Areas of education planning and monitoring

- **Quality, Access, Equity** and **Management** are the most important areas in education planning as well as in monitoring and evaluation of plan implementation.
- No one ever fully satisfies the quality of education and always wants to improve management.
- Both quality and management are difficult to measure and can be interpreted from different dimensions and different perspectives.
- On the other hand, access to education and equity (or disparity) in access to education are easier to measure and more understandable to the planners and decision makers.
Quality of education

- To assess the *quality of education*, it is essential to overview the following factors:
  - literacy, relevance and efficiency of workforce
  - performance and achievement of general education
  - availability and use of modern teaching-learning materials and methods
  - provision of quality teachers
  - quality and duration of in-service teacher training
  - delivery and relevance of curriculum
  - school infrastructure and so on ...
- It is very broad and difficult to measure the impact of each factor on education quality

Access to education

- Access to education is much simpler to measure
- Normally, it can be measured by:
  - Gross Enrolment Ratio (GER) by level
  - Net Enrolment Ratio (NER) by level
  - Gross Admission Rate or Apparent Intake Rate (AIR)
  - Net Admission Rate or Net Intake Rate (NIR)
  - Transition Rate from Primary to Lower Secondary
  - Transition Rate from Lower to Upper Secondary
- These indicators can be calculated separately for boys and for girls thus, enabling to gauge the equity in access to education to some extent
All of these indicators, except transition rates require population in respective school-going ages:
- AIR and NIR require population aged 6
- primary level GER and NER need population aged 6-10
- lower secondary GER and NER need population aged 11-14
- upper secondary GER and NER need population aged 15-17
These indicators will be wrong, if the respective population data are wrong
- In many countries, education planners always face difficulties in obtaining reliable and up-to-date population data, especially at the sub-national levels (provinces and districts)

Main source of population data is the Population Census
- Normally, population censuses are carried out only once in every 10 years
- For management, planning, monitoring and evaluation purposes, population data are required for each and every year – past, present and future
- Education statisticians and planners have to rely on population projections provided by official sources
- Population projections are generally available at the national level and (at most) at the provincial level
- Projected population is normally presented in conventional five-year age groups – 0-4, 5-9, 10-14, 15-19, …, 70-74, 75+
School-going ages do not coincide with the conventional five-year age groups.

For Viet Nam, school-going ages are:
- 3-5 for pre-school
- 6 for primary entrance / intake
- 6-10 for primary level
- 11-13 for lower secondary
- 14-17 for upper secondary

Required school-age population

Acquiring school-age population

- School-age population are easy to derive if the projected population is provided in single-years.
- Population projection in single-years may be available at the national level, but it is not available at sub-national levels (province and district levels).
- If projected population in single-year is unavailable, it is normally estimated by splitting (sub-dividing) population in 5-year age groups into single years.
- There are several ways to do this, but Sprague Multipliers are the most reliable and widely used by demographers and social scientists.
Overview of Sprague Multipliers

- It is the technique to estimate intermediate values from a given series in total of fives (age groups in 5-year)
- The procedure produces a relatively regular (or smooth) series of interpolated data (population in single year)
- It maintains the age group total
- The method assumes that the pattern of distribution among age groups is a valid reflection of the pattern of distribution within the actual single-year ages
- At least population in five consecutive age groups are required except for the first and last 10 (ages 0, 1, 2, ..., 9 and 65, 66, ..., 74) years where only four consecutive age groups are required
By using Sprague Multipliers, population age 6 ($P_6$) can be estimated from population aged 0-4, 5-9, 10-14 and 15-19 as:

$$P_6 = 0.008 P_{0-4} + 0.232 P_{5-9} - 0.048 P_{10-14} + 0.008 P_{15-19}$$

Similarly, for population age 11, one can calculate from population aged 0-4, 5-9, 10-14, 15-19 and 20-24 as follows:

$$P_{11} = -0.0016 P_{0-4} + 0.0144 P_{5-9} + 0.2224 P_{10-14} - 0.0416 P_{15-19} + 0.0064 P_{20-24}$$

For population (age 6-10): it is required to compute population at ages 5 and 10, and calculated as:

$$P_{6-10} = P_{5-9} - P_5 + P_{10}$$

For population (age 6-11): it is required to compute population at ages 5, 10 and 11, and calculated as:

$$P_{6-11} = P_{5-9} - P_5 + P_{10} + P_{11}$$