws and regulations



Economic policies



Institutions

National

Universal
broadband coverage
.....
Domestic data
infrastructure

Safeguards
.....
Enablers

Antitrust
.....
Trade
.....
Taxation

Government
entities
.....
Other stakeholders

International

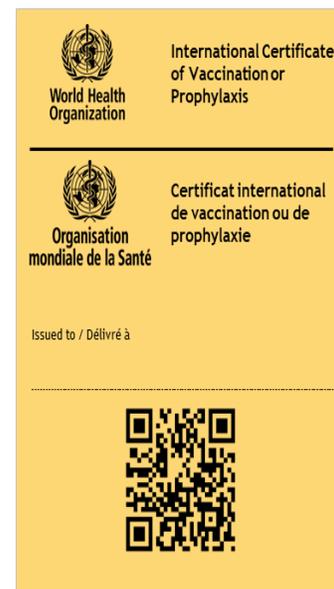
Global technical
standards
.....
Regional collaboration

Cybersecurity
conventions
.....
Interoperability
standards

International
tax treaties
.....
Global trade
agreements

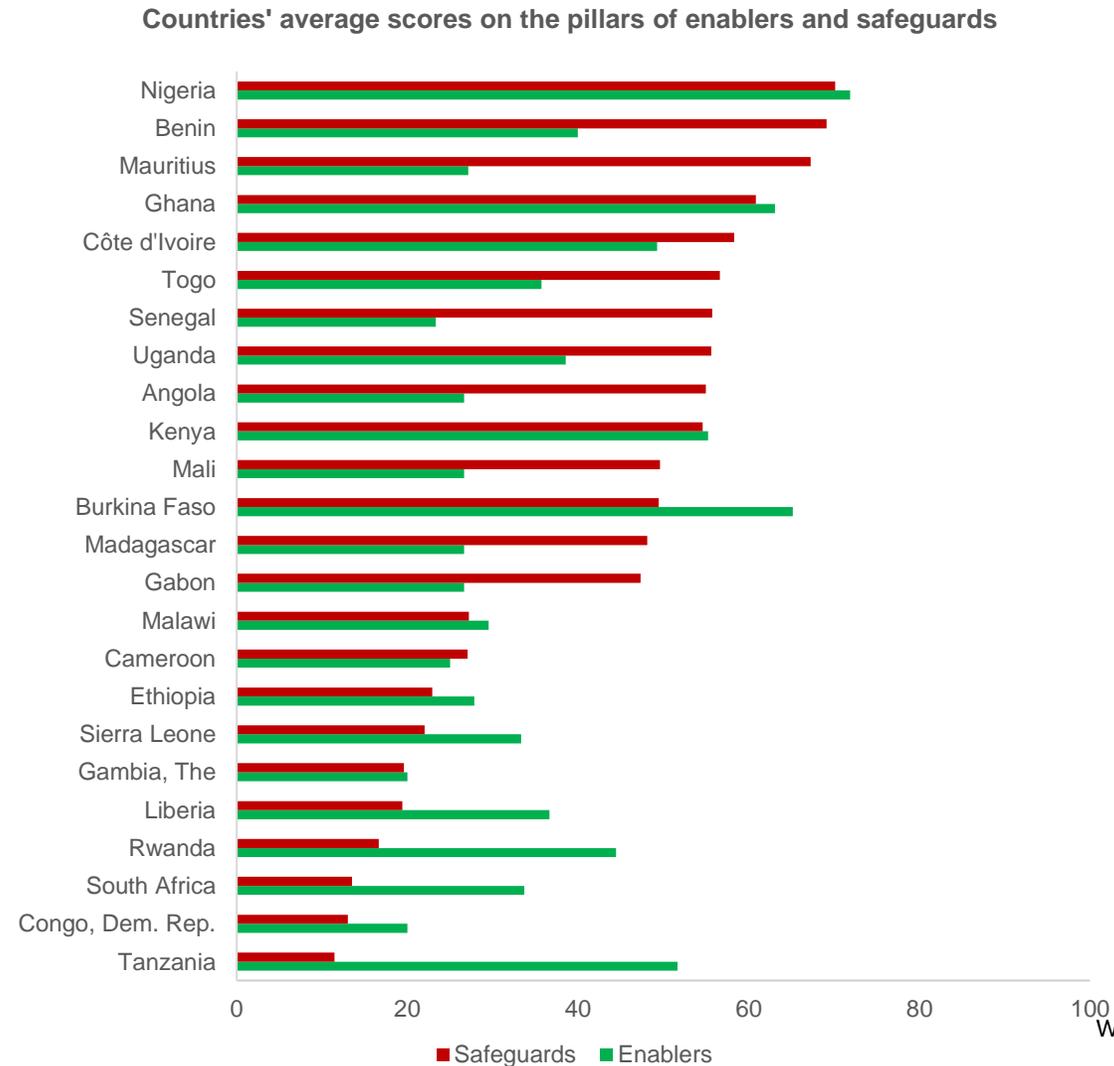
International
organisation
.....
Cross-border
cooperation

From Contact Tracing to Vaccine Certificates: Enablers & Safeguards in the time of COVID-19



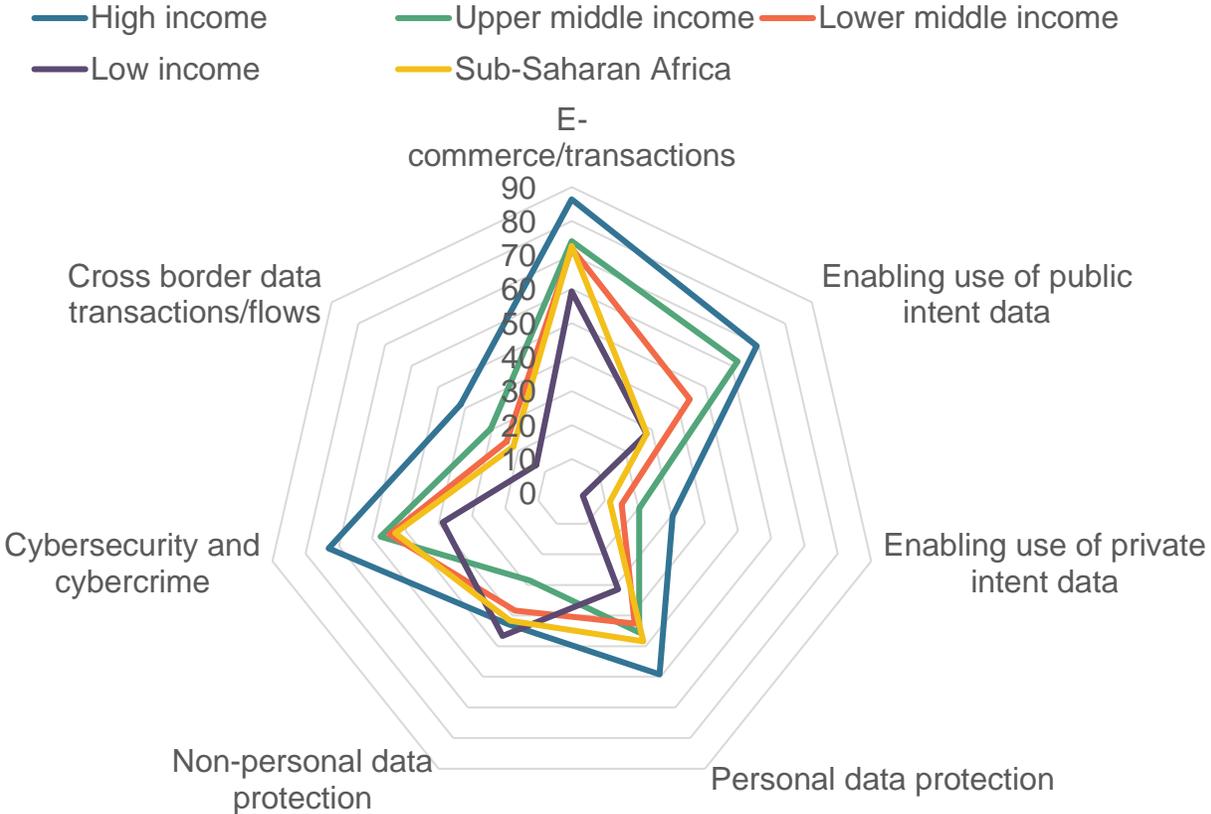
Data regulation should provide safeguards as well as enablers

Scores for quality of data regulation environment in AFR Region, 2020



Performance vary across different dimensions of data regulation survey

Average scores on different data governance dimensions by income group/region



Data governance layer 3: Economic policies



Infrastructure policies



Laws and regulations



Economic policies



Institutions

National

Universal
broadband coverage
.....
Domestic data
infrastructure

Safeguards
.....
Enablers

Antitrust
.....
Trade
.....
Taxation

Government
entities
.....
Other stakeholders

International

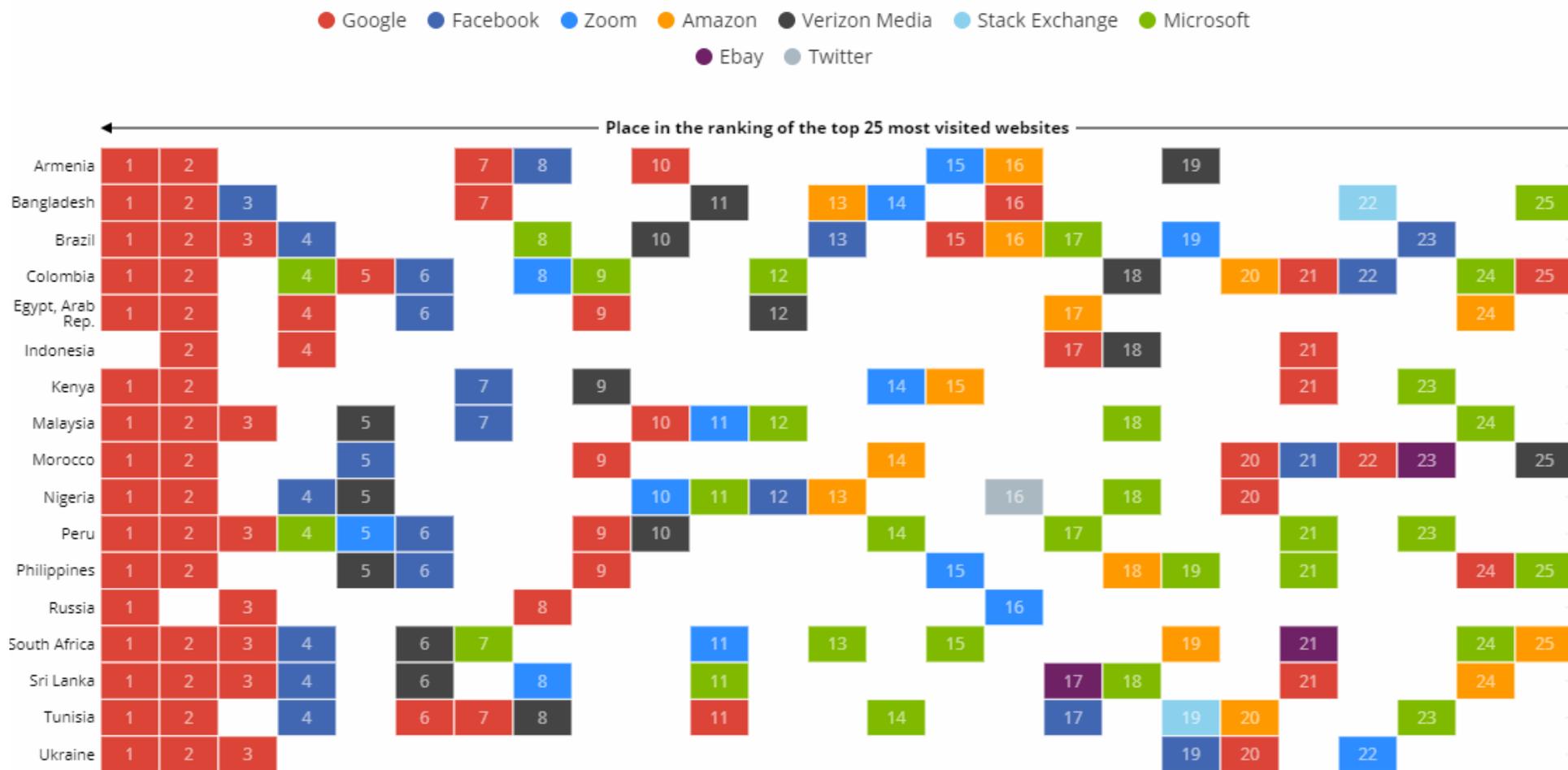
Global technical
standards
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Regional collaboration

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conventions
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Interoperability
standards

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tax treaties
.....
Global trade
agreements

International
organisation
.....
Cross-border
cooperation

Leveling the playing field for competition



Source: Alexa (downloaded 2020:Q2).

Example: Bangladesh

Augmedix

Digital services exports

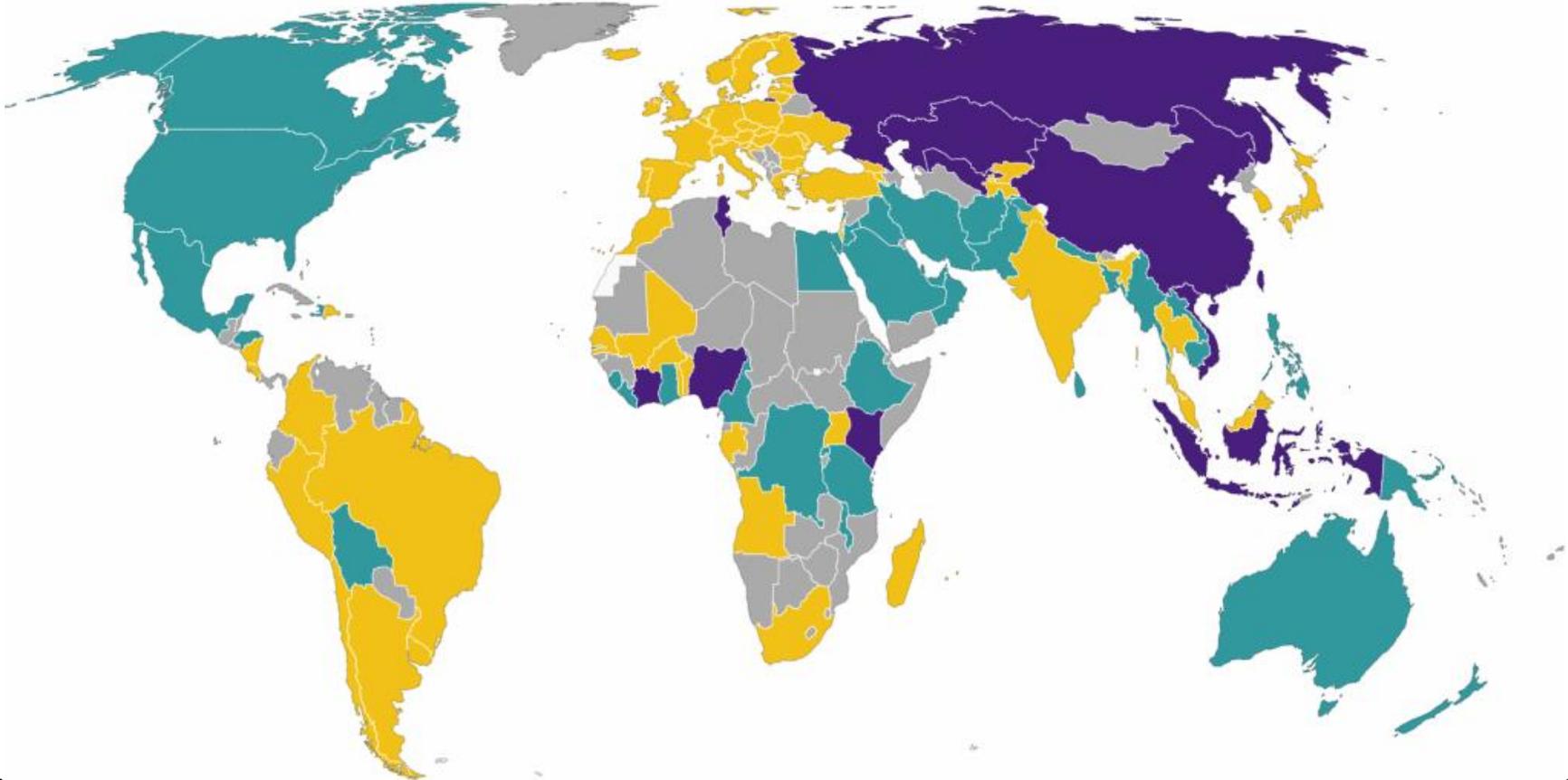
- Data-enabled services remain dominated by high income economies.
- But important success stories in middle- and low-income countries.
- Two-way access to data and digital services necessary to innovate and join “services GVCs”



The image shows a screenshot of the Augmedix website. At the top, there is a navigation bar with the Augmedix logo (a blue cross with a white circle) and the text "AUGMEDIX". To the right of the logo are links for "About Us", "Updates", "Press", "Jobs", and "Contact". Further right is a "DOCTOR SIGN IN" button. The main content area features a large photograph of a doctor in a checkered shirt and glasses using a stethoscope on a patient's chest. Overlaid on the image is the Augmedix logo and the text "AUGMEDIX" and "Rehumanizing Health Care". Below the photograph, there is a small icon of a laptop with a clock face on its screen. To the right of the laptop icon, the text reads: "Physicians spend hours each day on patient documentation in the Electronic Health Record."

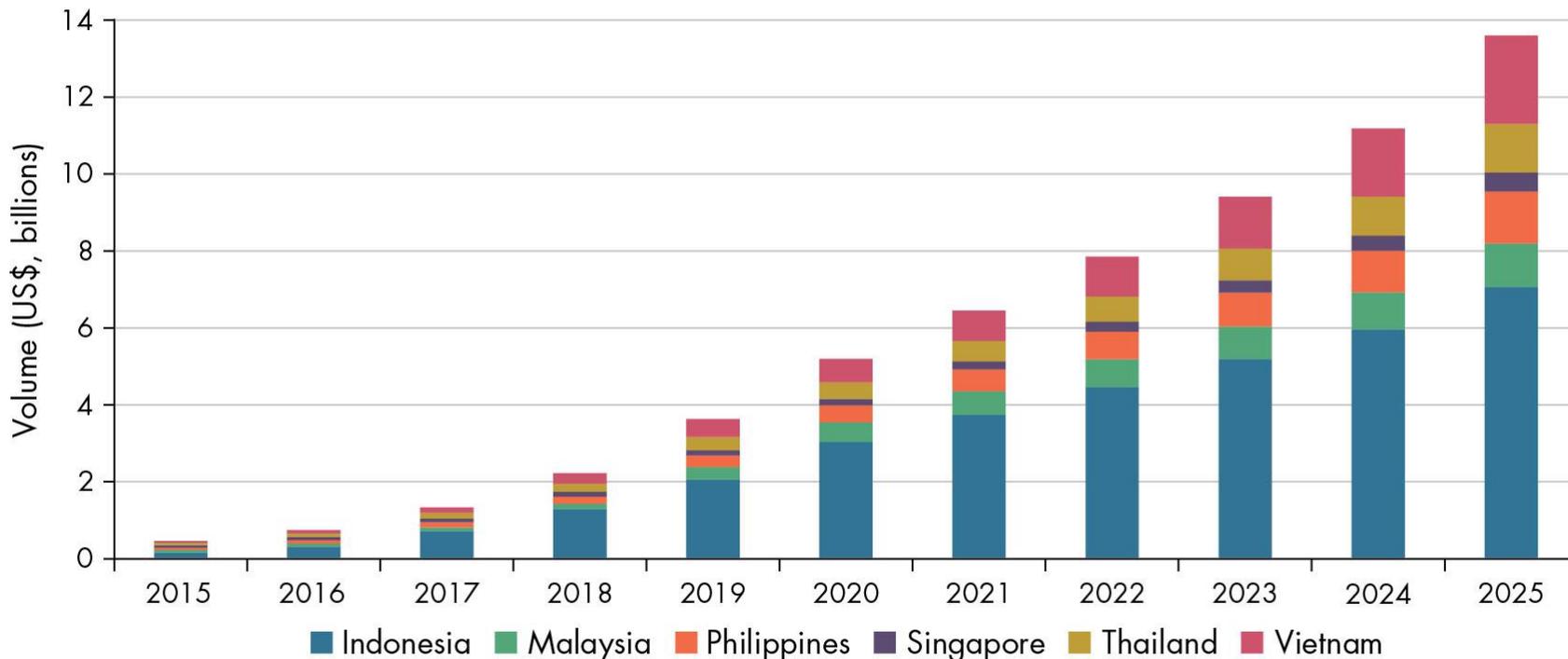
Trading data across borders securely

● Open transfer ● Conditional transfer ● Limited transfer ● Outside sample



Capturing tax revenues from data-driven businesses

Figure 7.6 East Asian countries are losing a substantial volume of tax revenue by failing to apply current VAT rules to digital services



Source: Al-Rikabi and Loeprick, forthcoming. Data at http://bit.do/WDR2021-Fig-7_6.

Note: Figure shows the indirect tax potential of business-to-consumer e-commerce. VAT = value added tax.

Data governance layer 4: Institutions



Infrastructure policies



Laws and regulations



Economic policies



Institutions

National

Universal
broadband coverage

Domestic data
infrastructure

Safeguards

Enablers

Antitrust

Trade

Taxation

Government
entities

Other stakeholders

International

Global technical standards

Regional collaboration

Cybersecurity
conventions

Interoperability
standards

International
tax treaties

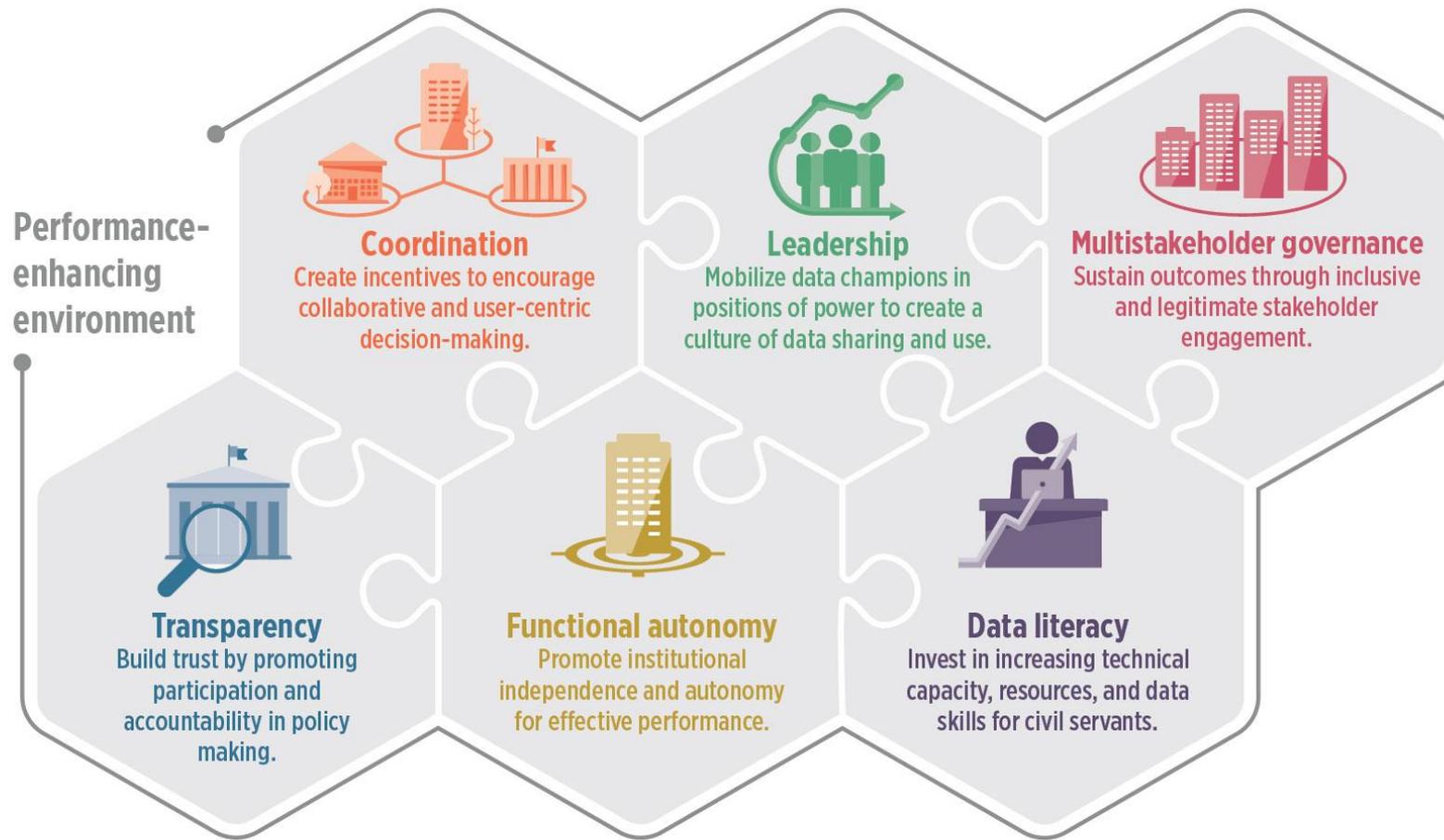
Global trade
agreements

International
organisation

Cross-border
cooperation

Governing data effectively

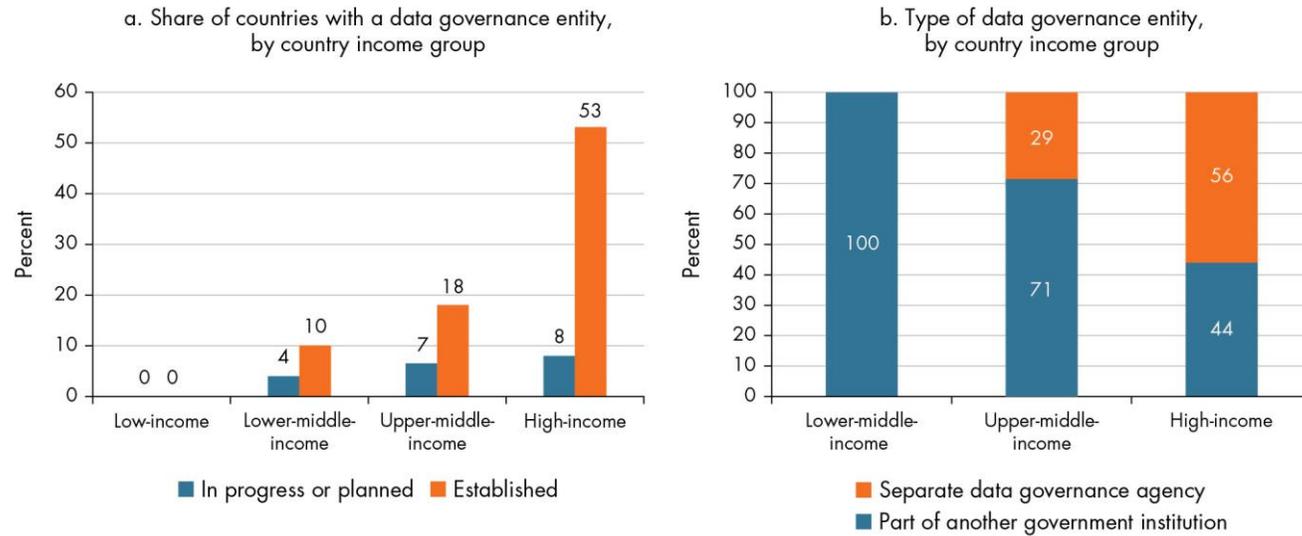
Figure 8.7 Features of well-functioning institutions for effective data governance



Source: WDR 2021 team.

Mapping key data governance functions to government entities

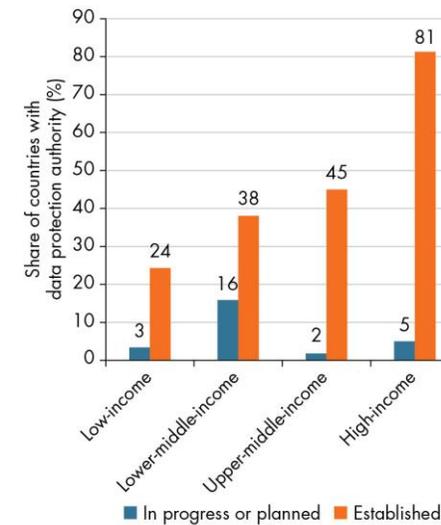
Figure 8.3 No low-income and few lower-middle-income countries have a separate data governance entity; most embed them in another government institution



Source: WDR 2021 team calculations, based on World Bank, DGSS (Digital Government/GovTech Systems and Services) (dataset), <https://datacatalog.worldbank.org/dataset/digital-governmentgovtech-systems-and-services-dgss-dataset>. Data at http://bit.do/WDR2021-Fig-8_3.

Note: Panel a: data are for 198 economies. Data governance entities include both separate agencies and units that are part of another institution. Panel b: data are for 58 countries. Data are only for countries that have a data governance entity established or in process. Low-income countries are not included in the figure because none has a data governance entity.

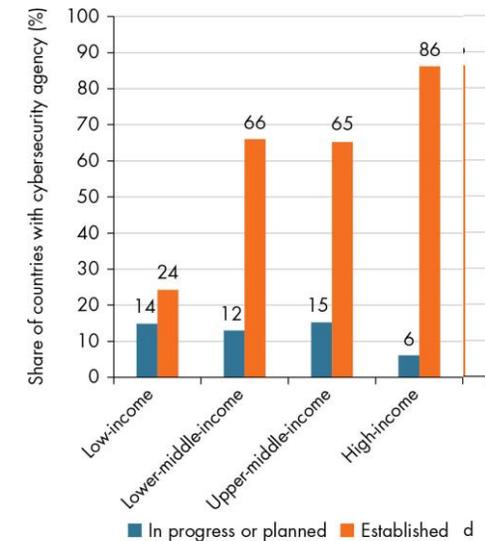
Figure 8.4 The lower the country income level, the fewer are the countries with data protection authorities



Source: WDR 2021 team calculations, based on World Bank, DGSS (Digital Government/GovTech Systems and Services) (dataset), <https://datacatalog.worldbank.org/dataset/digital-governmentgovtech-systems-and-services-dgss-dataset>. Data at http://bit.do/WDR2021-Fig-8_4.

Note: Data are for 198 economies.

Figure 8.6 Only about one-quarter of low-income countries have cybersecurity agencies



Source: WDR 2021 team calculations, based on World Bank, DGSS (Digital Government/GovTech Systems and Services) (dataset), <https://datacatalog.worldbank.org/dataset/digital-governmentgovtech-systems-and-services-dgss-dataset>. Data at http://bit.do/WDR2021-Fig-8_6.

Note: Data are for 198 economies.

Summary of main messages

- 1. We need a new social contract for data based on value, trust and equity**
- 2. We still have a long way to go on data governance**
- 3. Data governance has important economic implications**
- 4. Data governance is a matter for international cooperation**
- 5. We should aspire to the vision of an Integrated National Data System**

Download the report and explore Data Stories at
<https://wdr2021.worldbank.org/>

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