Understanding the linkage between data/ indicator and policy analysis

Analysis of different aspects of education
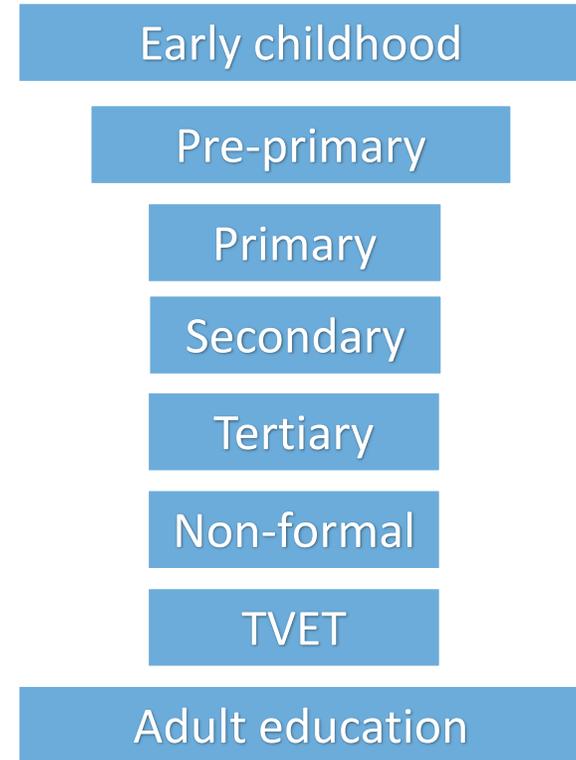
Putting altogether in Education Planning Context
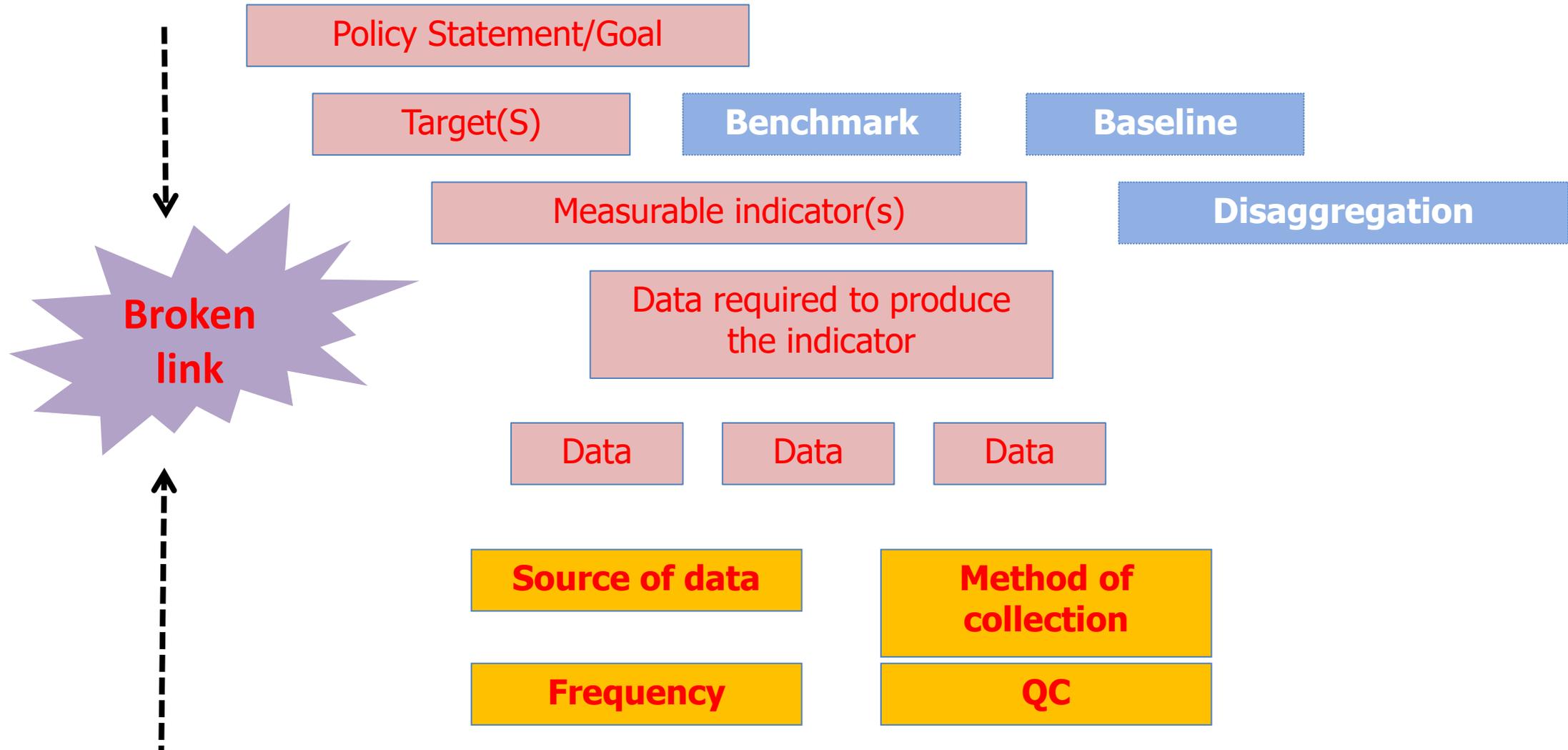
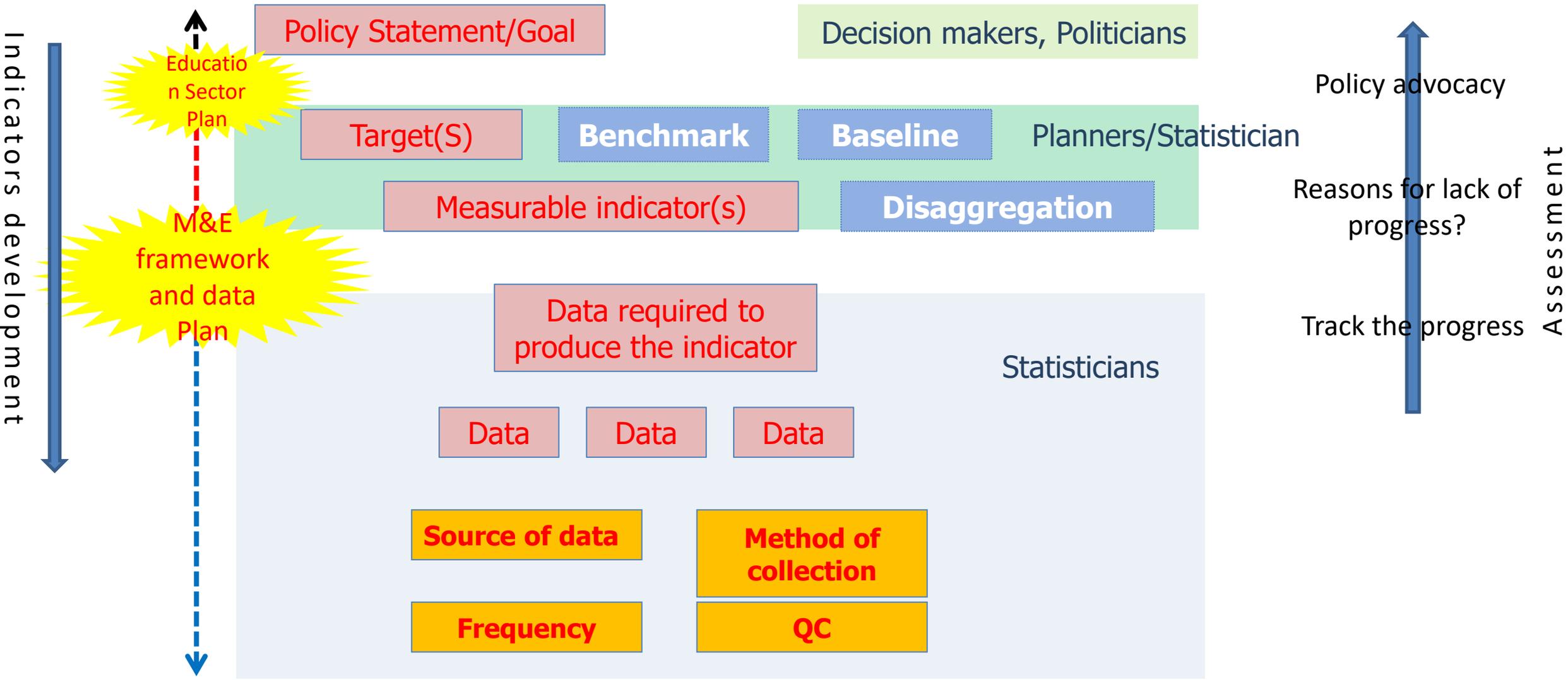# Putting altogether in Education Planning Context

Area	SDG4 indicators	Finding	Bottlenecks analysis (disaggregated)		Relevant policies to review
Access and Participation	Out of school rate (Profiles of OOSC)	Stagnated for last 5 years	ASER	Children of what age are not in school?	Enrollemnt Policies
		Regressed for Ethnic groups especially at upper secondary	NIR	Do children enter in the right age?	Inclusive education policies
			Dropout rate	In which grade and age most drop out happens?	Promotion/progression policies and programmes
		Still high OOSC for upper secondary	Repetition rate	Are there high repeaters in different grades?	Free and compulsory education policy
Completion	Overage Children	Over age children are declining in Primary, but in a very slow pace. Sizeable over age children in Lower and upper secondary	Over age by grade	Which age and levels, high proportions of the over age children exist?	Equivalency and alternative education policies and programmes
	GIR for last grade	High GIR for grade in primary, less in lower and upper secondary	Survial rate	Do the education system able to retain the students until the last grade of the education cycle?	Examination policies
	Completion rate	High completion rate for Primary, low so secondary levels	Transition rate	Are the students transiting from one levels to another ?	Transition and promotion policies
		Completion rate is high in urban and among the rich quintile, but low in rural and poorest quintile		Which social groups /locations are lagging behind in completing school?	Inclusive education policies
Quality	MPL in reading	There is some progress, but too slow	% of minimum qualified teachers	Do the teachers have minimum training?	Teacher policies teacher standards Curriculum contents
	MPL in Mathematics	There is no progress	PTR	Are there enough teachers to support student learning?	Teacher recruitment and deployment plans and strategies Teacher training programmes
		There is regression in learning	% of schools with basic facilities	Are the school equipped with basic facilities e.g. sanitation, drinking water, computers and internet for pedagogical use etc.	School Development plans and Minimum criteria for schools

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Monitoring the progress of SDG 4
..helps assess whether country is on track in specific indicator/aspects. Careful tracking the progress in the SDG4 indicators helps to issues and challenges releted to the indicator. For this the indicator should be disagregated to various levels.

Identify the causes
...why there is no progress. What hinder the progress by analysing the key bottlenecks using other national indicators.

Assess policies to identify systemic challenges
...focussing on the those policies where the analysis has pointed out, rather than reviewing everything.

What to answer: Analyzing the system

- Assess progress and gaps in the achievement of the national and global targets.

- Identify and locate the remaining gaps in terms of access, quality and equity at the sub-national level, with a focus on the disadvantaged and underserved populations.

- Review, identify and locate problems, issues - policies, strategies, actions and success stories.

- Use the results of the assessment to formulate better policies and strategies for achieving the goals and target

What to answer: Analyzing the system

Different concepts of SDG4
- learning, participation, completion, teachers, resource inputs and educational processes etc., can be analyzed according to their:

- Characteristics, distribution and <u>patterns</u>
- Differences, disparities and <u>imbalances</u>
- <u>Changes</u> over time
- progress and <u>shortfalls against targets</u> and plans

cover both the <u>spatial and temporal</u> dimensions in that:

- **Spatial** refers to geographical sub-divisions such as provinces, districts and local areas, whilst differentiating between urban and rural zones and remote areas.
- **Temporal** refers to changes over time.

5 key steps involved in data analysis

Step 1: Purpose / objectives of data Analysis

This includes what question that the data analyses will answer.
- to see the gaps in learning in rural and urban areas,
  - to take a stock of achievement in basic education,
  - to compare the progress between various social groups,
  - to analyze whether there is enough human and technical resources to implement programmes effectively.

Step 2: Selection of Indicators

- Selected indicators should answer the indicated objective questions. (Direct measurement, Proxy?)
- Quality of data (source, coverage, disaggregation…)

5 key steps involved in data analysis

Step 3: Data preparation

- The data (Raw or processed) extraction from data sources in required format to perform the data analysis.
- Carefully check completeness (data for all the areas and groups), coverage (all types of education public, private and other types of schools).
- Preparation of data includes bringing all the data from different sources to calculate desired indicator in one table or one format.

5 key steps involved in data analysis

Step 4: Dealing with Missing data

- Data coming from various sources especially administrative data based on school census may have some degree of data missing for some of the variables.
- 3-types of missing data
  - Missing Completely at Random (missingness is completely random e.g. Lost forms)
  - Missing at Random (missingness is random within subgroups of other observed variables - e.g. private schools not to answer)
  - Not Missing at Random (the reason for missingness depends on the missing values themselves – e.g. schools don't want to report their income when it is below 1000 euros)

5 key steps involved in data analysis

Step 5: Analyzing and interpretation of the data

Different types of Analysis can be used to show the results.

Analysis	Statistical tools
Progress Analysis	Time series, % point increase, Annual growth etc.
Gap Analysis	Distance from target, Comparing between different social or geographical groups
Equity Analysis	Distribution statistics, parity index, range, percentile, Gini
Relationship analysis	Correlation coefficient, regression
Forecasting	Modelling, Projection
Multivariate analysis	Statistical technique to analyze data that arises from more than one variable (where each situation, product, or decision involves more than a single variable)

Transforming data into information