

2011

**Desk Review Report  
Sources for Out of School Children (OOSC)  
National, Provincial & District**

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## Acronyms

ASER: Annual State of Education Report  
CQE: Campaign for Quality Education  
DMF: Data Management Firm  
EFA: Education for All  
EMIS: Education Management Information Systems  
ESR: Education Sector Reform  
FATA: Federally Administered Tribal Areas  
FANA: Federally Administered Northern Agencies  
GAR: Gross Attendance Rate  
GDP: Gross Domestic Product  
GER: Gross Enrollment Rate  
GOP: Government of Pakistan  
GPI: Gender Parity Index  
ITA: Idara-e-Taleem-o-Aagahi  
LEAPS: The Learning and Educational Achievement in Punjab  
MICS: Multiple Indicator Cluster Survey  
MDG: Millennium Development Goals  
NAR: Net Attendance Rate  
NEAS: National Education Assessment System  
NEC: National Education Census  
NER: Net Enrollment Rate  
NIPS: National Institute of Population Studies  
NWFP: North West Frontier Province  
PDHS: Pakistan Demographic and Health Survey  
P&DD: Planning & Development Department  
PMIU: Programme Monitoring and Implementation Unit  
PPS: Probability Proportional to Size Sampling  
SAFED: South Asia Forum for Education Development  
SAP: Social Action Program  
SPARC: Society for Protection of the Rights of the Child  
SPSS: Statistical Package for Social Sciences

## List of Sources

### **Administrative Data**

Pakistan Education Statistics (AEPAM) 2008-09

Programme Monitoring and Implementation Unit Punjab Dataset 2009

Sindh Education Profile (SEMIS) 2009 - 2010

Statistical Bulletin Annual School Census 2009-10 (Sindh)

National Education Census (FBS) 2005

### **Household Data**

MICS Punjab 2007 – 08

MICS Sindh 2003 - 04

Pakistan Social and Living Standards Measurement Survey (PSLSM) 2008-09

Research Consortium on Educational Outcomes and Poverty (RECOUP) 2005-2010

Annual Status of Education Report (ASER ) – Pakistan 2008

ASER – Pakistan 2010

### **Learning Achievement Data**

National Education Assessment System Reports (NEAS)

Learning and Educational Achievements Punjab Schools (LEAPS)

Punjab Examination Commission (PEC)

### **Qualitative or Secondary Sourced Reports**

Compendium of Gender Statistics

The EFA Global Monitoring Report 2011

Catching Up in Education, 2008 (Population Council)

## 1. Executive Summary

Access to education is not only considered a basic human right but also a service that “must be provided to the populace, irrespective of affordability, and it is generally considered to be the responsibility of the state to deliver primary education.”<sup>1</sup> Unfortunately, in the case of Pakistan, this sector has suffered from neglect and inadequate allocation of resources on the part of the government leading to critical deficiencies in terms of coverage, efficacy and quality. Consequently, Pakistan’s literacy and primary enrolment ratios remain short of the Millennium Development Goals and the objectives set in its own National Education Policy. Even the significant development aid directed towards the Pakistani education sector has not had a sufficient impact due to high levels of corruption and mismanagement of funding within the government ranks. Furthermore, many of the initiatives undertaken by the government and non-profit organizations are not well-coordinated, and hence their effect is minimal.

Pakistan’s consistently high birth rate over the years has exacerbated the situation, resulting in a large mass of youth denied of its human and constitutional right to quality education. According to Education for All, Pakistan has the largest population of Out of School Children following Nigeria. This number is projected to escalate by 2015, a scenario which not only increase social and economic disparity within the country, but also decrease its chances of successfully competing in a globalized world. Recognizing the enormity of the problem, the government of Pakistan has declared a state of education emergency in the country to address the fundamental issues and develop innovative solutions. The given context has made a study of Out of School Children and Children at Risk of dropping out of school even more significant.

The following desk review starts off with an overview of Pakistan’s education structure, tracing the major developments and social interventions which have impacted the sector. The report focuses on statistics at the pre-primary, primary, middle and lower secondary levels of education, hence and these are explained in detail to build the reader’s understanding. Section IV provides a comprehensive description of the various types of data sources used to develop the desk review. These include household and administrative surveys as well as quantitative and qualitative studies. Sections V and VI go on to explore the existing trends in Pakistan’s education system at the pre-primary, primary, middle and lower secondary levels according to different types of disaggregation such as province, location (urban/rural), gender, type of school (public/private) and learning achievement. They also indentify and analyze the reasons which are currently keeping children out of school. The last three sections of the report look into issues related to using various types of data sources such as coverage, data accuracy and reliability and availability of information. The desk review concludes with a discussion on the limitations of the data sources used.

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<sup>1</sup> Bari et al. “The Role of NGOs in Basic and Primary Education of Pakistan.” *LUMS-McGill Social Enterprise Development Program*. (2005). Web. 14 March. 2010.  
< <http://www.secd.org.pk/portal/secd/documents/PulseReportEdu.pdf>>

## 2. Country Context

Pakistan came into existence in 1947. It is a country home to more than 170,834,000<sup>2</sup> people today. Afghanistan and Iran border it in the west, whereas India is in its east and China in further north east which makes Pakistan a strategically important country in South Asia. The federal structure of Pakistan's government is important for understanding the structure of education in Pakistan. Pakistan has five provinces - Punjab, Sindh, Balochistan, Khyber Pakhtunkhwa and Gilgat – Baltistan (formerly known as Northern Areas (NA) which now has been granted self-rule through an elected legislative assembly and which has considerable autonomy under the federation). There are other areas under federal administration that include Islamabad Capital Territory (ICT), and Federally Administered Tribal Areas (FATA). There is also Azad Jammu and Kashmir with a different self-governing structure. Pakistan's national language is Urdu and their local currency is Pakistani Rupees.

Since Pakistan's inception, founder Muhammad Ali Jinnah declared education to be one of its major priorities to be a successful nation, a commitment echoed in the Constitution. The State is mandated under Constitution of 1973 and other various International Conventions to guarantee this fundamental right to its citizens without fail or discrimination. Pakistan inherited certain education policies from British India such as the English and Urdu medium schools. In 'The First Meeting of the Advisory Board of Education for Pakistan was held at Karachi from the 7th to the 9th of June, 1948 (GOP 1948) took practical measures to implement the major political and ideological policies. At this stage it appears that the government's policy was to teach children in the mother tongue; switch after five to six years of schooling to Urdu and then teach in English at the highest level' (Rahman, 2004). Then later, in 1949 the Educational Policy of Pakistan announced that aimed to achieve 80% literacy, making eleven years of schooling and three years of university a national requirement, and increasing school enrolment of children of school-going age to 75% within twenty years (ibid). Subsequently, the first government of Pakistan carried out a critical review of the existing system, on the basis of which the Six Year National Plan for Education was formulated in 1952. The plan called for creation of more primary and secondary schools as well as institutes of higher education. Another important thing to note is that in 1947 the structure of education in Pakistan was highly decentralized and district councils with municipal governments were responsible for running schools. From the 1950s onwards, there was a trend towards centralization with the Ministry of Education controlling most aspects related to education. Indeed, in the 1960s the government of the then leader Ayub Khan encouraged them to create administrative elite to run the country (similar to the British intentions for education). In the 1970's Prime Minister Zulfikar Ali Bhutto decided to nationalize private schools specifically those run by Christian missionaries since he viewed these schools as encouraging elitism (Burki, 2004). "His avowed intentions were noble: nationalization was

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<sup>2</sup> National Institute of Population Studies, 2009.

supposed to improve access to quality education at subsidized fees or for free. But this was also a political project: staffing decisions and administrative mechanisms turned on constituency considerations; and powerful students' and teachers' unions could be co-opted and deployed to great effect in the streets, if the need ever arose" (Mansoor,2010). Whereas under General Zia-ul-Haq's anti-English policies of the 1970s and 80s, elitist schools continued to exist (Rahman, 2004). Even in General Zia's ruling time, four elected governments and three interim administrations governed the country that paid no attention to social sector development specifically education. (Burki, 2004).

In mid 1990's, Social Action Program (SAP) was launched in Pakistan which was a multi-sector investment and maintenance credit to strengthen implementation of Pakistan's social services over the five year period 1993/94-1997/98 (World Bank, 2011). It specifically focused on primary education specifically "Girls primary education in terms of access and quality, introduction of mixed schools in places where it is culturally acceptable, introducing the provision of female teachers in mixed schools and putting them under female administration and increasing employment of female teachers with a ratio of 70:30 and setting up 60 percent girls and 40 percent boys schools in future, and improving the availability of female teachers through relaxation of age limits and qualification for entry and re-entry into the profession and localization of the teacher cadre to the district level" (P&DD, 2000). SAP sought to bring about institutional reform in a system where internal and external accountability was poor, and which included demotivated and poorly trained teachers. By contributing about 10% of the social sector expenditures SAP attempted to influence the quality of the remaining 90% expenditures (Rashid & Awan, 2005). All of these objectives were aimed at improving service delivery. The task of bringing about meaningful change and institutional reform, however, could not be tackled through SAP. Despite the many interventions by donors and government and the flow of funds that has accompanied attempts at improvement such as SAP 1 and SAP II, problems persisted. The number of donor interventions in different parts of the country, have particularly been high over the last five years, in conjunction with two major initiatives on the part of the government of Pakistan: a policy of decentralization and Education Sector Reforms (ESR).

Recognizing these issues, and to increase efficiency in the delivery of education, a decentralization reform was enacted in the country. Under the Local Government Ordinance put in place in 2001, the administration of education is delegated into districts at the local level (a district being a smaller part of a province). The district education departments are responsible for "recruiting, paying and managing teachers", "earmarking and spending fiscal resources" and also for inspecting schools and evaluating teachers on their progress and quality of teaching (CQE, 2007). The aim was to improve access to education by being more aware of and responsive to

local needs, and for more efficient delivery. The district became the operational tier of governance and the focus of all development activity (UNESCO, 2003)

The ESR which was part of the overall reforms pursued a five-fold strategy consisting of: (a) improvement in provision of infrastructure and human resources for primary education; (b) provision of improved curriculum and teaching-learning materials; (c) improving the quality of teaching-learning process through the introduction of learner-centred pedagogy; (d) continuous professional development; and (e) increased focus on specification and measurement of learner achievement levels (Rashid & Awan, 2005). They setup the National Education Assessment System (NEAS) and strengthening and upgrading teacher training institutions was part of the agenda. But it also had some weaknesses such as parallel arrangements such as Programme Monitoring and Implementation Unit (PMIU), for instance, was established under Punjab Education Sector credit to strengthen the Education Department and support implementation. Instead it is a separate structure, located in a different building from the department, operating on its own and often overlapping with the already existing functions of the department such as Education Management Information Systems (EMIS).

To date, the Pakistani government says the country is in the midst of an educational emergency with disastrous human and economic consequences. The latest Education Policy approved in September 2009 after many year of consultation since 2005 focuses on governance and implementation road map with strong and transparent monitoring and evaluation framework is considered as the hallmark of policy (SPARC, 2009). The implementation of the policy shall be the responsibility of respective provincial/area education departments. Salient features of this policy include commitment of government to increase the spending on education to 7% of GDP by 2015, universal primary education will be free, primary education official language is 6 to 10 years of age, the curriculum will of Grade 1 shall include English, Urdu and one regional language with mathematics but provinces can choose their medium of instruction till grade 5, and after five years teaching of science and mathematics in English in higher class will be made compulsory.

Recently Government of Pakistan made some changes in the constitution and added article 25 A “The State shall provide free and compulsory education to all children of the age of five to sixteen years in such manner as may be determined by Law”. This new development may be welcome but the government needs some serious financial and technical planning to make this possible as public expenditure on education as percentage to GDP is lowest in Pakistan as compared to other countries of the South Asian region. According to official data, Pakistan allocated 2.5% of GDP during 2006-07, 2.47% in 2007-08, 2.1% in 2008-09 and 2.0 % in 2009-10 which shows persistent declining trend (Economic Survey, 2009-10). According to UNESCO’s EFA Global Monitoring Report 2009, the Public Sector expenditure on Education as

percentage of GDP, in other countries of the region was 2.6% in Bangladesh, 3.2% in Nepal, 3.3% in India, 5.2% in Iran and 8.3% of GDP in Maldives.

Interestingly, even in 2009, none of the goals outlined in the 1949 report have been achieved. Failure has not stopped such grandiose goals to be repeated in fifteen successive education policies since Independence, but the results are bleak. Recent studies on the state of education in Pakistan have described it as a “monumental failure” (CQE, 2009). The latest National Education Policy (2009) refers to it in milder terms, as a “*relative* failure.” The problems of the education system in Pakistan are united by the underlying problem of a lack of commitment to education, of which all other problems are symptoms.

Despite dozens of educational policies published and funds designated Pakistan’s primary school net enrolment rate (NER) stands at 74% for boys and 57% for girls (SPARC, 2009). This means that over a third of the country’s primary school age children are not going to school. Moreover, Pakistan’s enrolment rates are increasing on a slow pace over last few decades. Not only that, but even those children who manage to go to school often drop out. The percentage of large proportions of schools in Pakistan do not have desks or textbooks, and are taught by poorly trained, unmotivated teachers. Less than half of classrooms have desks (Andrabi et al, 2008). The quality of learning that takes place in Pakistani schools as also been gravely questioned. A report by a government commission found that half of all Pakistani school children cannot read a sentence. The commission found funding for schools has been cut from 2.5% of GDP in 2005 to just 1.5% - less than the national airline gets in subsidies (Education Task Force, 2011). The report says 25 million children in Pakistan do not get education, a right guaranteed in the country's constitution.

### 3. Education System

Pakistan's education system can be divided into the following seven levels as stated in the Economic Survey of Pakistan (2010):

#### *Pre-primary:*

Pre-primary is the first stage where children enter school and is an important component of Early Childhood Education. Typically these children are 3 to 4 years old.

#### *Primary:*

Primary stage is the first important stage of the education cycle where children spend five years from grade 1 to grade 5 and develop basic competencies. Students of age 5 to 9 or 6 to 10 years study at primary level.

#### *Middle:*

Children of age 10-12 study in this stage which includes classes from grade 6 to grade 8. This stage prepares them to enter secondary level of education.

#### *Secondary:*

After completing grade 8, students enter into an important stage which is the last stage at school level that includes grade 9 and grade 10. At this stage students appear for their examinations taken by different Boards such as the Board of Intermediate and Secondary Education. Children at this stage can also appear for a parallel system of exams taken by University of Cambridge International Examinations which give a General Certificate of Secondary Education equivalent to a Matric level degree.

#### *Higher Secondary/ Inter Colleges:*

Students of age 15 or 16 enter higher secondary education stage once they clear secondary level of education. This intermediate stage of education develops certain advanced skills in different subject specializations e.g. medicine, engineering, general science that prepares them to start their degree level courses.

#### *Degree Colleges:*

At this level of education students have developed their basic skills and are competent to do an under graduate level degree in their chosen field of education such as Bachelor of Arts. Usually degree colleges do a two year course.

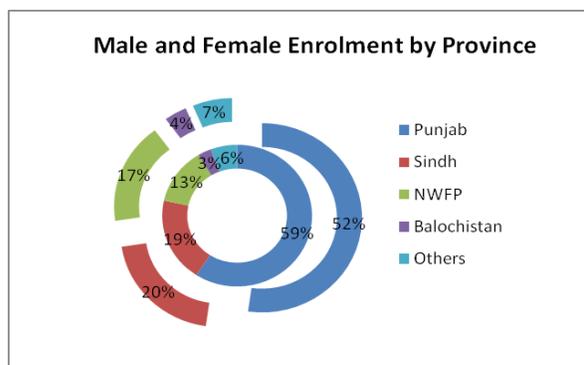
#### *Universities:*

This level of education can begin right after higher secondary education starting from under graduate four year university degrees to advanced degrees in various fields of education.

### Current Statistics

For about 37 million students of all ages, there are 250 thousand institutes and about 1.3 million teachers available<sup>3</sup>. Since Pakistan’s population is estimated to be around 170 million today, therefore about more than one-fourth of the people are currently receiving education at different levels whereas the overall literacy rate for Pakistan stands at 50%. It is important to note here that the overall literacy rate for Pakistan for males stands at 71% whereas it is 46% for the female population. (Economic Survey, 2008-09).

The doughnut chart on the right gives a general overview of percentage of enrolment in Pakistan by province and gender. The inner circle gives the male enrolment and the outer circle gives female enrolment. More half the student population is in Punjab, followed by Sindh, Khyber Pakhtun Khwa formerly known as Northern Western Frontier Province (NWFP) and Balochistan.



Source: Pakistan Education Statistics, Ministry of Education, 2008

UNESCO Institute of Statistics (2008) has calculated Net Enrolment Rate and Gross Enrolment rate for primary, secondary and tertiary level of education of Pakistan by gender which are given below:

Rates /Level	NER %		GER %	
	Male	Female	Male	Female
Primary	72	60	93	77
Secondary	37	28	37	28
Tertiary	-	-	6	5

These statistics show the disparity by gender is higher at primary level but it reduces as the students progress towards a higher level of education. To further analyze the situation of primary and secondary enrolment different sources and their trends with issues have been discussed in the next sections.

<sup>3</sup> Pakistan Education Statistics, Academy of Education Planning and Management, 2007-08.

## **4. Data Sources on in School and Out of School Children**

This section briefly introduces each report, its objectives and the organization's roles involved in their production.

### **Administrative Data Sources**

#### **National Education Census**

National Education Census (NEC) 2005 has been conducted for first time in the history of Pakistan for complete enumeration of all categories of institutions in the country. Keeping in view the demand, needs and concerns for the requirement of data, the Ministry of Education launched National Education Census in November 2005 to achieve the following major objectives. The National Education Census covered all the educational institutions run by Government, Semi Government, Autonomous Departments, Armed Forces, Private, Community, trust, NGOs etc. as under:

1. Schools
2. Colleges
3. Universities
4. Professional institutions
5. Vocational and Technical institutions
6. Deeni Madaris
7. Mosque schools
8. Special Education institutions
9. Distance Education centres
10. Non-formal Basic Education centres etc.

#### **Pakistan Education Statistics 2008-09**

The Pakistan Education Statistics Report is produced by the Academy of Education Planning & Management (AEPAM). The National Education Information Management System (NEMIS), which is a part of AEPAM, plays an important role in the compilation of education data collected at the provincial and district levels. Pakistan Education Statistics is a nationally representative report, covering Punjab, Sindh, Khyber Pakhtunkhwa, Baluchistan, Azad Jammu Kashmir (AJK), Gilgit-Baltistan, Federally Administered Tribal Areas (FATA) and Islamabad Capital Territory (ICT). At the national level, it covers both public and private education institutions. At the provincial level, it only provides information on government schools.

## **Sindh Education Profile 2009-10 & Bulletin**

The Sindh Education Profile is based on the Annual School Census carried out by the Sindh Education department. They conduct a school census on an annual basis to capture school profiles of all government schools in Sindh. The School Census provides information on enrolment, infrastructure, teachers as well as other information about the school. The data is collected by sending copies of a questionnaire to the District Offices which then send it to each school. The head teacher fills out the questionnaire and sends it back to district office. SEMIS collects this data from district EMISs and collates it at the provincial level. The Statistical Bulletin is a similar report to the Sindh Education Profile, and is based on the Annual School Census.

## **Household Data Sources**

### **Pakistan Social and Living Standards Measurement Survey (PSLSM) 2008-09**

The PSLSM is one of the main mechanisms for monitoring the implementation of the Millennium Development Goals (MDGs) and Poverty Reduction Strategy Papers (PRSP). It provides a set of representative, population-based estimates of social indicators and their progress under the MDGs and PRSP. These include ‘intermediate’ as well as ‘output’ measures. An important objective of the PSLM Survey is to try to establish the distributional impact of different government programs on the social sector. The key education indicators covered include school attendance and enrolment rates. PSLSM 2008-09 covers Punjab, Sindh, Baluchistan and Khyber Pukhtunkhwa.

### **MICS Punjab 2007-08**

The survey was coordinated and supervised by the Technical, Planning and Coordination Groups chaired by the Chief Economist Planning and Development (P&D) Board. These groups comprised of key technical staff of the line departments and UNICEF. The Government of Punjab financed the MICS through its Annual Development Programme and UNICEF provided technical assistance. The primary objectives of the Punjab MICS 2007-08 are to update and compare the results of Punjab MICS 2003-04 with findings in Punjab MICS 2007-08 at the district and tehsil levels and establish benchmark indicators which were not included in Punjab MICS 2003-04 but are included in the Millennium Development Goals (MDGs).

### **MICS Sindh 2003-04**

As a pre-requisite to the devolution and subsequent planning process, the Government of Sindh, through the Planning and Development Department (P&DD), conducted a household survey from October 2003 to January 2004 to collect and act on information for key social and economic indicators in the province. The survey was headed by The Additional Chief Secretary (Development) through a Steering Committee, and directed by The Chief Economist, who led the Technical Working Group.. The design of the survey and methods were based on the

Multiple Indicators Cluster Survey (MICS) methodology employed by UNICEF who provided the funding and technical assistance for the survey, thereafter called Sindh MICS 2003-4. The MICS was designed to assist in the - district and provincial level planning process and monitoring at provincial and district levels.

### **ASER 2008 and 2010**

ASER - The Annual Status of Education Report (ASER) is a survey of the quality of education. ASER seeks to fill a gap in educational data by looking to provide a reliable set of data at the national level, that is comprehensive and, at the same time, easy to understand. The survey's stated objectives are three fold:

1. To get reliable estimates of the status of children's schooling and basic learning (reading and arithmetic level) at the district level;
2. To measure the change in these basic learning and school statistics from last year; and,
3. To interpret these results and use them to affect policy decisions at various levels.

Under the auspices of the South Asian Forum for Education Development (SAFED), ASER is being replicated in Pakistan. It will cover all rural districts of Pakistan. SAFED and its alliance partners in Pakistan have carried out a ASER survey (pilot) in 11 districts of Pakistan (ICT, Punjab and Sindh) in 2008 to measure the learning level of 3-16 years children, out of these 8 districts are of Punjab. This data has been compiled in a report form and it was shared with the Government, Civil Society Organizations, media, bilateral and multilateral agencies and other stakeholders working in the education sector in Islamabad on 30th March 2010. ASER is a household based survey and surveys 600 households per district. This is done in the following manner, from each district, 30 villages are selected randomly using the Probability Proportional to Size (PPS) technique, in each selected village, 20 randomly selected households are surveyed. The eventual aim of ASER Pakistan also is to conduct the survey in all rural districts of Pakistan.

### **Learning Achievement data**

#### **National Education Assessment Systems (NEAS) 2008**

NEAS provides results on subject-matter achievement, instructional experiences, and school environment for populations of students (e.g., all fourth-graders and eight graders) and groups within those populations (e.g., male/female students, rural/urban students). The Purpose of National Assessment is to improve the quality of education through:

1. Providing information to policy makers for effective interventions
2. Providing information to develop educational services (curriculum, textbooks and other learning materials, and teachers delivery of the curriculum)
3. Monitoring the performance of the education system
4. Identifying correlates of achievement.

### **Learning and Educational Achievement in Punjab Schools (2003-2007)**

The Learning and Educational Achievement in Punjab (LEAPS) report presents basic facts and a framework for an “evidence based” debate around education performance and education policy in Pakistan. This report is based on a large and independent survey and testing exercise that provides information on every aspect of the educational marketplace in selected districts of rural Punjab. This report presents findings from the first survey in 2003; a forthcoming report will incorporate information from all four survey rounds between 2003 and 2007. The first four chapters—on learning, schools, teachers, and households—present an overview of the education sector. This study has been collected by World Bank with the help of Education Department Punjab and Lahore University of Management Sciences. Funding for this project was received from The World Bank, The Knowledge for Change Program, Trust Funds, and Pomona College.

### **Punjab Examination Commission**

PEC is one of the pillars of fundamental changes in the education system in Pakistan. The organization’s mandate is to contribute towards educational reforms for enhancing the overall efficiency and effectiveness of education programmes in the province and generally in the Pakistan. PEC provides an educational assessment system which compare educational achievements of various schools in the province of Punjab. PEC mission is to contribute in the improvement of students’ achievement through enhanced practices in education assessment in Pakistan. To promote the development and dissemination of knowledge regarding assessment procedures, the PEC provides maximum assistance to all stake-holders.

### **Qualitative Studies relating to OOSC exclusion and multiple disparities**

#### **The 2011 Global Monitoring Report**

This report examines the damaging consequences of conflict for the Education for All goals. It sets out an agenda for protecting the right to education during conflict, strengthening provision for children, youth and adults affected by conflict, and rebuilding education systems in countries emerging from conflict. The Report also explores the role of inappropriate education policies in creating conditions for violent conflict. Drawing on experience from a range of countries, it identifies problems and sets out solutions that can help make education a force for peace, social cohesion and human dignity.

#### **Catching up on Education (Population Council 2008)**

Population council has published different papers on demographic dividends issue and one of those is catching up on education with regards to the population increase with a specific focus on universal primary enrolment levels and out of school children. The author has used Cohort Component Method to do projections and find out the projected primary and secondary enrolment as well as out of school children. Two scenarios have been provided, one which is the current trend and the other one which is the ideal scenario to achieve 100% enrolment to meet MDG goals.

## Compendium of Gender Statistics 2009

Gender perspective is imperative to formulating and enforcing a holistic, inclusive and non-discriminatory regime of policies. As an indispensable prelude to this end, the “Compendium on Gender Statistics -2009” presents sex disaggregated data on population, education, health, family planning, employment, time use pattern and, public representation. Compendium on Gender Statistics in Pakistan 2009 is the second update in the series produced with quinquennial periodicity. The predecessor of the current one presented the statistics of 2004 vintage. The purpose of compiling gender statistics is to provide prelude to establishing an equitable paradigm of socioeconomic development. Its secondary sources include National Institute of Population Studies 2009, Population Census 1998, Pakistan Demographic Survey 2006 & 2007, Pakistan Social and Living Standards Measurement Survey (PSLM) 2004-05, 2005-06, 2006-07, 2007-08, Ministry of Health data 2008, Pakistan Medical and Dental Council, Provincial Bureaus of Statistics 2007 & 2008, AEPAM 2008-09, etc.

## 5. Trends Emerging from Review of Data Sources

This section reviews data sources providing education statistics for Pakistan in an attempt to understand which children are at higher risk of being out of school. Both quantitative and qualitative sources which have been described in the previous section have been examined to analyze the current status of education in Pakistan.

Over the years, Pakistan has made very slow progress towards meeting its goals in the education sector. This is evident from the fact that between 2006-07 and 2008-09, the overall proportion of children that has ever attended school increased only by 2%. Pakistan’s population on the other hand, has been increasing rapidly by 2.1% every year. The Education for All Report has predicted by 2015, Pakistan will have an Out of School Children population of 3.7 million.

### Pre-Primary Level (3-<5 years)

*The total enrolment at the pre-primary level experienced a decline between 2005 and 2008-09 as reported by the National Education Census and AEPAM/NEMIS, both nationally representative surveys.* According to the National Education Census conducted in 2005, out of 30 million enrolled children, 6.6 million were studying at the pre-primary level. This forms about 22% of the total school population<sup>4</sup>. AEPAM/NEMIS states that a total of 5.87 million children were enrolled in pre-primary in 2008-09.

### Primary Level (5-9) and Overage Children in Primary

*The primary sector enrolls the largest %age of school going children.* The National Education Census states that there were about 15.3 million children studying at primary level in 2005 which

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<sup>4</sup> Total school population includes students from pre-primary, primary, middle and high and higher-secondary education.

forms about 50% of the total school age population. Assuming that the enrolment at each level (stage) of education in Pakistan represents the capacity of the system to accommodate students, this means that almost half (50%) of the capacity of the education system is devoted to primary education.

The Compendium of Gender Statistics states that the total enrolment at the primary level was 15.9 million in 2007-08. AEPAM/NEMIS shows that the total enrolment at the primary level increased to 17.2 million in 2008-09. *Thus, there has been an increase in total enrolment at this level over the years.* Indicators such as the Primary Completion Rate provide further evidence for this trend. PSLSM reports an improvement in the proportion of population 10 years and over that has completed primary level or higher in 2008-09 (49%) as compared to 46 % in 2006-07.

Another significant indicator to consider is the Gross Enrollment Rate (GER) which is calculated by dividing the number of children attending primary school with the number of children who ought to be attending primary school. PSLSM presents GER in two ways; excluding and including the pre-primary (*katchi*) and for different age groups. For the 5-9 years age group excluding pre-primary, the GER showed no change between 2006-07 and 2008-09 remaining constant at 91%. For the 6-10 years age group excluding pre-primary, the overall GER displayed a 2 % increase between 2006-07 and 2008-09. *Thus, the %age of overage children enrolled in the primary sector is quite large.* One of the reasons for this could be the lack of birth documentation and registration procedures in the country which means that many parents do not know the correct age of their children.

NER at the primary level refers to the number of students enrolled in primary schools of primary school age divided by the number of children in primary age group. In other words, for Pakistan, the primary NER is the number of children aged 5 to 9 years attending primary level divided by the number of children aged 5 to 9 years. Including pre-primary (*katchi*) involves widening the age group to 4 to 9 year olds. According to PSLSM , the NER for Pakistan as a whole in 2008-09 was 57 % as compared to 56 % % in 2006-07. NER when pre-primary was included was slightly higher at 61 % as opposed to 57% when pre-primary was excluded. *NER at the primary level is much lower than GER as the former quantifies the age group.*

*An important trend to note is in 2008-09 the number of students declined at each subsequent grade within the primary level, and this difference can be attributed to repetition and drop-outs.* AEPAM/NEMIS reports that the total enrolment in classes I to V was 4.5 million, 3.8 million, 3.4 million, 3 million and 2.5 million respectively. This is a source of concern because children leaving school at an early age are at a risk of never getting re-enrolled, and their economic opportunities are significantly decreased.

### **Middle Level (10 -12 years) and Overage Children in Middle**

According to the National Education Census 2005, stage wise enrolment at middle level was 4.9 million, which accounts for 16% of the total school age population. The Compendium for Gender Statistics shows that in 2007-08, the total enrolment at this level was 3.5 million. AEPAM/NEMIS on the other hand states that total enrolment at this level was 5.36 million in 2007-08, and decreased slightly to 5.35 million in 2008-09. *If we go by AEPAM/NEMIS (which is more nationally representative than the Gender Statistics report), it appears that total enrolment at the middle level has increased over the years.*

GER at the middle level is calculated using 10-12 year olds as the appropriate age range. PSLSM reports that for Pakistan as a whole, GER at the middle level was 53% in 2008-09 as compared to 51% in 2006-07. When the age range was expanded to 11-13 years, the overall GER increased to 61%. *NER at the middle level were much lower GER.* PSLSM states that one of the reasons for this is the large number of overage children that are enrolled in these classes. Even though NER was lower than GER, it did record an increase between 2006-07 (18%) and 2008-09 (20 %). For the 11-13 years age group, the overall NER for 2008-09 was 35%.

*Classwise enrollment at this level shows that a significant proportion of children did not transition from primary to middle levels.* AEPAM/NEMIS reports that in 2008-09 the total enrolment in classes VI to VIII was 1.9 million, 1.8 million and 1.6 million respectively.

### **Lower Secondary Level (13-14 years) and Overage children in Lower Secondary**

In 2005, there were a total of 2.1 million students at this level, which just accounts for 7% of the total school age population (National Education Census). The Compendium for Gender Statistics states that in 2007-08, the total enrolment at this level was 1.62 million.

Again, the number reported by AEPAM/NEMIS 2007-08 was higher for this level at 2.43 million. This difference can be attributed to varying geographic coverage of the two reports. AEPAM/NEMIS 2008-09 shows that the total enrolment at this level was 2.49 million. *All reports show one trend clearly, that as we move to higher levels of education there is a decline in the total enrolment levels.*

*GER and NER at this level show similar trends as the primary and middle levels.* PSLSM reports that for the 13-14 years age group, GER improved from 48% in 2006-07 to 54% in 2008-09. For the 14-15 years age group, overall GER showed an increase from 46% in 2006-07 to 52% in 2008-09. As far as NER is concerned, for the 13-14 years age group, NER increased from 10 to 12% between 2006-07 and 2008-09. For the 14-15 years age group, the overall NER was higher and rose from 19% in 2006-07 to 23% in 2008-09.

AEPAM/NEMIS 2008-09 shows that the total enrolment in class IX was 1.43 million, while the total enrollment in class X was 1.06 million. *Again, this shows that many children do not transition from the middle to lower secondary levels.*

## 6. Types of Disaggregation

This section attempts to analyze Pakistan's education scenario through different types of disaggregation. This is a useful exercise as it can provide an insight into the most problematic areas.

### Variations by Province

This desk review is focused on national statistics as well as the picture emerging from Punjab and Sindh. PSLSM, AEPAM/NEMIS and the National Education Census have been used to study national indicators, while MICS and SEMIS reports form the basis of analysis for Punjab and Sindh. Both the public and private sectors have been taken into consideration.

*Amongst the provinces, Punjab has generally shown the biggest gains in education over the years followed by Sindh. For all provinces, there are a large number of overage children at each level of education as shown by the indicators presented below.*

MICS Punjab 2007-08 is the only report that talks about pre-primary at the provincial level. It states that 15% of the total schools going age children in Punjab attend pre-school. The average age of these children is 4 years.

Moving on to primary, PSLSM states that in 2008-09, Punjab and Sindh had the highest primary completion rates (51%), while Baluchistan recorded the lowest figures (34%). For GER (5-9 year olds), only Sindh showed an appreciable increase in 2008-09 at the primary level. One of the main reasons behind this was increased enrolment in rural areas. For the 6-10 years population, all provinces except for Punjab recorded an increase in GER. Punjab showed a 2% decrease.

At the middle level, all provinces recorded an increase between 2006-07 and 2008-09 (PSLSM) for the 10-12 years age group. When the age range was changed to include overage children (11-13), all provinces showed an increase. At the lower secondary level, all provinces recorded an increase between 2006-07 and 2008-09 (PSLSM) for the 13-14 years age group. When the age range was changed 14-15 years, all provinces showed a decline, which means that the number of overage children at this level of education is lower than at other levels.

For Sindh, MICS 2003-04 states that primary and middle GERs were 63% and 32% respectively. PSLSM 2008-09 records these as 79% and 49%, hence showing an improvement.

Another interesting indicator to consider is the Gross Intake Rate (GIR). SEMIS calculates the Gross Intake Rate (GIR) by dividing the new enrolment in Grade I by the population age group for Grade I. The overall GIR for Sindh stood at 56.7% in 2009 according to SEMIS. This implies that relative to the official Grade 1 entrant age (6), 821,935 students were enrolled in Grade 1 among which 54,247 are the total repeaters. By subtracting repeaters from total entrants new enrolled students' figure was achieved i.e. 767,688. SEMIS does not calculate this figure for private institutions and it's important to note that it takes the official entrance age as 6. MICS Punjab on the other hand, looks at both 5 and 6 years as the entrance age, and shows that the intake rate for 6 year olds (38%) was double that of 5 year olds (19%).

For the 5-9 years age group, NER in Punjab remained stagnant at 62 % whereas significant increases were recorded in Sindh, Khyber Pakhtunkhwa and Baluchistan (PSLSM 2008-09). For the 6-10 age band, NER was highest in the Punjab (71%) and lowest in Baluchistan (54%).

At the middle level, all provinces recorded an increase between 2006-07 and 2008-09 (PSLSM) for the 10-12 years age group. When the age range was changed to include overage children (11-13), all provinces showed a significant rise. At the lower secondary level, NER for all provinces was quite low in 2008-09 (PSLSM). For example, NER in Baluchistan was as low as 5%. When the age range was changed to include overage children (14-15), all provinces showed an increase.

According to MICS 2003-04, primary NER was 40%. PSLSM 2008-09 reports this figure as 54%. When the two reports are compared, it appears that primary NER in Sindh has increased.

MICS Punjab calculates the Gross Attendance Rate (GAR) for the primary level as the number of children of all ages who are attending primary school as a %age of the total number of children of primary school age (5-9 years). The GAR for Punjab in 2007-08 was at 97%, a significant improvement from the 88% in 2003-04. The report also calculates the Net Primary Attendance Rate (NAR) as the number of primary school-aged children (5-9 years) attending primary school as a %age of the total number of children in that age group. For 2007-08, NAR for Punjab was 53 %. This represents a slight increase from 2003-04 when the NAR was 51%. MICS Punjab states aggregated statistics for middle and lower secondary education, i.e. of children from the age group 10 - 14. According to the 2007-08 report, NAR for middle/ lower secondary was only 29% for the 10-14 years age group.

## **Public Private Divide**

The private sector is an important player in Pakistan's education system. Due to the failure of the Pakistani government to provide adequate quality education, private schools have mushroomed all over the country. Schools run by nonprofit organizations and religiously affiliated schools are

included in this category. An analysis of Pakistan's education statistics is not complete without taking into account the differences between the public and private sectors. The National Education Census provides this data for 2005. According to the report, the total school going population was 30 million out of which 2/3<sup>rd</sup> were enrolled in the public sector and 1/3<sup>rd</sup> in the private sector. The following table gives enrolment at each school level by sector.

<b>Level of Education</b>	<b>Public</b>	<b>Private</b>	<b>% of Public Education by Level</b>	<b>% of Private Education By Level</b>
<b>Pre-Primary</b>	3,857,643	2,744,303	58%	42%
<b>Mosque</b>	577,025	3259	99%	1%
<b>Primary</b>	10,394,248	4,990,439	68%	32%
<b>Middle/Elementary</b>	3,323,344	1,619,630	67%	33%
<b>High</b>	1,478,609	629168	70%	30%
<b>Higher-Secondary</b>	708,152	150271	82%	18%

*The table shows that the highest numbers of students are enrolled in private schools at the pre-primary level, followed by primary and middle levels.*

At the pre-primary level, AEPAM/NEMIS 2008-09 reports that the total enrolment in the public sector was 4.3 million. This includes enrolment in government institutions as well as religious schools (*deeni madaris*). For the private sector, total enrolment equaled 3.3 million.

At the primary level, AEPAM/NEMIS reports that the total enrolment in the public sector was 12 million in 2008-09 as opposed to 7.6 million in the private sector. At the middle level, public sector and private sector enrolments were 3.7 and 3 million respectively. Thus, the proportion of children enrolled in private schools at this level was quite high. At the lower secondary level, total enrolment in public institutions was 1.8 million, while total enrolment in private institutions was 1.04 million.

*Looking at the data from these two reports, it appears that the public sector is the main provider for education especially for higher and higher secondary level but private sector also has a major share at the pre-primary and primary levels.*

PSLSM calculates the GER for government institutions. One of the main strategies of the Government of Pakistan is to expand public provision of primary education and this measure can be used to assess whether government schools have increased their coverage of the population, by increasing enrolments faster than the growth in population. The PSLM shows an increase in this measure, meaning that the coverage of the public school system has increased slightly from 63% to 64% 2008-09 as compared to 2006-07. However, this increase is not enough to cater to the demand of a growing population.

## The Urban Rural Dimension

A large proportion of Pakistan's population lives in rural areas. In addition, the rural birth rate is higher than the urban birth rate, which means that there is a huge youth population. However, the provision of education in rural areas has not kept up with the growing populace. The overall quality of education imparted in rural schools also leaves a lot to be desired due to lack of qualified teachers. These factors make it important to study the differences between rural and urban education trends to determine the children at risk. Both genders as well as sectors are included in the analysis. The ASER reports have been studied in detail as they focus on rural locations, while PSLSM and the National Education Census were used to compare results from both urban and rural areas.

Level of Institution	Rural	Urban	Rural - Girls	Rural- Boys	Urban- Girls	Urban Boys
Pre-Primary	38%	62%	19%	19%	30%	32%
Mosque	87%	13%	21%	66%	4%	9%
Primary	76%	24%	31%	45%	12%	13%
Middle/Elementary	59%	41%	27%	32%	20%	21%
Lower Secondary	42%	58%	14%	28%	28%	30%

In 2008-09, the proportion of children attending school was much higher in urban areas (75%) than in rural areas (50%) as reported by PSLSM. It was also much higher for males (71%) than for females (46%). The National Education Census 2005 provides an overview of level wise enrolment for urban and rural areas for both genders.

If we look at the first two columns, it is evident that 62% of the pre-primary enrolment was in urban areas, whereas the case is totally different for mosque schools. On the other hand, 76% enrolment at primary level was in rural areas. The trend changed at higher levels of education with urban areas surpassing rural areas. This may have been due to the lack of availability of middle and high schools in rural areas. The last four columns of the tables show that generally enrolment was higher for boys.

AEPAM/NEMIS 2008-09 provides a breakdown of enrollment at each level of education. It reports that the public sector had a total enrollment of 4.3 million at the pre-primary level. Total enrolment in urban areas was 548,370 as opposed to 3.7 million in rural areas. In urban areas, male enrolment was 273,384 while female enrolment was 274,986. Thus, the difference between male and female enrolment was not very stark. In rural areas, female enrolment was much lower (1.6 million) than male enrolment (2.1 million).

The private sector had a total enrolment of 3.3 million. Enrolment in urban areas was 2.1 million as opposed to 1.3 million in rural areas. In urban areas, male enrolment was 1.1 million while

female enrolment was 955,594. In rural areas, female enrolment was much lower (546,252) than male enrolment (741,501).

The total enrolment at primary stage was 17.2 million, out of which 12.1 million was in public sector. Enrolment in urban areas was 2.2 million as opposed to 9.6 million in rural areas. In urban areas, male enrolment was 1.13 million while female enrolment was 1.1 million. Thus, the difference between male and female enrolment was quite minimal. In rural areas, female enrolment was much lower (4 million) than male enrolment (5.5 million).

Of total enrolment at this level, 5.1 million was in the private sector. Enrolment in urban areas was 3.2 million as opposed to 2 million in rural areas. In urban areas, male enrolment was 1.7 million while female enrolment was 1.5 million. In rural areas, female enrolment was much lower (825,754) than male enrolment (1.2 million).

The total enrolment at middle level was 5.4 million, of which 3.7 million (68%) was in the public sector. Enrolment in urban areas was 2.2 million as opposed to 9.6 million in rural areas. In urban areas, male enrolment was 1.13 million while female enrolment was 1.1 million. Thus, the difference between male and female enrolment was quite minimal. In rural areas, female enrolment was much lower (4 million) than male enrolment (5.5 million).

32% of total enrolment at this level i.e. 1.7 million was in the private sector. Enrolment in urban areas was 1.1 million as opposed to 578,614 in rural areas. In urban areas, male enrolment was 589,990 while female enrolment was 520,565. In rural areas, female enrolment was lower (255,553) than male enrolment (323,061).

The total enrolment at the lower secondary level was 2.5 million, of which 1.8 million (71%) was in the public sector, whereas, 0.7 million (29%) was in the private sector. Within the public sector, enrolment in urban areas was 1.3 million as opposed to 2.3 million in rural areas. In urban areas, male enrolment was 639,524 while female enrolment was 616,511. In rural areas, female enrolment was much lower (831,041) than male enrolment (1.5 million).

Within the private sector, enrolment in urban areas was 538,866 as opposed to 172,770 in rural areas. In urban areas, male enrolment was 290,582 while female enrolment was 248,248. In rural areas, female enrolment was slightly lower (82,871) than male enrolment (89,899).

*Both AEPAM/NEMIS and the National Education Census show that enrollment levels in rural areas are much higher in public institutions as opposed to private schools. The gender gap is also more pronounced in rural areas as compared to urban locations ASER 2010 shows that there is significant gender disparity in government school enrolment with boys at 62.2% and*

girls at 37.8%. This disparity decreases in the private sector (59.2% for boys and 40.8% for girls).

For the 5-9 years age group excluding pre-primary, the GER for urban areas was recorded at 106% as compared to 85% for rural areas. For the 6-10 years age group the GER for urban areas was slightly lower i.e. 103% while the GER for rural areas was the same (85%). PSLSM 2008-09 further reports that government school GER in urban areas was lower (51%) than in rural areas (69%). This was probably due to the fact that there are more private institutions in urban areas. Government school GER for females was again lower (57%) than for males (70%).

Within the 10-12 year age group, rural GER was much lower (46%) than urban GER (71%). For the 11-13 year age group, both rural (54%) and urban (78%) GER were higher.

For the 13-14 years age group, urban GER was 72% while rural GER was 44%. For the 14-15 years age group, GER urban decreased to 70% while GER rural decreased to 42%.

PSLSM 2008-09 reports that the NER for the 5-9 years age group was 68% for urban areas and 53% at rural areas. For the 6-10 age group, NER was 78% in urban areas and 63% in rural areas. The government school NER in urban areas was lower (30%) than in rural areas (42%). Government school female NER was again lower (36%) than male NER (42%).

NER at the middle level are much lower than GER at the same level. This is due to the large number of overage children that are enrolled in these classes. NER urban was 27% while NER rural was 16% for the 10-12 age group. For the 11-13 years age group, NER urban was 46% while NER rural was 30%. For the 13-14 years age group, NER urban was 18% and NER rural was 9%. For the 14-15 years age group, NER urban was 34% while NER rural was 18%.

For Sindh, MICS 2003-04 reports great variation by area (urban 57% vs. rural 31%). At the middle/lower secondary levels, again urban areas fared better than rural areas (26 vs. 8%). While there is little gender difference in urban areas, the comparison for rural areas (11% male vs. 5% female) was overshadowed by the overall low values.

## **The Gender Gap**

Gender parity in education is a not only human right, but also forms the foundation for equal economic, social and political opportunities. While Pakistan has showed some progress in improving gender enrollment, it needs a radical shift of policy and priority in educational planning to achieve gender parity. In order to understand the gender context for education in Pakistan, reports such as the Gender Compendium Statistics, PSLSM, National Education Census, AEPAM/NEMIS and Education for All were studied.

The Gender Parity Index (GPI) measures the progress towards gender parity in education participation and/or learning opportunities available for women in relation to those available to men. It also reflects the level of women’s empowerment in society. A GPI equal to 1 indicates parity between females and males. In general, a value less than 1 indicates disparity in favor of boys and a value greater than 1 indicates disparity in favor of girls. In the Year 2009-10, for Sindh, middle level enrolment had the highest GPI whereas higher secondary level had the lowest ratio. Hence boys are more empowered in higher secondary level than in middle level in Sindh (SEMIS).

The Education for All Report 2011 states that Pakistan enrolls only 80 girls for every 100 boys at the primary level. In addition, only 10% of the total female population ends up attaining 10 or more years of education, which is disturbingly low. The situation is worse for poor women; women aged 17 to 22 attain an average five years of schooling, but for poor women from rural areas the figure declines to just one year while wealthy urban women receive on average nine years of education.

According to the National Education Census, in 2005, at the pre-primary level, male enrolment was 54% while female enrolment was 46%.

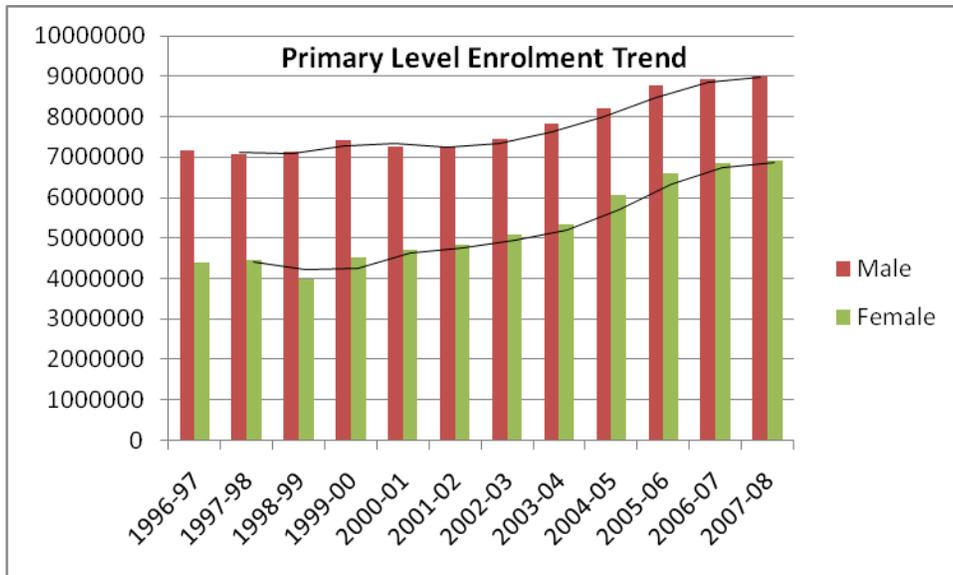
*Generally the proportion of enrolment by gender remained the same at the primary, middle and high levels but at the higher-secondary level.*

<b>Level of Education</b>	<b>% of Male</b>	<b>% of Female</b>	<b>Public - Male</b>	<b>Public- Female</b>	<b>Private- Male</b>	<b>Private- Female</b>
<b>Pre-Primary</b>	54%	46%	31%	27%	23%	19%
<b>Mosque</b>	75%	25%	75%	25%	0.37%	0.19%
<b>Primary</b>	57%	43%	39%	29%	18%	14%
<b>Middle</b>	58%	42%	40%	27%	18%	15%
<b>Lower Secondary</b>	58%	42%	42%	28%	16%	14%
<b>Higher Secondary</b>	50%	50%	41%	41%	9%	9%

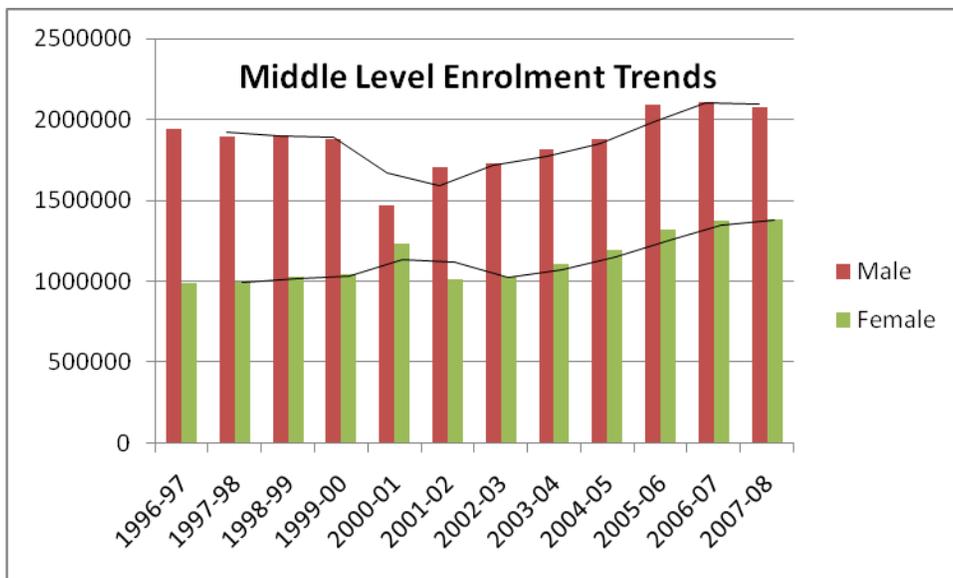
AEPAM/NEMIS 2008-09 reports that the total enrolment of males at the pre-primary level was 2.3 million, as compared to female enrolment (1.8 million). At the primary level, male enrolment was 6.6 million while female enrolment was 5.1 million. At the middle level, male enrolment was 2.1 million while female enrolment was 1.4 million. At the lower secondary level, male enrolment was 1.04 million, while female enrolment was 686,036. Highest enrolment numbers are found at the primary level for both genders.

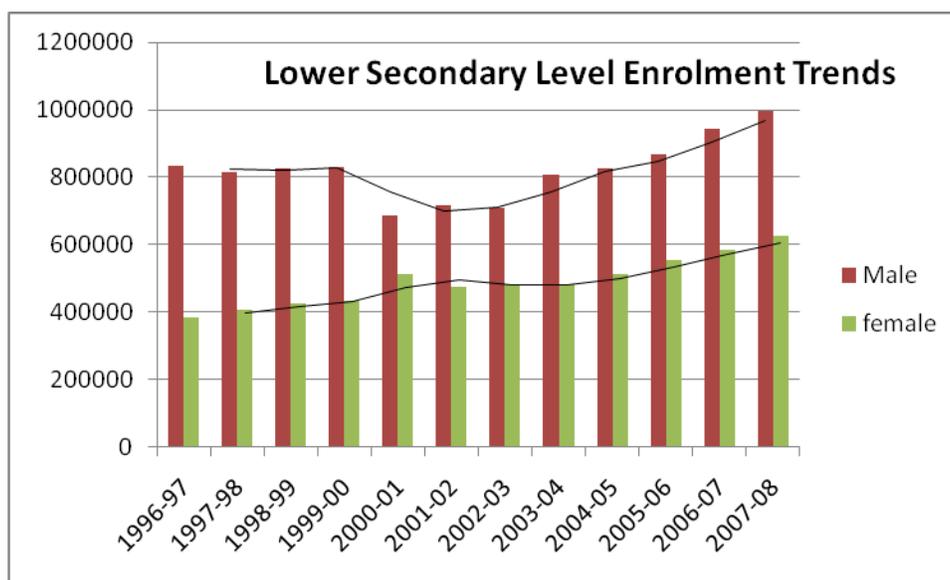
*Thus, in 2008-09 at each level of education, female enrolment was lower than that of males.*

The Gender Compendium Statistics Reports provides a trend analysis of gender wise enrolment. The following bar chart with trend lines shows that while there was a dip in female enrolment in the 1990s male enrolment increased. Overall, female enrolment makes a slimmer time series as compared to that of males. However, incipient 2000s do reflect a visible trend towards narrowing down of gender differentials in the enrolment if we look closely at years 2002, 2003 and 2004. Again this difference was reduced in 2007 and 2008.



Similar trends were observed at the middle and lower secondary levels as shown by the bar charts below.





*When we look at other indicators, it appears that girls are at a greater risk of being Out of School than boys.*

For example, according to PSLSM 2008-09, the primary completion rate was much higher among males (59%) than females (38%). It also reports that the proportion of males attending schools (71%) was much higher than the %age of females attending schools (46%).

*The situation in Punjab is reflective of the nationwide trend; however, the gender gap is much smaller.*

According to MICS 2008-09, in Punjab boys have a slightly higher NAR (54%) as compared to girls (52%) at the primary level. At the middle/lower secondary level female NAR was 28% while male NAR was 30%.

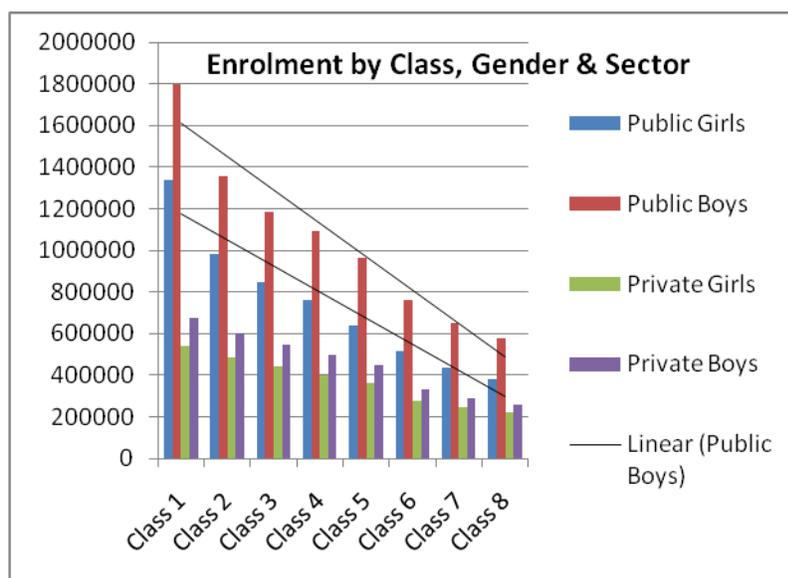
For the Sindh public sector, in 2009-10, boys’ participation at the primary, middle and lower secondary levels was 50%, 21% and 22% respectively. Girls’ participation rate reported at the same levels was 38%, 17% and 17% respectively.

The GER calculation brings forth an interesting observation. *The %age of overage females at the primary and middle levels was smaller as compared to males.* Within the 5-9 age group, GER for females was 83%, while GER for males was 99% according to PSLSM 2008-09. For the 6-10 age band, the GER for females was 82% while the GER for males was 99%. At the middle level GER female was 46% while for males it was 59% for the 10-12 age group. For the 11-13 year age group, Female GER was lower at 53% while the male GER increased to 69%. Within the 13-

14 age group, GER female was 44% as opposed to 43% for the 14-15 age group. Male GER was 62% for the 13-14 age group, and 59% for the 14-15 age group.

PSLSM shows that in 2008-09, female NER was lower (54%) than male NER (61%) for 5-9 age group. For the 6-10 age group, female NER was higher at 62% while male NER also rose to 72%. Within the 10-12 age group, NER female was 18% as opposed to 31% for the 11-13 age group. Male NER was 21% for the 10-12 age group, and 38% for the 11-13 age group. Within the 13-14 age group, GER female was 11% as opposed to 21% for the 14-15 age group. Male NER was 12% for the 13-14 age group, and 25% for the 14-15 age group. *NER is lower than GER at all levels.*

The National Education Census also provides information on class-wise enrolment by gender. *Overall the decreasing trend in enrolment level with increasing level of education is evident from the chart which shows higher enrolment for boys in each sector at each class. The proportion in each sector by gender also does not vary to a great extent. But if you look at the trend line, it is very steep; the drop out at each class seems to be higher for boys in comparison to girls.*



## Learning Achievement

A study of education statistics should not merely focus on the number of children enrolled in schools. It should also study whether children are gaining the desired knowledge and skills in the classroom. For this purpose, this section analyzes results from the National Assessments, LEAPS and ASER reports.

*Results for the 2006 National Assessments show that the average scores of grade 4 students are below the scaled average score of 500. This means that the average mark obtained by all students is less than 50% of the possible marks in each of the four subjects tested (Urdu, Mathematics, General Science and Social Studies).*

In the Language test 24% of students scored greater than the scaled mean score of 500. In the Mathematics test only 19% of students scored greater than the mean score of 500 while in General Science 33% of students scored greater than the set mean of 500. However, the General Science mean score for all students tested was below the set mean. In the Social Studies test, 43% of students got a score of more than the set mean of 500. The scaled mean score of all students tested in Social Studies was close to the set mean of 500.

For grade 8 tests in 2008, the Punjab Science scaled mean score was 496 and the Social Studies Scaled Mean Score was 538. The mean score of Science was below the set mean of 500 but mean score of Social Studies is above the set mean of 500. The national scaled mean scores in Science and Social Studies were 471 and 507 respectively. Private sector schools were also included in this study for pilot purpose, the Science and Social Studies Scaled Mean Score of Private Schools was 519 and 564 respectively. The scaled mean score of Punjab in Science is significantly higher than other Provinces/areas. Similarly the scaled mean score of students in Social Studies in Punjab is significantly higher than rest of the nation. Whereas the scaled mean score of Punjab in Science (496) and Social Studies (537) is more than overall mean score of nation (477) in Science and (516) in Social Studies.

Whereas the PEC results show that districts such as Pakpattan, Faisalabad, Rajanpur, Mianwali have the lowest scoring schools in Maths, Science and English subjects for grade 5 based on their PEC 2009 exams, whereas districts such as Vehari and Kasur were among the lowest performers in 2008 exams. Whereas in grade 8, Narowal and Okara are districts that have the lowest performing schools as their districts have obtained less than 40% marks on average in the subjects of Maths, Science, English and Urdu.

**By Gender** In the National Assessments the representation of boys and girls students in sample data is about 6:4 ratio which provides a good comparison of both groups. Girl students learning achievement in Science (498) and Social Studies (538) is higher than boys students (494) and (536) respectively which may be due to the fact that girls students are more hardworking and eager to learn. *Generally it is considered that boys have better aptitude towards science and shows good performance in science but these overall girls appear to be better achiever than boys. PEC results show that girls obtained higher average scores in Jhang, Khanewal, Lodhran,*

*Muzzafargh, and Rahimyar Khan in grade 5, 2009 exams and also in Lahore, D.G. Khan, Lodhran, Muzzaftergarh, Rajanpur for grade 8 in 2009 exams.*

**By Location** ASER 2010 extensively gives the learning achievement of children at the provincial level. The learning achievement for rural Sindh is given through three broad parameters by ASER 2010; reading levels, learning level and arithmetic levels. In rural Sindh by the time children are graduating from primary school (class V) only 26% were able to read sentences in Urdu/Sindhi and 39% were able to read stories. When they are graduating from middle schools (Class 8) 59.6% were able to read stories in Urdu/Sindhi. After completion of matriculation (class X), 72.2% were able to read stories in Urdu/Sindhi. PEC gives result of each public sector child in the district of Punjab appearing for the exams of grade 5 and 8.

According to the National Assessments, urban students' gains were higher than rural students in Science and Social Studies. The %age of rural students in sample is 57% whereas the urban students are 43% of the total respondents.

### **Children at Risk**

Children at Risk are an extremely important statistic, as education policies and programs to focus on them to contain the Out of School Children population. The number of children at risk of dropping out of school or remaining un-enrolled has grown in Pakistan over the years. Household survey evidence from Pakistan shows that for around 10% of poor households, withdrawing children from school is a deliberate coping strategy in times of economic and environmental shock (Education for All 2011). The ASER 2008 and 2010 reports provide an overview of the number of children out of school at all levels of education in rural areas. At the pre-primary level (ages 3-5) as many as 52% children were never enrolled in school. This %age drops to 14.2% for the primary level (ages 6-10) and 11.8% for 11-13 year olds. For the 14-16 age group, 15.2% of rural children were not enrolled in school.

The Population Council research study stated that only 56 % boys and 48% girls aged 5-9 are reported attending primary schools in 2005-06. Of the total 10 million boys, 5.60 million are enrolled leaving 4.41 million out of school in 2005. Similarly out of 9.79 million girls, 4.70 million were enrolled with 5.70 million remaining out of school. The following indicators provide an insight on the many factors which place children at risk of remaining un-enrolled or dropping out from school.

**Repeaters** Repetition rate measure the phenomenon of students from a cohort repeating a grade, and its effect on the internal efficiency of educational systems. In addition, it is one of the key measures for analyzing and projecting student flows from grade to grade within the educational cycle.

According to AEPAM/NEMIS 2008-09, the total number of repeaters at the pre-primary level (public sector) was 268,054 i.e. a repetition rate of 2.27%. The total number of repeaters at the primary level was 508,101 i.e. a repetition rate of 4.3%. The total number of repeaters at the middle level was 508,101 i.e. a repetition rate of 3.4%. At the lower secondary level, the total number of students repeating a grade was 19,769. The repetition rate was 1.14%. *A comparison with repetition rates at the other levels of education shows that the repetition rate at the primary level was the highest.*

AEPAM/NEMIS 2008-09 also provides information on repetition rates in urban and rural areas. At the pre-primary level, the total number of repeaters in urban areas was 32,804 as opposed to 235,250 in rural areas. In urban locations, 15,966 girls repeated at this level as compared to 16,838 boys. In rural locations, 126,007 boys repeated as compared to 109,243 girls. At the primary level, the total number of repeaters in urban areas was 94,620 as opposed to 413,481 in rural areas. In urban locations, 47,702 girls repeated at this level as compared to 51,918 boys. In rural locations, 249,460 boys repeated as compared to 164,021 girls. At the middle level, the total number of repeaters in urban areas was 39,193 as opposed to 82,066 in rural areas. In urban locations, 17,358 girls repeated at this level as compared to 21,835 boys. In rural locations, 56,068 boys repeated as compared to 25,998 girls. At the lower secondary level, the total number of repeaters in urban areas was 8,261 as opposed to 11,508 in rural areas. In urban locations, 3,210 girls repeated at this level as compared to 5,051 boys. In rural locations, 6,788 boys repeated as compared to 4,720 girls. *Repetition rates in rural areas were therefore much higher than urban areas. Female enrolment was lower, but so was their repetition rate.*

The calculation method used by SEMIS to ascertain the repetition rate of a particular grade is dividing the number of repeaters in a given grade (e.g. Grade I) in school year (i.e. 2009-10) by the number of pupils from the same cohort enrolled in the same grade in the previous school i.e. 2008-09.

The following table shows the Repetition rate for each grade (Sindh Public Sector) in 2009-10.

Class	I	II	III	IV	V	VI	VII	VIII	IX	X
<b>Repetition Rate (%)</b>	6.71	3.79	2.85	2.21	1.47	1.85	1.59	1.41	0.89	0.88

The highest repetition rate is at Grade I, while the lowest repetition rate was recorded at Grade X.

**Dropouts** This is the proportion of students who leave the system without completing a given grade in a given school year. This rate shows the extent to which students abandon school. The

calculation method that is used to find Dropout rate involves subtracting the sum of promotion and repetition rate from 100 in the given school year.

According to ASER, in rural areas, the proportion of 6-10 year olds dropping out of school is 2.4%. For 11-13 year olds, this figure is higher at 7.2%. Highest dropout rates were recorded at the lower secondary level (14-16 years) i.e. 17%. The following table shows the dropout rate in 2009-10 for Sindh public sector institutions.

Class	I-II	II-III	III-IV	IV-V	V-VI	VI-VII	VII-VIII	VIII-IX	IX-X
Dropout Rate (%)	23	13	11	12	36	-0.08	1.52	4.96	4.05

*The highest dropout rate was recorded between Grade V and VI which is the transition point from primary to middle level.*

**Distance from Household** According to MICS Punjab 2007-08 more than 90% of households have public schools within 2 kilometres, including 91 % in rural areas and 96 % in urban areas. Overall, 75 % of households have private schools less than 2 km away; this, however, is only true of about half of rural households. Households in the lowest wealth quintile are less likely to have government schools nearby (boys 83 %; girls 78 %) and profoundly less for private schools (boys 37 %; girls 36 %).

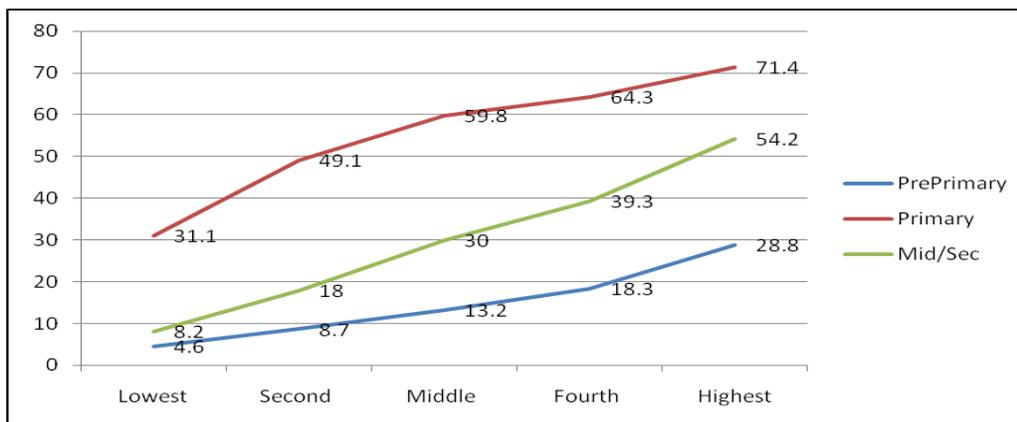
According to MICS Sindh 2003 – 04 any school within the ward or village was reported by 84% of households (95% in urban and 77% in rural). This rose to 98% for any school within 2 km. Only 2% of household had a school more than 5 km or 1 hour away. The difference in access to schools do correlate with the lower enrolment rates of Sindh as compared to Punjab, still comparison will not be accurate given the data is collected from different time periods.

The Assessment report for Punjab states that about 59% students have quick access to school as they reach to school within 15 minutes but on the other hand 4% students take more than an hour to reach the school.

According to LEAPS, every additional 500 meters increase in the distance to the closest school results in a large drop in enrollment, and more so for girls—girls living 500 meters from the school are 15 %age points less likely to attend than those living next door. The drop-off is much smaller for boys, and in fact, distance to school accounts for the bulk of the gender differential in enrollment in Pakistan. The magnitude of this decline is similar among rich and poor households, teenage and younger girls, and girls with literate or illiterate mothers. Solving the distance issue is thus the key to increasing enrollment, particularly for girls, and it has little to do with incomes.

**Poverty/Socioeconomic Factors** MICS Punjab 2007–08 reports NAR according to wealth quintiles starting from preschool. The %age of 3 – 4 year olds attending preschool increased sharply from 4.6% to 28.8% as the wealth quintile moves from lowest to highest. There is a similar sharp increase in %age of 5 year olds in grade 1 (8.9% - 27.2%) and over a 40% increase in 6 year olds in grade 1 (20.1% - 56.7%) as the wealth quintile moves from lowest to highest. The NAR of children of primary school age (5-9 years) attending primary or higher as a fraction of all children in that age group (NAR) for Punjab, rises by 40% points from 31% to 71.4% as the wealth quintile increases from lowest to highest, for girls the rise is by 50% (25.6% to 72.9%) and for boys less sharper but still significant (36.2% to 69.9%) as the wealth quintile varies from lowest to highest. Children of middle/ secondary school age (10-14 years) attending secondary school or higher (NAR) in Punjab shows an even sharper increase from 8.2% to 54.2% as the wealth quintile increases from lowest to highest; with the rise in NAR for girls increasing from 4.3% to 57% and for boys increasing from 11.6% to 51.5%. This analysis confirms that wealth is correlated with attendance and more relevant for NAR of girls and wealth influences the NAR more as the level of education increases from primary to secondary.

MICS Punjab Wealth Quintiles & NAR of children at different education levels



The Punjab Assessment report shows that for households where both parents work to earn income, children show poorer performance than those where both parents do not work. This could be due to the fact that when both parents work children’s education is ignored and their learning levels are impacted.

LEAPS shows that in villages classified as poor and with low literacy, enrollment is 28 % lower for boys and 44% lower for girls than in villages classified as rich and with high literacy levels. Male enrollment ranged between 26% and 97% and female enrollment ranges between 14% and 94% – dramatic differences indeed. *Villages that have high literacy and wealth also have smaller gender gaps in enrollment.* This is particularly true for high levels of literacy. In villages

classified as high literacy, the gap between boys and girls narrows to a few %age points and is uncorrelated (or even slightly negatively correlated) with wealth. By comparison, villages classified as low literacy have a gender gap approaching 20%.

**Incidence of Child Labor** According to LEAPS, low enrollment has little to do with child-labor but a lot to do with distance, particularly for girls. One group of vulnerable children consists of those who live far from school. For children in the primary school-going age group, the alternative to not going to school is not working at home or in factories, instead it is playing and sleeping. Primary age children who are not in school spend only 93 minutes a day working at home and working for a wage.

**Child Health/Nutrition** MICS uses health indicators to gauge the overall status of health and nutrition in the Punjab and Sindh. Again the data is not exactly comparable given that some of the disparities may exist due to the difference in time periods and the indicators are not the same for each report.

PSLSM 2008-09 provides immunization coverage that is based on record of immunizations given to children. This statistic showed a slight rise from 50 to 51 percent in the proportion of one year old who were fully immunized. Full immunization rates based on recall and record showed an increase in coverage, from 76 to 78%. Urban areas showed an increase from 85 to 87 % in full immunization, and increase in rural areas is from 73 to 74% during the reference period. There was a decrease in the proportion of children under five suffering from

diarrhea i.e. from 11 percent to 10 percent but Khyber Pakhtunkhwa displayed an increase from 8% in 2006-07 to 10 percent in 2008-09. The use of oral re-hydration solution (ORS) to treat children with diarrhea increased from 76% in 2006-07 to 79% in 2008-09.

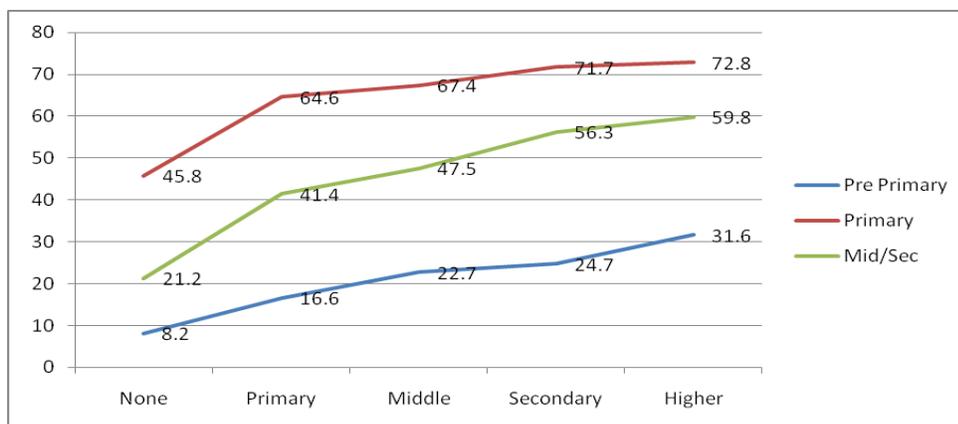
MICS Punjab 2007–08: gives indicators to measure children’s health; the indicators most relevant and accurate are the prevalence of diarrhea in the 2 weeks preceding the survey. In Punjab 8% of children under 5 years of age had diarrhoea in the 2 weeks preceding the survey. The peak prevalence of diarrhoea occurred amongst children aged 6-11 months (14 %). Prevalence was slightly lower in rural areas (7 %) than in urban (9 %). For nutrition both Weight-for-age and Height-for-age are measures of acute and chronic malnutrition. In Punjab 34% of children under age 5 were moderately or severely underweight and 11% are severely underweight. About 2 in 5 children (42 %) are severely or moderately stunted and 23% are severely stunted. 13% of children are severely or moderately wasted and 6% are severely wasted. Gender differentials are small. Children in rural areas are more likely to be underweight and stunted than other children. Children in major cities are least likely to be underweight or stunted. Results indicate that the child's nutritional status is strongly correlated with the mother's education: children whose mothers have higher education are the least likely to be underweight

and stunted. Underweight and stunting figures for children from households in the lowest wealth index quintile significantly exceed the province average.

MICS Sindh 2003 – 04: In Sindh, recent diarrhoea occurred in 12% of children under five years of age, with the illness being more common in rural areas as compared with urban areas. All results showed no differences between boys and girls. In Sindh, 40% of children aged less than five years were underweight for their age. Underweight prevalence is greater in rural as compared with urban areas (45% vs. 30%). There are no major differences by gender, although the prevalence for girls appears a little lower than boys by a small margin (38% vs. 42%). *The fact that children in rural areas have lower health indicators can be linked to lower enrolment levels, and decreased learning achievement.*

**Mother’s Education** In MICS Punjab 2007 – 08 a positive correlation between children enrolled in school and mother's education was observed, for children aged 5 and 6 years, the highest rates were observed for children whose mothers have higher education: 30 % for entry at age 5 and 64 % for entry at age 6. School attendance at the primary level increases with mothers' education: (higher education 73 %; secondary 72 %; middle 67 %; primary 65 %; no education 46 %). In The following figure plots the variation of NAR for children through pre primary to middle/secondary education and the literacy level of the mother.

*MICS Punjab: Mother’s Literacy against NAR at different education levels*



Children aged 3-4 years who are attending preschool rises from 8.2% to 31.6% as the mother’s education rises from none to higher. Similar steep rises is noted in the NAR (primary) that increases 45.8% to 72.8% as the mother’s education increases from none to higher, with mother’s education being more relevant to girls than boys education. The rise in NAR (Secondary) is less with an increase from 21.2% to 59.8% as mother’s education rises from none to higher. So again mother’s education shows a strong correlation with NAR and from the green line signifying NAR for Mid/Sec level with the steepest gradient we can tell that mother’s

education becomes especially positively correlated for NARs at higher education levels. Similarly from the statistics mother's education is more strongly positively correlated with girls NAR than boys.

MICS Sindh 2003 – 04 gives no similar disaggregation for mother's education and enrolment levels. Mother's education is only discussed in terms of its correlations with knowledge of prenatal care and malnutrition. ASER shows that rural illiteracy level of the mother is highest for rural Sindh and lowest for rural Punjab which is almost equivalent to the national level of 67.7%. A correlation can be drawn from this to the lowest enrolment level in rural Sindh as compared to the national average and Punjab's enrolment levels.

The Punjab Assessment study showed that among the illiterate parents/guardian the mother is with the highest %age among the total illiterate parents consisting about (61%). Father and Guardian becomes second and third illiterate with 28% and 11% respectively. Fathers are in good %age among the parents/guardians who have passed primary education with 48% representation. Fathers have also big share among the parents/guardian who have passed M.A/M.Sc. qualification with 60% representation.

## 7. Issues in Using Administrative Data Sources

### Geographic Coverage

The most pertinent issue with geographic coverage with administrative data sources is that it does not go down to the *tehsil* or Union Council level. Only Programme Monitoring and Implementation Unit Punjab Dataset 2009 collect data at the Union Council level. The geographic coverage of the data on OOSC in AEPAM is National (OOSC) and provincial. Sindh Education Profile (SEMIS) 2009 – 2010 goes down to the District level, Statistical Bulletin Annual School Census 2009-10 (Sindh) covers till the Provincial level and the National Education Census (FBS) 2005 covers all schools at national, provincial and at district level.

### Coverage of the Schools

Most administrative datasets are giving school coverage according to the following desegregations; gender, location (rural/urban), level of education and in some cases type of schools. The most prevalent issues are that where level of education is given, different data sets have different definitions of the levels; with some using elementary, others primary, some do not report on pre primary. Secondly what is reported does not accurately capture the situation on the ground; some schools have upgraded to elementary but they are still listed as primary, others have upgraded to higher secondary but data is not updated. Thirdly there is confusion on whether primary schools are those schools that are stand alone primary schools or also inclusive of the primary section of middle/high schools.

Finally for some administrative data sources do not give school coverage according to public/private which is problematic since private schools make a sizeable percentage. In cases where this disaggregation is given, it does not cover NGO schools, home schools/tuition centers and *madrassahs* (religious schools). Understandably such discrepancies and inaccuracies can have huge implication on data analysis.

**PES/AEPAM** reports the school level data at the national level for both public and private schools and at the Provincial level it only covers public schools. Disaggregating the data also according to rural/urban and gender. **PMIU Punjab Dataset 2009** only covers the government schools and covers these according to the level of education; primary, middle and secondary. Disaggregating the data also according to rural/urban and gender. **SEMIS 2009 – 2010** though giving the most categories of coverage only does this for government schools. It

#### *Administrative Data Sources*

- Pakistan Education Statistics PES/AEPAM
- Programme Monitoring and Implementation (PMIU) Unit Punjab Dataset 2009
- Sindh Education Profile (SEMIS) 2009 – 2010
- Statistical Bulletin Annual School Census (SBASC) 2009-10 (Sindh)
- National Education Census (NEC) 2005

gives the levels of education (pre-primary is included in primary, primary, middle, elementary, secondary, higher secondary), covers the schools according to medium of instruction (Urdu, English, Sindhi, and Combination of any of these), whether the schools are co-education or single sex schools and also disaggregates the data according to gender. **SBASC 2009-10 (Sindh)** covers schools according to the medium of education (English, Urdu, Sindhi, and Mixed) and level of education (Primary, Middle, Secondary, and Higher Secondary). Disaggregating the data also according to rural/urban, gender and school shift (morning/evening). **NEC 2005** covers all schools according type of schools (public/private), level of education (Primary, Middle, High, Higher Secondary, University, Madarassas etc.) and also management of school (Govt., Private, Semi-autonomous e.g. railways, KRL etc.). Disaggregating the data also according to rural/urban and gender.

### **Methodology of Data Collection**

For most of the administrative and household data sources identified, larger government institutions are the ones responsible for data collection, compilation, monitoring, providing important statistics from which calculations are made or providing the sampling techniques and research tools. Fundamental to understanding the methodology of data collection it is imperative to understand the work of the functions of institutions like the Federal Bureau of Statistics (FBS), National Institute of Population Statistics (NIPS), Population Census Organization (PCO) and the Education Management Information System (EMIS).

#### **Federal Bureau of Statistics (FBS):**

The FBS is responsible for the collection, compilation and dissemination of data on various socio-economic sectors through secondary sources and administrative records of the government. The policy adopted by FBS for data supply is that aggregate level data (tabulation) is provided to the users free of charges. Some of the major functions of the FBS are:

- Collection, compilation and analysis of statistical data relating to various sectors of economy
- Publication of statistical data
- Supply of statistical information to Federal Ministries, Provincial Governments and other organizations.
- Research with a view of improving statistics
- Technical advice and statistical coordination with other departments
- Evaluation and introduction of standard concepts, definition and classifications pertaining to national statistical series
- Clearance of statistical projects undertaken by different organizations
- Evaluation of efficient computation methods for statistical estimation
- Implementation of policy laid down by the Statistics Division by suitably adopting the Statistical System of Pakistan to conform with the policy

- Undertaking the National censuses and surveys except Population & Housing Census, Agriculture & Livestock Census

#### **National Institution of Population Statistics (NIPS)**

NIPS was established in 1986 as an autonomous organization, at Islamabad. One of its key objectives is to undertake a program of substantive and methodological research in the areas of population dynamics, impact of changes in population parameters, the demographic impact of development planning and the relationship between population and development variables and the evaluation of macro, micro and desegregate monitoring of various components of the population welfare program. Its work is especially relevant to us, given that the last population census in Pakistan was conducted in 1998; NIPS plays the crucial role of providing population projections. This data is used to calculate percentages of enrollment, attendance rates and most importantly OOSC. All the data sources employ NIPS population projection statistics to calculate their percentages and in those publications where only numbers are given, NIPS statistics will be used to calculate percentages for our study. An important publication of NIPS, *Pakistan Demographic and Health Survey 2006 – 07* will prove valuable for our further research on barriers and bottlenecks.

#### **Population Census Organization (PCO)**

Population Census Organization, an attached department of Statistics Division, is the official agency of Federal Government which is responsible for planning and execution of decennial Population and Housing Census and release of its data for public and private use. Population Census Organization process and disseminate data in the form of regular census reports and a number of supplementary reports based on analysis and research of demographic data. The last population census was conducted in 1998 and it gives disaggregated data on Pakistan's population according to many key economic indicators. The next population census is to be conducted in 2011.

#### **Education Management Information Systems (EMIS):**

Educational Management Information Systems (EMIS) is a data collection, storage, retrieval, processing and dissemination system specifically designed for use by decision makers and administrators to plan and administer Education System more efficiently and effectively. The purpose of the EMIs is to improve the quality and integrity of data and information. Systematize the data need identification, data collection, processing, generation, dissemination and evaluation. Strengthen the capability to manage, plan, and control the flow of information within and outside of the organisation. Produce up-to-date data bulletins, status reports, brochures and other statistics needed for management activities/function. Finally to provide baseline data and information to generate performance indicators as measuring tools in the attainment of educational objectives and policies, and in setting targets for the sector. There are five different

EMISs; Punjab EMIS (PMIS), Sindh EMIS (SEMIS), Balochistan EMIS (BEMIS), NWFP EMIS and the Federal EMIS.

For **PES/ AEPAM** collect the data on formal education is collected by the Provincial Education Management Information Systems (EMISs) of each province while the National Education Foundation (NEF) provides data on non formal education. **PMIU** conducts its own schools census in the Punjab. **SEMIS** or the Sindh EMIS collects its own data like the other provincial EMIS and the data is collected at the district education unit and collated at the provincial level. The **SBASC** is an annual census conducted using the data collected by the SEMIS. Finally **NEC 2005** uses the data collected by the FBS. The detailed data extraction and management methodology is given in Section 7.5.

### **Definition of OOSC, Collection and Calculation Methods**

None of the administrative data sources explicitly defined or gave data specifically for OOSC. Most of the data had to be inferred or in some cases such as **SEMIS (2009 - 10)** could not even be inferred. In some data sets the information is not given in percentages but numbers so inferring OOSC requires additional information in the form of population projections to provide estimates of OOSC.

**PES/AEPAM** provides the number children un-admitted at each level of education but does not mention how this data is collected / calculated. These statistics can be used to calculate Out of School population. **PMIU Punjab Dataset 2009** and **SBASC 2009-10 (Sindh)** provides no direct measure or data on out of school children. **NEC 2005** gives information on children in school but does not provide any direct measure to calculate out of school children; however since NEC accurately gives the total enrolment this can be used along with population projection data to estimate the OOSC.

### **Sampling, Data extraction, Management and availability of Raw Data**

#### **PES/AEPAM**

**Sampling, Data Extraction and Management:** Provincial EMIS units collect data through district EMIS cells which carry out an annual school census. It is the responsibility of EMISs to collect, compile and analyze education statistics for their respective provinces/districts. NEMIS consolidates this data at the national level and checks its validity. NEMIS sets standards for quality improvement of education data, and provides technical support to the provincial and district EMISs for enhancing their capacity to generate and maintain data

**Availability:** AEPAM plays a coordination role in addressing crucial issues and problems in respect of compatibility of questionnaires, statistical terminologies, data requirement for

development of core educational indicators, discrepancy and inconsistency in data, data reliability and validity, non-availability of data of private schools and timely availability of data

### **PMIU Punjab Dataset 2009**

**Sampling, Data Extraction and Management:** PMIU conducts the school census on an annual basis to capture a school profile of all Government Schools in Punjab. The data is collected by sending copies of a questionnaire to the District Monitoring Officers (DMO) to all 35 districts of Punjab. DMO's send Monitoring Evaluation Assistants (MEA) (who change on a rotational basis) to each tehsil. They go and give the form to the Head Teacher of each school. They cover about three schools a day. After a few days, MEA return to schools to collect the forms. The data is collected for 31st October each year. The MEAs skim through the form to generally have a look at the form and ensure that everything is filled correctly. This exercise begins in October and PMIU Head office starts receiving the filled forms back by January. Data is entered at the Head Office during Feb and March. Random checking is done during this procedure. Specific character limits are there in the data entry template to ensure quality of data. After this entry stage, data is compared from previous year to see trends and queries are run to check the reliability of data. For example, they would run a query to see number of children in a school and if there is a sudden increase or decrease than they would inquire it.

**Availability:** After all these steps, data is available for use by the end of April.

### **SEMIS 2009 – 2010**

**Sampling, Data Extraction and Management:** From Sindh 23 districts were covered and only government schools surveyed. The Sindh Education Department conduct a school census on an annual basis to capture school profiles of all government schools in Sindh. The data is collected by sending copies of a questionnaire to the District Offices which then send it to each school. The head teacher fills out the questionnaire and sends it back to district office. SEMIS collect this data from district EMISs and collates it at the provincial level. The Regional Support Unit (RSU) has worked with the Sindh Education department to improve the methodology of the data collection and validation process.

**Availability:** The data from the data source goes to NEMIS, from where it is available.

### **SBASC 2009-10 (Sindh)**

**Sampling, Data Extraction and Management:** SEMIS cleans and compiles the data, and prints the annual provincial profile, which forms the basis of the Statistical Bulletin. The verified data is stored in the database of the Ministry of Education. RSU has worked with the Sindh Education department to improve the methodology of the data collection and validation process.

**Availability:** The data from the data source goes to NEMIS, from where it is available.

#### **NEC 2005**

**Sampling, Data Extraction and Management:** NEC covers a total of 26,809 urban blocks and 50,582 villages; from Punjab, 14,978 Urban Blocks and 26,001 Rural Villages were covered and from Sindh, 9,029 Urban Blocks and 5,871 Rural Villages were covered. After the tool development, testing and printing of it, the entire data collection activity was carried out through 34 Regional/Field Offices of Federal Bureau Statistics (FBS) according to urban blocks and rural villages. Then data is sent for processing once editors and coders are trained with a tabulation plan and after the data is processed it is analyzed. For monitoring purposes 10% of the work of 1100 enumerators is monitored by a monitoring team.

**Availability:** Raw data can be made available from the FBS, on request.

#### **Data Reliability and Accuracy**

**AEPAM/NEMIS** checks reliability and validity of data coming from EMISs by conducting spot checks in the field. **PMIU** has consistently improved upon the scope, methodology and implementation of school census 2008-09 by providing technical inputs in data collection form, training of concerned personnel and validating the collected data etc. For **SEMIS** the Reform Support Unit has improved upon the scope, methodology and implementation of school census 2008-09 by providing technical inputs on the data collection questionnaire, training of concerned personnel and scientifically validating the collected data

For **SBASC**, **SEMIS** is responsible for cleaning and verifying the data collected through the Annual School Census. The Reform Support Unit has improved upon the scope, methodology and implementation of school census 2008-09 by providing technical inputs on the data collection questionnaire, training of concerned personnel and scientifically validating the collected data. **NEC** ensures quality and reliability of data through a rigorous monitoring mechanism in which supervisors in the Regional/Field Offices were required to check 10% of the work of Enumerators. Teams from FBS headquarter were sent throughout field operations in all parts of the country to check the quality of work as well to ensure complete coverage. Ministry of Education had also deputed their monitoring teams and these teams checked the field operations from all aspects i.e. coverage and quality.

## 8. Issues in Using Household Data Sources

### Geographic Coverage

Similar issues in geographic coverage exist for the household data sources; most data is reported at the provincial and district level and does not go down to the *tehsil* and Union Council level. **MICS Punjab 2007 – 08** and **MICS Sindh 2003 – 04** collect the data at the district level for Punjab and Sindh 2003 – 04 respectively. **PSLSM 2008-09** collect the data at the provincial level. **RECOUP 2005-2010**, **ASER 2008** and **ASER 2010** go down to the district level. However ASER 2008 and 2010 do not cover all the districts in each province and the selected districts are not the same for both the reports. ASER 2008 has a total of 11 districts and ASER 2010 covers a total of 32 districts.

#### Household Data Sources

- MICS Punjab 2007 – 08
- MICS Sindh 2003 – 04
- Pakistan Social and Living Standards Measurement Survey (PSLSM) 2008-09
- Research Consortium on Educational Outcomes and Poverty (RECOUP) 2005-2010
- Annual State of Education Report (ASER) 2008
- Annual State of Education

### Sample Size

Given that most of the studies using household data surveys used the sampling design of FBS the only variant was sample size and the larger the sample size the more accurate the findings. The sample size for **MICS Punjab 2007 – 08** was 91,280 households from all 35 districts, 143 tehsils/towns, and major cities, other urban and rural areas in Punjab. The sample size for **MICS Sindh 2003 – 04** was 21,094 household from 16 districts of Sindh. **PSLSM 2008-09** used a sample size for the four provinces fixed at 75,188 households comprising 5298 sample villages / enumeration blocks. RECOUP 2005-2010 was across 9 districts of which 6 were in Punjab and 3 were in Kybher Pukhtunwala. Household and individual level data was collected from 1100 households comprising 8752 individuals on education; health and fertility; and social and economic outcomes. In total, 27 communities were covered. **ASER 2008** covered a total of 16703 children from 600 villages and 6600 households in 11 districts whereas **ASER 2010** covered a total of 32 districts, 960 villages to test 52, 046 learners. Both ASER 2008 and 2010 also collect school level data, only for government schools.

### Methodology of Data Collection

MICS Punjab, MICS Sindh and PSLSM surveys are conducted by the FBS which also provides them the sample design for information on FBS and other government organization directly involved in data collection refer to Section 7.3. **MICS Punjab** and **MICS Sindh** get their sample design and technique from FBS. For MICS Punjab the sample was designed by the FBS to provide estimates of socio-economic indicators at the provincial level for nine divisions, 35 districts, 143 tehsils/towns, and major cities, other urban and rural areas. For MICS Sindh the rural part of the sample was taken from the 1998 census, the town and urban frame from a 1995

update, as part of the regular updates every 5-7 years. **PSLSM 2008 09** also the data collection process is conducted by the FBS. For **RECOUP 2005 – 2010** the Mahbub ul Haq Human Development Center (MHHDC) conducts the survey. For each of the surveys, the sample size is different. Overall, the surveys were conducted across 9 districts of which 6 were in Punjab and 3 were in Kybher Pukhtunwala. **ASER 2008 and 2010** both use data sampling and collection techniques employed by ASER India. For details on the sampling and data collection methodology of each data source refer to Section 8.5.

## Definition of OOSC, Collection and Calculation Methods

Household data sources are relatively clearer on the definition of OOSC; in most cases the numbers are inferred but given that data is given in percentages for enrollment or attendance rates, fairly accurate estimates of OOSC can be made. However a hindrance to absolute accuracy is that for most publications percentage of repeaters and drop outs is not given. **MICS Punjab 2007 – 08** and **MICS Sindh 2003 – 04** both do not explicitly define Out of School Children. This can be inferred from the percentages given of the Net Attendance Rate at the pre primary, primary and middle school level. **PSLSM 2008-09** does not provide a direct measure of Out of School Children but it can be estimated using the percentage of attendance which is defined as the population of ten years and older who have ever attended school. **RECOUP 2005-2010** does not give a direct measure of OOSC. **ASER 2008** and **ASER 2010** explicitly define OOSC by different age groups; (3 -4), (5 - 9), (10 - 12), (13 - 14), (15 - 16) and then the aggregated (3 - 16). OOSC are basically the percentage of children for each age group that were never enrolled in any type of school and those children who are drop outs.

## Sampling, Data extraction, Management and availability of Raw Data

While some reports such as MICS and PSLSM describe their data management and extraction techniques in detail, others like ASER do not. Presented below are the techniques employed by each publication.

### MICS Punjab 2007 – 08

**Sampling, Data Extraction and Management:** For MICS Punjab the sample was designed by the FBS to provide estimates of socio-economic indicators at the provincial level for nine divisions, 35 districts, 143 tehsils/towns, and major cities, other urban and rural areas. Within each of the 273 sampling domains, enumeration areas (enumeration blocks in urban areas or village/mouzas/dehs in rural areas) were selected with Probability Proportional to Sizes (PPS). The PPS is a widely used standard sampling technique and is the appropriate technique to use when the sampling units are of different sizes Household listing was carried out within each randomly selected enumeration areas and a systematic sample of 12 households in urban areas and 16 households in rural areas was randomly drawn. The total sample size for the survey was

91,280 households. The sample was not self-weighting and sample weights were used to report results.

Data handling and processing was managed by an experienced private sector agency which was responsible for survey data management and processing, including pre-entry editing, data entry, verification and consistency checks, preliminary tabulations and frequencies, support of the data analysis process and preparation of final data for dissemination in electronic form. Procedures and standard programs developed under the global MICS 3 project and adapted to the Punjab questionnaires were used. Data were entered and processed using the CSPro software after customizing standard data entry programs, and were analyzed using the Statistical Package for Social Sciences (SPSS) software program after customizing the model syntax and tabulation plans. Syntax and tabulation plans were prepared for the additional indicators included in the survey.

**Availability:** Raw data is available to us, procured from the FBS on request.

#### **MICS Sindh 2003 – 04**

**Sampling, Data Extraction and Management:** The rural part of the sample was taken from the 1998 census, the town and urban frame from a 1995 update, as part of the regular updates every 5-7 years. The sample was selected from several strata (defined sub-groups of the population): both towns, other urban and rural areas from each of the districts and Karachi towns. At the first stage, within each stratum, census enumeration blocks were selected with probability proportional to size. After a household listing was carried out within the selected enumeration areas, a systematic sample of 16 households in rural and 12 households in urban areas was drawn. Karachi District, with the largest population, also had the greatest number of households (9,324), while the remaining households, i.e. 14,460 coming out from with the remaining districts. This sampling strategy was employed to ensure that each district had a sufficient number of sites and households to ensure adequate precision of results for major indicators and the data was then weighted to adjust for population proportions. Data editing was continued on the receipt of questionnaires at the MICS Secretariat, according to a set of agreed procedures with the Government of Sindh. UNICEF, in consultation with the Government of Sindh, contracted an Islamabad-based agency, Eycon Solutions, to edit, enter and do post-entry data editing. For data entry, a set of Microsoft Access user-friendly screens were developed which were the mirror images of the questionnaire. Over 200 “queries”<sup>13</sup> attended to possible errors of missing values, inconsistencies and outliers (extremely unlikely findings). Based on these findings, the final clean data set was handed over to MICS Secretariat and UNICEF in June 26, 2004. In July 2008 this data set was further cleaned, the tables were re-run and reanalyzed by a team from the Aga Khan University to ensure validity of the information published in this report. All errors were communicated to MICS Secretariat Core staff for required actions. The relevant questionnaires were re-examined to correct any errors in transcription. Further checks, especially

for correct ages, consistency and outliers were undertaken after basic tabulations of the data, using SPSS.

**Availability:** Raw data can be made available from the FBS on request.

#### **PSLSM 2008-09**

**Sampling, Data Extraction and Management:** The sampling technique for an urban area is such that each city divided into enumeration blocks, each enumeration divided into income groups. Cities are classified by size (After excluding population of large sized cities, the remaining urban population in each district in all the provinces has been grouped together to form a stratum). For a rural area; each district in the four provinces of Pakistan has been treated as an independent stratum. Keeping in view the objectives of the survey the sample size for the four provinces has been fixed at 75,188 households comprising 5298 sample villages / enumeration blocks. Villages and enumeration blocks in urban and rural areas respectively have been taken as Primary Sampling Units (PSUs). Sample PSUs have been selected from strata/sub-strata with PPS method of sampling technique. Data was collected at both the household and individual level FBS field offices carried out data collection under supervision of regional offices. Field/regional offices carried out preliminary data editing at their office level. The entire data entry took place at FBS headquarters. The sampling frame chosen is **expected** to produce reliable results at each district. No correlations are drawn between economic situation of household/community and enrolment rates. Out of school population not directly reported

**Availability:** Raw data is available to us, procured from the FBS on request.

#### **RECOUP 2005-2010**

**Sampling, Data Extraction and Management:** MHHDC conducts the survey. For each of the surveys, the sample size is different. Overall, the surveys were conducted across 9 districts of which 6 were in Punjab and 3 were in Kybher Pukhtunwala. Household and individual level data was collected from 1100 households comprising 8752 individuals on education; health and fertility; and social and economic outcomes. In total, 27 communities were covered. MHHDC conducted semi structured and structured interviews at the household level. Focus group discussions were also held. Outside the household, school teachers, education officers and community members were also interviewed. Both qualitative and quantitative research methods were employed. MHHDC team cleaned and processed the data and carried out data analysis.

**Availability:** Still working on procuring the raw data.

#### **ASER 2008 and 2010**

**Sampling, Data Extraction and Management:** ASER 2008 covered 16703 children from 600 villages and 6600 households in 11 districts. Data Collection was done entirely by volunteers conducting household surveys. ASER 2010 uses 2000 educated volunteers were used for data collection across 32 districts, 960 villages to test 52, 046 learners. ASER 2010, broadly uses the same sampling and data collection techniques as ASER 2008 report. Except the sample size is larger, In ASER 2010, 20 villages from ASER 2008 survey were retained and 10 new villages

added. The 10 villages were randomly dropped from ASER 2008 and the 10 more added were from the Population census village directory. The ASER Pakistan employs the tool and techniques developed by ASER India. The sampling strategy used helps to generate a representative picture of each district. The estimates obtained are then aggregated (using appropriate weights) to the district, province and national level. The villages were selected randomly using the village directory of the last census (1998). The sampling was done using the PPS technique. In ASER's case the sampling units are villages. This method allows villages with larger populations to have a higher chance of being selected in the sample. In the entire village information was collected from 20 randomly selected households.

**Availability:** Raw data is available on request from South Asian Forum for Education Development and Idara-e-Taleem-o-Aagahi (ITA).

## **Data Reliability and Accuracy**

### **MICS Punjab 2007 – 08**

In order to improve quality of activities at various stages of MICS and to enhance confidence in the data, the Government of Punjab invited the Social Work Department (SWD), University of the Punjab as third party monitors. Their main responsibility was to provide supportive monitoring services and timely feedback during all the stages of the survey, including questionnaire development, finalizing the list of indicators, training master trainers, supervisors and enumerators, field data collection, editing questionnaires, data entry, data cleaning and data analysis. They were also responsible for reviewing the draft MICS report and offering comments / inputs to improve the report. To minimize data entry errors the Data Management Firm (DMF) was contracted for double data entry system. They opted for entering data twice independently, and comparing them. After removing differences by consulting the original questionnaires, they created a third set of data clean of data entry errors.

### **MICS Sindh 2003 – 04**

Fieldwork was rigorously followed-up through regular monitoring by the MICS/ Planning & Development Department and UNICEF Officers with regular feedback guidance to Senior Supervisors to ensure the highest quality of the data. Senior Supervisors visited teams regularly to ensure survey quality and supervised interviews, using standardized editing checklists. In addition to in-house monitoring a third party, MARS (Marketing and Advertising Research Services) was contracted by UNICEF to independently assess the quality of the survey. Editing was continued on the receipt of questionnaires at the MICS Secretariat, according to a set of agreed procedures with the Government of Sindh. UNICEF, in consultation with the Government of Sindh, contracted an Islamabad-based agency, Eycon Solutions, to edit, enter and do post-entry data editing.

#### **PSLSM 2008-09**

Data quality in PSLM Survey has been ensured through a built-in system of checking fieldwork by the supervisors in the field as well as teams from the Headquarters. Regional/Field Offices ensured the data quality through preliminary editing at their office level. The data entry program (name not provided) used had a number of in-built consistency checks.

#### **RECOUP 2005-2010**

The questionnaire was filled out in the form of a semi-structured interview to ensure that respondents understood all the terminologies i.e. both quantitative and qualitative methods were used for data collection. In some cases Focus group discussions were held to supplement the findings. The various categories in the questionnaire have been defined in depth. MHHDC team was trained on the survey methodology.

#### **ASER 2008 and 2010**

The information on ensuring quality of data collected and its management as given in the ASER reports is quite sketchy. ASER derives a lot of its credibility from using the tried and tested technique of ASER India. ASER India provides complete technical support to ASER Pakistan with them even sending a group of master trainers to conduct a 5 day workshop for potential ASER surveyors. Local groups who volunteer to conduct the surveys undergo intensive three day training; one day of which is a field day in which all volunteers practice testing under supervision.

## 9. Issues in Using Learning Achievements Data Sources

### Geographic Coverage and Sample Size

#### NEAS

NEAS is the most comprehensive data source covering all districts from all over Pakistan. With the achieved sample in Punjab and North Western Frontier Province (NWFP) around 82% of the student population, 56.5% of Balochistan's student population, 63% of Sindh, 69% of AJK, 57% of FANA's and 50% of FATA's student populations and a total of 70% of Pakistan's student population.

#### LEAPS

LEAPS covers schools in the Punjab and goes down to the village level, covering 112 villages in total. This survey includes learning outcomes for 12,000 children in Class III in Urdu, English and Mathematics together with detailed information on the beliefs and behavior of schools, teachers and parents. The survey covered 812 government and private schools, 12,000 students (in 2003), 5,000 teachers and 2,000 households. In each sample village a total of 16 households were surveyed.

#### PEC

PEC examinations are annual exams for grade 5 and grade 8 students of all the districts in Punjab. Student data by school is available which can be analyzed by district as well. This exam is compulsory for government students.

### Definition of OOSC, Collection and Calculation Methods

**NEAS** gives absolutely no definition of OOSC, whereas **LEAPS** only gives enrolment patterns that have been looked at disaggregated according to gender and private school enrolment. **PEC** only gives information on the number of students that gave the exam for grade 5 and grade 8.

### Sampling, Data Extraction, Management and Availability of Raw Data

#### NEAS

**Sampling, Data Extraction and Management:** This data is based on subject wise scores but it also has some background questionnaires for household survey that can be obtained to look into the factors associated with certain levels of performance. NEAS uses a two-stage stratified random cluster sample. The explicit strata used are:

- gender: male and female
- urban and rural
- province/area: four provinces and four areas

#### Learning Achievements Data Sources

- National Education Assessment System Reports (NEAS)
- Learning and Educational Achievements Punjab Schools (LEAPS)
- Punjab Examination Commission (PEC)

The basic sampling frames are taken from the NEMIS data base. Within a stratum, all schools are included. The probability of selection is proportional to the size of the school (PPS). Clustering only occurs at school level where a maximum of 20 students and a minimum of six students are selected from each school. Where schools are very small, for example, in some rural areas or where there are political or security difficulties, these schools are eliminated from the sampling frames and additional schools are sampled. This means that approximately two percent of students in the smallest schools are sampled. NEAS provided training for all markers and scorers. However, this aspect of marking and coding requires a large amount of training for markers and scorers to agree regarding the allocation of marks. It was found that after the training when scripts were double marked for monitoring purposes, there was general agreement regarding mark allocation.

**Availability:** Raw data can be made available from NEMIS, on request

### LEAPS

**Sampling, Data Extraction and Management:** LEAPS. Total four surveys from 2003 to 2007. One each year but this Leaps Report is based on 2003 data survey. Survey Data was collected by World Bank with the help of Education Department Punjab and Lahore University of Management Sciences. Funding for this project was received from SASHD (The World Bank), The Knowledge for Change Program (KCP), PSIA Trust Funds, BNPP Trust Funds and Pomona College. Survey Data collection was done with the help of Research Consultants firm. The survey team worked with all schools offering primary level education as well as a sample of households in each village. The survey covered 812 government and private schools, 12,000 students (in 2003), 5,000 teachers and 2,000 households.

**Availability:** LEAPS's raw data set and questionnaires have been uploaded at their website and our easily accessible.

### PEC

**Sampling, Data Extraction and Management:** The PEC examination process begins with exam paper development in May. Workshops are held on taxonomies and student learning outcomes to develop items. Based on these items for different subjects, different variations are prepared for different districts. In September, the registration process begins. PEC gives a software to each district for this data entry. This is then combined with the PMIU dataset to assign roll numbers according to the centers. Unfortunately instances of late registration are common. Once the exam begin, district education departments are responsible for the conduct. They report to PEC through EDO and his team of cluster center incharge and resident inspectors who manage work in each district. Daily reporting on examination attendance, question and answer sheets is done. Once the papers are finished by grade they are handed over to the various cluster center heads in each district. They are responsible to shift them to paper marking centers. Once the paper marking is done, answers from the answer sheet are transferred to a computerized sheet on which

the student has already filled his objective section answers. These sheets are sent to PEC for result development. At this stage, PEC outsources this activity. General Result development is done by this firm and then the operations department at PEC is responsible for dissemination. Each year the result is declared on the 30<sup>th</sup> of March. Result cards are made available after a month or two. Results are primarily distributed through the website but it is different in different districts. Gazettes and CD, both are used to disseminate school wise result. This is also essentially handled by the district staff.

**Availability:** PEC's raw data set and exam papers are available on special request.

## Data Reliability and Accuracy

### NEAS

Extra measures were taken to ensure reliability of checking. The staffs of NEAS, PEACEs, AEACs and ATCs were involved in the monitoring of this activity, checking 25% of the data. Checking the data involved taking every sheet and checking five out of the 20 students on each sheet. This was an onerous a task, where mistakes were found the markers and coders employed were asked to re-check their sheets and correct the mistakes.

### LEAPS

Prior to the design and administration of the final LEAPS test, an extensive pilot was used to identify lower and upper limits of learning in the population and provide an analysis of the validity and reliability of the instrument used.

### PEC

There are reliability and accuracy issues at different levels of this data set. No standard operating procedures are followed with regards to data management which leaves the question on the accuracy of such results. Registration process has issues as well as at times duplicate roll numbers are assigned. Also at the stage when the result is announced, mostly the names are printed wrong on the score cards. Such issues need to be addressed to set protocols to avoid such errors.

## 10. Issues with Harmonization of Data Sources and Limitations

### Limitations with Administrative Data

An overwhelming limitation is that these data sets only cover government schools, excluding private schools, NGO schools and *Madrassahs* (religious schools) for the most part. Another major contention is that there is no explicit data on OOSC and for each data set this has to be inferred from the respective indicators making the different datasets difficult to compare. For instance PMIU gives attendance rates age wise which makes it difficult to compare with others that give it class wise. For NES that does cover public and private schools, it only covers those established till January 2005, not counting those established after this date. This poses serious issues in comparability of the data sources

### PES / AEPAM

At the provincial level, private schools are not covered which means that a significant chunk of school information is missing. Given that the overall share of the private sector in total enrolment is around 36%, it is imperative that this information be included. Accuracy of number un-admitted at each level of education is questionable as the report does not provide information on how this information is collected. Lastly there neither the raw data nor the questionnaires used for data collection are easily available.

### Sindh Education Profile (SEMIS) 2009 – 2010

SEMIS does not specifically cover OOSC, the information it gives is only for government schools with no comparisons with reports looking at private schools. The number un-admitted at each level of education are included in the pre-primary population which makes it difficult to ascertain the number of children out of school. Finally raw data is not easily accessible.

### SBASC 2009-10 (Sindh)

This report only covers government institutions.

### NEC /FBS 2005

NEC does cover both private and public educational institutions, but only those set up on 31st January 2005. As such the institution established after 31st January 2006 were not included in the data. Tuitions centres have not been included in this census. There were problems in the identifications of NCHD and NFBE centres as majority of these are functioning in the already existing schools and dwelling units respectively without showing their own identity. This factor may have caused less reporting of these institutions.

## Limitations with Household Data

### MICS Punjab 2007 – 08

Given that one of the Survey objective was; to provide information on the situation of children and women and assist the government in establishing child-focused benchmarking to report on the MDGs and the government's long term plans, and to measure progress; the survey should have explicitly collected and reported data on OOSC, dropout and retention rates.

### MICS Sindh 2003 – 04

Same as MICS Punjab given it had the same survey objective data on OOSC, on drop out and retention rates should have been considered. Many of the indicators for MICS Sindh are either different from MICS Punjab, added or absent in MICS Sindh but not in MICS Punjab, making reports for the two provinces difficult to compare. A major problem was that while the MICS Punjab gives disaggregation according to wealth quintiles and also mother's education, MICS Sindh does not; this is a serious limitation since these are very useful and pertinent disaggregations.

### PSLSM 2008-09

The sampling frame chosen is expected to produce reliable results at each district, so these results may not be reliable. No correlations are drawn between economic situation of household/community and enrolment rates and finally OOSC are not directly reported.

### ASER 2008 and 2010

Both the reports only give data on rural Pakistan and that too not for all the districts. Also the data on school observations is only for government schools with no mention of private, NGO and *madrassah* schools. The major issues with the ASER reports is that far from being comparable to other reports they cannot even be compared to each other. ASER 2010 uses different age ranges (primary school going age being 6 – 10 and so on) than the ones used in ASER 2008 or any other reports. ASER 2008 has far less disaggregations than ASER 2010, with the former only giving statistics for the rural national level and then the 11 districts. For this reason ASER 2008 to 2010 cannot even be used to see the provincial trends in rural regions from 2008 – 2010. Regardless the rigorous data collection on learning achievements, OOSC and other indicators; this incomparability of ASER amongst themselves and other reports is a major hindrance.

## Limitations with Learning Achievements Data

Given that LEAPS is only for Punjab government schools while NEAS is nationwide for the entire student population, there will be issues in comparing the two. Apart from this the other major issue is the testing techniques which are not harmonized with the Pakistani assessment systems.

### NEAS

A scaled score is a conversion of a student's raw score on a test or a version of the test to a common scale that allows for a numerical comparison between students. One key limitation of NEAS is the scale it is using which is a scaled score from 0-1000 used in TIMSS whereas all the scales used in Pakistan are scored roughly lower at 500. Since the examining tool is different, it is not a good idea to compare these results just because this is the scale used in international studies such as TIMSS, SAT, TOEFL etc. Every test score has a standard error i.e. the range of points plus or minus the score. This accounts for a score fluctuation due to possible sampling error or a measurement error. To check if differences in reported scores could have occurred by chance alone, differences are reported as significant or not significant. A difference is reported to be statistically significant if the chance of error is 1 out of 100, 0 out of 100 is classified as highly significant while differences that are more than 5 out of 100 are classified as insignificant. On the whole insignificant statistics are not reported in this document. Reported percentages are used for usable responses only. Therefore they may not add up to an exact 100% in some instances.

### LEAPS

Private schools are overwhelmingly located in larger villages with greater access to infrastructure and more literate and richer populations. Extrapolating the facts in this report beyond these two major provinces merits some caution. The report does not talk about important issues such as grade repetition and school drop-outs.

### PEC

PEC examinations give data on government students mostly as fewer private school participate in these exams. This data is available in raw form and a report on the results by district needs to be developed or atleast some descriptive analysis of the results will be useful. Data is not available according the age of the candidate. It is hard to ascertain the dropout, or repetition rate if the students leaves the government school system and go to a private school and later just give matric exams.

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