



4.5 By 2030, eliminate gender disparities in education and ensure access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintiles and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated

Definition:

Parity indices require data for the specific groups of interest. They represent the ratio of the indicator value for one group to that of the other. Typically, the likely more disadvantaged group is the numerator. A value of exactly 1 indicates parity between the two groups.

Purpose:

To measure the general level of disparity between two sub-populations of interest with regard to a given indicator.

Calculation method:

The indicator value of the likely more disadvantaged group is divided by the indicator value of the other sub-population of interest.

$$\text{DPI} = \frac{[\text{Ind}_i]_d}{[\text{Ind}_i]_a}$$

where:

DPI = the Dimension (Sex, Wealth, Location, etc.) Parity Index

Ind_i = the Education 2030 Indicator **i** for which an equity measure is needed.

d = the likely disadvantaged group (e.g. female, poorest, etc.)

a = the likely advantaged group (e.g. male, richest, etc.)

**Interpretation:**

The further from 1 the parity index lies, the greater the disparity between the two groups of interest.

Type of data source:

Various depending on underlying indicator.

Disaggregation:

None because the parity indices directly compare two sub-populations of interest.

Data required:

The indicator values for the sub-populations of interest.

Data sources:

The sources are the same as for the underlying indicators for this goal.

Limitations and comments:

The indicator is not symmetrical about 1 but a simple transformation can make it so (by inverting ratios that exceed 1 and subtracting them from 2). The adjusted parity index lies in the range 0-2. This will make interpretation easier.



4.5.2 Percentage of students in primary education whose first or home language is the language of instruction

Definition:

Percentage of primary students whose first or home language is the language of instruction.

First or home language is defined as the student's main language of communication outside the school environment. It is usually either the first language students learned or the language of their family or local community.

Purpose:

To measure the extent to which children in primary education are learning in a language with which they are familiar and in which they are likely to be proficient.

Calculation method:

The number of pupils in primary education whose first or home language is the language of instruction is expressed as a percentage of all primary pupils.

$$PELA_1 = \frac{EF_1}{E_1}$$

where:

PELA₁ = percentage of pupils in primary education (ISCED level 1) whose first or home language is the language of instruction

EF₁ = pupils in primary education (ISCED level 1) whose first or home language is the language of instruction

E₁ = total pupils in primary education (ISCED level 1)

Interpretation:

A high value indicates a large number of primary pupils are being taught in a language in which they are proficient thus making it easier for them to adapt to the school learning environment.

Type of data source:

Administrative data, household surveys.

**Disaggregation:**

By sex from administrative sources; by sex, location and income from household surveys, and others as available.

Data required:

Number of primary pupils by first or home language and information on the language of instruction.

Data sources:

Administrative data from schools on the language of instruction and the first or home languages of pupils.

Limitations and comments:

Determining each pupil's first or home language may not always be straightforward and schools may not always record this information. Even if pupils are taught in their first or home language the quality of the teaching may not always be sufficient to ensure that good progress in learning takes place.



4.5.3 Extent to which explicit formula-based policies reallocate education resources to disadvantaged populations

Definition:

The indicator includes both (a) a medium-term perspective approach; and (b) a longer-term one:

- (a) Degree of national financing policy's commitment to equalise education opportunity to primary and secondary education could be rated by four levels: (i) very low; (ii) low (e.g. there are policies to provide more resources to disadvantaged schools/students); (iii) medium (e.g. which reallocate at least x% of the education budget); (iv) high (e.g. are well-targeted and effectively monitored).
- (b) Percentage of public expenditure on education that is explicitly allocated to disadvantaged populations. Depending on the national context, disadvantaged populations may include members of ethnic, linguistic and religious minorities, indigenous peoples or other groups.

Purpose:

The general aim of the indicator is to capture the effort countries make to equalise education opportunities through their financing system. The specific formulation reduces the scope of the indicator in two ways. First, it refers to 'education' resources, while other resources (e.g. cash transfers under the social protection budget) can also help equalise education opportunities. Second, it refers to 'formula-based' resource reallocation, while other approaches can also be used for this purpose.

Calculation method:

- (a) Indicator is a qualitative indicator derived from policy documents and/or qualitative exercises such as the World Bank's System's Approach for Better Education Results (SABER) school finance module.
- (b) Indicator uses detailed budget lines to identify public spending directed towards vulnerable populations. This will require a detailed reference classification of education expenditures and an agreed list of vulnerable groups.

Formulae are still to be defined.

Interpretation:

- (a) Self-explanatory categories
- (b) The higher the proportion of public spending directed towards the vulnerable, the more governments make efforts to redirect resources towards the most vulnerable.

**Type of data source:**

Administrative data.

Disaggregation:

The indicator may be disaggregated by populations which are targeted in the funding formulae (e.g. poor, disabled, urban/rural etc.).

Data required:

Policy documents and detailed education budget.

Data sources:

National policy documents or existing qualitative data collections and detailed budget documents.

Two examples could inform the definition of such an indicator:

- The World Bank's Systems Approach for Better Education Results (SABER) comes closest to a potential source. Under the domain 'School finance' and policy goal 5 'Providing more resources to students who need them', questions such as: 'Are public resources available to students from disadvantaged backgrounds?' and 'Are there policies to provide more resources to schools or households with other disadvantaged students (ethnicity, gender, native language, urban/rural)?' are asked. Data are collected in-country by local experts who ensure cross-country comparability. Policies are evaluated and scored at four levels, and results are verified with governments before publication.
- The United Nations Economic Commission for Latin America and the Caribbean (ECLAC/CEPAL) has carried out country reviews of social protection systems that collect similar data that are used for regional comparisons.

Limitations and comments:

A need for qualitative data on education systems calls for a new mechanism which will require (i) coordination by a UN organization; (ii) government endorsement of the assessment framework; and (iii) a role for experts to support governments in reporting.



4.5.4 Education expenditure per student by level of education and source of funding

Definition:

Total initial funding from government (central, regional, local), private (households and other private) and international sources for a given level of education (pre-primary, primary, lower secondary, upper secondary, post-secondary non-tertiary and tertiary education) per student enrolled at that level in a given year. The results should be expressed (i) as a percentage of GDP per capita; and (ii) in PPP\$ (constant). Unless an additional disaggregation is proposed, this indicator considers funding for in public and private institutions together.

Purpose:

This indicator reflects the amount of resources invested on average in a single student, going beyond government sources so that an actual unit cost can be calculated. Using a per student basis is useful for comparison, whether between levels of education, over time, or between countries. Expressing the indicator either as percentage of GDP per capita, or in PPP\$, also allows for comparisons between countries, and using constant values when looking at time-series is necessary to evaluate how real (eliminating the effects of inflation) resources are evolving over time.

Calculation method:

The indicator is calculated by dividing total initial funding (i.e. including transfers paid but excluding transfers received) from government (central, regional, local), private (households and other private) or international sources for a given level of education (pre-primary, primary, lower secondary, upper secondary, post-secondary non-tertiary and tertiary education) by the number of students enrolled at that level in a given year, and again dividing (i) by GDP per capita; and (ii) by the PPP\$ conversion factor.

$$\text{XEPGDPpc}_{n,s} = \frac{\text{XE}_{n,s}}{\text{E}_n * \text{GDPpc}}$$

$$\text{XEPPPconst}_{n,s} = \frac{\text{XE}_{n,s}}{\text{E}_n * \text{PPPconst}}$$

where:

XEPGDPpc_{n,s} = expenditure per student in level **n** of education from source **s** of funding as a percentage of GDP per capita

XEPPPconst_{n,s} = expenditure per student in level **n** of education from source **s** of funding in constant PPP \$



$XE_{n,s}$	= expenditure on level n of education from source s of funding
E_n	= enrolment in level n of education
GDPpc	= GDP per capita
PPPconst	= PPP constant \$ conversion factor

Interpretation:

Government funding: When considered as a percentage of GDP per capita, a higher value would indicate a greater priority to the specific level of education given by public authorities. When considered in PPP\$, the indicator can show the 'real' amount of resources invested in one student.

Private/household funding: a higher value would signify a greater burden on households, and potential implications for equity and access to education.

For international sources: a higher value would signify a greater commitment from donors to a level of education in a given country, but also potentially a greater degree of aid dependency for governments in terms of education funding.

For all sources combined: the indicator would show the real, total value of resources invested in one student, and therefore the real unit cost. Since the indicator is constructed on a comparable scale (i.e. for one student, and relative to GDP per capita or using a common currency), all its sub-components can be compared to other levels of education, over time, or between countries.

Type of data source:

Financial data from ministries of finance and/or education (government); household expenditure surveys (households); national aid management systems and/or IATI (international); other surveys (other private); administrative data (number of students by level)

Disaggregation:

By level of education, source of funding (government, private, international), type of institution (public/private) but with expected lower coverage for private institutions. For household expenditure, eventually disaggregation by wealth, location and sex could also be calculated, but not for government and international sources.

Data required:

Central, regional and local government expenditure data on education by level of education and type of institution; household and (ideally) other private expenditure on education by level of education and type of institution; international expenditure on education by level of education and type of institution; number of students enrolled by level of education and type of institution.



Data sources:

At the national level, ministries of finance and/or ministries of education financial management systems are the source of government expenditure on education, although disaggregation by level often implies estimations using data on students and/or teachers by level. Data on expenditure by lower levels of government can be centralized or collected directly from local authorities.

Household expenditure on education is collected through consumption/expenditure surveys, although few surveys disaggregate spending by level of education, type of school and/or nature of expenditure. School censuses in some countries also collect data on financial/in-kind contributions by households/students.

Data on other private sources of funding for education (e.g. corporations, local NGOs) are rarely collected systematically and would often require additional surveys preceded by significant analytical, preparatory and advocacy work.

International sources may be available through governmental financial systems when they are recorded on-budget, and off-budget international funding may sometimes be available through governmental aid management systems, although rarely with the disaggregation needed (ex. by level of education). Data sources for international funding, such as the OECD-DAC database or the International Aid Transparency Initiative (IATI) may be used as a complement, but often present problems of compatibility with other sources, such as government records.

Limitations and comments:

The difference between 'initial funding' (where the funds originally came from) and 'final expenditure' (which entity carries out the expenditure and sends the funds to the school) is important to clarify in this type of indicator. For example, where international donors transfer funds the ministry of education budget without earmarking for specific activities (such as through sector budget support), the expenditure is done by the government, but the funding comes from international sources. Same thing with a scholarship: the initial funder is the government, and the final spender is the household. Either two sets of indicators should eventually be produced (potentially confusing to users), or a choice be made on which perspective will be presented. The option presented here (and to be discussed and validated) is to calculate the indicator on the basis of initial funding because a) This is arguably more intuitive--if we are saying 'by source of funds', people expect to see who paid and b) This would be better aligned with the National Education Accounts methodology. Note that if we go with that option, we may want to change the indicator name to something like "Education funding per student by level of education and source".

The part of this indicator focusing on government expenditure is already available for a large number of countries, although not always with regularity. The formula would also need to be slightly modified if we are to use initial funding.



For private and international sources, data availability is significantly lower, so that it will take several years and significant investment to increase coverage to an acceptable level. In the medium-term, 'private' expenditure may have to be limited to households only (and only for a few countries), and international sources to those recorded in government budgets.

The lack of data on household sources is especially important to consider when looking at expenditure in private institutions, where fees tend to be much higher.



4.5.5 Percentage of total aid to education allocated to least developed countries

Definition:

Total gross official development assistance (ODA) for education in least developed countries (including early childhood, primary, secondary and tertiary education) as well as scholarships and student costs in donor countries expressed as a percentage of total gross official development assistance to education. Least developed countries are those defined by the UN Office of the High Representative for Least Developed Countries, Landlocked States and Small Island Developing States (UN-OHRLLS) (http://www.un.org/en/development/desa/policy/cdp/lcdc/lcdc_list.pdf). Only donor countries will be required to report this indicator.

Official development assistance is defined as grants or loans to countries and territories and to multilateral institutions provided by state and local governments or their executive agencies with the objective of promoting the economic development and welfare of developing countries and territories. Such grants or loans are provided on concessional financial terms and, in the case of loans, contain a grant element of at least 25 per cent.

Purpose:

ODA is the accepted measure of international development co-operation. The data thus cover official international assistance to education, including to provide education places for developing country nationals in donor country educational institutions.

Calculation method:

Total gross disbursements for the education sector allocated to least developed countries are expressed as a percentage of total bilateral aid for education.

$$\text{PODAE}_{\text{LDC}} = \frac{\text{ODAE}_{\text{LDC}}}{\text{ODAE}}$$

where:

PODAE_{LDC} = percentage of gross ODA for education allocated to least developed countries

ODAE_{LDC} = total gross ODA for education allocated to least developed countries

ODAE = total gross ODA for education

Interpretation:

A high value indicates that least developed countries are being prioritised to receive aid for education.

**Type of data source:**

Administrative data.

Disaggregation:

The data can be disaggregated by provider and recipient country.

Data required:

Total aid to education and aid to education allocated to least developed countries.

Data sources:

Administrative data from donor countries and other aid providers on gross official development assistance to education. Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD) from returns submitted by its member countries and other aid providers.

Limitations and comments:

The data only address international concessional flows provided by governments.