

Account of Technical Meetings on

Data Comparability in Pakistan

An Initiative by ASER -
Centre for Research and Governance
January 2015



Dated: 1st February, 2015

Report Compiled by: ASER Pakistan Team- Centre for Research and Governance

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Overview

Each year, various government and private organizations dedicate significant resources to monitor the state of education in Pakistan. The information is collected to identify problem areas to influence future decision making for an ultimate sustainable education system. Different organizations are working on similar agenda – to monitor the progress and be able to cater for future needs in an efficient and timely manner.

In Pakistan, the government is collecting national scale data on education every alternate year through the Pakistan Social and Living Standards Measurement Survey (PSLM)¹ and Annual Status of Education Report (ASER)² Pakistan is being published annually for the past 5 years. These two surveys give a comprehensive national picture of basic education variables. However, ASER, a private organization goes a step further and gauges the learning levels of children as well. The Academy of Education Planning and Management (AEPAM) publishes the National Education Statistics (NES), released in 2015 for 2012-13. NES is a collation of data from provincial EMIS sections and projected information on private sector from the dated National Education Census (2005/6) undertaken by the Ministry of Education. The Neilsen Company/McKinsey & Company conducted a provincial survey for Punjab for two years surveying the entire province.

This report is an account of technical meetings which took place for enhanced data comparability across Pakistan for existing datasets (December 2014 and January 2015) in Islamabad and Lahore.

We acknowledge the efforts of the Government of Pakistan, Planning, Development and Reforms Ministry (previously Planning Commission), Pakistan Bureau of Survey (PBS) and the Provincial Government of Punjab, School Education Department PMIU for taking the lead role in mobilizing all stakeholders for a very important effort.

The report has compiled the minutes of the meetings conducted with:

1. Planning Commission of Pakistan
2. Pakistan Bureau of Statistics (PBS)
3. Program Monitoring and Implementation Unit (PMIU)
4. McKinsey & Company

Useful websites for the above include:

www.pbs.gov.pk

www.aepam.edu.pk

<http://www.data.org.pk>

www.aserpakistan.org

<http://www.pesrp.edu.pk/pages/Monitoring-and-Evaluation>

¹ <http://www.pbs.gov.pk/content/pakistan-social-and-living-standards-measurement>

² www.aserpakistan.org

Meeting with Planning Commission of Pakistan [26th December, 2014]

Date: 26-12-2014

Time: 10:00 AM

Location: Ministry of Planning, Development and Reform, Islamabad

Participating Organizations:

- P&D department, Islamabad and AJK
- Pakistan Bureau of Statistics (PBS), Islamabad and KPK
- National Institute for Population Studies (NIPS)
- National Vocational & Technical Training Commission (NAVTTTC)
- Annual Status of Education Report (ASER)

Purpose of the Meeting:

Ministry of Planning, Development and Reform/Planning Commission intends to develop a data repository to combine national and sub national primary/micro data and make it available for research as well as for policy related analysis and evidence based decision making.

Meeting Notes:

1. Welcome and Introduction

The meeting began with each attendee introducing their name and agency/institution to which they belonged. They also spoke briefly about the area of research of their respective organization; in what field of study do they collect data, and what survey tools are used to gather information. Dr. Naeemuz Zafar, Member Social Sector from Planning Commission, chaired the meeting.

2. Update on on-going efforts and Future Plans

Mr. Zafar informed the group about their intention to employ national and sub-national data, collected scientifically, for informing policy development as well as for preparing reports on compliance of international commitments. He expressed that a larger audience is now interested in creating a central data repository where all sources of data could be placed together for research, policy planning and decision making. He also added that it would be very useful if all organizations can provide their input to map similar indicators from data sets collected by various organizations. This would help scholars from research and academia to measure variance and/or similarities amongst the various data sets.

3. ASER Involvement

As we (Imtiaz Nizami and Usman Naz) explained the sample design, data collection and key findings of ASER, the participants showed an overwhelming response towards the ASER survey and acknowledged our efforts in collecting data on such an expanded scale. We informed the attendees that ASER data is publicly available and has recently been uploaded on Pakistan Data Portal (PDP) as well. Participants and organizers showed a great deal of interest in ASER survey and asked for our assistance to lead this effort in future and bring other partners on board for this very critical area of work. We also distributed ASER material amongst the attendees as part of advocacy and dissemination.

It was a very useful meeting for ASER advocacy and if this happens as planned, it will lead to greater ownership and increased usage of our data in the education discourse and planning. The meeting concluded with the commitment from all attendees to participate in follow up meetings and ensure their support and cooperation in making a central data repository.

Meeting with Pakistan Bureau of Statistics
[8th January, 2015]

Date: 08-01-2015

Time: 10:30 AM

Location: PBS Office, Islamabad

Participants:

From ASER Pakistan:

1. Sahar Saeed
2. Muhammad Usman

From Pakistan Bureau of Statistics:

1. Mr. Muhammad Iqbal, Census Commissioner
2. Other team members

Purpose of the Meeting:

To discuss technical note on comparability of ASER & PSLM

Meeting Notes:

PBS staff members shared their concerns on comparability and below mentioned points were discussed in the meeting:

1. PSLM assigns weightage to the households for rural sampling whereas ASER has fixed number of 30 villages to be surveyed from each district.
2. Confidence level, margin of errors and approaches undertaken for sampling are not clear in the note.
3. PSLM follows a comprehensive process for sampling but that is not published in the report.
4. PSLM Results also based on raising factors and other indicators.
5. It was further discussed that sampling of urban areas for both survey is the same but the sample size for PSLM and ASER (urban) are different.

Meeting with the Working Group on Enrollment in Punjab [12th December, 2014]

Date: 12-12-2014

Time: 11:00 AM

Location: PMIU Office, Lahore

Participating Organizations:

- IDEAS
- Alif Ailaan
- World Bank
- McKinsey, PESP II
- Idara-e-Taleem-o-Aagahi
- Punjab Education Sector Program II
- Annual Status of Education Report (ASER)
- Department for International Development (DFID)
- Program Monitoring and Implementation Unit (PMIU)

Purpose of the Meeting:

The working group was formed under the auspices of PMIU to strategize the needs of School Education Department to increase enrollment and retention of students in schools. The purpose of the meeting was to get a fair idea of out of school children (OOSC) and inform the SED pragmatic methodology and innovative strategy to deal with OOSC issue and dropouts of students in Punjab.

Meeting Notes:

1. It was discussed that different methodologies and strategies have been developed by different organizations and the working group will examine and discuss these sources for arriving at the number of OOSC in Punjab. A wide range of data sets are available in Punjab. For example, as per Alif Ailaan's report 13 million students are out of school whereas according to McKinsey this figure stands at 4.5 million. This huge gap needs to be explored.
2. To find out the specific problems/reasons of dropout, supply (input) side indicators need to be examined in detail.
3. Participants from McKinsey gave a short presentation on findings of OOSC which was based on Neilson household survey. While discussing their methodology they briefed that Neilson collects the data of 1000 households from 36 districts.
4. The Mckinsey report stated the major causes which are contributing in out of school and dropout indicators; cost of school was reported as 35%, cultural issues (children and parents willingness are considered as part of this variable) as 25% access to school 15% health and other stands at 12% and 13% respectively.
5. The Mckinsey team informed that they revamped the enrollment campaign and in the years 2012-2014 the enrollment increased by 3% but still falls short of 95% target.
6. The Mckinsey team and TAMO are looking forward to partner with the Civil Society Organizations to increase enrollment through social mobilization campaigns. A pilot would be done in March in Bahawalpur and Muzaffargarh (71% and 72% respectively) low enrollment districts according to the ranking data.
7. According to the survey findings with Mckinsey, access is not the prime reason for non participation of students because 85% population of Punjab is living in 1.5 km radius of public school. However, this percentage is based on average and if the individual

catchment areas of schools are examined a large number of variations will come to surface especially in case of Middle and High Schools.

8. One of the participant suggested that in Sindh a project has been prepared with same grounds i.e. monitoring strategies, student enrollment and retention in schools.
9. According to ASER, their findings have showed that major cause of out of school children, especially girls, is accessibility towards public schools, as 12 to 16 years girls have issues of access to school.
10. There are variations across different organizations for age cohort of students e.g. for primary, middle and secondary level for data collection which needs to be taken into consideration by the working group.
11. The official age group as per the constitution is 5-16 years for the school going children. There is a need to focus on further sub-groups within this age group and gender wise as well to find out strategies for increasing the enrollment.

In light of the above mentioned concerns, the group decided the following points for the next meeting:

12. Participants will present their respective data sets and methodologies used to reach the figure of OOSC children keeping in view the limitations of compounded population projections since 1998. The participants may also discuss any other reports regarding enrollment issue that have been developed by their organizations in the past.
13. Participants will discuss the feasibility of early childhood/pre-schooling programs/ interventions in the current scenario and how they can be adopted by the School Education Department.
14. The group will also focus and recommend appropriate interventions for the older OOSC group as a psychological barrier exists for the older children to study with much younger children even if former are motivated.
15. The group will come up with recommendations for increasing the enrollment of OOSC on the basis of different age groups, gender wise and on the basis of access issues due to geographical limitations.
16. In the next meeting of the working group the representatives from JICA, Special Education Department and Non-Formal Basic Education will be invited for sharing the work that they have done regarding the enrollment.
17. The participants are requested to share any presentations on this group via email for a healthy discussion on the subject on the day of next meeting.
18. The date for the next meeting of the Working Group will be communicated shortly.
19. The participants are more than welcome to suggest any additional items for the agenda of this working group or to exclude any areas which in their opinion can hinder the further working of this group.

**Meeting with the Working Group on Enrollment in Punjab
[6th January, 2015]**

Date: 06-01-2015

Time: 11:00 AM

Location: PMIU Office, Lahore

Participating Organizations:

- JICA
- Alif Ailaan
- Nielsen Pakistan
- McKinsey, PESP II
- Literacy and NFBE
- Idara-e-Taleem-o-Aagahi
- Special Education Department
- Punjab Education Sector Program II
- Annual Status of Education Report (ASER)
- Program Monitoring and Implementation Unit (PMIU)

Purpose of the Meeting:

To give short presentations regarding their organizations and the data sets of out of school children (OOSC).

Meeting Notes:

Following presentations were shared during the meeting:

Presentation by Annual Status of Education Report (ASER)

- ASER seeks to assess the access and quality of learning in rural and urban areas through citizen led household surveys and provides evidence based policy recommendations.
- ASER has grown from covering 11 rural districts to 144 rural and 21 urban districts of Pakistan in 2014. For Punjab alone, ASER covered 35 rural districts and 7 urban districts including information on 61,630 children (3-16 years), 1917 schools, 1137 villages and 22,683 households.
- According to ASER, enrollment in Punjab has risen since 2011. In 2011, 83.9% children were enrolled in schools, in 2012 84.1% children were enrolled in schools, in 2013 the percentage rose to 84.3% and in 2014 85.3% children are enrolled.
- In 2014, 14.7% children were out of school in Punjab.
- Amongst the out of school children in 2014, a higher proportion of the children were girls. 8% girls were found to be out of school and 7% boys.
- According to the Right to Education age bracket (5-16 years), 85% children are enrolled in rural Punjab and 15% are out of school.
- According to the Right to Education age bracket (5-16 years), 91.6% children are enrolled in urban Punjab and 8.4% are out of school.
- ASER team also produced two technical notes where they have compared their dataset with that of PSLM and Nielsen (Punjab only).
- Net Enrollment Ratio (Primary-rural) according to PSLM 2012-2013 for Punjab is 69% whereas NER (Primary-rural) Punjab according to ASER 2013 is 75%.

Presentation by Non Formal Basic Education by JICA

- The rural female population is the key marginalized group which remains excluded from basic education.
- Non-formal education (NFE) can help bridge the enrolment gap by acting as an alternative means for education service delivery.
- At present, 1.5 million students in a total of 36 districts in Punjab are availing NFE.
- JICA worked together with the Literacy and NFBE department on the Punjab Literacy Promotion Project and the Non-Formal Education Promotion Project. JICA provided technical inputs and capacity development to the projects, while the department assumed the role of an implementing body.
- The NFE uses unique teaching methods which address the learners' basic needs. Use of stories and integrated learning of 2-3 subjects helps the learners cover a range of concepts simultaneously.
- The JICA representative identified retention as a major issue. In order to keep track of the enrolled students, JICA tracks learners on a quarterly basis using a 2 page monitoring checklist.
- The tracking system uses a unique identifier for students for this purpose.
- The learning achievements of the students are tracked through monthly assessments.
- It was suggested that the annual school census should include both private and non-formal institutions in addition to the public facilities, in order to obtain a more informative estimate of the OOSC.

Presentation by Alif Ailaan

- The representative from Alif Ailaan brought attention to the fact that NEMIS doesn't include data on private school. Instead, projections for private schools are used, which are based on the estimated annual growth of the private school facilities.
- The major issues identified in obtaining a reliable measure of OOSC were:
 - The extensive use of population projections (5-16 yrs.), in the absence of a population census since 1998.
 - The rise in enrolment in private schools, which are not considered in the annual school census.
 - Enrolment drives, which lead to an inflated estimate of student enrolment since the effects of such campaigns are often temporary.

Presentation by McKinsey

- McKinsey team gave the estimated number of OOSC i.e. 4.5 million and explained the methodology for their estimates. The figures are based on Nielsen Survey and EMIS data.
- Financial and Cultural reasons were cited as the main issues for the children being out of school, both at the primary and secondary education level. Where, the cultural reasons were highlighted as being more important for female drop-outs at the secondary level. In addition to the above Infrastructural and Health reasons were also the factors contributing to the higher number of OOSC.
- Other participants suggested that further breakdown of the reasons grouped into "financial" and "cultural" is required.
- The connections between the reasons for dropping out of school and the quality of education being provided should also be explored. Since, if the quality of learning is low, it might convince the parents to put their children to other useful tasks such as earning an income. Therefore, the high opportunity cost of attending a school with poor learning outcomes could be at play.

- The Nielsen representative also recognized that financial barriers are easier to overcome through direct financial assistance in the form of books, financial aid, PEF vouchers, scholarships etc.
- The Access issues were not the major cause of OOSC as 85% of population of Punjab lives within 1.5 Km of the schools.
- McKinsey has shared the presentation on the Enrollment drive (attached) and asked for cooperation from the organizations participating in this working group.
- The enrollment campaign handbook for the guidance of teachers is also shared.

General Comments by Participants:

- The representative from GIZ made a point that the enrollment campaign in isolation would not yield the desired results and other major issues of school education need to be considered as well. He stressed the need for better qualified and trained teachers.
- Any scheme with a focus on financial aspect alone would not be successful if the overall environment and the level of teachers is not improved in the public schools.
- Student retention was identified as a major issue. Where, enrolment and school drop-outs are the main concerns for the next round of the upcoming enrolment campaign.
- The quality of education being provided was highlighted as the main determinant of the drive's long-term success.
- In order to make this drive more effective, the participants discussed how the organizations can mobilize their field capacity to work on ground with the EDOs.

Key Decisions for the Next Meeting:

- McKinsey team to share handbook and the participants to give their feedback on how their respective organizations can help School Education Department, keeping in view the assistance McKinsey team is already providing.
- As the estimation of OOSC data was integral part of this working group; therefore, a sub-working group has been formed. Ms. Huma Zia from ASER Pakistan, Ms. Saman Naz from Alif Ailaan, and Ms. Meenal Javed from PMIU will be working on it. They will be presenting their findings in the next meeting of the working group.
- For the sake of clarity the TORs of this Working Group can be divided into following 4 major areas:-
 - Data Analysis of OOSC
 - Examine the causes of OOSC and dropouts
 - Recommendations for increasing the enrollment of OOSC
 - How the participants can contribute in making the current enrollment campaigns more effective
- All the participants are requested to share their suggestions and working on the remaining 3 areas as mentioned above so that we can put together a joint working paper before the next meeting of the Working group.

Sub-Meeting with the Working Group Members
[20th January, 2015]

Date: 20-01-2015

Time: 11:00 AM

Location: PMIU Office, Lahore

Participants:

From ASER Pakistan:

1. Huma Zia, Assistant Manager
2. Md. Usman, Data Management Officer

From PMIU:

1. Meenal Javed
2. Farwa Amjad

Purpose of the Meeting:

To discuss the comparability of the existing datasets on enrollment and out of school children estimates for Punjab

Meeting Notes:

- Comparable data sources were discussed
- ASER team shared the technical draft notes on the data sets
- Strategy was devised on how to obtain data from Nielsen/McKinsey on their Punjab Education Survey 2013 as further comparability without the dataset were being hampered.
- ASER Team contacted Mckinsey representative and scheduled a meeting for 26th January, 2015
- It was also decided that after the ASER team compares all three datasets with one variable, Ms. Meenal & Ms. Saman will further work on the significance of the comparison
- Results of both the draft technical notes and their significance will be shared on a power point presentation with the working group on enrollment in the next meeting.

Meeting with McKinsey
[27th January, 2015]

Date: 27-01-2015

Time: 9:30 AM

Location: McKinsey Office, Gulberg, Lahore

Participants:

From ASER Pakistan:

1. Huma Zia, Assistant Manager
2. Md. Usman, Data Management Officer

From McKinsey:

1. Daniyal Gill

Purpose of the Meeting:

To get the Nielsen raw dataset (2013) and to discuss the comparability of Nielsen Punjab Education Survey Report 2013 dataset on enrollment and out of school children for the efforts on comparability initiated by ASER Center for Research and Governance.

Meeting Notes:

- Shared the technical note on comparability of ASER and Nielsen results 2013.
- Daniyal shared the raw dataset for Nielsen (2013) round 5 and explained the variables and the responses entered in the dataset.
- Discussed the enrollment and out of school children calculations done by Nielsen
- Daniyal explained that they assigned weights to the results of the survey for an accurate representation at the provincial level.
- Daniyal committed to finding out about the underlying calculations for the weights assigned to each district from Nielsen along with categories of the classification of the geographical (rural and urban) spread.
- Discussed how McKinsey came up with the figure of 4.5million out of school children in Punjab as presented in the working group meeting.

Action Points:

- To compute Net Enrollment Ratio (NER) from Nielsen data for comparison with ASER and PSLM 2013 dataset.
- Daniyal to connect with the Nielsen team and find out about the classifications of the rural urban spread and to get the calculation for weights being assigned to each province.
- Meet again during the next week for Nielsen 2014 dataset and compare the results with ASER 2014 report.

Meeting with the Working Group on Enrollment in Punjab
[30th January, 2015]

Date: 30-01-2015

Time: 11:00 AM

Location: PMIU Office, Lahore

Participating Organizations:

- JICA
- Alif Ailaan
- McKinsey, PESP II
- Literacy and NFBE
- Punjab Education Foundation
- Punjab Education Sector Program II
- Annual Status of Education Report (ASER)
- Program Monitoring and Implementation Unit (PMIU)

Purpose of the Meeting:

To synthesize the strategies for next enrollment drive, to suggest evidence based policies and identification of potential reasons for low enrollment in Punjab and to streamline the strategies for OOSC and enrollment drive.

Meeting Notes:

Following presentations were shared during the meeting:

Presentation by Sub-group on estimation of OOSC:

The presentation informed that age and coverage were not the reason for under estimation of children who are out of school but the survey methodologies create variation in the data.

- According to Neilson and ASER data for 4-16 year out of school children ratio is 18% whereas ratio for PSLM and PDHS stands for 26% and 30 % respectively. It was pointed out that the difference is in secondary sampling unit (SSU), Neilson and ASER rely more on their enumerators. They rely on the enumerators to map the area and select the sample households by their own discretion whereas PSLMS and the PDHS generate the sampling frame by listing all of the households in a PSU. The absence of listing for household will create upward biased results, while the provision of sampling frame will reduce the selection bias by the enumerators.
- It was recommended that authorities should built pressure on Neilson that they should reduce their reliance on enumerator so we can get unbiased estimates as Neilson should use household listing procedure. While taking about PSLM, it was pointed out that PSLM figures have consistent trend in their data and there is lack of transparency as there is no third party validation available for PSLM.

Presentation on the Sub-group on reasons for OOSC:

The Nielsen household survey was explored the reasons why children drop out of school. Some of the key findings shared during the presentation were:

- The survey found that financial and cultural reasons were cited as the main issues for the children being out of school for southern as well as whole Punjab (44% and 45%.respectivcely). The reason of “Underage children perception” was highlighted as being prime reason for children of 4-6 years of age.
- Further breakdown of the reasons was provided; top three reasons were different for multiple age groups. They suggested the 2 big reasons for not enrolling students are ‘underage’ and ‘don’t have money to buy books’

Afterwards Participants were invited to discuss the areas of support; communication and feedback, structure and capacity building and building up the resource database to drill down the reasons for OOSC.

Suggestions

- While discussing these data need, participant from non-formal education department suggested that an education census could be done with the help of health department as health department is already working with LHW. As he explained that Literacy and NFBE have done a pilot in Chakwal with LHWs and collected data for 200 household and department can get updated data every third month. Likewise Labour department is conducting a survey on “limited and bounded labor”.
- The sampling methodologies and selection procedures should be transparent.
- The independent third-party verification of the surveys should be introduced as a core component of the data collection as done by ASER.
- Household selection methods should be more rigorous. They should be improved to reduce the interviewer bias to a minimum.
- Data should be made publically available as done by ASER.
- There should be flexible education strategy according to the culture of that area and multi-sectoral approach should be adopted.
- PEF have conducted a survey (Semiotics) and found listed data of 50,000 out of school children it was suggested that data sharing portal/data integration is essential for department.
- Teacher should be assigned the task of data collection but with incentives as they are currently doing without any financial incentive. Teachers should be assigned with the UCs where they can get data for out of school children.

Decisions

- Data comparison of Nielsen survey with JICA literacy department data of 2 districts; Khushab and Chakwal to get an idea of potential enumerator biases.
- An analysis of Nielsen survey where they should specify in depth reasons for out of school children and this should be done at districts and tehsil level (widening the scope of survey).
- There should be efficient representation of all these organization who are working on same indicators as these factors should move in same directions.
- An interim report is required for this working group at the end of the coming week.
- Sharing of survey report conducted by PEF.

Annex A: Technical Note on PSLM and ASER comparability

TECHNICAL PAPER ON COMPARABILITY: METHODOLOGY & RESULTS—SOME KEY INDICATORS OF PSLM & ASER (2012-13)

The intention of this technical note piece is to draw attention to a comparison of indicators estimated by PSLM (2012-13) and ASER (2012-13) for highlighting the scale, scope and sampling technique of both the household surveys; this is in response to rising public demand.

Pakistan Social & Living Standards Measurement Survey (PSLM):

PSLM is conducted by Pakistan Bureau of Statistics: the official lead public sector institution for national statistics. PSLM is a household survey that provides findings on a range of social sector issues in the alternate years at provincial and district levels. These are primarily focused on the sectors covered under Poverty Reduction Strategy Paper (PRSP) and monitoring of MDGs i.e. Education, Health, Population Welfare, Immunisation, Pre/Post Natal care, Family planning and Water supply and sanitation. The data generated through surveys is used to assist the government in formulating the poverty reduction strategy as well as development plans at district, provincial and national levels and for the rapid assessment of programs in the overall context of MDGs.

Annual Status of Education Report (ASER):

ASER - The Annual Status of Education Report (ASER) is a citizen led; household based initiative that aims to fill a gap in learning outcomes and provide reliable estimates on the schooling status of children aged 5-16 years residing across Pakistan. ASER seeks to improve the quality of education nationwide by providing a reliable set of data on an annual basis about what children learn, how they learn, where they learn, education status of their mothers etc. By using an innovative citizen driven approach, ASER intends to mobilize policy makers as well as ordinary citizens- parents, students, local communities and the public at large – to become aware of actual levels of children’s literacy and numeracy, and build on that awareness to stimulate practical community and policy change across Pakistan.

Scale & Scope of PSLM & ASER:

The tables below will illustrate the size and scope of the household surveys. Table 1 represents the size and scope for PSLM while Table 2 represents the size and scope of ASER.

TABLE: 1	URBAN PSLM			
		TOTAL		TOTAL
OVERALL	BLOCKS	2307	HOUSEHOLDS	26,598
	RURAL PSLM			
PUNJAB	VILLAGES	1211	HOUSEHOLDS	18979
SINDH	VILLAGES	753	HOUSEHOLDS	11358
KPK	VILLAGES	594	HOUSEHOLDS	9340
BALOCHISTAN	VILLAGES	546	HOUSEHOLDS	9241
	OVERALL	3104	OVERALL	48918
URBAN + RURAL (PSU) ³		2307+3104= 5411	URBAN + RURAL (SSU)	26598+48918=75516

TABLE: 2	URBAN ASER⁴			
		TOTAL		TOTAL
OVERALL	BLOCKS	270	HOUSEHOLDS	5,372
	RURAL ASER			
PUNJAB	VILLAGES	1,074	HOUSEHOLDS	21,365
SINDH	VILLAGES	655	HOUSEHOLDS	13,020
KPK	VILLAGES	741	HOUSEHOLDS	14,705
BALOCHISTAN	VILLAGES	839	HOUSEHOLDS	16,592
AJK	VILLAGES	298	HOUSEHOLDS	5,925
FATA	VILLAGES	265	HOUSEHOLDS	5,271
Gilgit-Baltistan	VILLAGES	210	HOUSEHOLDS	4,195
Islamabad	VILLAGES	30	HOUSEHOLDS	599
OVERALL		4,112	OVERALL	81,672
URBAN + RURAL (PSU)		270+4112=4382	URBAN + RURAL	5,372+81,672=87,044

SAMPLE SIZE:

To determine optimum sample size for PSLM survey, analytical studies based on the results of Pakistan Demographic Survey, Labour Force and Pakistan Integrated Households Sample Survey were undertaken. Keeping in view the variability that exists, a total of 77,760 households have been considered sufficient by PSLM to produce reliable estimates in respect of all provinces. Out of these, 412 households were dropped and remaining households were covered for generating analysis.

PSLM analysis (2012-13) is limited to four provinces i.e. Punjab, Sindh, KPK and Balochistan whereas ASER is undertaken across AJK, ICT, and FATA as well. Hence in order to generate a comparison, the number of households surveyed by ASER (mentioned in Table 2) has been computed for the above mentioned four provinces only. However, ASER 2014 surveyed 263,990 children (age 3-16), from 87,044 households in 4112 villages and 270 urban blocks in 151 districts (urban and rural).

³ Primary Sampling Units (PSUs): Enumeration blocks in the urban domain and mouzas/dehs/villages in rural domain have been taken as primary sampling units (PSUs).

⁴ Urban ASER 2013 Districts: Karachi (East, West, Central, South and Malir), Hyderabad, Sukkur, Quetta, Rahim Yar Khan, Multan, Faisalabad, Lahore, and Peshawar.

SAMPLING METHODOLOGY:

Urban Sampling:

The sampling methodology followed for urban areas is the same for both PSLM and ASER. The blocks and the frame of the urban areas have been developed by Pakistan Bureau of Statistics (PBS) for both the surveys. All urban areas comprising cities/ towns have been divided into small compact areas known as enumeration blocks (E.Bs) by PBS. Each enumeration block comprises about 200-250 households and categorized into low, middle and high-income group, keeping in view the socio economic status of the majority of households. These blocks will be considered Primary Sampling Units (PSUs) for urban domain and are selected through probability proportional to size (PPS) method. Households have been treated as secondary sampling units (SSUs). Further, PSLM covers 12-16 households as SSUs per PSU while ASER covers 30 households. Moreover, the sample size for both PSLM and ASER is different for urban areas. ASER covers a few urban districts every year while PSLM covers urban areas across Pakistan.

Rural Sampling:

With regard to the rural areas, the lists of villages/mouzas/dehs according to Population Census, 1998 have been used as sampling frame for both the surveys. For both the PSLM and ASER, the PPS is used to sample villages (PSUs in the rural domain). The stratification plan for both the surveys, however, is different. Further, PSLM covers 12-16 households as SSUs per PSU while ASER covers 30 households. PSLM assigns weightage to the households unlike ASER and the results of PSLM are based on raising factors and other indicators. ASER rural methodology is mentioned in the annexure.

INDICATORS CALCULATED BY PSLM:

1. School attendance.
2. Katchi Class (through GER⁵ & NER)
3. Primary Enrollment Rate (through GER & NER⁶ at different age levels)
 1. Middle and Matric Enrollment Rates (through GER & NER at different age levels)
 2. Gender Parity Index⁷.
 3. Enrollment in government schools.
 4. Expenditure on Education.
 5. Literacy⁸

INDICATORS CALCULATED BY ASER:

1. Enrollment in Government, private, madrassah schools.
2. Learning levels of children (5-16)
3. Learning Levels of children disaggregated by gender and type of school i.e. Public and Private.
4. Number of Out of school children.

⁵ The Gross Enrolment Rate (GER), sometimes referred to as the participation rate, is the number of children attending primary school divided by the number of children with the specific age group who ought to be attending. The GERs are presented in PSLM in two different ways: excluding and including the Katchi class and for different age groups.

⁶ The Net Enrolment Rate (NER) at primary level refers to the number of students enrolled in primary school of required primary school age divided by the number of children in the same age group for that level of education.

⁷ Gender parity index (GPI) usually designed to measure the relative access to education of males and females. The GPI at primary or secondary is defined as net enrolment rate of females at primary or secondary level divided by net enrolment rate of males in primary or secondary level.

⁸ Literacy is taken as the ability to read a newspaper and to write a simple letter.

5. Household indicators.
6. Teacher Attendance in Public & Private schools.
7. Children Attendance in Public & Private schools.
8. Multi grade teaching.
9. Teachers Qualification in Public & Private schools.
10. Percentage of children taking tuitions in Government and Private Schools.
11. Data on school facilities such as availability of water, library, and play ground etc.
12. Parental Education.

Wealth index is generated from the HH survey allowing ASER teams to report data that is disaggregated by income levels/quartiles.

Comparing PSLM/ASER indicators:

We are comparing one indicator below NER Primary age group 6-10 from PSLM and ASER to give us some evidence on validity and comparability of the two household surveys. The results may differ due to a considerable difference in the sample size.

RESULTS:

Rural NER Primary (6-10)

Region & Province	PSLM 2012-13			ASER 2013		
	Male	Female	Total	Male	Female	Total
Punjab	72	66	69	77	73	75
Sindh	61	44	53	75	61	69
Khyber Pakhtunkhwa	74	58	67	81	69	77
Balochistan	61	34	49	55	41	50
Gilgit-Baltistan				73	61	67
Azad Jammu and Kashmir				84	83	83
Islamabad - ICT				85	85	85
Federally Administrated Tribal Areas				78	52	69
Pakistan	69	58	64	73	62	68

Urban NER Primary (6-10)

Region & Province	PSLM 2012-13			ASER 2013*		
	Male	Female	Total	Male	Female	Total
Punjab	81	82	81	79	83	81
Sindh	76	74	75	78	78	78
Khyber Pakhtunkhwa	83	75	79	89	83	86
Balochistan	80	70	75	65	49	58
Pakistan	79	78	79	78	78	78

*Urban ASER 2013 Districts:

Karachi (East, West, Central, South and Malir), Hyderabad, Sukkur, Quetta, Rahim Yar Khan, Multan, Faisalabad, Lahore, and Peshawar.

ASER 2014 –NER Primary (6-10)

Region & Province	Rural			Urban**		
	Male	Female	Total	Male	Female	Total
Punjab	78	74	76	81	81	81
Sindh	74	63	70	83	83	83
Khyber Pakhtunkhwa	81	67	75	85	80	83
Balochistan	54	41	49	82	76	80
Gilgit-Baltistan	72	59	66			
Azad Jammu and Kashmir	83	80	82			
Islamabad - ICT	94	94	94	89	84	87
Federally Administrated Tribal Areas	78	56	70			
Pakistan	72	62	67	83	82	82

**Urban ASER 2014 Districts:

Balochistan: Quetta, Khuzdar

KPK: Peshawar, Swat, Mardan

Punjab: Bahawalpur, Faisalabad, Gujranwala, Lahore, Multan, Rawalpindi, Rahim Yar Khan

Sindh: Hyderabad, Sukkur, Karachi-West, Karachi-Malir, Karachi-Central, Karachi-East, Karachi-South, Larkana

Annex B: ASER Sampling Methodology

Sample Design – Rural

Total Population: The total population of this survey consists of 138 rural districts of Pakistan.

Sampling Frame: Each district is provided with

- A village list.
- Data from the Population Census 1998 on the total number of households
- Total population of each village in the list.

Sample size and its Allocation:

- Keeping in view the variability of the key variables, population distribution and field resources, a total sample of 600 households pertaining to 20 households from each village is being used.
- Sample primary sampling units (PSUs) have been considered sufficient to produce reliable estimates with 5% margin of errors at 95% level of confidence.
- The detailed allocation plan is shown below:

Number of Districts	Number of Villages per District	Number of Households per Village
138	30	20

Sample Design: A two stage sample design was adopted:

- **First stage:** 30 villages selected using the village directory of the 1998 census.
- **Second stage:** 20 households are selected in each of the 30 selected villages.

Selection of Primary Sampling Units (PSUs): Villages of districts have been taken as PSUs:

- Sample PSUs have been selected using probability proportional to size (PPS) method.
- Every year, 20 villages from the previous year are retained and 10 new villages are added. Ten villages are dropped from the previous year's list and 10 new villages are added from the population census village directory. The 10 new villages are also chosen using PPS.
- The 20 old villages and the 10 new villages give us a "rotating panel" of villages, which generates better estimates of changes.

Selection of Secondary Sampling Units (SSUs): Households have been treated as secondary sampling units (SSUs).

- Based on actual households in each sample PSUs, 20 households have been selected.
- We divide the village into four parts:
 - In each of the four parts, started from the central location and pick every 5th household on the left hand-side in a circular fashion till 5 households are selected from each part.

Selection of School:

- 1 government school from each selected village (Mandatory)
- 1 private school from each selected village (Optional)

Sample Design for ASER 2013 (URBAN)

Total Population: The total population of this survey consists of urban areas from Karachi South, Karachi East, Karachi Central, Karachi Malir, Karachi West, Hyderabad, Sukkur, Lahore, Multan, Rahim Yar Khan, Faisalabad, Quetta and Peshawar districts.

Sampling Frame: PBS has its own urban area frame updated in 2004 through Economic Census.

- Each of the 13 districts has been divided into well defined blocks consisting of 200-250 households.
- These blocks have been considered Primary Sampling Units (PSUs) for urban domain.

Stratification Plan: Each district has been further sub-stratified in the following stratum:

- Low income groups
- Middle income groups.
- High income groups.
- Income based stratification has not been done in Rahim Yar Khan Urban Area
- Other Urban localities (there is no other urban locality in Karachi South, Karachi East, Karachi Central, Karachi Malir, Karachi West, Quetta & Peshawar)

Sample size and its Allocation: Keeping in view the variability of the key variables, population distribution and field resources, the following is the composition of the total 5372 sample households:

The 281 sample PSUs have been considered sufficient to produce reliable estimates with 5% margin of errors at 95% level of confidence. The detailed allocation plan of sample PSUs is shown below:

Sr. No	City/Area	No. of Sample PSUs				Other Urban	Total Sample (PSUs)
		Type of Income Group			Total of SRCs		
		Low	Middle;	High			
1	KARACHI SOUTH	-	-	-	22	-	22
2	KARACHI EAST	-	-	-	20	-	20
3	KARACHI CENTRAL	-	-	-	20	-	20
4	KARACHI MALIR	-	-	-	21	-	21
5	KARACHI WEST	-	-	-	19	-	19
6	SUKKUR	10	15	2	27	12	39
7	HYDERABAD	5	12	3	20	3	23
8	LAHORE	2	8	2	12	4	16
9	RAHIM YAR KHAN	-	-	-	0	19	19
10	FAISALABAD	2	4	2	8	5	13
11	MULTAN	2	6	2	10	9	19
12	QUETTA	2	13	2	17	0	17
13	PESHAWAR	2	16	4	22	0	22

Total	27	76	19	224	57	270
<i>Note: For each Sample PSU, 20 households (SSUs) will be selected</i>						

Sample Design: A stratified two-stage sample design has been adopted for this survey.

Selection of primary sampling Units (PSUs):

- The PSUs are selected using probability proportional to size (PPS) method.
- The number of households (updated 2004), were used as measure of size for selection of sample PSUs.

Selection of Secondary Sampling Units (SSUs):

- Households have been treated as secondary sampling units (SSUs).
- 20 households have been selected by systematic sampling technique, in each sample PSU.

Selection of School:

- 1 government school from each selected block (Mandatory)
- 1 private school from each selected block (Optional)