

# Scenario Exercises

- 1) What discrepancies, inconsistencies, and/or missing information you can identify in the data and possible reasons behind these inconsistencies or discrepancies?**

Solutions:

- Age populations who are too young for **completing** tertiary courses
- Age populations who are too young for **attending** teacher education programmes
- Post-secondary is unclear whether this is TVET related or other education programmes
- For OOS, no definitions on the nonformal programmes and their type/length and whether they could qualify under basic education
- For overage, no individual grade enrolments to calculate grade-wise overage
- For gross intake ratio, no individual grades to calculate grade-wise GIR
- No definition of teacher programmes (TVET or higher education?)

- 2) Which type of disaggregation is possible and which would be desirable to have considered?**

Generally possible:

- Male-female sex
- Rural-urban location
- And: Location-sex

Missing:

- Literacies: rural/urban distinctions
- Teachers: gender distinctions

Additionally desirable:

- wealth, disability, (ethnicity and primary language of students (where applicable))

- 3) Which SDG 4 indicators can be calculated from the individual spreadsheets?**

*Additional information: The basic education structure is: 12 years (6 years primary, 3 years lower secondary, 3 years upper secondary, and the addition of 1 year pre-primary)*

Solutions by spreadsheets:

- Completion table(s):
  - 4.1.2 Completion rate (primary education, lower secondary education, upper secondary education)
  - 4.4.3 Youth/adult educational attainment rates by age group and level of education
  - 4.5.1 Parities for gender, location, location by gender
- Enrolment table(s):

- 4.2.2 Participation rate in organized learning (one year before the official primary entry age)
- 4.1.4 Out-of-school rate (1 year before primary, primary education, lower secondary education, upper secondary education)
- 4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months
- 4.3.2 Gross enrolment ratio for tertiary education
- 4.3.3 Participation rate in technical-vocational programmes (15- to 24-year-olds)
- 4.5.1 Parities for gender, location, location by gender
- Literacies table:
  - 4.6.2 Youth/adult literacy rate
  - 4.5.1 Gender
- Teachers table(s)
  - 4.c.2 Pupil-trained teacher ratio by education level
  - 4.5.1 Location

Indicators – Calculation results for verification of available and relevant data

Indicator	Abbreviation	%
4.1.2.	CR-P	99.5
	CR-LS	82.4
	CR-US	45.8
4.4.3.	AR-P-25+	40.5
	AR-LS-25+	19.3
	AR-US-25+	11.9
	AR-P-15+	35.1
	AR-LS-15+	22.6
	AR-US-15+	16.5
4.6.2.	LR-15+	89.1
4.c.2	PTTR-PreP	17.0
	PTTR-P	38.0
	PTTR-LS	39.0
	PTTR-US	42.0
	PTTR-TVET	35.0
	PTTR-HE	49.0
4.2.2.	Part-PreP	49.2
4.1.4.	OOS-PreP	29.8
	OOS-P	5.0
	OOS-LS	7.5
	OOS-US	41.8
4.3.1.	Part-ET-15+	7.8
	Part-ET-15-24	31.1
	Part-ET-25+	0.3
4.3.2.	GERT	22.7
4.3.3.	Part-TVET-15-24	3.6

**4) Within the scope of already collected data, what additional information could have been reported?**

- Grade-wise numbers (instead of level aggregation) for:
  - o 4.1.3 Gross intake ratio to the last **grade** in each primary and lower secondary education
  - o 4.1.5 Percentage of children over-age **for grade** in each education level
- Literacies of populations the age of 25+, and age 15 to 24
- Type of qualifications for teachers

**5) Table 3 reports the numbers of enrolments across the country by population ages. SDG 4 encompasses the indicator 4.1.5. on overage children. Although it is not possible to calculate the overage population by grade as required by this indicator, it is notable that there are large numbers of learners being overage (as well as underage) for their intended education level.**

- a. Without calculating the respective overage/underage populations, what reasons do you assume are behind these numbers?
- b. What actions would you recommend to investigate the problematic situation?
- c. With your own experiences in mind, what policy recommendations would you propose to mitigate the overage populations subsequently?

A) The reported numbers are incorrect at the point of:

- registry (e.g. school level) due to falsely reported birthyears, typing/writing errors, misclassification of student individual attendance levels, other human errors
- data collection (e.g. school level) due to typing/writing errors, association of individuals information, other human errors
- data aggregation (e.g. district level) due to compiling/merging errors of different datasets and format, imputation errors when missing data (technical errors), automated/formula-based processing errors (technology errors)

• A combination of all

B) Actions to take:

- Audit selected education institutions for their capacities in individual registrations and data reporting
- Investigate discrepancies in self-reporting of information (e.g. by students or parents)
- Audit selected bureaus by level (local to central) for their capacities in data processing and reporting
- Review processing methodologies at relevant bureaus regarding conceptual understanding (human side) and the used instruments (technology side)

C) Open discussion/suggestions

- 6) **Table 5.1 provides the numbers of trained teachers by districts. Calculate the Pupil-Trained-Teacher-Ratio (4.2.c) for lower secondary education. Seeing the results, what policy recommendation would you propose?**

4.c.2	District 1	56	per one trained teacher
	District 2	25	
	District 3	39	
	District 4	35	
	District 5	37	
	District 6	50	
	District 7	49	
	District 8	20	

### *Suggestions*

- Investigating reasons for unbalanced teacher distributions (e.g. hardship locations, underfinanced institutions, past baby boom or influx migration of families)
- Temporary teacher exchange programmes to supplement teacher supply (e.g. rotational basis)
- Open discussion: Country experiences?

- 7) **Table 6 provides an insight into education expenditures for the “per-pupil expenditures” and the “proportion by type” and level. Studying the results, what are noticeable issues for each of the expenditure information, and what policy recommendations would you make?**

➤ Hint: Focus on over- vs. underspending by level

### Noteworthy:

- High tertiary spending compared to low secondary spending on students and by sector
- Upper secondary spending on per-student is lower than lower secondary
- Accounted but unspecified expenditure items not attributable to any education sector
- Non specified amounts increased over time - Where does the money go?
- Ideally, a step-wise higher per-student expenditure **with each education level** (compare OECD countries)

Indicator	Definition	Possible
1.a.2	Proportion of total government spending on essential services (education)	Not available
1.a.GDP	Government expenditure on education as a percentage of GDP ( <i>Education 2030 Framework for Action</i> )	Not available
4.1.1	Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	Not available
4.1.2	Completion rate (primary education, lower secondary education, upper secondary education)	
4.1.3	Gross intake ratio to the last grade (primary education, lower secondary education)	Data set not adequate because needs each grade
4.1.4	Out-of-school rate (1 year before primary, primary education, lower secondary education, upper secondary education)	
4.1.5	Percentage of children over-age for grade (primary education, lower secondary education)	Data set not adequate because needs each grade
4.1.6	Administration of a nationally representative learning assessment (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education	Not available
4.1.7	Number of years of (a) free and (b) compulsory primary and secondary education guaranteed in legal frameworks	Not available
4.2.1	Proportion of children aged 24-59 months who are developmentally on track in health, learning and psychosocial well-being, by sex	Not available
4.2.2	Participation rate in organized learning (one year before the official primary entry age), by sex	
4.2.3	Percentage of children under 5 years experiencing positive and stimulating home learning environments	Not available
4.2.4	Gross early childhood education enrolment ratio in (a) pre-primary education and (b) early childhood educational development	Data set not adequate because not complete population missing (age below 5)
4.2.5	Number of years of (a) free and (b) compulsory pre-primary education guaranteed in legal frameworks	Not available
4.3.1	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	
4.3.2	Gross enrolment ratio for tertiary education by sex	
4.3.3	Participation rate in technical-vocational programmes (15- to 24-year-olds) by sex	
4.4.1	Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill	Not available
4.4.2	Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skills	Not available
4.4.3	Youth/adult educational attainment rates by age group and level of education	
4.5.1	Parity indices (female/male, rural/urban, bottom/top wealth quintile 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	

4.5.2	Percentage of students in a) early grades, b) at the end of primary, and c) at the end of lower secondary education who have their first or home language as language of instruction	Not available
4.5.3	Existence of funding mechanisms to reallocate education resources to disadvantaged populations	Not available
4.5.4	Education expenditure per student by level of education and source of funding	Not available
4.5.5	Percentage of total aid to education allocated to least developed countries	Not available
4.6.1	Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	Not available
4.6.2	Youth/adult literacy rate	only age 15+ (not 25+, 15-24, 25-64, 65+)
4.6.3	Participation rate of illiterate youth/adults in literacy programmes	Not available
4.7.1	Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment	Not available
4.7.2	Percentage of schools that provide life skills-based HIV and sexuality education	Not available
4.7.3	Extent to which the framework on the World Programme on Human Rights Education is implemented nationally (as per the UNGA Resolution 59/113)	Not available
4.7.4	Percentage of students in lower secondary education showing adequate understanding of issues relating to global citizenship and sustainability	Not available
4.7.5	Percentage of students in lower secondary showing proficiency in knowledge of environmental science and geoscience	Not available
4.7.6	Extent to which national education policies and education sector plans recognize a breadth of skills that needs to be enhanced in national education systems	Not available
4.a.1	Proportion of schools offering basic services, by type of service	Not available
4.a.2	Percentage of students experiencing bullying in the last 12 months in a) primary, and b) lower secondary education	Not available
4.a.3	Number of attacks on students, personnel and institutions	Not available
4.b.1	Volume of official development assistance flows for scholarships by sector and type of study	Not available
4.c.1	Proportion of teachers with the minimum required qualifications, by education level	Not available
4.c.2	Pupil-trained teacher ratio by education level	
4.c.3	Percentage of teachers qualified according to national standards by education level and type of institution	Not available
4.c.4	Pupil-qualified teacher ratio by education level	Not available
4.c.5	Average teacher salary relative to other professions requiring a comparable level of qualification	Not available
4.c.6	Teacher attrition rate by education level	Not available
4.c.7	Percentage of teachers who received in-service training in the last 12 months by type of training	Not available