Monitoring & Evaluation Unit

Indicators

A working aid

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Contents

1. Aim and structure of the working aid

This document serves as a guide that aids in selecting and formulating indicators. Firstly, it aims to make service delivery processes more efficient during offer preparation. Secondly, it intends to support the use of results-based monitoring (RBM) systems that are backed by indicators in order to steer projects[1] on the basis of evidence. Lastly, it aims to improve the substantiation of results and reporting on results. The working aid addresses GIZ staff, especially officers responsible for the commission, quality inspectors, planning officers, monitoring and evaluation (M&E) officers in the operational units, country managers and consultants/appraisers/advisors.

The content of the working aid is based on needs analyses performed as part of internal and external quality control at GIZ, as well as on the experience gained in international evaluation practice and sectoral debates on results analysis. It can be used in all of GIZ's business areas and makes specific reference to binding agreements with GIZ's main commissioning party, the Federal Ministry for Economic Cooperation and Development (BMZ).

The working aid aims to reconcile what is desirable in terms of methodology with what can be done in practice, in a realistic and user-oriented format. The individual country context and the available financial and human resources call for a pragmatic approach to meeting methodological requirements. Efficiency considerations should also be taken into account when formulating indicators.

The working aid contains the following sections: indicators in commission management; functions of indicators and requirements to be met when developing indicators; quality standards for indicators; types and categories of indicators; baseline value, target value, milestones; and data sources and data collection methods.

Useful pointers on how to select and formulate indicators are given in the main body of the text. These apply to all business areas. The text boxes provide more information, notes on specific project formats and sample applications.

We have refrained from listing the individual content-related sections in a step-by-step sequence. Since the thought processes and action to be taken when formulating indicators always depend on the context, no blueprint can be given for an ideal process. Instead, we have included checklists in the individual sections.

[1] The term "project" used in this document encompasses programmes, development measures and other development interventions.

2. Indicators in commission management

This section explains the key role played by indicators in the various phases of commission management in all GIZ business areas: offer preparation, project implementation, reporting and completion of the commission. It also provides specific information on indicators for preparing offers in the business areas German Federal Ministry for Economic Cooperation and Development (BMZ), German public sector clients and International Services (IS).

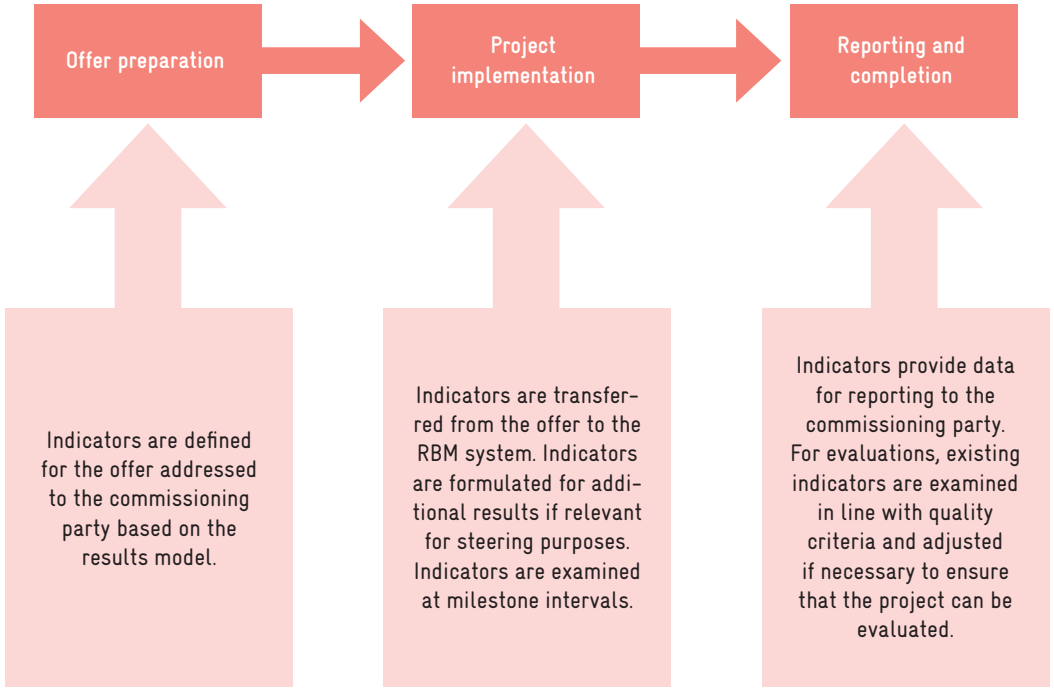
In the field of development cooperation, indicators serve as variables that gauge the extent to which projects achieve their objectives. They are therefore essential for furnishing proof of results, and state how the occurrence of a positive intended change can be measured.

2.1 Offer preparation

The results model is drawn up during the appraisal and preparation of a project (see GIZ's integrated results model). It is compatible with the results logic of various donors and can be used in all of GIZ's business areas. It forms the basis for preparing the offer. Indicators are formulated during the offer preparation phase. They measure results at the objectives level of the project and at the results levels located below the objectives level.

What is meant by 'result'?
GIZ understands results as the intended or unintended, positive or negative changes in a situation or behaviour as the direct or indirect consequence of an intervention. OECD/DAC defines results as the overarching term for impact, outcome and output.

It should be ensured that the project is embedded in partner strategies and that a common understanding of the project's strategic orientation is reached with the partner. This also applies to the development of indicators as part of offer preparation. Partners should be involved in this process in a participatory manner.



2.2 Specific notes on offer preparation in the business areas BMZ, German public sector clients and IS

In commission management in **business with BMZ**, the results matrix is drawn up in step 3 of the preparation process (clarify the overall project architecture), based on the results model. Steps 4 and 5 (notify BMZ of appraisal findings/ conceptual quality assurance) involve quality control of the results matrix and the provision of information to BMZ on the appraisal findings and approval of the offer design (ZAK). This is followed by quality control and commission award by BMZ in steps 6 and 7. The results matrix, which has been agreed with BMZ, gives an overview in tabular form of the key information from the results model. The following elements are transferred to the results matrix from the results model that is drawn up during the preparation process:

— The *DC programme* objective is located at impact level above the sphere of responsibility of the TC (technical cooperation) project, and is usually formulated in the priority area strategy paper or country strategy. This refers to the long-term, sustainable benefit (change in living conditions) that target groups can expect from the results. The DC programme objective describes changes among the target groups. The results relate to the benefit for the population (BMZ December 2013[2]).

— The *TC module objective* in the project's sphere of responsibility is made measurable by means of up to five indicators. The module objective is located at the outcome level and refers to the results that are generated for the target group or for public goods through the use of the outputs. This results level should either relate to the use of outputs by intermediaries (projects that are not close to the target group) or the use of outputs by target groups (projects close to the target group) (BMZ December 2013). The module objective and indicators only refer to the individual commissioning period. If essential changes are made to indicators at the TC module objective level, a modification offer must be submitted to BMZ.

— *Outputs* are positive intended results at the results levels below the TC module objective. They are measured by up to two indicators each. No more than three to five (key) outputs should be transferred to the results matrix. The outputs relate to the technical capacities, personal skills or knowledge acquired through the use of resources and the implementation of activities. Outputs do not refer to advisory services provided by GIZ. There is no need to submit a modification offer to BMZ if changes are made to indicators at the output level. A binding report is sufficient in this case.

— Sample *activities* are transferred from the results model to the results matrix for each output. Implementation of the stated *activities* is not binding. No indicators need to be formulated at activities level. Wherever possible, the intended use of instruments is implicitly presented in the results matrix at activities level (linkage of the sample activities presented with the planned use of instruments in section 3.4.1 of the programme proposal).

The project's capacity development (CD) approach is presented in offers to BMZ. Where appropriate, results and indicators in the results matrix refer to the three CD levels (see Capacity development). *Sources of verification* are assigned to the indicators at the relevant results levels. The data sources and also the data collection methods (if primary data are being collected) should be entered here (→ Section 7).

Key assumptions and risks are entered in another column of the results matrix. These always refer to the achievement of results (not the meeting of indicators) at the next highest level. The objectives and indicators depicted in the results matrix are transferred to the relevant section (B.3.1) in the offer.

Specific processes apply to different ministries in **commission management in the German public sector clients business area.** These processes lead to different requirements with regard

[2] The guidelines and annotated structure for programme proposals for joint development cooperation programmes is the basic document agreed by BMZ and GIZ dating from April 2012. BMZ is currently updating the annex to the guidelines. The content has not yet been discussed with GIZ. During the transition period, the latest reference document on the results logic applies together with the guidelines dating from April 2012: BMZ. 2013. Wirkungslogik in PV (bilaterale EZ). Standards für Zielformulierungen und Indikatoren. December 2013

to the formulation of indicators (see for example Handreichung zur Erstellung von Angeboten im BMUB-Geschäft and Handreichung zur Abwicklung von ODA Direktaufträgen des Auswärtigen Amtes). With regard to the quality criteria that apply to indicators, the process has been formalised to the furthest extent with the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). For example, in offers related to the International Climate Initiative, there has been an explicit request to quantify indicators and to use figures, data, measurements and statistics wherever possible.

In terms of substantiating results, many specific features also apply to **commission management in the IS business area**, owing to the different requirements of the individual clients (e.g. European Union or World Bank). Some clients only ask for details of service delivery to be included in the offer. Proof of results based on indicators is therefore not always provided at higher results levels.

2.3 Project implementation

The RBM system is an integral part of commission management and is part of the management responsibility of the officer responsible for the commission. The data recorded in monitoring systems are essential for strategic, management and budget decisions. The data collected by the RBM system in the course of project implementation also form an important basis for evaluations.

When preparing the offer, indicators are already formulated at objectives level and most key indicators are usually formulated below the objective level. Additional results are usually mapped within the project's sphere of responsibility when drawing up the results model. After the commission is awarded, indicators can be defined in the existing results model for these additional results together with the partner, if they are relevant for steering purposes. No more than two indicators should be attributed to each of the results below the objectives level. This information (results and corresponding indicators) and existing baseline data are then transferred to a monitoring instrument, and further statements that are relevant for monitoring systems are added (see Guidelines on designing and using a results-based monitoring system [RBM system]). The recommended monitoring instruments (see Intranet Knowledge and Processes – Results-based monitoring) serve to structure the data collection processes and systematically document the collected data.

RBM systems measure indicator values at milestone intervals (→ Section 6). To reflect the complexity of projects, RBM systems should adopt two complementary approaches:

— Based on the measured indicator values, RBM systems regularly provide information which is verified by data that show where the project stands in terms of the intended results. But indicators do not explain why something has changed or not.

— That is why qualitative methods should also be used to capture the perspectives of key actors and stakeholders by means of an open procedure (KOMPASS).

RBM systems should observe changes in the framework conditions of partner systems and examine the relevance of the selected indicators. Indicators are usually not attributed to risks and assumptions, hypotheses and results that are presented in the results model as being 'outside' the sphere of responsibility. Instead, these are continuously monitored as independent areas. If hypotheses are questioned, the corresponding indicators also have to be adjusted or updated in agreement with the commissioning party or client.

2.4 Reporting and completion of the commission

Indicators provide the baseline and target values as well as the actual status for substantiating results. They provide key data for reporting to the commissioning party and ensure that the project can be evaluated. Indicators therefore lay a vital foundation for proving that the changes generated are attributable to the project, or that it has made a key contribution to these changes.

At the start of an evaluation, indicators are examined in accordance with the SMART criteria (-> Section 4) to determine their suitability for assessing effectiveness and the achievement of overarching development results (impact). If they are not suitable, they are adjusted in order to perform the evaluation. Adjusted indicators serve to ensure that the project can be evaluated.

Checklist: indicators in commission management

- ✓ Has a results model been devised that can serve as a basis for formulating indicators as part of the offer preparation process and for designing the RBM system?
- ✓ Have the specific requirements of the commissioning party or client been taken into consideration when preparing the offer? The main point here is to establish a joint understanding of results, which is expressed in the results logic, and define the results levels and the corresponding terminology.
- ✓ Has the definition of indicators been embedded in partner systems and have partners been involved in formulating indicators through a participatory process?
- ✓ Are the results that are presented in RBM systems backed by indicators? Were the recommended RBM forms used for this purpose?
- ✓ Are the selected indicators regularly examined to make sure they are relevant and provide the required information?

3. Functions of indicators and requirements to be met with developing indicators

This section provides an overview of the functions of indicators and the many requirements that need to be met in terms of how they are selected and formulated. Practical tips are given separately for regional projects, sector projects and other special formats. We also explain the approach to be used when formulating indicators in the context of conflict, fragility and violence. This is followed by an explanation of the various functions of results indicators and standardised indicators, and the methodological requirements they must meet. Finally, a distinction is made between standardised indicators, key indicators and sample indicators in terms of how binding they are.

3.1 Functions and requirements

Indicators are used to measure results, steer projects and monitor project progress. Since they provide evidence-based information on the baseline situation, the current situation and the target situation, they act as a means of comparison. As instruments for conveying data-based information, they are used for reporting, complying with accountability requirements, learning and communication. Defining indicators is not just a methodological and technical process. Political, cultural and social frameworks and needs must also be taken into account.

— Indicators that are well designed in terms of **methodology** measure the result for which they were formulated (validity) and provide reliable findings even in the case of repeat measurements (reliability).

— As well as having the relevant methodological know-how, it is important to have **theoretical** sector expertise and be familiar with the country in question.

— **Realistic** expectations should be made with regard to indicators. The effort involved in collecting data should take into account the available time (term), financial resources (overall volume) and human resources (expertise), i.e. it should be reasonable (proportionality).

— The requirements in terms of defining indicators should be clarified and reconciled with the requirements and specifications of the individual **commissioning party or client** (results logic).

— When selecting and defining indicators, care should be taken to promote ownership, donor coherence and donor compatibility by **aligning indicators with partner systems.**

— Both general and **practical requirements** need to be taken into account when defining indicators. These include formulating indicators for regional projects or for projects that are implemented in (partner) countries with contexts of fragility or conflict.

— Indicators should be designed in a **conflict-sensitive** and **gender-responsive** manner. Their formulation and the necessary data collection should bear in mind the cultural and religious norms and behaviour patterns in the partner countries.

Indicators in the context of conflict, fragility and violence

Based on the BMZ strategy paper Development for Peace and Security, agreements were made that define (1) minimum standards for implementing projects in fragile countries and countries beset by conflict and violence ('green', 'yellow' and 'red' countries), and (2) define criteria to be met for awarding the national sector marker (see Vereinbarung zur Umsetzung der Vorgaben des BMZ Strategiepapiers "Entwicklung für Frieden und Sicherheit"). The Peace and Conflict Assessment (PCA) is the methodological frame of reference for country-specific and sectoral projects. Minimum standards apply to designing projects in 'yellow' and 'red' countries. The examination of hypotheses on possible negative results is one of the binding components of the RBM system.

Requirements for awarding the peace and security (FS) sector marker also apply to the definition of indicators. Indicators at

the TC module objective level relate to conflict sensitivity for projects with an FS-2 marker. As regards the FS-1 marker, this concerns results indicators below the objectives level (output). When quantifying indicators, it should be borne in mind that the collection of quantitative data, e.g. as a survey of target groups in partner countries or regions affected by violent conflict, may entail security risks for both sides. Assumptions on contextual factors and risks are anchored in the RBM system and areas are defined that are to receive special attention (areas to be monitored). If necessary, additional (contextual) indicators can be developed for especially relevant areas that need to be monitored and these are systematically examined. The involvement of partners in defining indicators and in results-based monitoring calls for special sensitivity in this context (see Kontext- und konfliktsensibles Wirkungsmonitoring). However, the analysis of risks should not be limited to collecting data on specific indicators. It is a continuous component of project management.

Sector projects, global and convention projects, international cooperation with regions for sustainable development (German Government budget item IZR)

While the indicators for these special formats must also meet the same quality criteria as those of other projects and programmes, they do have a number of special features. In some cases, there is no direct relevance to individual priority areas in the specific country, and results can only be captured via complex causal links that extend to organisations and target groups in the partner countries. In IZR projects, the focus is on stepping up cooperation with partners from developing, emerging and industrialised countries. These are not recipients of development cooperation in the classical sense. The leverage effect of IZR projects is a key criterion (this is where the so-called leverage indicator comes in). Sector projects have special requirements in terms of formulating indicators, which are agreed with the commissioning party or client. Since BMZ is both the commissioning party and the beneficiary of sector projects, the selection and formulation of indicators are often strongly aligned with BMZ's requirements. In many cases, both the objectives and indicators of sector projects are located at a low results level.

Regional projects

A characteristic of many regional projects is that they support structures and processes above the individual state level, but at the same time define the target groups as the people of certain countries or the member states of regional institutions. In regional projects located at the level of supranational organisations, the results to be achieved among the target group in the individual countries are often outside the project's sphere of responsibility. The organisational consultancy that targets the regional institution level usually only takes effect among the target groups in the member states via complex causal links between results. The results are usually only visible in the long term. This is why it is vital to reach a common understanding with the commissioning party or client about the results to be achieved during the commissioning period. Other regional projects play a coordinating role within the context of a multi-country approach.

Regional projects that implement measures in various countries are advised to collect data for indicators separately in each country. Data from different countries are often aggregated for the purpose of writing reports. In this case, absolute figures are more suitable than percentages as a means of expressing relative changes. If the measures conducted in the various countries are very different, it is appropriate to define more abstract indicators (e.g. ones that are cross-sectoral). It should also be borne in mind that the corresponding supranational regional institutions often have data on the countries themselves. In this case, it should be examined whether these data are relevant and robust, and whether the measurement intervals correspond to those of the project. Country data must be available to the regional institutions in a standardised and harmonised form if they are to be comparable.

3.2 Results indicators vs. standardised indicators

Results indicators are an integral component of commission management and are used to steer projects. The standardised indicators used at GIZ (so-called aggregate indicators), however, are only used to communicate with the public and with current and potential commissioning parties or clients. Results indicators should be located at the project level. In selected (sub-)sectors (see text box), aggregate indicators are recorded locally at the project level or in regional and sectoral divisions, but are evaluated centrally at corporate level. The Corporate Communications Unit uses the aggregated data for its public relations statements.

Aggregate indicators for aggregated reports on results

Following a one-year pilot phase, standardised aggregate indicators were introduced in 2014 in selected (sub-)sectors for the purpose of public relations and communications across business areas. The (sub-)sectors in which data are collected for aggregate indicators are: water; health; financial systems development; rural development/agriculture; vocational training; security, reconstruction and peace; energy; climate change; private sector development; employment and social standards; public finance and administrative reform, and social protection. Aggregate indicators are not part of commission management and are not used to steer projects. They are collected in a separate process.

The ability to make statements about sector results beyond the level of individual projects is essential for better communication with the public and in the political arena. It is also required as a reference in dialogue with new commissioning parties and clients. Here is an example of a statement with a high public impact (from the pilot phase in 2012–2013):

» In 2012 alone, GIZ informed 1.2 million people in five of the hardest-hit countries in Africa about the risks posed by AIDS, on behalf of the German Government. «

Depending on the sector, aggregate indicators can be measured at different results levels. Data at the output level can be collected more reliably in terms of methodology or taken from existing monitoring systems. Plausible estimates should be used at the outcome and impact levels if no values have been measured. The point here is to present GIZ's contribution to the achievement of results. Here are some of the key criteria for formulating good aggregate indicators:

- They must illustrate quantifiable aspects (absolute figures);
- They must be easy to communicate and worded clearly and understandably in order to convey a public relations message;
- They must be easy to measure and quick to collect. If possible, they derive their data from the existing monitoring systems at the projects.

Standardised indicators, key indicators, sample indicators

Various terms are used in the German DC landscape, some of them synonymously. This has led to some confusion, but the main difference lies in the extent to which indicators are binding.

- **Standard indicators** are used in a binding manner, with the same wording, based on comparable data collection methods, in various projects of a (sub-) sector.
- **Key indicators** do not have to be used as a mandatory requirement. They are based on experiential values and act as a source of guidance. They can therefore help to enhance efficiency and cost effectiveness when preparing offers, for example by providing a list of indicators for specific sectors.
- **Sample indicators** serve to illustrate good wording, but are not usually listed by the divisions of the Sectoral Department.

Checklist: requirements to be met when developing indicators

- ✓ Has a joint understanding been reached with the commissioning party or client about the pledged results (indicators at objectives level)?
- ✓ Are methodological skills in place for formulating indicators, as well as the required sectoral and country knowledge?
- ✓ Has it been examined whether the indicators that would measure results in an ideal manner can be measured with the existing financial and human resources? Do any alternative indicators exist that are easier to capture or have access to existing data sources (practicability)?
- ✓ Were the indicators designed to be context-sensitive and conflict-sensitive?
- ✓ Have recommendations for formulating indicators for special formats (e.g. regional projects) been taken into account?
- ✓ Are key indicators that have been tested in practice available for the relevant (sub-)sectors? Have these been examined in terms of their usability and applicability?

4. Quality standards for indicators

The SMART criteria are considered the key quality criteria for indicators in the field of international development cooperation. This section explains the quality requirements behind the acronym. Business with BMZ will be looked at separately. Here, there are binding agreements and standards concerning the quality of indicators and the consideration to be given to OECD/DAC and BMZ markers.

A good indicator needs to meet a number of quality requirements. Formulating indicators involves striking a balance between optimal measurement of a result and the possibility of doing so using existing funds and methodological expertise.

A precisely worded result makes it easier to formulate indicators. It is particularly difficult to formulate results at objectives level if the results are located at different results levels and/or relate to circumstances outside the project's sphere of responsibility. An **unclearly worded objective** is more difficult to interpret and therefore prevents an indicator from precisely measuring its dimensions (→ Section 5).

4.1 The SMART criteria

The SMART criteria are the ones most frequently used in international donor practice to assess the quality of indicators. SMART stands for:

— *Specific:* An indicator is specific when it is precisely worded and measurable. Vague descriptions like 'has improved' or 'has increased' are only helpful if indicators contain baseline and target values. Statements such as 'regularly' or 'periodically' are also imprecise if they are not specified by means of measured values. Specific indicators should never combine several issues (i.e. they should not be multi-dimensional), nor be located at different results levels (i.e. they should not be multi-level). Otherwise, the situation to which the measurable change applies would be unclear.

— *Measurable:* The indicator is measurable, i.e. is quantified with numerical baseline and target values. With regard to the baseline and target values, relative changes should either be stated in absolute figures as reference values or related to each other in percentages (for example '… has improved by xy%'. Baseline value: xy; target value: xy or baseline value: xy%, target value xy%, see examples in Section 5). The tangible and intangible effort of collecting data to examine the measured values is reasonable in relation to the relevance of the indicator and the overall volume of the project (proportionality).

— *Achievable:* The changes captured by the indicator can be attained through the project's activities and the instruments used at the project. The target value of the indicator is realistic and reasonable in relation to the time, financial and human resources of the project. This means that the time frame and scope of intended changes, the performance capacity of partners and the limits to the influence that can be exerted by supporting processes are target-oriented, but should also be objectively assessed.

— *Relevant:* The indicator measures the key dimensions of the objective/the result. It should also be located at the correct results level. It should not represent activities or (advisory) services; nor should it refer to situations outside the project's sphere of responsibility. An indicator can only be located at the precise results level if the objective or result to be measured is also attributed correctly.

— *Time-bound:* The time it takes to reach the target indicator value should be stated. The target value usually refers to the end of the commissioning period.

4.2 Specific quality standards for indicators in business with BMZ

The SMART criteria are more precisely defined in commission management with BMZ (see GIZ Internal notes on the guidelines and annotated structure for joint development cooperation programmes, Annex Standards for objectives, indicators, logic of results and results matrix).The quality criteria that underpin the statements on SMART in Section 4.1 include:

— For all indicators, the data source and/or data collection method to be used for measuring the indicator must be stated in as concrete a manner as possible. It is advisable to combine several sources of verification that describe different perspectives of a change.

— Indicators must not be narrative, i.e. they should substantiate desired changes using measured values rather than merely describing the changes.
— Indicators should not describe a process or involve several levels (such as: '...developed, tested and disseminated...'). The different indicators that measure results at the output level may refer to partial results in the field of action.
— An indicator must provide information on what can be used to measure a change. However, it should not lead to more questions in this regard. That is why vague terms that are not verified by data, such as 'sustainable,' 'functioning,' operational' and 'durable', should be avoided.

When preparing programme proposals in business with BMZ, the DAC marker system is taken into account. It identifies the extent to which official development measures achieve OECD's development objectives (see The Policy Marker System):

— Gender equality (GG)
— Participatory development/Good governance (PG)
— Trade development (TD)
— Biodiversity convention (BTR)
— Adaptation to climate change (KLA)
— Climate change, Reduction of greenhouse gases (KLM)
— Combating desertification (DES)
— Environmental protection and resource conservation, ecological sustainability (UR)
— Reproductive, maternal, newborn and child health (RMNCH)

In addition, consideration should be given to national BMZ markers.

— Programme-based approaches (PBA)
— Poverty orientation (AO)
— Peace and security (FS)
— Rural development and food security (LE)

Attribution to these markers should also be reflected in the indicators. Please bear in mind that it should be possible to explain why markers are attributed based on the project's overall design. A numerical system is used for this purpose (with the exception of the PBA marker): 2 = main objective, 1 = significant objective, 0 = no alignment with the development objective (or not (yet) classified). With regard to formulating indicators, this means for instance that specific results in terms of gender equality are backed by indicators, depending on how projects are classified in the numerical system (as GG2, GG1 or GG0).

BMZ has also laid down strategic requirements on taking into account **cross-cutting issues** (human rights including children's and youth rights, gender equality and women's rights, anti-corruption measures, political participation and accountability).

Checklist: quality standards for indicators

✓ Is the indicator specifically and precisely worded? Was care taken to ensure it was neither multi-level nor multi-dimensional?
✓ Does the indicator have a baseline and a target value? Are there points of reference either between relative and absolute figures or between relative points of reference?
✓ Is the effort involved in examining the measured values reasonable in relation to the relevance of the indicator and the overall budget of the project?
✓ Is the indicator realistic and was the target value that is to be achieved estimated in an objective manner?
✓ Is the indicator relevant for measuring the main dimensions of the result?
✓ Is the indicator located at the correct results level?
✓ Have the quality standards of the commissioning party been taken into account (in business with BMZ, specification of the SMART criteria, OECD/DAC and BMZ markers)?

5. Types and categories of indicators

Indicators can be divided into various types and categories. We will start by explaining how indicators operationalise the content dimensions of results, and go on to present categories that are aligned with the use of different data sources and different data collection methods. Other categories of indicators make it possible to look at aspects of change processes from different perspectives. Sample indicators from different sectors are used for the purpose of illustration.

Types and categories are useful tools for selecting and formulating meaningful indicators. In the thought and decision-making processes, types and categories help to determine which indicators should be used to measure which dimensions of intended results.

Indicators are not exclusively assigned to a given type or category, but can usually be assigned to different ones. The following overview will help you define indicators. The different types and categories used depend on their usefulness and the given requirements.

Which types and categories of indicators are useful for which projects?

The usefulness of specific indicator types and categories for measuring results depends on the project design, the country context, the formulation of objectives, the target groups and the executing agency and partner structure.

5.1 Indicator sets

Indicators state how a change can be measured. At the objectives level, individual results are usually measured by several indicators that are combined in a set. These indicators operationalise the relevant dimensions of this result. They can only do so if the objectives themselves are formulated in line with the corresponding quality standards.

→ Example: identifying the different dimensions of a formulated objective

'People – especially the poor and young people – have more equal access to basic health care of adequate quality.'

Dimensions:

- → Equal access (by men and women)
- → Improved access to basic health care
- → Basic health care of adequate quality
- → Poverty orientation
- → Young people

5.2 Quantitative and qualitative indicators

There is no standardised terminology that classifies indicators in the field of international development cooperation. In practice, donors use a wide range of indicator types and categories. We usually distinguish between quantitative and qualitative indicators. As we have already seen, individual indicators in a set operationalise specific **dimensions of a result**. This means that results contain statements on quantitative and qualitative change processes that can be measured using indicators. **Quantitative indicators** use factors such as quantity, surface area, mass, number, etc. to observe and compare changes in a given period.

→ Example: public finance

The number of registered taxpayers increases by xy%.

- Baseline value: xy, target value: xy
- Sources of verification: administrative data from the tax authority, company registry

→ Example: climate change

The environment ministry develops an action plan that addresses the themes of sand encroachment, the threat posed by rising sea levels and flooding.

- Baseline value: 0 (because the action plan was not in place before the project was commissioned), target value: 1 (an action plan is developed)
- Sources of verification: action plan

Qualitative indicators, on the other hand, measure the quality of change and/or provide information in the form of estimates, assessments and opinions. If surveys are used as the data collection method, data for qualitative indicators are also collected using quantitative methods.

➔ **Example: private sector promotion**

The regulations drawn up with support from the project are classed as conducive to the business and investment climate by xy% of private sector representatives.
- Baseline value: 0 (because the regulations were only drawn up with support from the project), target value: xy%
- Sources of verification: surveys using standardised questionnaires, random sample of private sector representatives

➔ **Example: climate change**

Every year, the federal environment ministry submits xy applications for financing climate change that comply with the government's commercial regulations.
- Baseline value: xy, target value: xy
- Sources of verification: applications for financing climate change, commercial regulations

5.3 Categorisation according to data sources and data collection methods

Indicator types can be derived not only from the content dimensions of results, however. Various perspectives of the same phenomenon should be used to offset the weaknesses of one approach with the strengths of another (data triangulation, methodological triangulation). Empirical social research distinguishes between various indicator types that can be derived from the **relevant data sources and data collection methods**.

Indicators of subjective perceptions measure subjective assessments and perceptions, e.g. citizen satisfaction with public services.

➔ **Example: decentralisation**

The proportion of people in the municipalities x and y advised by the project who are satisfied with the quality of municipal public services increases from xy% to xy%.
- Baseline value: xy%, target value: xy%
- Sources of verification: surveys using standardised questionnaires, random sample of customers of the town council/municipal authority

Objective indicators: data sources for objective indicators include administrative data, statistics collected by state departments, ministries and authorities, and censuses.

➔ **Example: decentralisation**

The income of municipalities advised by the project (including allocations from the state budget) rises by a total of xy%.
- Baseline value: xy, target value: xy
- Sources of verification: administrative documents of the municipal budgets, collected separately and aggregated for reporting purposes

Reported behaviour/events-based indicators aim to capture the actual (de facto) situation objectively based on events.

➔ **Example: climate change**

Each year, xy entrepreneurs who contribute to environmentally friendly and climate-sensitive economic development (climate change adaptation and/or mitigation) receive a public award in recognition of their services.
- Baseline value: xy, target value: xy
- Sources of verification: reporting in the national print media

➔ Example: health

The proportion of births attended by skilled health personnel has risen by xy%.
- Baseline value: xy%, target value: xy%
- Sources of verification: administrative data of health service providers, statistics on the use of services, data on illnesses or accounting data

Proxy indicators measure issues indirectly. They are used as a substitute if information cannot be directly obtained for various reasons.

In order to measure how many people in a region are infected with or affected by HIV or how many deaths are caused by AIDS, surveys could be carried out using standardised questionnaires that provide information on how often interviewees have felt sick or depressed in past months, or how many orphans or children with one parent live in the interviewee's household (Afrobarometer household survey).

5.4 Other categories of indicators

In change processes, situations should be viewed from **different angles**. These other categories of indicators prove useful in this context.

De jure vs. **de facto**: the Latin term *de jure* means 'by/of right, according to the law in force, legal, official'. *de facto* means 'in reality, in practice, actually'. In many partner countries, for example, rights may be enshrined in the constitution, but disadvantaged and marginalised population groups are often not empowered to demand these rights.

➔ Example of de jure: rule of law

With support from the project, a bill was drafted to enshrine the rights of illegitimate children.
- Baseline value: 0 (the draft bill was not in place before the project was commissioned), target value: 1
- Sources of verification: draft bill

➔ Example of de facto: rule of law

Since the reform of the law related to parent and child, which was implemented with advice from the project, xy affected parties or parents/guardians have submitted applications (concerning family name, maintenance, custody or inheritance) to the courts.
- Baseline value: xy, target value: xy
- Sources of verification: statistics from the ministry of justice on applications for guardianship, survey of selected representatives in matters related to family law

Input-based vs. output-based: this distinction is relevant for identifying reform approaches. Here, the inputs are compared with the outputs.

➔ Example of input-based indicator: private sector promotion

The number of public hearings related to the legal and administrative frameworks for promoting small and medium-sized enterprises has risen by xy%.
- Baseline value: xy, target value: xy
- Sources of verification: minutes and lists of participants at hearings

➔ Example of output-based indicator: private sector promotion

The proportion of proposals presented by business chambers and associations to improve the legal and administrative frameworks that are reflected in the economic policy of country x increases by xy%.
- Baseline value: xy%, target value: xy%
- Sources of verification: reports by business chambers and associations, government position papers

Demand-side vs. supply-side: this distinction originally comes from the area of economic science. Within the context of development cooperation, demand-side indicators embody for example the perceptions and demands of citizens/the private sector/non-governmental organisations, whereas supply-side indicators measure the range of public services that are offered, for example.

➔ Example of demand-side indicator: private sector promotion

The number of companies that use market-based services to foster innovations increases by xy%.
- Baseline value: xy, target value: xy
- Sources of verification: survey of managing directors

➔ Example of supply-side indicator: public finance

xy items of budget and financial information are made publicly available by the government.
- Baseline value: xy, target value: xy
- Sources of verification: open budget survey, multi-donor Public Expenditure and Financial Accountability programme

Pro-poor indicators: there are basically three different approaches that can be taken to ensure indicators systematically capture poverty-related aspects: (1) data on persons defined as poor are collected separately (disaggregated by poverty status), (2) indicators measure a result with explicit relevance to poverty (specific to the poor), and (3) poor population groups participate in formulating the indicator (chosen by the poor).

➔ Example of disaggregated by poverty status: decentralisation

The proportion of particularly vulnerable and disadvantaged groups among the overall population that uses public services offered by the municipal authorities increases by xy%.
- Baseline value: xy%, target value: xy%
- Sources of verification: administrative data, National Risks and Vulnerability Assessment

Gender-sensitive indicators measure respect for and implementation of women's rights or gender equality. Gender-sensitive indicators can be split into four types: (1) data on men and women are collected separately (gender-disaggregated), (2) indicators refer exclusively to women or men (gender-specific), (3) although indicators do not refer exclusively to women or men, they make implicit reference (implicitly gendered), and (4) the different preferences and priorities of women are taken into consideration when wording the indicators (chosen by women).

➔ Example of implicitly gendered indicators: peace and security

In xy cases of transitional justice, legal regulations are applied for the processing of legal cases related to gender-based violence.
- Baseline value: xy, target value: xy
- Sources of verification: court documents, procedural documents

Assignment of indicators to results levels in line with OECD/DAC terminology

In results chains, a distinction is made between **input** indicators, **activity** indicators, **output** indicators, **outcome** indicators and **impact** indicators, in line with OECD/DAC terminology. In practice, however, donors do not have a standard definition or understanding of which dimensions in the change process are measured at which results level. Nor are results chains always systematically adjusted to OECD/DAC terminology.

Checklist: types and categories of indicators

- ✓ Do the indicators map the relevant dimensions of the objective/results?
- ✓ Do the indicator sets contain statements on quantitative and qualitative change processes?
- ✓ Are different data sources and data collection methods used to quantify and qualify indicators (data triangulation, methodological triangulation)?
- ✓ Were situations viewed from different angles when wording the indicators?

6. Baseline value, target value, milestones

We shall now go on to explain the function of baselines and quote the O+R standards that refer to baseline values and that are binding in business with BMZ. We also refer to methodological considerations related to collecting baseline data. These concern the selection of the evaluation design to be used in the awarded commission, and should be taken into account at this stage. We also focus on the examination of milestones in indicator-based RBM systems[3].

6.1 Function of baselines

Baseline values in indicators make it possible to measure the situation 'before and after' a project. They provide a point of reference for assessing progress (milestones) and for comparing the original value with the target value. At the objectives level, the target value of the indicator corresponds to the results GIZ has pledged to its commissioning party or client that it will achieve. The target value is realistic and reasonable in relation to the project's existing resources. Baselines serve a number of functions:

- Before a project is commissioned, they provide an important basis for project design and for the project's concept (formative function).
- They provide values for measuring milestones in RBM systems (steering function).
- They provide the initial values for measuring results and thus make sure the project can be evaluated (summative function). Only if data are available on the baseline situation at the start of the project (or if such data are collected after the project has been commissioned) is it possible to assess whether changes have occurred, and to what extent. If baseline data are missing, they must be reconstructed. This takes a great deal of time and effort.
- Baselines furnish evidence for internal and external communications (dialogue function). Baseline data are the foundation for indicator-based verification of results. Baseline values and target values substantiate the positive results achieved by the project.

In commission management in business with BMZ, there are two O+R standards that refer to baseline values.

O+R Standard, offer preparation:
'The officer responsible for the commission is also responsible for … qualifying and quantifying all indicators of the TC module and collecting the relevant baseline data within one year at most after the TC measure begins.'

Two ideal time frames can be identified from this standard for collecting baseline values. If baseline data are to be collected during project appraisal and are to form the basis for conceptual considerations related to the various strategic options when devising the results model, these baselines are available at the time of preparing the offer. Collecting baselines after the commission has been awarded has the advantage that we now have better knowledge in most cases of the cooperation setting, the M&E systems and the national statistics systems of the partner country. The disadvantage of quantifying and qualifying indicators after the commission has been awarded, however, is that baseline information cannot be adequately taken into account for the problem and potential analysis and the methodological approach.

The second O+R standard relates to RBM systems and implicitly refers to the collection of baseline data:

O+R Standard, Results-based monitoring: responsibility and scope: 'The officer responsible for the commission ensures that the results-based monitoring system is based on the results model, with the corresponding objectives indicators, results indicators, hypotheses and risks. The officer is responsible for substantiating the degree to which the agreed objectives and results have been achieved at the end of a commission.'

Both the baseline value and the target value are entered in the **results matrix**. The target value is the value to be achieved by the end of the project; the actual value is the one that is really achieved at 'x' point in time.

[3] This section is largely based on the updated guidelines: GIZ. 2010. Baselineerhebung. Ein Leitfaden zur Planung, Durchführung, Auswertung und Nutzung der Ergebnisse. Eschborn, GTZ.

6.2 Methodological considerations related to baselines: experimental and quasi-experimental evaluation designs

In view of the high costs involved and the time and human resources required in the GIZ context, experimental and quasi-experimental evaluation designs can only be used to a limited extent. For reasons of efficiency, it is advisable to carefully weigh up the proportionality of costs against the project's overall budget. So far, few GIZ projects have made use of these types of evaluation designs. However, if the use of experimental or quasi-experimental evaluation designs is being considered, it will be necessary to give consideration to methodological issues and make a decision before the baseline data are collected for indicators. For example, experimental and quasi-experimental evaluation designs presuppose that baseline values are either established for control groups during the baseline survey, or that they are reconstructed for comparison groups at a later stage using statistical or econometric techniques.

What are randomised controlled trials?

Randomised controlled trials (RCTs) are an experimental design for measuring results. They are based on the idea that the impact of a project can only be determined if we know what would have happened had the intervention not taken place (the 'counterfactual' situation). The group that is participating in the project is compared with a control group that is not benefiting from the intervention. The groups are randomly assigned to one of the two categories before the intervention commences. By so doing, it is possible to largely exclude the likelihood that any differences noted after the project has been concluded are due to factors other than the project itself (see RCT position paper).

6.3 Results-based monitoring systems: examining indicators at milestone intervals

To prove the progress made by a project, indicators are mapped in RBM systems not only with baseline and target values; they are also measured at milestone intervals. Milestones are essential for project steering because they provide statements on where the project stands at present in terms of achieving its objectives. This makes it possible to monitor whether the project is on the right track or whether corrective action needs to be taken. As soon as the periodically collected data are available, they should be analysed using the following key questions, making it possible to assess the progress made by the project.

- Do the collected data prove that progress is being made towards achieving the intended positive result?
- If not, what steering or action is required in order to achieve the intended result?
- What are the reasons for any deviations established? Are there any indications of unintended positive or negative results? Which external factors, particularly risks, influence the achievement of results? Have the selected instruments and key activities made the intended contribution towards achieving results?

The following points should be considered when establishing **milestones** and the **intervals at which they are measured**:

- The intervals at which milestones are measured and the extent to which they are measured depend on the time, human and financial resources of the project.
- Not all indicators can be achieved step by step, and not all are equally suitable for being measured by milestones.

With regard to the **scheduling of data surveys**, it is advisable to collect monitoring data for indicators below the objectives level at shorter intervals (at least twice a year) than for indicators at objectives level (at least once a year). A flexible approach should be taken if secondary data from partner systems are to be used as sources of verification. Here, the baseline and target values for the commissioning period should be available as a minimum requirement (→ Section 7).

Checklist: making indicators measurable

- ✓ Were the advantages and disadvantages of collecting baseline data at the given time (before or after the project was commissioned) weighed up?
- ✓ Was consideration given to methodological issues regarding the evaluation design before the baseline data were collected?
- ✓ Were indicators provided not only with baseline and target values but also with milestones in order to examine progress in achieving intended positive results at specific periods?
- ✓ Does the RBM system use secondary data from partner systems? If so, do the scheduling of periodic data collection and the scope of collection match those of the project?

7. Data sources and data collection methods

To conclude, we will first explain why and under which conditions secondary data from partners' M&E systems and national statistics systems in partner countries should be used, and experience with other international donors in the (sub-)sector should be exchanged. If no appropriate secondary data are available, primary data collection methods are used. Quantitative and qualitative data collection methods are presented below and reference made to the corresponding methodology fact sheets.

7.1 Secondary data

Offers for bilateral projects should not only give consideration to the requirements of the given commissioning party or client, but should also take into account the results-based national development strategies pursued by partners. Partner strategies and national monitoring of indicators for the Millennium Development Goals should serve as a starting point for the strategic orientation of these projects.

When planning a project, the **M&E systems** and **national statistics systems** in the partner country should be examined to establish whether they have reliable data that can be used. Such data may come from administrative sources or from censuses and household surveys. While existing data must obviously be included to ensure the efficient use of funds, these data should be critically examined to make sure they are sufficiently precise, reliable and representative. It is vital that they provide as much information as possible to substantiate results. Another prerequisite for using partner data is that the scope of data collection and the scheduling of periodic data surveys must match the term of the project and the scheduling of the next evaluation.

Partners who lack methodological experience can also be familiarised with the corresponding data collection and evaluation processes in the interests of capacity development. Developing the partner's M&E capacities also contributes to the **sustainability of partner structures.**

National statistics systems: where can data be found (data mapping)?

- Statistical offices
- Sector ministries and government authorities
- Research institutions, think tanks, universities, banks
- Civil-society organisations

It is advisable to exchange experience with other international donor organisations in the sector. If different donors conduct surveys among the same target groups, these might frequently show increasing signs of 'research fatigue' and become less motivated. Exchanging experience among donor organisations is also recommended when piloting innovative approaches (e.g. using data from social media).

Data from **international indices** can only be used to a limited extent when substantiating the results of projects. Comparative country rankings rarely capture the complexity and context in the individual partner countries. Another problem is that the measurement intervals for (descriptive) indicators do not match the terms of the projects in many cases. Finally, the data published in these indices is usually aggregated. They would be suitable for use especially if disaggregated data were made available that can be attributed to regions, based on socio-economic criteria.

7.2 Primary data

If no appropriate secondary data are available, a decision has to be made about the methods that will be used to collect primary data. The selection should be geared to the individual information requirements and take into account the existing time, financial and human resources and the country context. Surveys among target groups may for instance be severely constrained by security risks in conflict and crisis regions.

Each of the data collection methods has its own advantages and disadvantages, strengths and weaknesses. That is why quantitative and qualitative methods should be combined in order to obtain reliable and informative proof of results. **Triangulation** seeks to confirm the findings obtained with one method by using another method. For example, if surveys

show that adequate health care is provided, this subjective perception can be verified by consulting the administrative documents of the hospitals concerned.

Once suitable methods have been identified for measuring the indicators, data collection needs to be organised and coordinated. RBM systems should therefore always contain **data collection plans** that set out staff responsibilities, data sources, methods and measurement intervals.

A general overview of the various methods used to collect quantitative and qualitative data is provided below.

Quantitative collection methods

— **Systematic monitoring** (counting, for example, as a quantitative method) is suitable for simple events that can be directly monitored.

— **Surveys using standardised questionnaires** capture attitudes, perceptions, behaviour and other aspects that cannot be directly monitored (see Fact Sheet Stichprobenziehung und Auswahlverfahren and Fact Sheet Fragebogen and Fact Sheet Minisurveys).

Qualitative collection methods

— **Semi-structured interviews** are useful for asking more in-depth questions, capturing themes in greater depth and understanding how various aspects relate to each other. The interview is structured using guidelines that provide a framework for the information to be obtained. In other respects, the interview is open-ended. Interviewees are asked to state in their own words what they consider important about a theme or question (see Fact Sheet Leitfadengestützte Interviews).

— Focus group discussions are used as a non-standardised form of survey. However, in order to structure and guide the discussion and to ensure that the information to be obtained is actually discussed, some key questions should be formulated also for focus groups (see Fact Sheet Fokusgruppendiskussionen).

— Qualitative document analysis is suitable for analysing and interpreting documents such as minutes or legal texts (see Fact Sheet Qualitative Inhaltsanalyse).

Measurability: quantifying qualitative information

In order to make indicators measurable by assigning them baseline and target values and milestones, the findings of qualitative data collection methods also need to be coded and quantified. There are different evaluation methods that aim to quantify qualitative information. Documents (e.g. minutes or interview transcripts) are broken down into their individual constituents using different content analysis processes. These individual constituents are then assigned to categories. The frequency with which these occur in specific categories is then counted (e.g. 'Word count'). This provides a basis for quantitative assessment and for quantifying and qualifying indicators.

Checklist: data collection methods and data sources

✓ Have the data available in national systems been critically analysed to make sure they are robust (precise, reliable, representative)? Do the scope of collection and the scheduling of periodic data surveys match those of the project?

✓ Has experience been exchanged with other international donor organisations in the sector on the use of secondary data and the collection of primary data?

✓ Have quantitative and qualitative data collection methods been combined?

✓ Have the chosen data collection methods been tailored to the information requirements, the available time, financial and human resources and the framework conditions in the country context?

✓ Are data collection plans in place?

✓ Within the framework of surveys or focus group discussions, can data be collected that can be used as sources of information for several indicators (efficiency)?

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