International Workshop on Data Disaggregation for the SDGs

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Assessment of Equity in Education

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Outcome Targets [7]

4.1 Quality primary/secondary education for all
4.2 Early childhood & pre-primary education
4.3 Equal access to TVET & higher education
4.4 Relevant skills for work
4.5 Gender equality & equal access for all
4.6 Youth and adult literacy
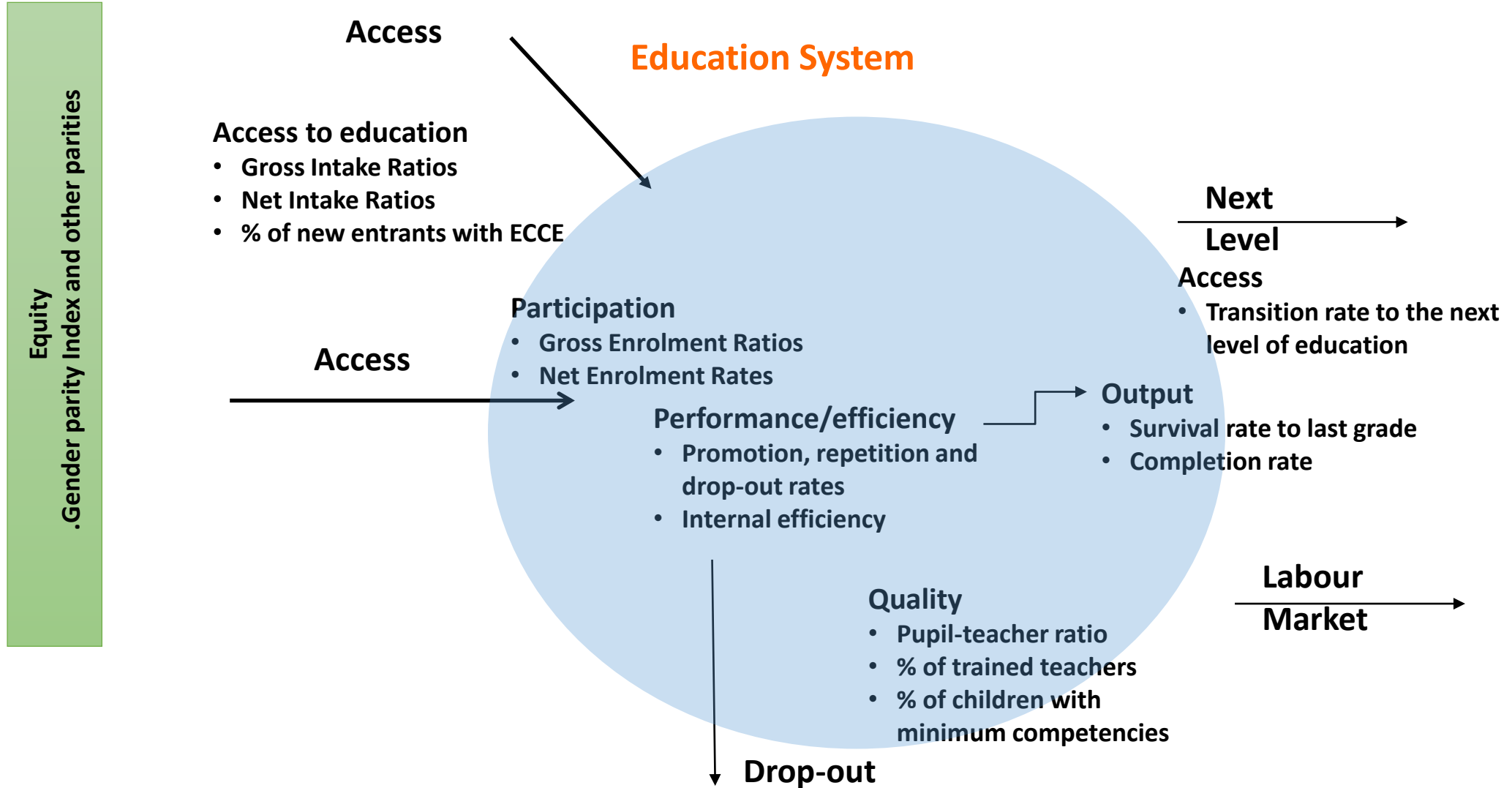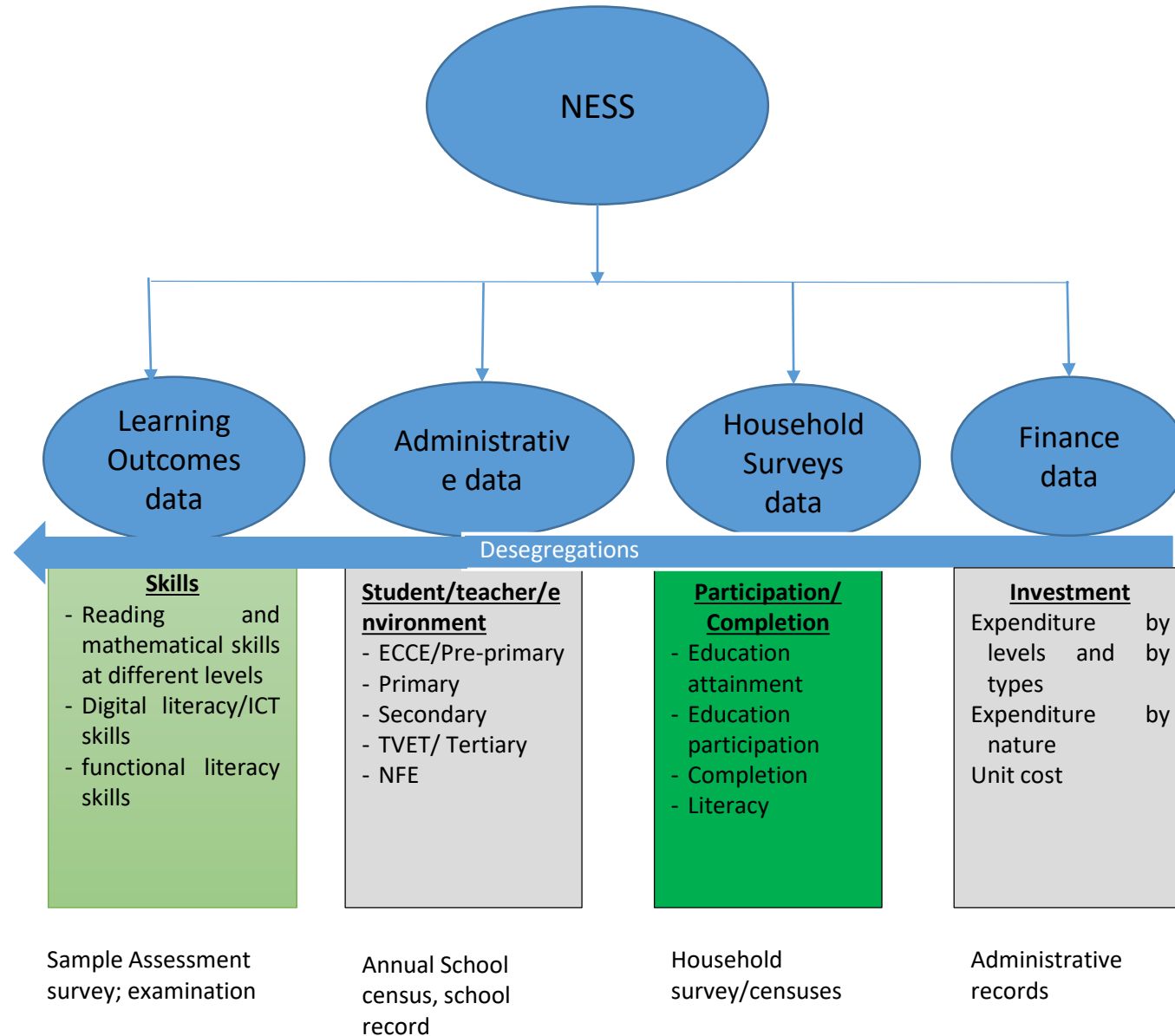4.7 Global citizenship education for sustainability

Means of implementation [3]

4.a Safe & inclusive learning environments

4.b Scholarships for higher education

4.c Teachers' training and working conditions

- SDG 4 consists of **7+3 targets** and **43 indicators**. There are **4 monitoring levels**.
- The **11 global indicators** are led by *IAEG-SDGs*. *TCG SDG4-ED2030* leads the methodological development and implementation of the **43 thematic indicators**.

- **Broad scope across the life cycle:** Indicators for areas which are on the "margins" of the formal education system, but recognized as critically important to achieving the development goals (levels and types)

- **Education quality**: results of learning at all stages of education provision or learning opportunities

- **Equity**: measures that capture those who are excluded from education provision or learning opportunities

Monitoring education from various basic social service aspects

Equity
.Gender parity Index and other parities

Access

Education System

Access to education
- **Gross Intake Ratios**
- **Net Intake Ratios**
- **% of new entrants with ECCE**

Next Level Access
- **Transition rate to the next level of education**

Access

Participation
- **Gross Enrolment Ratios**
- **Net Enrolment Rates**

Performance/efficiency
- **Promotion, repetition and drop-out rates**
- **Internal efficiency**

Output
- **Survival rate to last grade**
- **Completion rate**

Quality
- **Pupil-teacher ratio**
- **% of trained teachers**
- **% of children with minimum competencies**

Labour Market

Drop-out

http://uis.unesco.org/sites/default/files/documents/handbook-measuring-equity-education-2018-en.pdf

*How much more bitter that lesson becomes when they realize that they are **excluded** because of **who** or **where they are**.*

*In effect, an **accident of birth** means that they are **the losers in the education lottery**.*

*As if they didn't have enough problems, they are also **invisible in the data**. We simply **don't know enough** about them.*
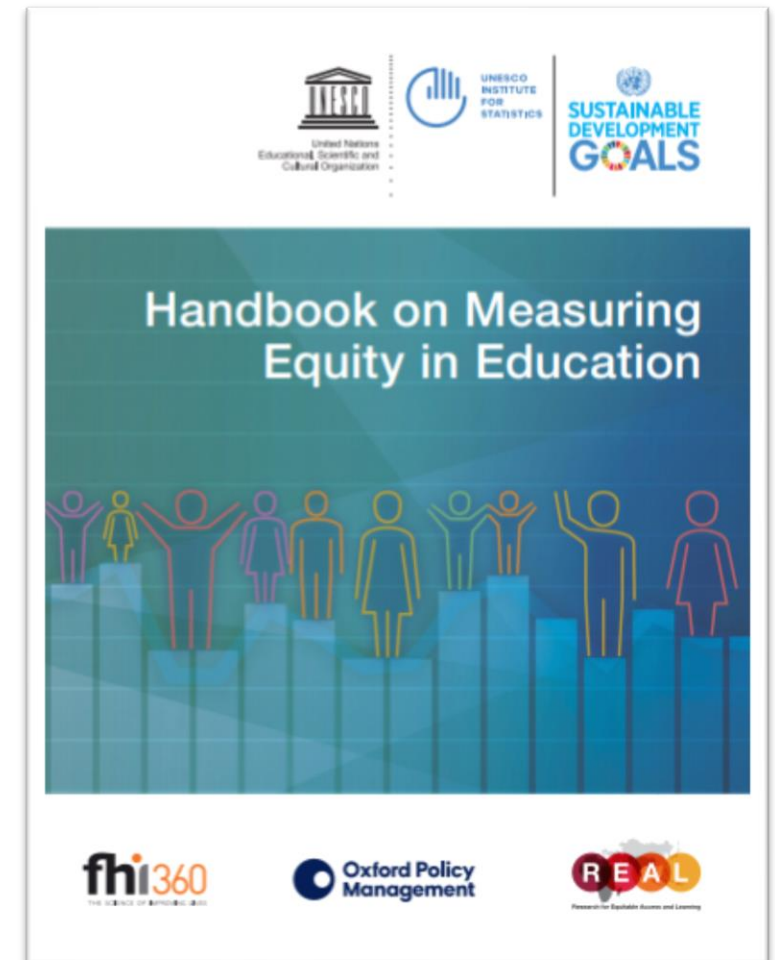
1. **Why does equity in learning matter so much?**

   - For **moral** and **political** reasons: Equity by definition is about whether the distribution of education is <u>fair</u>, <u>just</u> and <u>impartial</u>.

   - For **instrumental** reasons: Policy and programmes to improve learning outcomes for all will often require <u>resources to be targeted </u>towards those who are worst off, and the <u>most unfair systems</u> are often those that produce the <u>worst average outcomes</u>. In other words, equity in learning gives each child the chance of a <u>level playing field </u>in education.

2. **How do we measure it?**

   - What **approaches** can we take to measure whether that playing field is truly level?

Educational opportunities are distributed on the basis of *merit* (e.g. exams).

Mechanism for compensation of initial disadvantage by e.g. distributing educational inputs *unequally to compensate for existing disadvantages*.

Educational opportunities must be at least the *same for everyone* below a certain threshold (e.g. MDG-2)

Meritocracy

Redistribution

5 Principles to Guide the Measurement of Equity

Minimum Standards

Educational opportunities must be the same for *everyone* in the population, regardless of their different circumstances (every child receives *same investment, equal treatment*).

Educational opportunities should be distributed *equally with respect to differences* which should be irrelevant, e.g. gender, ethnicity, language, location, wealth, disability etc.

Focuses on the dispersion of education in the population

Equality of Condition

Impartiality

it is unfair to discriminate by characteristics

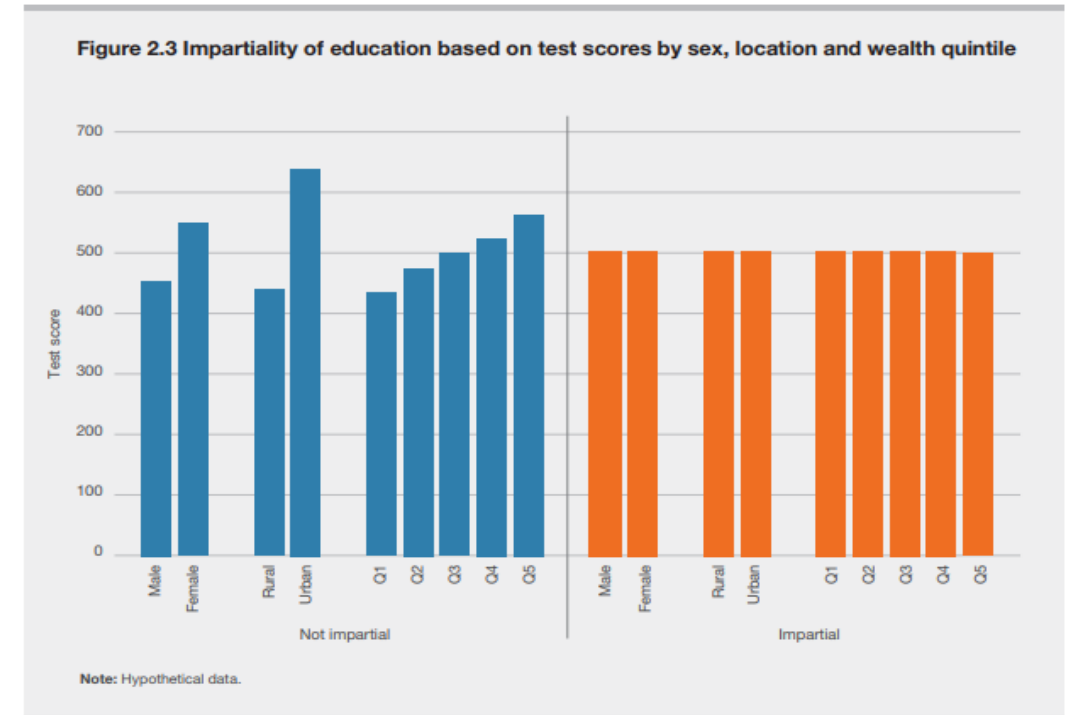# Figure 3.7 Decision tree for equity analysis and applicable metrics
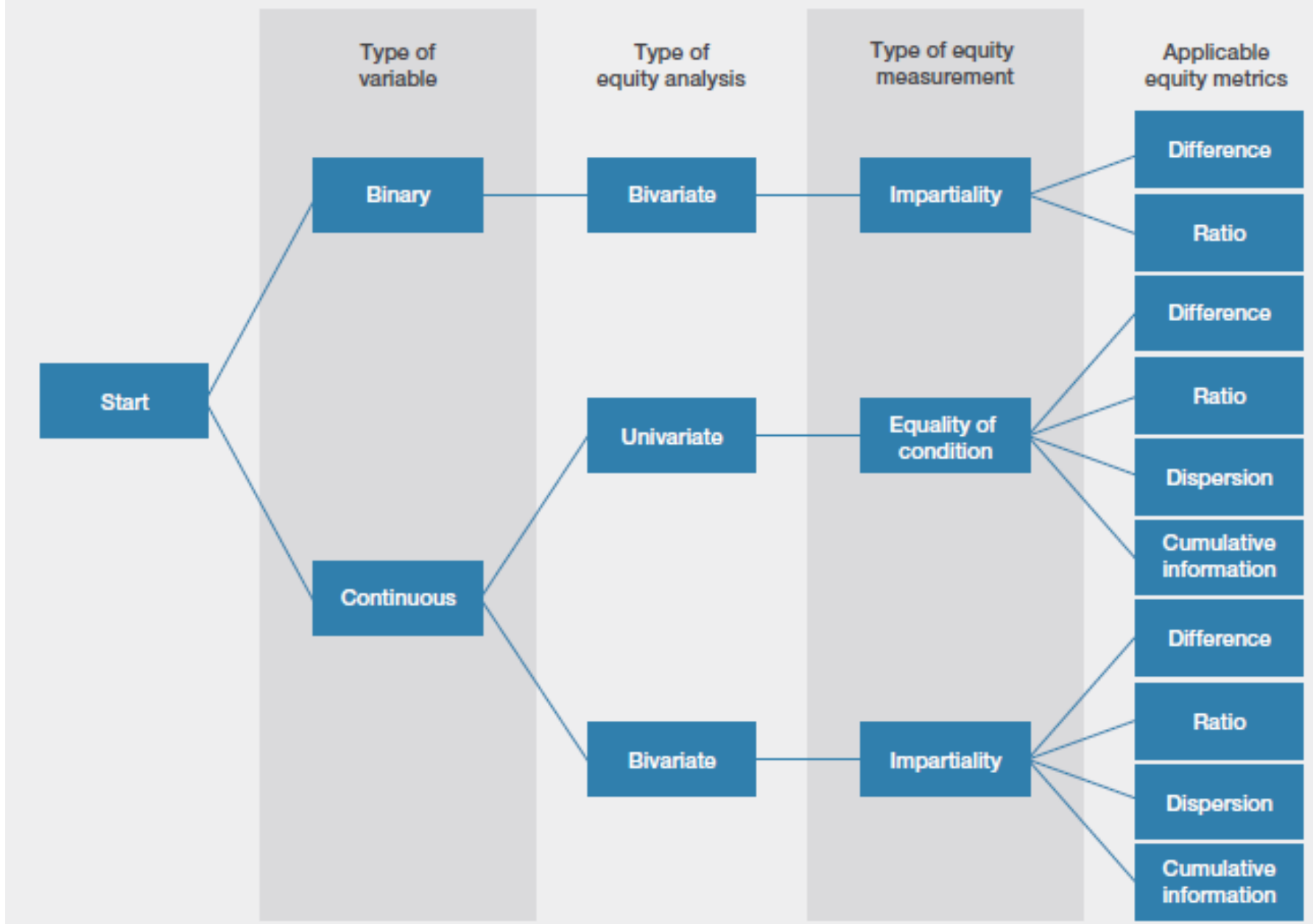
Minimum standards

-   Binary educational variable(e.g. child is in school or not; completed primary education or not, have basic reading skills or not)
-   If everyone achieved this minimum standards, then the educational opportunity is equally distributed
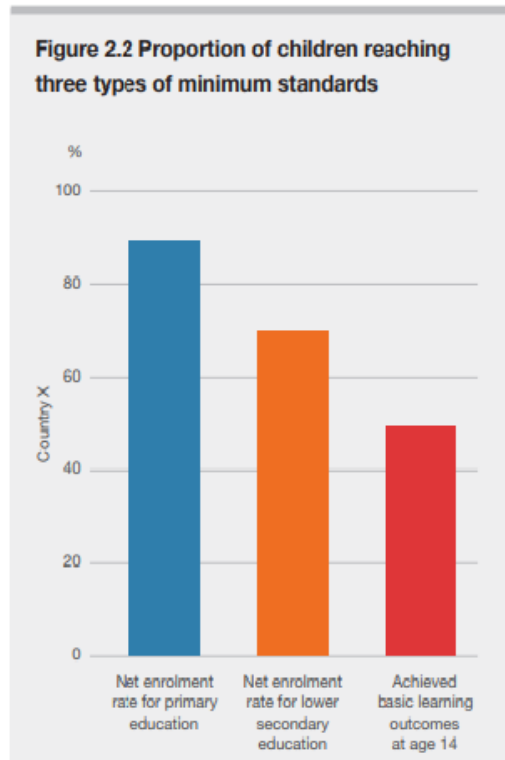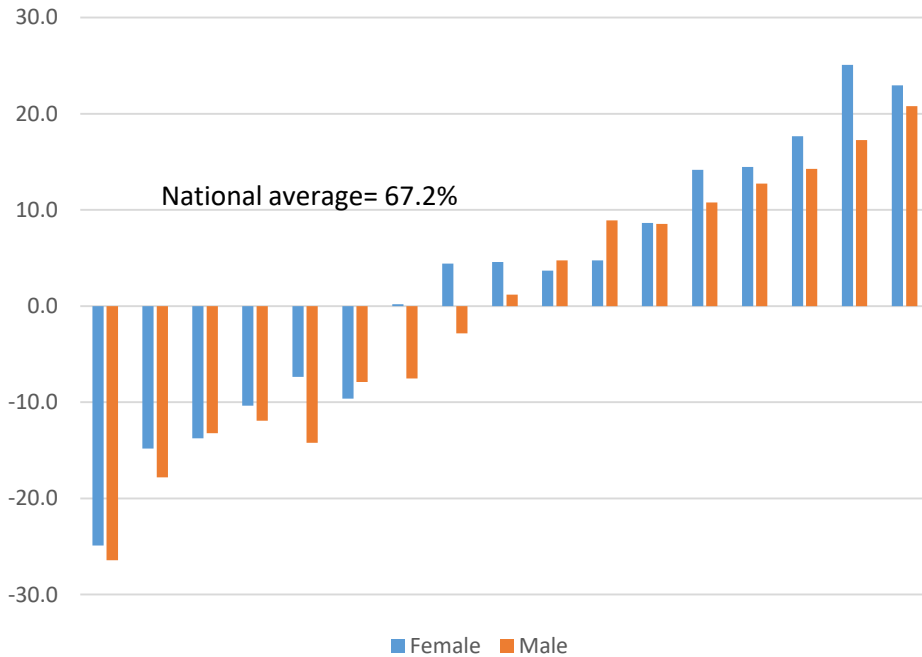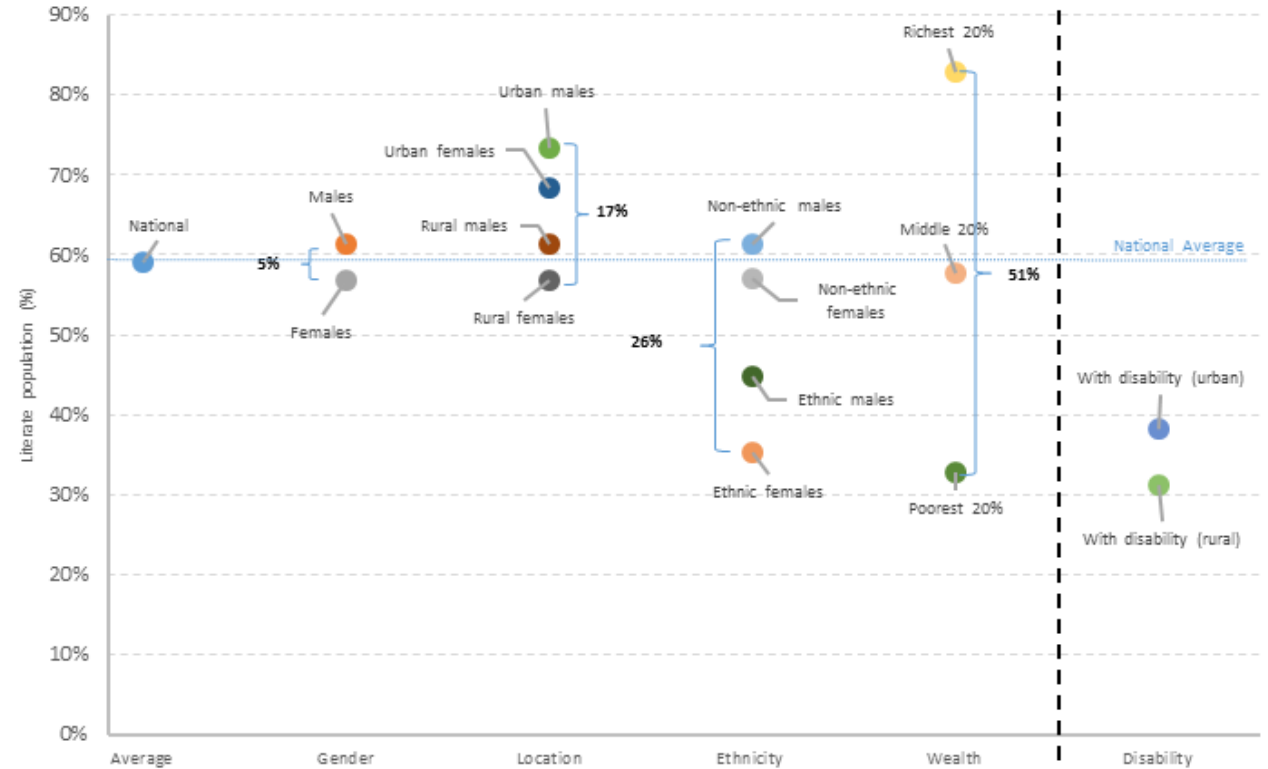
Impartiality

-   Education doesn't depends on background characteristics
-   Differences/gaps shouldn't be there due to groups characteristics (location, wealth, ethnicity, disabilities)

Figure 2.2 Proportion of children reaching three types of minimum standards

Figure 2.3 Impartiality of education based on test scores by sex, location and wealth quintile

Note: Hypothetical data.

Variation in cohort completion rate for primary level by provinces, Lao PDR, 2011-12

National average= 67.2%

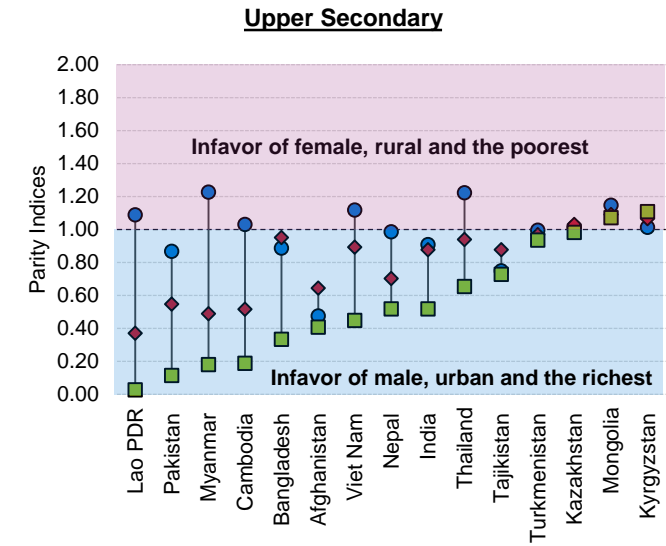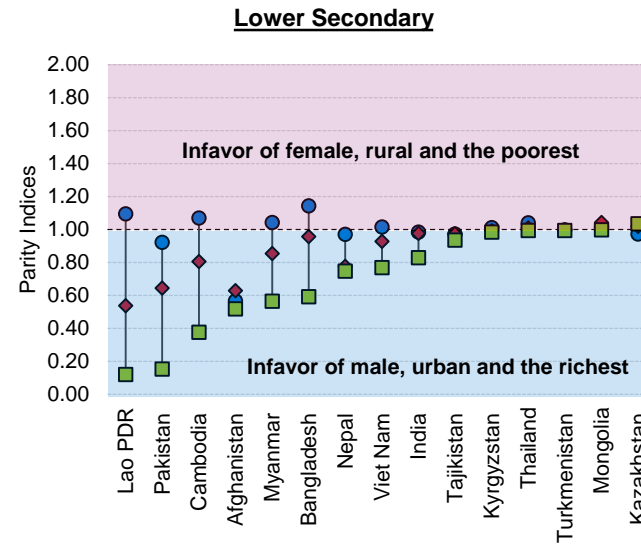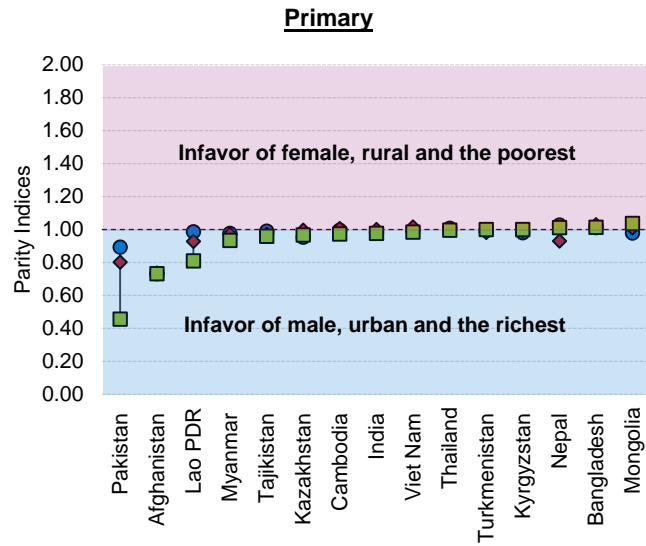Literacy rate for the population 7+ years in Bangladesh, Multiple deprivation
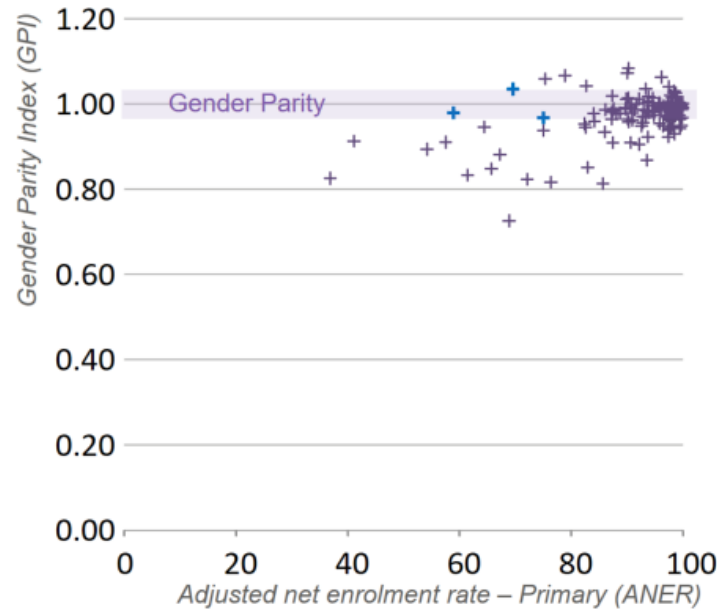
- Value of single indicator by different social groups
- Distance from average
- Gap between various groups
- Closing the gap/differences shows the distribution is becoming impartial

Measuring Inequity using Parity Indices

EQUITY CAN NOT BE LOOKED AT INDEPENDENTLY FROM ACTUAL LEVELS OF INDICATORS

Measuring Inequity through co-variations (Regression or correlation coefficients)

Figure 2.4 Impartiality of education with respect to wealth

R² = 0.5268
Not impartial

R² = 0.0007
Impartial

Years of education

Wealth

Note: Hypothetical data.

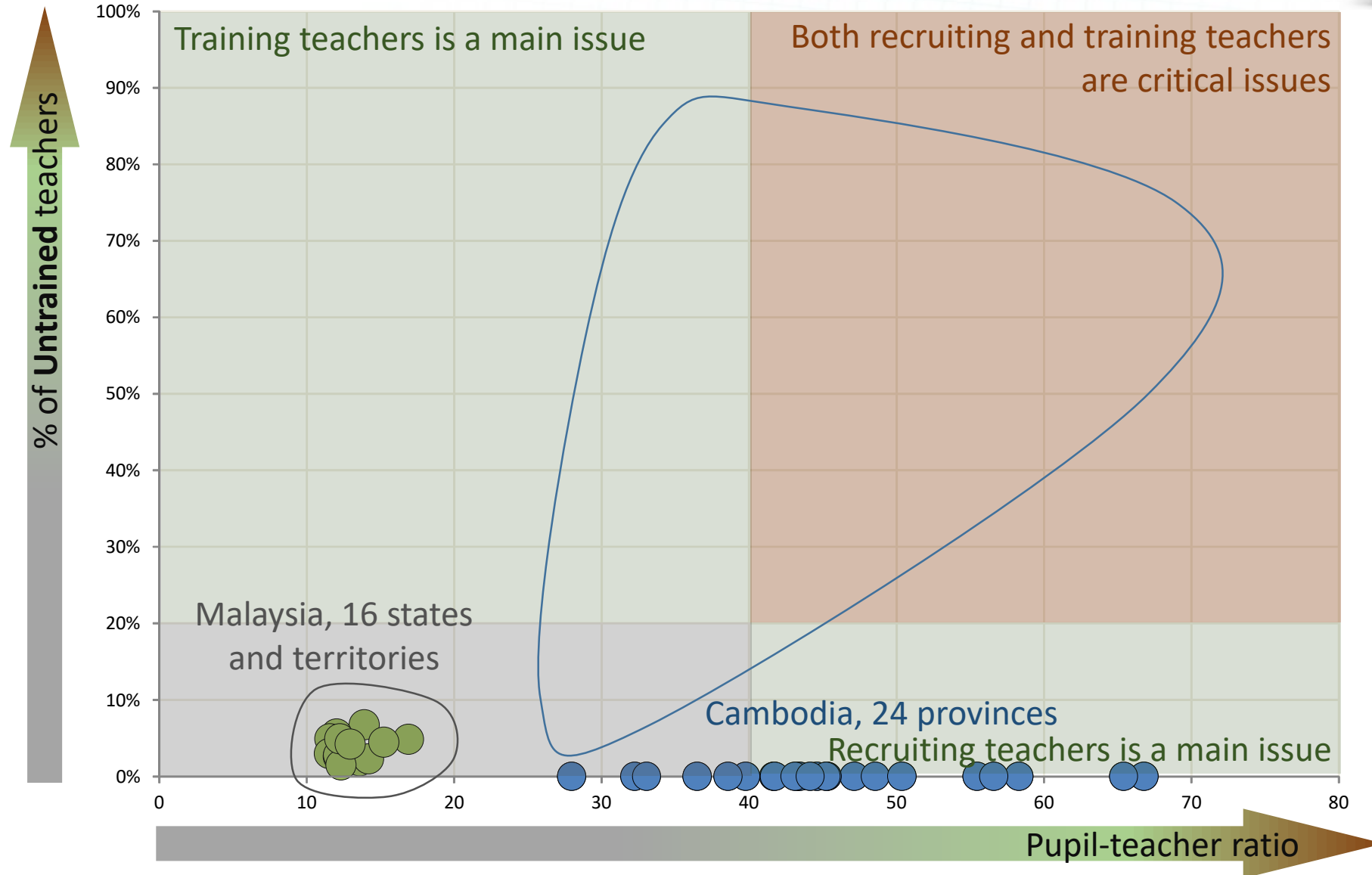Coefficient of Determination (R2) measure the level of impartiality in distribution of education opportunities

Other measurements
- Variance or standard deviation
- Coefficient of variation
- Average absolute deviation (difference from the mean) in the indicator.

Equitable Distribution of Resources

- Collected through annual school census- collects aggregated data (most of the cases) and limited to formal education
- Administrative data sources in Education are fragmented and data collection procedures, methodologies and production might differ from each sub sectors
- Disaggregated mainly by:
  - Location (Administrative Village/Municipality/district/province/region/)
  - Gender
  - Age
  - Educational levels
  - Some countries also tries to include ethnicity, disabilities, however, quality is always an issue
- Limited use of data/lack of capacity

- Actual measurement of skills (what is minimum competencies in your country at different levels ?)
- Various types of learning assessment with different framework- difficult to compare the results
- International assessments such as PISA, PASEC, TIMSS, EGRA, EGMA etc. – but coverage is limited
- National Assessment systems are in place, however, capacity is still limited
- Most of such assessment focus on school population and out of school children are not included. Some assessment start including OOSC as well.
- Testing language is mainly on national or official languages and do not provide opportunity for ethnic children to take test in their languages

Global Alliance for Monitoring Learning (GAML) is building consensus on the international reporting and measurement of learning. It is developing:
- All of the SDG 4 global and thematic indicators related to learning and skills as well as the methodological tools and standards needed to ensure global comparability;
- Standards, guidelines and tools to help countries strengthen the implementation of their assessments and evaluate their quality; and
- Capacity-development tools to support countries in collecting, analysing and using learning assessment data

http://gaml.uis.unesco.org/

Analysis of 75 National Education Sector Plans

- National Education Plans are not prepared well to address the issues of inequalities
- Mostly sex disaggregation has been commonly foreseen (reducing gaps between male and female)
- Some cases, Location is addressed (e.g. urban and rural disparity in primary education will be reduced to less than 20%)
- Wealth and disabilities are least addressed

Table 4.1 Indicators included in national education plans

	Among global and thematic indicators for SDG 4?	Equity?	Dimension Sex	Dimension Location	Dimension Wealth	Dimension Disability
Learning						
Percentage of students proficient in reading for an education level						
Percentage of students proficient in mathematics for an education level						
Percentage of students achieving minimum grade/score in national examinations	Yes	Yes	–	0	0	0
Percentage of students passing national examinations at the end of each education level		Yes	–	0	0	0
Percentage of studens achieving ninimum proficiency level (reading and mathematics) at end of the grade/education level	Yes	Yes	–	0	0	0
Learning achievement rates in examinations improved to "x %" by year "y"		Yes	–	0	0	0
Average percentage of correct answers in national examinations (reading and mathematics)						
Access: Participation						
Number of new entrants per education level		Yes	+	–	0	–
Gross enrolment ratio	Yes	Yes	+	–	0	–
Net enrolment rate		Yes	+	–	0	–
Gender parity index	Yes	Yes	–	0	0	0
Access: Completion						
Retention rate per grade or education level"						
Drop out rate by grade/education level		Yes	–	0	0	0
Survival rate by education level						
Completion rate by education level	Yes	Yes	++	0	0	0
Transition rate to next education level		Yes	–	–	0	0
Free Education						
Education provision per education level guaranteed for all by year "x"						
Abolish fees for education level "x" by year "y"						
Number of years of compulsory schooling	Yes, under the category "participation"					

Notes: ++ High frequency indicators: indicators most commonly found in the different education levels when compared to other indicators for the same category (i.e. learning, access, free education) in the reviewed national education plans.
+ Frequent indicators: indicators commonly found in the different education levels when compared to other indicators for the same category (i.e. learning, access, free education) in the reviewed national education plans.
– Low frequency indicators: indicators least commonly found in the different education levels when compared to other indicators for the same category (i.e. learning, access, free education) in the reviewed national education plans.
0 Indicators: indicators not found or almost not found in the different education levels when compared to other indicators for the same category (i.e. learning, access, free education) in the reviewed national education plans.

Source: Authors' analysis of 75 national education plans.

Innovative approaches and Best practices for measuring equity in education

1. National Strategies for Development of Education Statistics (NSDES)

- A *policy instrument* designed by government and its partners (ie. the EDP) to provide *a medium-term vision f*or a strengthened education data system and data management platform in the country: the National Education Statistics System (NESS)- **Addressing the equity through data policy**

- It is *results-oriented*, outlining a coherent set of intended changes in the production, reporting and use of education statistics.

- It is based on *a sound analysis*, ie. *the Data Quality Assessments (DQA).*

- *Participating countries= Nepal, Bangladesh, Afghanistan, Cambodia and Myanmar*

National Indicator Framework → Data mapping → Data quality assessment → Recommendations → Development of the NSDES → Implementation
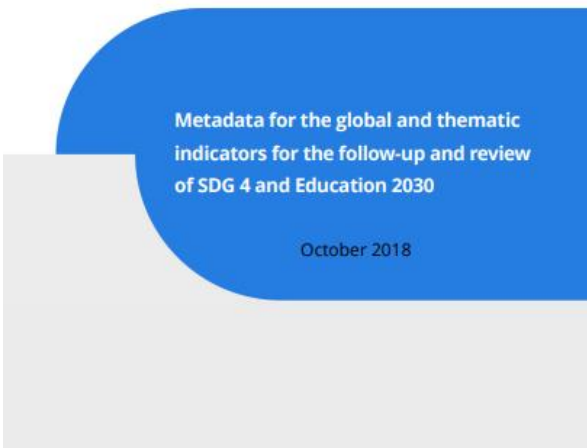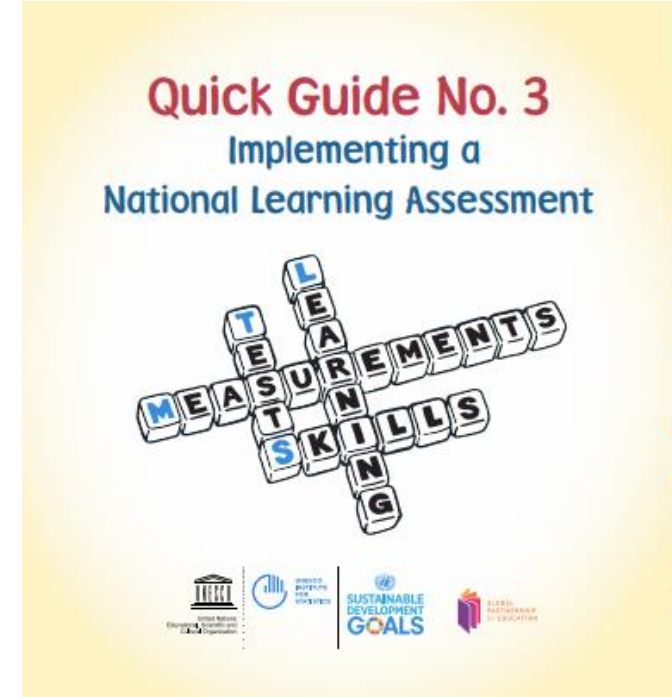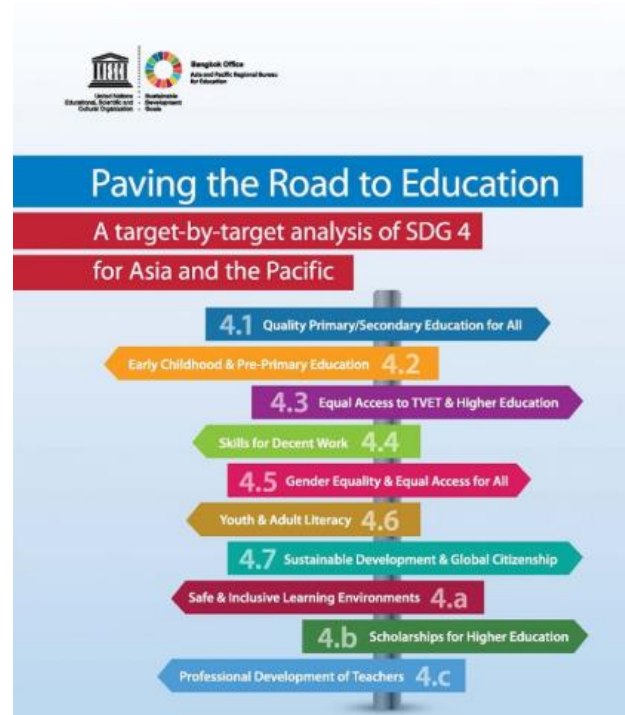
2. Improving EMIS through collecting Individual level data

- Individual student's detailed records by age, sex, cast/ethnicity, grade etc.;
- Individual teacher's records by age, sex, ethnicity, training, qualification, subject, grades, salary, subject teaching by grade;
- Students learning achievements;
- Efficient and effortless data transfer
- Nepal, the Philippines, Timor Leste, Republic of Korea etc.
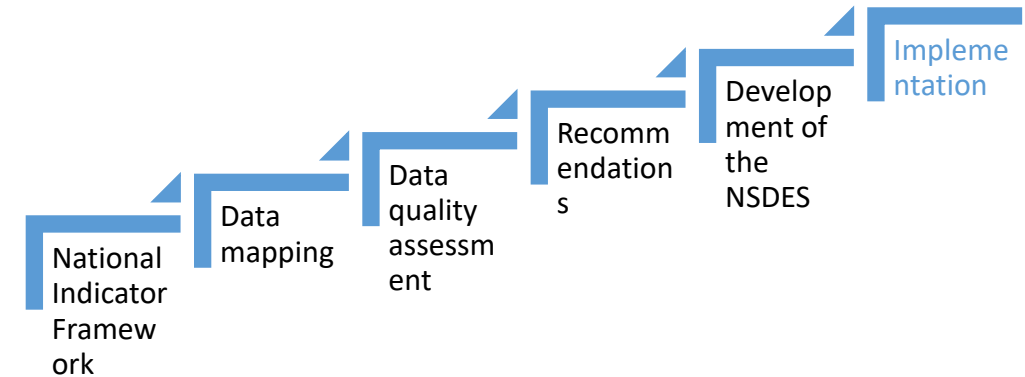
3. Education Data Integration

- Brings all the education data together
- EMIS, NFE-MIS,
- TVET-MIS, HEMIS,
- Finance etc.
- Child welfare, labor data
- Demographic data etc.
- E.g. Fiji, RoK

GLOBAL EDUCATION MONITORING REPORT SUMMARY 2019

Paving the Road to Education
A target-by-target analysis of SDG 4 for Asia and the Pacific

4.1 Quality Primary/Secondary Education for All
Early Childhood & Pre-Primary Education 4.2
4.3 Equal Access to TVET & Higher Education
Skills for Decent Work 4.4
4.5 Gender Equality & Equal Access for All
Youth & Adult Literacy 4.6
4.7 Sustainable Development & Global Citizenship
Safe & Inclusive Learning Environments 4.a
4.b Scholarships for Higher Education
Professional Development of Teachers 4.c

Quick Guide No. 3
Implementing a
National Learning Assessment

Metadata for the global and thematic indicators for the follow-up and review of SDG 4 and Education 2030

October 2018

Questions/Clarification??

Visit UIS data Centre
http://data.uis.unesco.org/