Federal Ministry
for Economic Cooperation
and Development

# BMZ Data Strategy

Dear readers,

When the Jamuna River in northern Bangladesh once again burst its banks a few years ago, livestock was swept away in the torrent, houses were destroyed and fields were flooded. Yet, in some communities the worst outcome was prevented. With support from international partners, the authorities there had installed an early warning system which predicted the flooding. Especially vulnerable people received financial support before the disaster hit enabling them to get themselves and their animals to safety in time.

The early warning system had been fed with data on water levels at various locations along the river. This data was combined with data from the social register, which contains information on people at risk of poverty who need social protection in emergency situations. The combined data provided the basis for taking precautionary measures. Such examples show the critical role data can play in social progress. Knowing how to use and interpret data is a basis for creating new knowledge. Good data helps people make better decisions. And Big Data – that is, large complex data sets – enables innovation. That is why data is one of the most important resources in the 21st century.

German development cooperation projects support our partner countries in their efforts to harness this potential. The capacities of public institutions to collect, analyse and make data accessible are critical for this work. The BMZ is working with partner countries such as Rwanda to develop and expand data labs that compile and analyse gender-disaggregated statistics, for instance on income, health and education. This provides the basis for developing targeted measures to advance gender equality.

Of course, data also plays an important role for the BMZ itself. It is the basis of any evidence-based development policy, laying the groundwork not just for country and thematic strategies but also for monitoring and evaluation, which likewise depend on measurable target indicators.

Our BMZ strategy to fight hunger and poverty worldwide, for example, is impactful because it is based on worldwide data on food, climate and geography which it combines with measures to transform the agricultural and food systems.

The BMZ keeps the public informed about its work by making data on all its activities worldwide available via its website and the OECD. The findings from evaluations are also published. Those who want to know more can get information on how public funds are used and on the impact they have. Our broad-ranging alliances with academia, international organisations, civil society and many other actors help us to use data even more effectively as an important resource for political decision-making.

A strategic and responsible approach to handling data offers huge opportunities for social progress. On the basis of five action areas, this Data Strategy illustrates how the BMZ will make more use of these opportunities in future in cooperation with its partner countries so as to make our activities even more effective and transparent. I would like to thank all partners involved for their valuable contributions to this strategy and the institutions that are implementing and evaluating our measures and engaging in further research on the topic.

Yours,

Svenja Schulze, Member of the German Parliament
Federal Minister for Economic
Cooperation and Development

# Contents

# 1  Introduction

## What can data contribute to development policy?

**Data** has become an integral part of the lives of many people both in the Global North and the Global South. From weather forecasts to mobile payment systems, data sets the pace of our everyday lives. A responsible approach to handling data offers huge opportunities for sustainable development. Data used appropriately can contribute to overcoming poverty and hunger. Data can be used to develop and implement targeted interventions for climate action and a just transition, for equal participation of all people in social development processes and for global health. Investments in data systems that systematically collect data and make it usable can inform political processes, make progress measurable and create long-term social, ecological, economic and institutional benefits. Reliable data enables governments to use resources more efficiently and sustainably and to deliver relevant public services. In addition, it is indispensable for democratic accountability and the dialogue between public authorities and society.

In the last few decades, growing digitalisation has produced enormous volumes of data. Information can increasingly be obtained from alternative sources such as satellite data, and not just from traditional data sources like statistical surveys and official registers. The increased availability of data and the usage of this data require new skills and capacities. In addition, **artificial intelligence** (AI) has transformed the possibilities for analysing and processing data. Developing countries need to have a fair chance of using data for economic growth and social progress. Data and digital innovation can make a considerable contribution to facilitating a social-ecological transformation of the economy. At the same time, steps must be taken to mitigate risks that could arise from the analysis of large amounts of data, including personal data. The control over data must not become concentrated in the hands of a small number of large companies or countries. In times of increasing authoritarianism worldwide, the misuse of data for manipulation, unlawful surveillance, discrimination, human rights violations, exploitation and oppression must be prevented.

That is why the Federal Ministry for Economic Cooperation and Development (BMZ) is actively promoting a values-based and solidarity-based use of data and engaging in international processes and fora to establish a human-centred data policy. Collecting and using data is not an end in itself. For us, it is a means to advance sustainable development and social progress effectively. The BMZ's data strategy is based on the **Sustainable Development Goals of the 2030 Agenda.**

### Data in the 2030 Agenda:

In target 17.18 of the 2030 Agenda, countries commit to enhancing capacity-building support for developing countries to "increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age (…) and other characteristics relevant in national contexts". What is more, data is highly relevant for the implementation of **all** 17 Sustainable Development Goals.

For the BMZ, there are two sides to the use of data: On the one hand, the BMZ supports countries in the Global South through bilateral and multilateral cooperation in their efforts to use data effectively for development. On the other hand, the BMZ and its **implementing organisations** themselves depend on meaningful data to make informed decisions relating to development policy and inform the public about development cooperation.

We want to work in close cooperation in the field of data with our partner countries, international institutions, other ministries, implementing organisations and our partners from the private sector, academia and civil society to achieve data-based development policy. We want to learn with and from our partners about how data that is relevant to development is best collected, made available and used. We subscribe to the fundamental principle of open exchange of data and data products while taking due account of justified data protection interests.

## Purpose and structure of the data strategy

The BMZ data strategy is aimed at the actors within the BMZ, the public, and partner countries and organisations with which the BMZ is cooperating worldwide and in Germany. This is reflected in the structure of the document.

The strategy begins with a summary of the BMZ's data-related objectives at a strategic level. This addresses the question: Where do we want to go? The five main objectives of the data strategy are matched by five action areas which are presented in more detail in the five subsequent chapters. These provide answers on what we are doing in order to achieve these objectives. Some of the measures that are to be used to implement the data strategy are presented in the following chapters. Progress and implementation reports for these interventions are published regularly by the BMZ on its homepage (https://www.bmz.de/en).

## Points of reference

The BMZ data strategy does not stand in isolation. It works in combination with relevant government strategies, in particular the Federal Government's Digital Strategy from August 2022, the National Data Strategy from August 2023 and the Strategy for International Digital Policy from February 2024.

In its National Data Strategy, the German government supports the development and safeguarding of the digital sovereignty of its international partners, including developing countries and emerging economies. Data that is made available as a **public good** offers huge potential that can be harnessed for economic and social development worldwide.

The BMZ's approach is also guided by the EU Data Strategy (2020). The European legal instruments for implementing this strategy, i.e. the EU regulation on harmonised rules on fair access to and use of data (Data Act), the implementing regulation on high-value datasets and the EU regulation on **data governance** (Data Governance Act), along with the national laws implementing the EU legislation, set the binding framework for the BMZ's actions and the projects financed by the BMZ. The BMZ ensures compliance with European and national data protection legislation.

In implementing data-related projects, the BMZ and German implementing organisations apply the internally recognised **Principles for Digital Development**. These principles comprise nine guidelines which support the international development community in its efforts to use digital technologies in project work more efficiently, effectively and sustainably. They put the users centre stage and focus on open approaches such as **open data**, open source and open innovation.

In addition, principles such as *do no harm* and *leave no one behind* are important pillars of data-related activities within Germany's development policy. The BMZ aligns its work with the **FAIR principles** when it comes to optimising data usability.

The BMZ data strategy also draws on elements from the data strategy of the United Nations Secretary-General[1] and the World Bank's World Development Report 2021: Data for Better Lives. The BMZ's strategy adheres to the reporting requirements of the federal government vis-à-vis the Organisation for Economic Co-operation and Development (OECD) regarding development data and to the standards of the International Transparency Initiative (IATI), and aims to further improve international reporting on development assistance.

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1   https://www.un.org/en/content/datastrategy/index.shtml

The BMZ data strategy is a building block for the digital transformation of the BMZ and will also have an internal impact. This means that its implementation will support **monitoring** in all of the BMZ's working areas, especially as regards the political priorities:

> **Policy priorities of the 20th legislative term (2021-2025):**
> - Enabling global health and bodily autonomy
> - Pushing back poverty, hunger and inequality
> - Forging ahead with the Just Transition
> - Embracing a feminist development policy

Reliable data on development cooperation interventions is also an important basis for results measurement, **evaluations** and **evidence-informed** development policy – all of which enable the BMZ to constantly learn about the effectiveness of its strategies and possible adjustment pathways.

# 2 Aim of the BMZ data strategy (until 2030)

The BMZ data strategy is aimed at further improving the availability and effective use of relevant data for efforts to achieve the Sustainable Development Goals (SDGs). We want to achieve the following objectives:

1. **Data for sustainable and human-centred development in partner countries:** We are supporting our partner countries in their efforts to use data for their development processes and economic, social and environmental transformation and to upgrade their data infrastructure.

2. **Data for development policy decisions:** We are increasingly collecting and using data as a basis for development policy decisions at the BMZ and for **evidence-informed** development policy. In order to gain insights from data we are using both traditional methods of statistics and modern analytical methods such as **machine learning** and established AI models.

3. **Data for transparent development policy:** We keep the public transparently informed about German development cooperation activities by publishing up-to-date and meaningful data which has been processed to make it user friendly.

4. **Alliances and partnerships in the data field:** We are expanding our cooperation with the data units of international organisations, including other ministries, think tanks, academia, civil society, the private sector and implementing organisations.

5. **Data infrastructure, data management and data culture:** We are further developing our infrastructure, for instance by using cloud systems and carrying out in-house tests of efficient technologies, for example **AI**. We are modernising our internal data management, establishing a uniform data governance system and promoting data skills and data culture among BMZ staff. In all of this we are taking into account the challenges involved in **sustainable digital transformation**.

Objectives 4 and 5 are stand-alone objectives but also contribute to achieving objectives 1 to 3.

# 3  Action areas

In order to achieve the five objectives of the data strategy, we want to implement measures in the following action areas.

## 1. Data for sustainable development in partner countries

### Where do we stand?

Data is one of the most important resources in the 21st century. For development policy, the central issue is to achieve the Sustainable Development Goals of the **2030 Agenda**. In this context, data is not only collected to assess how far the goals have been met; data can also provide the basis for political decision-making. And it enables countries to make public services more effective, efficient and sustainable. When it comes to data collection and analysis, the first question to ask is: In which development processes would an improved data basis be helpful for making well-informed decisions? What data do we need to be able to assess at a later stage whether a chosen approach has resulted in improvements for people and the environment, and to learn for the future?

What data can and should be made available to the public? A lot of data (for instance aggregated data on the economic situation, on the incidence of diseases or on the climate) is considered a **public good** and is of enormous benefit to the general public. However, not all potential users may actually be able to use this data because access is restricted. The BMZ can provide support for the publication of data.

In particular in the poorest developing countries, both the available stock of reliable data and the infrastructure for processing data are still very limited. With the **2030 Agenda**, the requirements for national statistical systems have further increased. It has been necessary to gather new data for some SDG indicators or introduce new dimensions of disaggregation. What is more, there is an increased need for coordination at the international level and for international standardisation. National statistics offices often lack the institutional capacity and human resources to collect and process high-quality data in line with international standards at regular intervals. In addition, the statistical systems of Germany's partner countries are often heavily fragmented and decentralised. If different institutions collect data in an uncoordinated manner, data sets can provide contradictory and non-comparable results. This interferes with planning for national or local authorities and affects transparency for parliaments, civil society and the private sector.

That is why we are supporting our partners in their efforts to develop data regulation, open standards, data literacy and their data infrastructure. To harness data for development purposes, there needs to be improvement in the collection, processing and evaluation of data in the location where it is produced. The BMZ can provide support for efforts to develop capacities in partner countries and improve access to digital data. Building on this, the BMZ also supports the inclusive, human-centred development and use of artificial intelligence (AI). It is absolutely essential that fundamental rights and **data protection** are upheld in order to prevent misuse and build trust in data. The digitalisation of statistical systems has massively increased the amount of data that is available. At the same time, the standards as regards data literacy (the ability to work with data and use the results) are rising – Germany, too, has a lot of catching up to do here. This calls for institutional and individual capacities.

The data landscape is also changing. It is no longer only statistics offices that gather data and compile statistics. Private companies, civil society organisations and the general public, too, are increasingly producing data. This requires better coordination between actors and an adjustment of regulatory and institutional frameworks.

## What do we want to achieve?

Partner orientation is a high priority for the BMZ. In development cooperation, we work with our partners to find ways of involving existing institutions and structures in the collection and use of data.

→ **Together with our partner countries, we want to make progress on data collection and use.**
In this context, we are supporting our partner countries in their efforts to improve data validity, tap into reliable data sources, use them as the basis for political and economic decision-making and make them transparent so that all actors benefit – with the aim of boosting coherence and accountability. Together with our international partners, we are also strengthening the dialogue between national statistics offices and line ministries.

The BMZ project Learning from Experience – Data for Policy Innovations promotes fact-based and values-based political decision-making based on data. The project works with local use cases to (1) test concrete technical solutions, such as the integration of non-traditional data into decision-making processes, (2) make progress on optimising public data infrastructure and (3) accelerate the development of institutional solutions to improve data use. The initiative is, for instance, setting up a Gender Data Lab together with the statistics office of Rwanda and PARIS21[2] This lab aims to identify and gradually reduce gender-specific gaps in national statistics. The project is guided by the goals of the BMZ's feminist development policy and will be expanded to cover other partner countries in the future.

The main product of the project is the Data to Policy Navigator[3], which was developed in cooperation with the United Nations Development Programme (UNDP). This is a digital platform to assist decision-makers in integrating data-based **evidence** into their processes in a sustainable and transparent way. A joint network with the UN Office for South-South Cooperation is strengthening the cross-regional exchange of lessons learned between representatives of national statistics offices and line ministries. Close cooperation with the BMZ **data lab** ensures that regional divisions are involved in application scenarios and international discussions and that the **data culture** and data use at the BMZ and in its partner countries are jointly strengthened.

2   https://www.paris21.org/
3   https://www.datatopolicy.org/

In the health sector, the BMZ is supporting, for example, the One Health Data Alliance Africa which is aimed at strengthening capacities and skills at the intersection between digitalisation, data and One Health. This regional project aims to create the preconditions for establishing cross-sectoral One Health information platforms which will comply with newly developed Africa-wide principles for the structure, exchange and use of One Health information. Furthermore, it will promote the pan-African exchange and use of available data from different sectors. This will facilitate fact-based early detection of zoonotic diseases (infectious diseases that can be transmitted from animals to humans and vice versa) so as to protect the health of humans, animals and nature.

In the water sector, the BMZ is supporting Jordan in its efforts to modernise hydrological and meteorological observation networks and improve water supply planning. Jordan is one of the most water-poor countries in the world and the existing hydrometeorological monitoring network is not fully operational throughout the country. The data quality provided by many monitoring stations is poor. With German support, monitoring points are being modernised or newly installed and linked up with the central computer-based system via telemetry. The systematic collection of higher quality data and the radio-based transmission of data to a central database facilitate evidence-informed and data-based water supply planning. The digitally available data produced by the monitoring network is also available to other actors, for instance the Jordanian meteorological service, academia and infrastructure planning services.

→ **We are supporting partner countries in their efforts to establish a human-centred data economy:** Together with our partners, we are working to achieve digital sovereignty and just data markets. The largest data collections are increasingly accumulating in the hands of a small number of companies. This is making it more difficult for countries in the Global South to manage their own data and develop independent digital structures.

A key step in the direction of data sovereignty was the development of a data policy framework by the African Union with the support of the BMZ to define core values and principles for a joint digital space. In addition, the **Smart Africa Alliance** is developing a Digital Economy Index (DEI) with the support of the BMZ which measures the status of digital transformation in different countries in Africa. Together with European partners, we are also supporting efforts to establish human-centred data regulation and local value creation in partner countries.

Data-based value creation that is self-determined also includes the responsible use of artificial intelligence in a way that benefits the Global South and is in line with the SDGs. Projects such as our FAIR Forward initiative are making an important contribution in this regard.

Through the Team Europe Initiative Data Governance in Africa, the BMZ is advancing the implementation of the Digital Transformation Strategy for Africa 2020-2030 initiated by the African Union (AU) and its member countries. The AU Data Policy Framework in particular plays an important role for the development of the African digital economy, given that Africa, Europe and Germany are all making sustainable and human-centred development a priority. Together with Belgium, Estonia, Finland and France, the initiative is supporting efforts to improve sovereign data regulation, use and infrastructure at the continental, regional and national levels.

Data Governance in Africa is an initiative to strengthen the exchange between African and European actors in order to create a single digital market in Africa. It is aimed at improving the availability and usability of data to unlock the economic and societal potential of data for the African continent. The EU and the AU have agreed to harness the potential of the data economy and at the same time address the misuse of data and the growing fragmentation of data markets.

The German contribution is being implemented via the DataCipation project ("cipation" here is an abbreviation of "participation"). In addition to strengthening and harmonising strategies and regulation for safe and free data flows throughout Africa, DataCipation is focused on developing innovative products and improving the communication and engagement between AU bodies, member countries and citizens. Both digital and non-digital strategies are to be used to foster citizen participation in governance and development.



*Meeting between representatives of the African Union member countries on the implementation of the AU data strategy.*

In 2020, the BMZ launched the Data Economy initiative as part of AU-EU cooperation. This is the first project to promote comprehensive data-based value creation in Africa. The initiative supports the implementation of the EU-AU Data Flagship through the development of innovative local data applications that demonstrate the economic and societal value of data. It also advises partner governments on matters related to data policy, supports investment in green and secure data infrastructure and carries out capacity building measures.

At the global level, too, the BMZ is promoting a human-centred data economy through its Data Economy initiative and stimulating local value creation for digital products and services so that its partner countries can directly harness the economic and social benefits.

In the context of pursuing a feminist development policy as one of its political priorities, the BMZ is seeking to raise the share of newly committed project funds for measures that have gender equality as a principal or significant objective to 93 per cent by 2025. Gender-specific data has to be collected and analysed in order to monitor project outcomes. The expertise available in partner countries on data collection and analysis is to be increasingly used and promoted, with special attention being given to including disadvantaged communities in the process, including as data collectors and analysts. This can help to reduce distortion and at the same time upskill local workers. With a view to gender-specific data collection, the BMZ is supporting PARIS21, for example, when it comes to setting up gender data labs within national statistics offices or ministries in partner countries. The collection and use of gender data is a prerequisite for inclusive policy-making.

→ **Projects that are financed by the BMZ will collect digital data in cooperation with partners to better monitor and evaluate interventions. We will be using our partners' systems and supporting them in their efforts to further expand these systems.**

Data availability is continuously progressing in our partner countries. In some cases, progress is faster than in Germany. Using data from partner systems is not only an important principle to ensure the **effectiveness of development cooperation**; in the medium term, it is also a prerequisite for efficiency. The BMZ is also involving multilateral initiatives in partner countries in its cooperation activities. Promoting partner capacities in terms of statistics and evaluation is also an important field in bilateral development cooperation. We want to further explore and leverage the opportunities of (joint) data use.

→ **We are promoting the transparency of data as a core principle of the international effectiveness agenda.**

Data transparency contributes to effectiveness and accountability vis-à-vis the public, parliaments, civil society and academia, particularly in partner countries. It is also a means to drive cooperation among actors and improve the coordination of measures. Transparency is a prerequisite for fighting corruption and misappropriation and building trust in governments and democracy. This is why the BMZ is also supporting its partners in their efforts to apply the standards of the International Aid Transparency Initiative (IATI).

→ **We are safeguarding the wellbeing of our target groups and the staff involved in BMZ-funded projects in difficult contexts by applying the principles of confidentiality and conflict sensitivity.**

In contexts of fragility, conflict and violence, space for civil society engagement is increasingly restricted ("shrinking spaces"). The BMZ is working to ensure that all **grant recipients** and organisations that are involved in implementing BMZ-funded projects uphold the protection of confidential data – especially if the publication of such data could cause harm to target groups and staff (*do no harm principle*). The collection, analysis and storage of data from fragile contexts requires particular conflict sensitivity.

→ **We are supporting the interests of our partner countries in our engagement in international data policy.**

→ As part of the German government, the BMZ is working at the national and European level and within the G7, the G20 and the United Nations organisations to ensure the interests and concerns of developing countries are adequately taken into account in international decision-making on data policy and **artificial intelligence**.

Under India's Presidency, development-related digital topics played an important role at the G20 Summit in September 2023. Important progress was achieved in 2023 in cooperation with the Indian G20 Presidency in the areas of digital transformation and data for sustainable development. In addition, a joint G20 action plan was adopted to accelerate progress on achieving the SDGs. In the context of the action plan, Germany advocated for a human-centred, gender-equitable and social-ecological digital transformation.

→ **We are promoting an approach under which data and applications of data technologies are treated as digital public goods that are provided free of cost to our partner countries.**

Our open data is published on the BMZ transparency portal. In addition, we are promoting open data projects run by other organisations.

The BMZ has, for example, contributed to financing a World Bank trust fund for setting up the publicly accessible data base JOIN (Global Jobs Indicators Database[4]) which presents more than 100 labour market indicators for 168 countries. The indicators cover socio-demographics, labour force status, employment type, employment composition by sector and occupation, education level completed, hours worked, earnings, etc.

In September 2021, the BMZ became a member of the Digital Public Goods Alliance (DPGA ). The Alliance is aimed at coordinating the development, use of and investments in global **public goods** and making them available worldwide, in particular with a view to supporting developing countries and emerging economies in their efforts to achieve the SDGs. The DPGA[5] defines specific requirements that digital solutions need to comply with (for instance software and data) in order to be recognised as a digital **public good** and promoted as such. Governments and the private sector can use and further develop these solutions. The DPGA has already registered 41 open data models, banks and approaches as global public goods. Additional data projects arising from Germany's development cooperation activities are being examined to assess whether they can be registered as digital public goods.

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4   https://databank.worldbank.org/source/global-jobs-indicators-database-(join)
5   https://digitalpublicgoods.net/

→ **We are supporting mutual learning across various data projects.**

The BMZ is promoting measures to enable project participants to learn from one another across different projects within a specific country and across several countries. Mutual learning is also about German institutions learning from development partners. The BMZ project Learning from Experience – Data for Policy Innovations promotes the transfer of lessons learned from data usage measures in partner countries to Germany. In addition, regular structured exchanges and workshops on data issues have been set up within the BMZ-funded Data4Policy network. The BMZ is a member of the network. This makes Germany an actor in the network alongside its partner countries and other interested countries.

Just like in many other countries, massive changes are occurring in the labour market in Germany. With more and more digital technologies and artificial intelligence entering the work space, people need to develop new skills. At the same time, climate change is driving the need to develop green technologies and sustainable products. Students and young people entering the labour market are adjusting their skills and profiles to match market needs by, for instance, undergoing additional training and taking online courses. In Viet Nam, the Ministry of Labour is working together with the global Data4Policy initiative and the BMZ-funded regional project RECOTVET[6] to develop a strategy to close data gaps in traditional labour market statistics by using data on job offers from online job platforms such as VietnamWorks and TopCV.



*Visit by Development Minister Schulze to the Lycée Scientifique National de Ouagadougou (Burkina Faso)*

6   https://www.giz.de/en/worldwide/57320.html

# 2. Data for development policy decisions

## Where do we stand?

Staff take development policy decisions at various levels at the BMZ. In the past, data has not been used systematically as a basis for decision-making because it was not easily accessible for all relevant decision-making processes. As a consequence, the value of data is not yet being fully harnessed.

Decision-making processes in which data could be used more systematically include:

→ **Strategic decisions at topic or country level:** When developing country strategies, BMZ staff draw on country data, for instance on the political, economic and social situation of a specific country or on geographical, climate and health data. This data needs to be compiled from various sources. Topic strategies – for example on core areas of the BMZ such as the transformation of agricultural and food systems or initiative areas such as feminist development policy – are on the one hand based on data on specific issues aggregated across countries (for example the number of people experiencing hunger worldwide or the proportion of women and girls among the world's poor). On the other hand, they also need to take account of the geographical variations within this data. This provides the basis on which topic-focused measures can be tailored to a country-specific context. For instance, the consequences of malnutrition vary across regions and countries and thus need to be tackled using different short-term, medium-term and long-term measures.

→ The BMZ has committed to international policy initiatives and has set itself targets for using a set amount of funding for certain purposes, such as promoting a just transition or feminist development policy. The BMZ needs to use project data and constantly analyse it in order to be able to make decisions during planning that set the course for achieving the desired objectives.

→ To enable the BMZ to evaluate the results of projects and programmes, the implementing organisations gather data to measure previously defined target indicators. Based on these measurements, the BMZ assesses the effectiveness of the funds that were used and can thus manage projects and programmes more easily. The BMZ also wants to promote and use new methods to better **monitor** results. Examples of new **monitoring** methods are:

In projects that involve several locations or large areas (as in forest and marine conservation projects), progress can be monitored using Remote Management, **Monitoring** and Verification (RMMV). RMMV offers local partners a better overview and can facilitate more intensive participation by target groups via modern communication technologies. Data from health posts in remote regions can be gathered via tablet and transmitted regularly to a higher-level authority, for example. The use of modern technical tools such as satellite images, drones, **georeferenced** databases and digital applications – in combination with support from local staff who have access to the project region – facilitates effective project management. It has become evident that RMMV can be very useful, especially for small-scale and geographically dispersed projects.

RMMV Guidebook: https://www.kfw-entwicklungs-bank.de/Service/Publications-Videos/Publications-by-topic/Digitalisation/RMMV-Guidebook/

*Multispectral satellite data provided, for instance, by the Copernicus mission launched by the European Space Agency (ESA) complements existing development cooperation data, adding an important perspective and providing remote support for impact management. Shown in the image: Amazon estuary in northern Brazil.*

The BMZ supports the conservation of forests, for example in the Amazon region and in Viet Nam. In the context of the MAPME initiative by KfW, GIZ and the French development bank AFD, open source algorithms were developed that use publicly accessible data to calculate the exact contribution the project makes to forest conservation so that the success of the project can be measured quantitatively.

MAPME initiative: https://www.mapme-initiative.org/
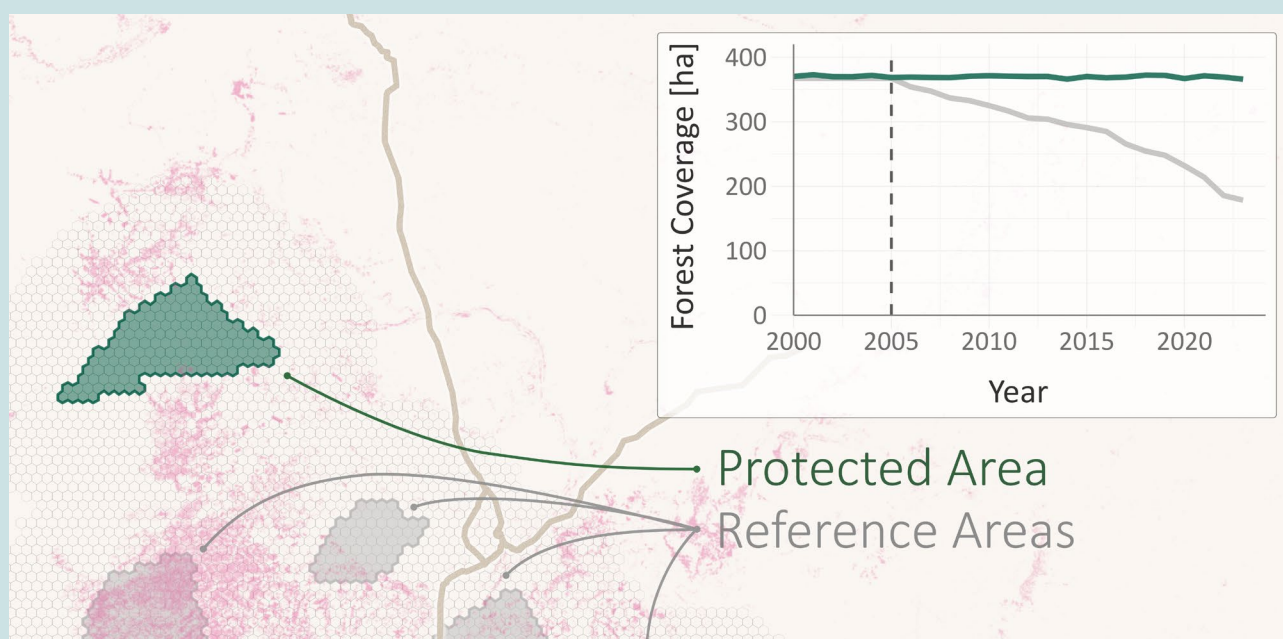


*The image is a schematic illustration of the forest cover in conservation areas that have been supported under German development cooperation and of the trend in similar control areas. The MAPME initiative's algorithms cover the entire chain of data processing up to and including econometric analyses in a counterfactual scenario.*

→ The BMZ and its implementing organisations use data as an important basis to conduct evaluations from which lessons can be drawn to further advance development cooperation. Individual measures are evaluated by the implementing organisations. DEval, the German Institute for Development Evaluation, assesses the development cooperation measures under the BMZ's responsibility at a strategic level. The BMZ uses **evaluations** by DEval, the implementing organisations and other actors as the basis of analyses (for example to illustrate power structures) and to further develop its approaches (for instance promoting the data sovereignty of marginalised groups).

## What do we want to achieve?

We want to engage in the following activities to improve the use of data in development policy decision-making:

→ **We want to further improve the quality of the project data that is available to the BMZ, in particular for the project planning phase.**

This will lead to better planning decisions, especially as regards the overall portfolio of projects funded in a specific partner country.

→ **We are assessing which additional information the BMZ should use systematically in different use cases and how this data can be made accessible to the BMZ.**

This can mean making usable data available internally on a broader scale (including, for example, **georeferenced** project information where relevant protection requirements are met and the work that is required is feasible, or data on greenhouse gas emissions in the context of development cooperation projects), making better use of structured and unstructured public data (*open data*) and providing access to additional external data sources where needed.

→ **We not only want to improve access to high-quality raw data, but also the preparation and pre-evaluation of data. That is why we are making increasing use of innovative data science methods for analysing data and will also explore the use of artificial intelligence.**

Data scientists at the BMZ use traditional analysis tools and, **wherever helpfu**l, **machine learning** and established artificial intelligence models. This also enables us to quickly evaluate unstructured data, such as texts from project documentation or images such as satellite images. These technologies offer great opportunities for improving agricultural value chains and urban transport planning, or for mapping high conservation value forests and aerial forest monitoring. We will train BMZ staff to ensure they learn new methods and can understand and interpret analysis results. This will take into account both potential benefits such as increased efficiency in data analysis and risks such as **data protection** and transparency issues and distortions caused by machines trained with biased data sets.

In addition, we want to strengthen the data capacities of implementing organisations to enable them to make data needed for decision-making available faster and in better quality. This aims to establish data-based processes more firmly in the cooperation between the BMZ and its implementing organisations, with data being used more to develop new project proposals and **monitor** project results. One example is the MAPME community of practice on cooperation building on geographic information and **open data** .

# 3. Data for transparent development policy

## Where do we stand?

We keep the public transparently informed about German development cooperation activities by publishing up-to-date and meaningful data. The BMZ publishes data mainly through two major systems:

→ **The OECD's Creditor Reporting System**

The OECD publishes data from DAC (Development Assistance Committee) member countries on development assistance (mainly Official Development Assistance, ODA) via the Creditor Reporting System (CRS). The DAC Working Group on Development Finance Statistics (WP-STAT) defines the common criteria for eligibility as Official Development Assistance and the format of the data in consultation with the OECD and its member countries. That is why the data of all CRS reporting entities is comparable.

→ The data includes information at project level such as the titles of activities, recipients, sectors and financial contributions, among other things. It is collected on a yearly basis and is subject to a comprehensive statistical quality assessment process. The Federal Statistical Office of Germany collects the data on behalf of the BMZ from all reporting entities in Germany (federal ministries, federal states, etc.) and carries out quality assurance. The BMZ then transmits the entire German ODA data set to the OECD.

→ **The International Aid Transparency Initiative (IATI) presented on the transparency portal**

The BMZ has been publishing data in accordance with the standards of the International Aid Transparency Initiative (IATI) since 2013. The data set that is published includes a large part of the CRS data. The BMZ publishes its IATI reports on a monthly basis. IATI provides a framework for using **open data** to meet the information needs of different stakeholders in a transparent manner, especially in partner countries.

The different German IATI reporting entities publish their data independently on an open section of their own servers. This data is then read by the IATI Registry and different IATI portals (for example d-portal.org or aid-explorer.eu).

The BMZ transparency portal[7] was launched in 2023. It presents the BMZ's IATI data in German and English, in a user-friendly manner with lots of visualisations and analysis options. The portal offers, for instance, information on the type of financing used to fund projects, such as government funds or loans from KfW Development Bank, and the maturity of loans. In addition, the countries and sectors in which projects are carried out – for example education, health or environmental protection – are presented in detail.

The portal offers information on projects that are implemented in direct cooperation with the partner countries via the BMZ's implementing organisations. In addition, it provides information on independent projects by churches, political foundations and non-governmental organisations or other non-governmental partners that receive BMZ funding.

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7  https://www.transparenzportal.bund.de/en

## What do we want to achieve?

The CRS data that is published on the OECD website and the IATI data published in particular on the transparency portal provide a lot of answers at the click of a button. This is a response to a request from the Bundestag. Questions that are put to the BMZ by parliament, the media and the public can thus be answered, such as which measures were commissioned in India during the last legislative term to address climate change and what funds were spent on this.

We want to engage in the following activities to further improve the transparent provision of our data:

→ **We want to modernise the internal processes of ODA and IATI data provision.**

We are working to continuously increase data quality right from data entry so that less subsequent adjustments are necessary and the process can be further automated.

→ **We are expanding the transparency portal.**

At the request of the German Bundestag, the BMZ took the lead in building a cross-ministry data set for ODA-relevant overseas projects by the German government. It has been published on GovData (the data portal for Germany)[8] . In addition, the BMZ has been tasked with expanding the transparency portal in the future to include data from other ministries. When it comes to further developing the content of the transparency portal, the focus is on providing explanations of the information made available on the portal, especially as regards methodology and general context to make the data more understandable for users.

→ **We will also continue to verify at regular intervals in future which information cannot be published.**

This is aimed in particular at protecting people in crisis regions and authoritarian states who benefit from our measures or who work in projects that are funded by the BMZ (*do no harm principle*). We go by the rule: as much transparency as possible, as much confidentiality as necessary.

# 4. Alliances and partnerships in the data field

## Where do we stand?

Alliances and partnerships serve as a driving force to achieve the goals of the data strategy. Only by cooperating across organisations and countries can synergies be used to harness the huge potential of data for sustainable development.

Not only does it make sense that data that is a global **public good** is published by one institution but financed by many stakeholders; partners can also learn from one another, for example regarding the use of new technologies such as **AI**.

The BMZ has long been cooperating with international and national partners (for example partner countries, multilateral organisations, academia and think tanks, civil society, implementing organisations and other ministries) to promote efforts to make open data available for sustainable development.

The BMZ is actively involved in international processes addressing development-related data policy, for instance in the context of the G7, the G20 and the *Digital for Development* (D4D) Hub at the EU level. It also contributes to multilateral processes like the *Internet Governance Forum* (IGF) and the European *Dialogue on Internet Governance* (EuroDIG). The Ministry has cooperation relations with various multilateral organisations and cooperation systems (for example the *Digital Impact Alliance*, DIAL, and the *Digital Public Goods Alliance*, [DPGA]) and partnerships with PARIS21 and UNDP on data for development.

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8   https://www.govdata.de/web/guest/suchen/-/details/ressortubergreifende-datensatze-oda-aktivitaten-bundesregierung-2021-2023-nach-iati-standard-transpa

The BMZ has brought together important partners since 2022 in the digital.global network[9] with a view to supporting our partner countries by means of digital solutions in their efforts to achieve the Sustainable Development Goals. The network is meant to be a platform for all actors who are striving for social-ecological, feminist digitalisation and working to improve people's lives in our partner countries through digital solutions.

The network supports a large number of German development policy digitalisation initiatives. In the data sector, these include in particular the project Learning from Experience – Data for Policy Innovation and the political Data Economy initiative.

## What do we want to achieve?

We want to expand existing partnerships and develop new ones.

→ **We want to make better use of our digital.global network.**

Building on its existing cooperation formats, the BMZ is working to promote fair and sustainable data policy. We will, in particular, leverage our digital.global network in order to shape the cooperation together with our international partners. We are strengthening the position of the Global South in international fora and within processes and are developing partnerships on values-based data management. We are working with the African Union to achieve just data regulation and we are supporting the concerns of our partner countries, for instance in the context of the Internet Governance Forum.

→ **We want to hold user workshops to further develop the Data to Policy Navigator which we are financing, and we want to support better networking among decision-makers from different countries and contexts and other actors from the private sector and civil society.**

This will enable experiences to be shared and transferred to other contexts. Moreover, the network can help forge new partnerships and alliances for data-based, inclusive policy development.

→ **In addition, we want to intensify our cooperation with other ministries.**

To this end, the BMZ is contributing to the German government's joint project Platform Analysis and Information Systems (PLAIN). PLAIN also contributes to promoting cross-ministerial work on data products such as dashboards and the use of AI.

→ **Together with DEval, the German Institute for Development Evaluation, we will explore ways to further improve the data base for evaluations.**

These require high-quality data both from partner countries and from the BMZ.

# 5. Data infrastructure, data management and data culture

## Where do we stand?

**Data management** at the BMZ and in our cooperation with partner countries needs to be modernised. This is an important prerequisite for making relevant data available efficiently. This applies both for data on development cooperation activities and for data in an administrative context. The BMZ has already improved its data management in recent years and has significantly increased its resources – for example by establishing a dedicated directorate for digital technology and data and setting up a **data lab**. Yet the need for modernisation is still huge at the organisational level and in terms of the technological infrastructure available for working with data.

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9   https://www.bmz-digital.global/en/network

Activities in this area are aimed at further developing the BMZ's **data culture**. We want to ensure that BMZ staff are very motivated and able to use data effectively in their work for the Ministry to make a contribution to sustainable development. This requires having modern, high-performing data infrastructure, user-friendly **data management** and transparent, forward-looking **data governance** in place and promoting the development of data skills among our staff.

## What do we want to achieve?

→ **We are modernising data management. We are ensuring that the data we are making available is quality-assured, up to date and delivered in an efficient manner. New requirements from users for collecting and analysing data are swiftly implemented.**

  → We are further expanding data exchange and data interfaces with our partners in such a way that, as a rule, project data is automatically provided in an electronic format by implementing organisations and grant recipients.

  → We are modernising processes for reporting both for internal and external purposes. The reports are essentially generated automatically from the data systems.

  → We are completing the technical integration of our data systems for project data so that the data from all budget lines is available from one system.

  → The aim is to achieve data systems that are as much in line with the **once-only principle** as possible. This means that information needs to be provided only once and is then available automatically for use by other applications as well – always in compliance with data protection regulations. This also applies to data that is submitted to the BMZ by organisations making applications under the **Act to Improve Online Access to Administrative Services**.

  → We are examining options to set up a **cloud** together with the BMZ's implementing organisations to facilitate the development of shared data applications. DEval and other potential suppliers of data and users of the cloud infrastructure will be involved in the process as well.

A first objective is to store text documents and analyse them using large AI **language models**.

  → We are further developing our processes and data systems so that, as a rule, new requirements can be implemented within 4 to 12 months. Data that is newly requested from implementing organisations and funding recipients is also to be provided by these organisations within 4 to 12 months.

  → We are ensuring data quality by implementing systematic data quality management. This includes automated validation rules for data input and data supply, regular and automated testing routines for existing data, upskilling and knowledge management.

→ **We want to use AI to make our administration more effective and efficient and to improve the way data is processed and used.**

  → We are drawing up a Ministry-wide strategy for introducing artificial intelligence responsibly and using **AI** safely in administration and data analysis. In doing so, we are taking into account the potential these technologies offer and their limitations. We systematically implement measures that mitigate security risks and enable correct usage.

  → We are developing, testing and assessing **AI** applications as regards modern forms of usage, efficiency gains and regulatory and technical feasibility prior to introducing them.

  → AI literacy: We are training BMZ staff to use **AI** tools effectively, safely and responsibly, especially as regards models for processing and producing natural language and text (**large language models**).

  → When using AI for data processing at the BMZ, we transfer the principles established for the digitalisation of development cooperation. In addition, we are engaging in dialogue on this technology at the international level and are striving to better address the challenges of our times with the help of AI-based data solutions. We are contributing to fair and just AI and we will leave no one behind.

→ **We are further developing our data governance. The rules governing data management at the BMZ and in our cooperation with our partners are spelled out and documented in detail.**

→ When introducing new data-related technologies (for instance **artificial intelligence**, **cloud** applications), rules for their application are also developed so as to ensure that requirements are met in terms of information security, **data protection** and legal and ethical standards. This is based on a classification of data according to content and protection requirements. A working group was set up bringing together staff from various different BMZ directorates. It will develop proposals on data governance which are discussed and agreed on with all stakeholders.

→ We are expanding the exchange of data with implementing organisations and grant recipients and are documenting which organisation is responsible for data accuracy at which time. This contributes to ensuring data sets in the data systems of the BMZ and of implementing organisations are coherent.

→ **We are expanding data skills within the BMZ.**

→ We are training BMZ staff on a regular basis so that up-to-date know-how about data input and analysis is available across all divisions. We are constantly updating and expanding training material and e-learning programmes.

→ We are taking measures to enhance data-related knowledge management. Information that is needed for **data management** is thoroughly documented on a timely basis.

→ In addition to upskilling development policy experts, we will also rely on the expertise of IT and data specialists in the future.

→ We want to establish our **data lab** as a permanent unit.

→ New requirements for further developing the data systems at the BMZ are being examined with a view to cost effectiveness (cost-benefit ratio) and prioritised across directorates according to the financial and staff resources that are available.

# 4 Future outlook

We want to implement our ambition to rely increasingly on data and **evidence-informed** decision-making in our data strategy. The BMZ data strategy will apply until 2030. We will carry out a mid-term review in which we will update specific goals or implementation steps.

# 5  Glossary

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| **Artificial intelligence (AI)** | Artificial intelligence is a technology that enables computers and machines to simulate human-like cognitive processes and actions. AI is based on algorithms and **machine learning** and is aimed at detecting patterns in data, making decisions and solving problems. AI systems are capable of learning autonomously and getting better by learning through experience and from data. This makes them a powerful tool for the automation, forecasting and optimisation of tasks and processes in various different areas of application. |
| **Cloud** | A cloud is a network that provides access to computer resources such as processing capacity, storage and applications via the internet. The use of these resources and the billing for the use of services is flexible and on demand and does not require any physical hardware. |
| **Data** | Art. 2 (1) of the European Data Governance Act provides the following definition of data: data means "any digital representation of acts, facts or information and any compilation of such acts, facts or information, including in the form of sound, visual or audio-visual recording". In a more general sense, however, data is not limited to digital representations, but is an abstract representation of states and conditions, usually of nature. |
| **Data culture** | Data culture is part of an organisation's culture, that is, the shared patterns of thinking, feeling and acting and the corresponding norms, values and symbols within an organisation. Data culture therefore refers to the appreciation, provision and use of data to facilitate better decision-making. |
| **Data governance** | "Data governance is a system of decision rights and accountabilities for information-related processes." It is based on agreed-upon models within an organisation "which describe who can take what actions with what information, and when, under what circumstances, using what methods" (definition by the Data Governance Institute). Data governance sets out principles for data availability, user friendliness, consistency, integrity and security. |
| **Data lab** | A data lab is an organisational unit that offers tools and (staff/technical) resources to analyse and use data in an innovative way. |
| **Data management** | Data management comprises all processes aimed at bringing data to bear in the best possible way in all processes across an organisation. This can include the following sub-tasks: data integration (combining data from different sources), data analysis, data quality management, data protection and data security. |
| **Data protection** | The European Council defines data protection as an individual's "right to privacy, with regard to automatic processing of personal data relating to him [sic] ('data protection')" (Art. 1 Council of Europe Convention on data protection). |
| **Data science** | Data science is an interdisciplinary field which uses mathematical models, statistical analysis, machine learning and data processing techniques to distil valuable insights from large data sets. |
| **Do no harm principle** | The "do no harm" principle aims to ensure that potential adverse impacts of development cooperation are identified, avoided and mitigated at an early stage. The behaviour of foreign experts, the allocation of funding and the selection of local cooperation partners can, for instance, lead to unintended effects. (https://www.bmz.de/de/service/lexikon/14244-14244) |
| **Evaluation** | In development cooperation, evaluations are defined as systematic and objective analyses and assessments of ongoing or completed development interventions. These studies usually cover the design, implementation and, in particular, outcomes of development measures. They are intended to include actionable insights and, where appropriate, recommendations for improving the design of interventions. More information can be found in the BMZ Evaluation Policy. https://www.bmz.de/resource/blob/194630/bmz193-strategiepapier-evaluierung-en.pdf |

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| **Evidence** | Information that is based on systematically collected and verifiable data. |
| **FAIR-Principles** | The international FAIR principles were published in 2016 after public consultations had been held. FAIR stands for: Findable, Accessible, Interoperable, Reusable. The FAIR principles do not imply that every data set is fully reusable; they are aimed at achieving reusability within the legal and technical limits. (https://www.nature.com/articles/sdata201618; https://forschungsdaten.info/themen/veroeffentlichen-und-archivieren/faire-daten/) |
| **Georeferencing** | Georeferencing is the process of assigning data, information or objects to specific geographical coordinates or locations. As a rule, this is done by using latitude and longitude to define the exact spatial position of an element on Earth. Hence, georeferenced data is data tagged with geographical information which can be used to visualise the data on maps, carry out geographical analyses and understand spatial relations. |
| **Implementing organisation/ Grant recipient** | The implementing organisations of German bilateral development cooperation are KfW, Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ), the Federal Institute for Geosciences and Natural Resources (BGR) and Physikalisch-Technische Bundesanstalt (PTB). In the non-governmental area, the BMZ provides funding to, for example, the Protestant Association for Cooperation in Development, the Catholic Central Agency for Development Aid and many non-governmental organisations (a large number of which are managed by Engagement Global), as well as to foundations, research institutions and other organisations. |
| **Large language model** | A large language model (LLM) is a type of AI system that is specifically designed to generate and understand human-like text. The models use neural networks that have been trained with large volumes of text data to process natural language. They are able to generate human-like text, summarise documents, understand spoken language and translate text. LLMs are used in various areas and for various purposes, for instance to generate text (for example ChatGPT), to classify texts, to assess text similarity, etc. |
| **Machine learning** | Machine learning is a subfield of artificial intelligence that deals with the ability of AI systems to improve automatically and perform adaptive decision-making. Machine learning is focused on developing algorithms and models that enable computers to learn from data and gain insights without being explicitly programmed to do so. In machine learning, these algorithms are trained to recognise patterns and relations and forecast or automate tasks. |
| **Monitoring** | Monitoring is the surveillance of processes. It is an umbrella term for all kinds of systematic collection, measurement and observation of processes by means of technical tools or other observation systems. One purpose of monitoring is to determine whether an observed process or operation is unfolding as intended and specific thresholds are being met so that corrective action can be taken if necessary. |
| **Once Only** | The once-only approach is based on the principle that data should be provided only once to administrations where it is then processed. |
| **Online Access Act** | The Act to Improve Online Access to Administrative Services obliges administrations at the federal, the Länder and the municipal levels to offer their services online via digital administrative portals (https://www.digitale-verwaltung.de/Webs/DV/EN/ozg/ozg-node.html). In 2024, the BMZ set up an online application process for seven funding programmes via the Federal Portal. |
| **Open data** | Open data refers to information and data sets that are freely available and accessible to the public without limitations. This data is made available as raw data in a standardised, machine-readable format and can be used, processed and shared by users without legal or technical obstacles. Open data supports transparency, innovation and cooperation because it enables governments, organisations and individuals to share knowledge, promote citizen participation and develop new applications and services. |

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| **Paris Declaration on Aid Effectiveness** | • More than 100 representatives from industrialised and developing countries and emerging economies, from international development organisations and from the private sector and civil society agreed five principles for aid effectiveness in 2005 in the Paris Declaration:<br><br>• Ownership: Developing countries' ownership is to be strengthened.<br><br>• Alignment: Donors are to use the institutions of cooperation countries and align their programmes with partner countries' strategies and procedures.<br><br>• Harmonisation: Donors are to harmonise their programmes and procedures.<br><br>• Managing for results: The success of measures is to be determined by concrete results, not financial inputs.<br><br>• Mutual accountability of donor and cooperation countries. (https://www.bmz.de/de/service/lexikon/70544-70544 – German only) |
| **Principles for Digital Development** | The Principles for Digital Development were developed in the mid-2010s as guidelines for achieving sustainable impact through digital technologies in development programmes. The principles are considered modifiable. Important principles include: be data-d-riven; design with the user; use open standards, open data, open source and open innovation; be collaborative; address privacy and security (https://digitalprinciples.org) |
| **Public goods** | Pure public goods are goods that are both non-excludable and non-rival. Goods are non-rival if one person's or one institution's use of the good does not diminish the ability of other groups to enjoy the same good – meaning that there is no competition for the use of the good. Pure public goods at the national level are, for example, domestic and external security. Examples at the global level include, in particular, a life-sustaining climate, financial stability, knowledge and the absence of infectious diseases. Goods which are not characterised by non-rivalry but are excludable are known as club goods or toll goods. This includes, for instance, roads and certain data. Goods which are non-excludable but rival are called common goods such as the oceans, which are threatened by overfishing. Goods which are characterised by rivalry and excludability are called private goods (see https://plato.stanford.edu/entries/public-goods). |
| **Smart Africa** | Smart Africa is an initiative launched by more than 30 African heads of state and government to lead the continent into a knowledge-based economy by providing broadband access and promoting the use of information and communication technologies. This is to accelerate sustainable socio-economic development. (https://smartafrica.org) |
| **Sustainable Development Goals of the 2030 Agenda** | The 2030 Agenda with its 17 Sustainable Development Goals (SDGs) is a global plan to promote sustainable peace and prosperity and protect our planet. Since 2016, all countries have been working to translate this shared vision to fight poverty and reduce inequalities in national development plans. In this context, it is especially important to address the needs and priorities of the most vulnerable population groups and countries. Only if no one is left behind can the 17 SDGs be achieved by 2030 (https://sdgs.un.org/goals). The "leave no one behind" principle is a central element of the Sustainable Development Goals. |
| **Sustainable digitalisation** | Sustainable digitalisation refers to using new digital technologies in a forward-looking manner to promote sustainable development. To this end, as policy-makers seek to shape the digital transformation, social, environmental and economic factors must be assessed and weighed in terms of the wellbeing of citizens. (See the position paper "Digitalisation and sustainability" by the Parliamentary Advisory Council on Sustainable Development: https://www.bundestag.de/resource/blob/661354/dce89ff49c521484865178897947e318/positionspapier-Digitalisierung-und-Nachhaltigkeit-data.pdf |

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