



EC EXTERNAL SERVICES
EVALUATION UNIT

OUTCOME AND IMPACT LEVEL
INDICATORS
EDUCATION SECTOR

WORKING PAPER:
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This working paper outlines a set of indicators at the outcome and impact level for the education sector. It does not focus on implementation (e.g. output level indicators such as training of teachers), or indicators at the global level (e.g. economic growth and poverty reduction) but aims to improve the development of indicators between these two levels (i.e. the 'missing middle').

It is hoped, by setting out a clear set of indicators, that this work can be used to guide the development and monitoring of programming level tools, such as CSP's. These indicators should also our understanding of the wider impact of development assistance.

This work builds upon existing international best practices (e.g. UNESCO key indicators).

EDUCATION SECTOR: OUTCOME AND IMPACT INDICATORS

Introduction

This short paper outlines a key set of effects and indicators covering expected outcomes and impacts of country support to the education sector. It is designed to assist country teams to develop a set of indicators for the programming level and guide the production of documents such as Country Strategy Papers (CSP). It also aims to fill, as much as possible, the 'missing middle' between implementation indicators (e.g. training of teachers) and global impact indicators (e.g. poverty reduction).

Methodology

This paper is based on intervention logic that outlines a chain of expected effects (outputs, outcomes and impacts) for a successful intervention. For each outcome and specific impact, a set of indicators has been identified that can measure their achievement. A full set of effects is outlined in the intervention logic diagram on page 3 and the indicators are summarised in Annex A. For full details on the methodology used for this working paper, please see the 'methodological approach' paper.

It should be noted that the intervention logic is focused on primary and secondary education and that relevant indicators should be disaggregated by the specific educational level. The term 'pupils' is used as a comprehensive definition for children at school and those studying vocational education. This working paper does not cover indicators for tertiary education.

The indicators in this paper are mainly drawn from the MDG's and UNESCO education indicators¹.

Output Clusters

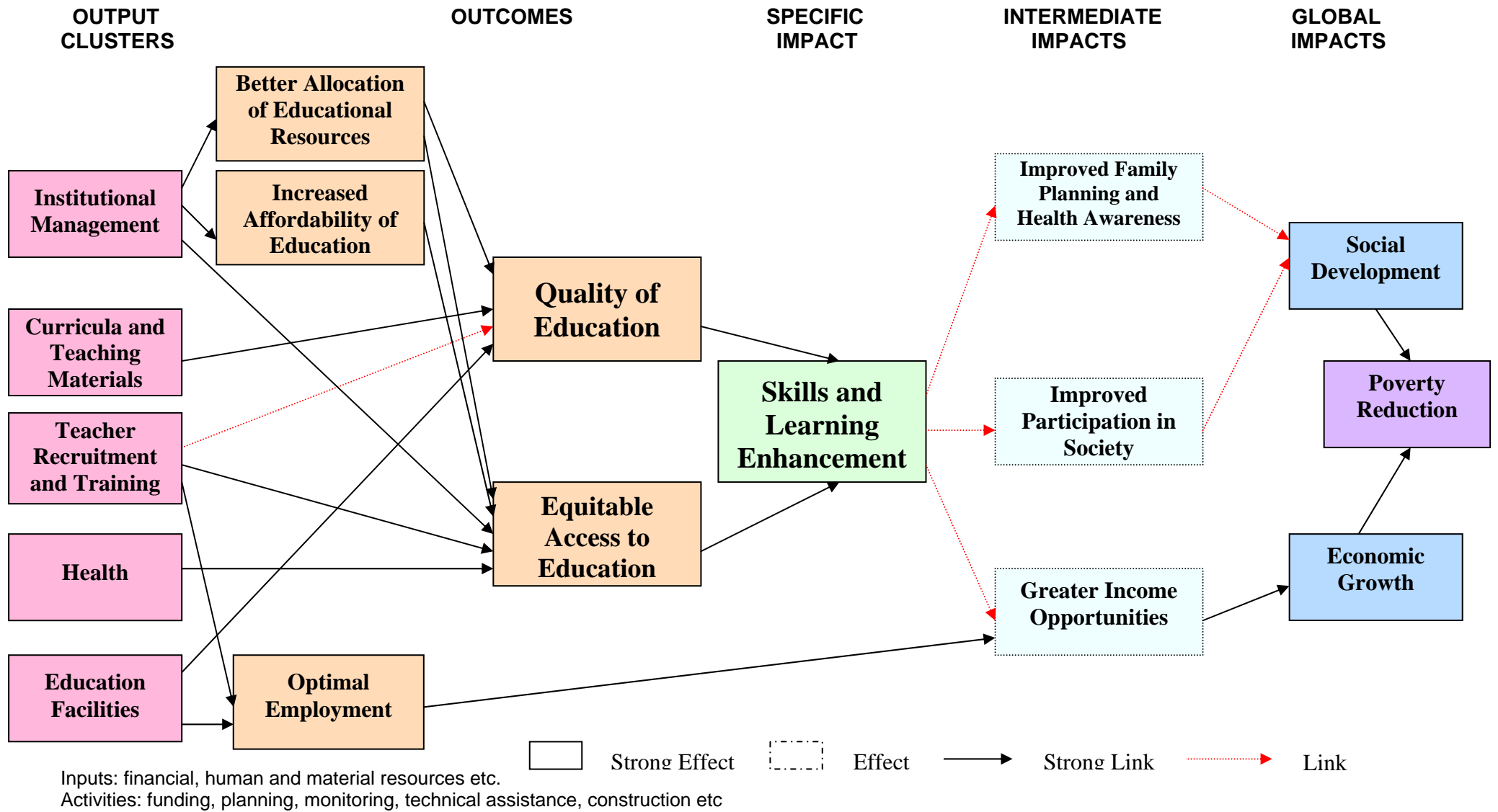
EC support for education has been arranged into five output cluster areas. Output clusters cover products resulting from development interventions:

- a) Education Facilities – "Improved means to develop and implement school and supporting (e.g. roads, water and sanitation) infrastructure and ensure its sustainable maintenance"
- b) Health – "Enhanced health for teachers and pupils attending schools"
- c) Teacher Recruitment and Training – "Increased number of qualified teachers recruited and trained to an acceptable standard"
- d) Curricula and Teaching Materials – "Development and roll out of improved curricula and examinations, supported by appropriate teaching materials"
- e) Institutional Management (at level of school and government) – "Improved capacity for planning, management, monitoring, accountability and responsiveness to develop and enforcement of policies in the education sector "



¹ Taken from UNESCO Institute for Statistics, Education Indicators, Technical Guidelines (http://www.uis.unesco.org/file_download.php?URL_ID=5202&filename=12490700941UIS_indicators_technical_guidelines_EN.pdf&filetype=application%2Fpdf&filesize=373843&name=UIS_indicators_technical_guidelines_EN.pdf&location=user-S/)

EDUCATION INTERVENTION LOGIC



Outcomes

Outcomes relate to the likely or achieved short-term and medium-term effects of an intervention's outputs:

Better Allocation of Educational Resources

1. Transparent decision making

Example: Public current expenditure per pupil as % of GNP per capita²

Increased Affordability of Education

2. Cost for household

Examples: Cost of education (i.e. fees, materials/equipment, lunches etc) as a % of household expenditure

Cost per pupil as a % of income per capita

Quality of Education

3. Absenteeism and drop out

Examples: Teacher and pupil absenteeism rates
drop out rates

Coefficient of efficiency³

4. Teacher ratios/rates

Examples: Pupil teacher ratio⁴

Rate of double shifting

5. Qualification of teachers

Example: Average qualification of teachers at each educational level

6. Teaching material ratios

Example: Pupil textbook ratio

7. Transition and repetition

Examples: School life expectancy⁵

Transition rates⁶

Repetition rates⁷

Survival rates by grade⁸

Years-input per graduate⁹

Equitable Access to Education

8. Equitable educational participation

Examples: Ratio of girls to boys in primary, secondary and vocational education¹⁰

Ratio of other disadvantaged groups, rural/urban etc compared to x% of population¹¹

Completion rates in districts supported by the District Primary Education Programme (part funded by the EC) increased by 5-6% over non-supported districts. However, for girls there was no, or even negative improvement over the evaluation period.

India Evaluation 2007

**Computer Pilot Project, UNRWA
Summer Schools, Gaza**



² UNESCO education indicator (measures the share of per capita income that has been spent on each pupil at each educational level. It can provide a good indication of the relative costs and emphasis placed by the country on a particular level of education).

³ UNESCO education indicator (this is an indicator of internal efficiency of an education system. It summarises the consequences of repetition and drop-out on the efficiency of the education process in producing graduates. It is calculated by looking at the ideal number of pupil years required to produce a number of graduates from a given school-cohort for a cycle or level of education expressed as a percentage of the actual number of pupil-years spent to produce the same number of graduates.)

⁴ UNESCO education indicator

⁵ UNESCO education indicator

⁶ UNESCO education indicator

⁷ UNESCO education indicator

⁸ UNESCO education indicator

⁹ UNESCO education indicator (based on the estimated average number of pupil-years spent by pupils from a given cohort who graduate from a given cycle or level of education, taking into account the pupil-years wasted due to drop-out and repetition)

¹⁰ Linked to MDG 3.1

¹¹ For example, MDG Indicator 6.4 looks the ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years.

9. Enrolment ratios

Example: Gross and net¹² enrolment ratios¹³
Apparent intake rate¹⁴
Age specific enrolment ratio¹⁵

10. Completion rate

Example: Gross and net completion rates¹⁶

On schedule completion at appropriate age
Progression to next level of education

Starting in 1985 with 22 experimental schools, by December 2002, 34,000 Bangladesh Rural Advance Commission schools had produced 2.370 million graduates, contributing to a 47 % increase in national enrolment from 1990 to 17.668 million in 2000. Access for girls, at 70% of enrolled pupils, is substantially higher than the national rate of 49 % in the year 2000.

Bangladesh Evaluation 2003

11. Distance to school

Example: Proportion of pupils within x kilometre of a school

12. School places

Example: Educational places as an x% of eligible pupils

Optimal Employment

13. Employment: school construction and maintenance

Example: Number of people directly and indirectly employed in school construction and maintenance

14. Employment: teachers and government workers

Example: Number of people directly and indirectly employed as teachers and government workers linked to education sector

Specific Impact

Specific impacts cover positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended:

Youth with Disability Project, Tanga, Tanzania



Skills & Learning Enhancement

15. Literacy and numeracy rates

Example: Literacy and numeracy rates by age, sex and social group¹⁷

16. Examination outcomes

Example: Examination outcomes for various educational levels and subject areas by age, sex and social group
Educational attainment of the population aged 25 years and above¹⁸

17. Social views

Example: Support for violent conflict
Prejudiced views towards other social groups

¹² Net enrolment covers % of eligible children attending school of school age. Gross enrolment covers % of all children attending school compared to eligible children of school age.

¹³ Linked to MDG 2.1, which is restricted to primary education. UNESCO education indicators.

¹⁴ UNESCO education indicator

¹⁵ UNESCO education indicator

¹⁶ Linked to MDG 2.2 but coverage is wider as the MDG indicators is restricted to primary education

¹⁷ Linked to MDG 2.3 covering 15-24 year olds. The UNESCO education indicator for adult literacy or illiteracy rates covers population above 15 years old.

¹⁸ UNESCO education indicator

Intermediate Impacts

Intermediate impacts are similar to specific impact but are longer-term in nature and are the last cause and effect chain level that can be monitored effectively and at the same time demonstrative sufficient attribution to the output clusters:

Greater Income Opportunities

18. Employability

Examples: Proportion of school leavers gaining paid employment within x time (split by type of employment)¹⁹

The following effects are presented in the intervention logic for illustrative purposes only, as the contribution of education towards their achievement is too difficult to verify.

Improved Participation in Society

Indicator: Greater participation of women and disadvantaged groups in society

Improved Family Planning and Health Awareness

Indicator: Family planning

Indicator: Health awareness

In 2004, 49% of primary school leavers passed their final year exam, more than double the rate in 2000. More children leaving primary school are also being selected for secondary education. In 2004, 36% were selected, up from 22% in 2000.

Tanzania 2006

Global Impacts

Finally, the effects of support to the education sector should contribute to the longer term global impacts of social development, economic growth and poverty reduction. However, due to the complexity of their achievement and the numerous factors influencing them, it is not possible to draw a direct cause and effect link to the education sector. As a outcome, no education sector related indicators have been identified for this level.

Note: during the development of this working paper a number of indicators were reviewed that have not been included in the final draft. This includes: public expenditure on education (which can be verified by indicators 2 and 4); general health for issues such as smoking, obesity etc (which were viewed to be developed country specific); and education of children (which was not included, in order to keep the indicators generational).

¹⁹ Depends to a large extent on the strength of the local employment market

Annex A: List of Key Indicators for Education Sector

<p>Affordability Level Outcomes</p> <p>1. Transparent decision making - Public current expenditure per pupil as % of GNP per capita</p> <p>2. Cost for Household - Cost of education (i.e. fees, materials/equipment, lunches etc) as a % of household expenditure; cost per pupil as a % of income per capita</p>	<p>Optimal Employment Outcomes</p> <p>13. Employment: school construction and maintenance - Number of people directly and indirectly employed in school construction and maintenance</p> <p>14. Employment: teachers and government workers - Number of people directly & indirectly employed as teachers and government workers linked to education sector</p>
<p>Quality Outcomes</p> <p>3. Absenteeism and drop out - Teacher/pupil absenteeism rates; drop out rates; coefficient of efficiency</p> <p>4. Teacher ratios/rates - Pupil teacher ratio; rate of double shifting</p> <p>5. Qualification of teachers - Average qualification of teachers at each educational level</p> <p>6. Teaching material ratios - Pupil textbook ratio</p> <p>7. Transition and repetition - School life expectancy; transition rates; repetition rates; survival rates by grade; years-input per graduate</p>	<p>Specific Impacts</p> <p>15. Literacy and numeracy rates - Literacy and numeracy rates by age, sex and social group</p> <p>16. Examination outcomes - Examination outcomes for various educational levels and subject areas by age, sex and social group; educational attainment of the population aged 25 years and above</p> <p>17. Social views - Support for violent conflict; prejudiced views towards other social groups</p>
<p>Equitable Access Outcomes</p> <p>8. Equitable educational participation - Ratio of girls to boys in primary, secondary and tertiary education; ratio of other disadvantaged groups compared to x% of population</p> <p>9. Enrolment ratios - Gross and net enrolment ratios; apparent intake rate; age specific enrolment ratio</p> <p>10. Completion rate - Gross and net enrolment rates; on schedule completion at appropriate age; progression to next level of education</p> <p>11. Distance to school - x% of pupils within x kilometre of a school</p> <p>12. School places - Educational places as an x% of eligible pupils</p>	<p>Intermediate Impact</p> <p>18. Employability - % of school leavers/graduates gaining paid employment within x time (split by type of employment)</p>