

**Formative Research Project (FRP)  
for  
School Sector Reform Program (SSRP)**

**Longitudinal Study on System Indicators**  
(An Analysis of Progress from the Year 2002 to 2012)

**Cohort Analysis and Trend Analysis**

Jointly undertaken by **Department of Education (DOE)** and **Research Centre for Educational Innovation and Development (CERID)**



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Balkhu, Kathmandu, Nepal  
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## **Acronyms and Abbreviations**

BPEP	Basic and Primary Education Programme
CERID	Research Centre for Educational Innovation and Development
DEO	District Education Office(r)
DOE	Department of Education
ECD	Early Childhood Development
ECED	Early Childhood Education and Development
EFA	Education for All
FRP	Formative Research Project
GPI	Gender Parity Index
ID	Identity
LongSIS	Longitudinal Study on System Indicators
MOE	Ministry of Education
MOES	Ministry of Education and Sports
PTA	Parent Teacher Association
PTR	Pupil Teacher Ratio
RED	Regional Education Directorate
RP	Resource Person
SIP	School Improvement Plan
SLC	School Leaving Certificate
SMC	School Management Committee
SS	School Supervisor
SSRP	School Sector Reform Program
STR	Student Teacher Ratio
UNESCO	United Nations Educational, Scientific and Cultural Organization
VDC	Village Development Committee
VEC	Village Education Committee

## Executive Summary

Government of Nepal, Ministry of Education/ Department of Education, Nepal in the School Sector Reform Plan (SSRP) 2009 has defined Grade I to Grade VIII education as the basic level school education. This report presents the cohort analysis of the four student cohorts enrolled in Grade I in the years 2002, 2003, 2004 and 2005. In the year 2013, the students who were enrolled in Grade I in those years in a normal flow should be studying in Grade XI, Grade X, Grade IX and Grade VIII respectively, if they have not repeated any grades or not left the school.

The conclusions of the study are that the net student flow from Grade I to Grade VIII has remained conspicuously low from 13 to 14 percent for all four cohorts. In this way, Grade I appears to be the most difficult hurdle for all four cohorts, with the lowest flow. The flow percentage of girls who reached Grade VIII in eight subsequent years in all the cohorts except for 2003 cohort is higher compared to boys.

Similarly, the enrolment in Grade I shows a declining trend. Per-student-classroom-space in the primary grades is generally less than the national norm in the beginning. However, decrease in the enrolment of students has increased per-student-classroom-space in the later years. There was no definite pattern in the pupil-teacher ratio, however, it was found in a decreasing trend. The GPI of the primary teachers in the sample schools was higher in the base year, which started decreasing in the consecutive years and in 2012 the index was less than one.

There is stability in the composition of the teachers by their ethnicity over the period of the study time in the sample schools. The majority of the teachers were Brahmins/Chhetris and Janajatis, with very few Dalits and one from Muslim community. The percentages of the teachers with the qualification of Intermediate and Bachelor levels are found in increasing trend. This has decreased the percentage of teachers with only SLC qualification. There are very few teachers with Masters' Degree qualification. The trend analysis shows that the percentage of teachers with teacher training certificate is in increasing trend.

The recommendations of the study are that the school level data keeping and the data analysis need to be consistent in all the schools. To strengthen the school level data keeping, analysis, reporting and use, the stakeholders should feel ownership of the data and use it for planning. The students should be given ECED experience prior to Grade I enrolment so that the hurdle of Grade I can be minimized. There is a need to encourage the potential individuals from so called "lower caste" and Muslim communities to join the teaching profession.

## Acknowledgements

The Research Centre for Educational Innovation and Development (CERID), Tribhuvan University has been undertaking the Formative Research Project from the year 2002. The project is being undertaken to support the Ministry of Education/Department of Education in the implementation of its educational reform programs. The project includes two types of researchers—qualitative case studies and quantitative Longitudinal Study on System Indicators. The quantitative study includes trend analysis and cohort analysis. This report presents the analysis of the four cohorts from 2002 to 2005 intakes and trends of system indicators since 2002. The information is based on individual student record, and limited to 15 out of the 62 initially sampled schools, which the Ministry of Education, Government of Nepal is expected to find relevance to facilitate its process of planning, implementing, monitoring and managing SSRP programs.

The study team would like to thank and acknowledge the continuous cooperation and valuable support of all the head teachers and teachers of the sample schools for the role they have played in collecting and ensuring the quality of data. The team is also grateful to the representatives of Department of Education, MOE for their continuous support in undertaking the field work.

Out special thanks go to Dr. Lava Deo Awasthi, Director General, Mr. Kamal Prasad Pokharel, Director, Mr. Balaram Timilsina, Deputy Director and Mr. Rabindra Budapirithi, Under Secretary of Department of Education for their support in bringing the report to this shape. The logistic management involved in the study has been successfully undertaken, as usual, by CERID administrative staff members. The study team appreciates their support and thanks them all for their unceasing commitments to the study. Last but not the least; thanks are also due to Mr. Purushottam Manandhar for his valuable technical support in analysis of data presented in this study.

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## **List of Tables**

Table 1: Number of Sample Schools by District and Stratum .....	3
Table 2: Years and Grades the Data Collected in 2012 .....	5
Table 3: Flow of Cohort (2002) .....	6
Table 4: Flow of Cohort (2003) .....	7
Table 5: Flow of Cohort (2004) .....	8
Table 6: Flow of Cohort (2005) .....	9

## **List of Figures**

Figure 1: Sample Districts in the Map .....	3
Figure 2: Student flow in the four cohorts .....	9
Figure 3: Flow of Girl Students in Four Cohorts .....	10
Figure 4: Flow of Boy Students in Four Cohorts .....	11
Figure 5: Student Enrolment Trend in Grade I .....	12
Figure 6: Per Student Classroom Space (in sq. ft.) .....	12
Figure 7: Pupil Teacher Ratio .....	13
Figure 8: Distribution of Teachers by Educational Attainment .....	13
Figure 9: Distribution of Teachers with Training Certificate by Gender .....	14
Figure 10: GPI of Teachers .....	15
Figure 11: Distribution of Teachers by Ethnicity .....	15

## Contents

<b>Acronyms and Abbreviations</b>	<b>ii</b>
<b>Executive Summary</b>	<b>iii</b>
<b>Acknowledgements</b>	<b>iv</b>
<b>List of Tables</b>	<b>v</b>
<b>List of Figures</b>	<b>v</b>
<b>Chapter I: Introduction</b>	<b>1</b>
Background	1
A Reflection on FRP LongSIS: Scope for LongSIS in SSRP	1
Objectives	2
Methodology	2
Sample	3
Tools	4
Data Collection Procedures	4
Limitations	5
<b>Chapter II: Student Cohort Flow</b>	<b>6</b>
Student Flow of Cohort 2002	6
Student Flow of Cohort 2003	7
Student Flow of Cohort 2004	8
Student Flow of Cohort 2005	9
Comparison of Student Flow of Cohorts	9
Student Flow by Gender	10
<b>Chapter III: Trend Analysis of Selected Indicators</b>	<b>12</b>
Student Enrolment	12
Per Student Classroom Space	12
Pupil Teacher Ratio	13
Teachers and Teaching Learning Materials	13
Teachers Qualification	13
Teachers with Training Certificate	14
GPI of Teachers	15
Teachers and Ethnicity	15
<b>Chapter IV: Major Findings and Recommendations</b>	<b>16</b>
Major Findings	16
Cohort Analysis	16
Trend Analysis	16
Recommendations	16
<b>References</b>	<b>18</b>



## Chapter I: Introduction

### Background

Following the experiences of FRP during the implementation of Basic and Primary Education Program (BPEP II) 1999-2004 and Education for All (EFA) 2004-09 programs, the Government of Nepal/Ministry of Education is committed to continue FRP in the implementation of School Sector Reform Plan (SSRP) 2009-15. FRP has helped the Ministry of Education/Department of Education to implement those programs effectively. The Longitudinal Study on System Indicators (LongSIS) was one of the major components of FRP. Based on the commitment made by the government in the year 2068-69, the Department of Education has in collaboration with the Research Centre for Educational Innovation and Development (CERID), Tribhuvan University, continued the implementation of FRP. In the year 2012 the study was limited to continuation of LongSIS study and instead of selecting all 16 FRP districts of the first and second phases of FRP, only 3 districts—Dhankuta, Rasuwa and Banke—were included.

DOE has realized the importance of the study and agreed to extend two more districts for this year (2013) due to financial constraint to include all the original 16 sample districts. The additional districts are Syangja and Dadeldhura, which make it 5 sample districts for this year's study.

This year, though only 5 districts have been included, the study has revealed interesting and useful data and information on various aspects and indicators of the SSRP being implemented in the country. LongSIS being an important component of FRP, provided statistical data on the basis for trend analysis. The indicators included brief student profile: name, gender, age, social group, enrolment, promotion, and drop-out. However, in this report only some of those indicators have been analysed. LongSIS has been conducting cohort analysis of students enrolled at grade one since 2002 and the subsequent years using this data. The study has provided quantitative database information to facilitate the smooth implementation of SSRP by generating research based information for progress monitoring and critical understanding of the issues for strategic policy revisions.

This study is featured with software designed for the study for keeping the record of students' enrolment, retention, promotion, attendance, achievement, and information on teachers' qualification, training and experiences, and background of the parents since the year 2002. The study has utilized these data and information for trend and cohort analysis. The students have been followed up through student tracking system for which each individual student is given a unique Student ID for all the students of 16 sample districts. The collected data are computerized in the software designed for the purpose of computing and analysis using MS Access program.

### A Reflection on FRP LongSIS: Scope for LongSIS in SSRP

During the implementation of BPEP II, FRP was launched to facilitate its smooth implementation by generating research based information for progress monitoring and critical understanding of the issues for strategic policy revisions. The LongSIS has been an important component of FRP. It provided statistical data and a basis for trend analysis. The FRP and LongSIS were found useful and therefore continued in the implementation of EFA 2004-09.

LongSIS basically seeks information that focuses on the “WHAT” aspects of program activities by using the selected indicators, whereas the in-depth studies basically focus on “WHY”. In this sense, the former, by and large, generates key research questions for the

latter. LongSIS attempts to continuously provide periodic information on attainment of targets pertaining SSRP.

The data of 43 indicators collected from 62 schools strategically placed in 16 districts from 5 development regions and Kathmandu valley were the basis of LongSIS. The indicators included brief student profile listing name, gender, age, social group, enrolment, promotion, and dropout. FRP has been conducting cohort analysis of students enrolled at grade one in BS 2059 (AD 2002) and the subsequent years using this data. It includes periodic data collection, analysis and reporting on the given indicators. The study provided quantitative database information.

In this regard, there was a need to collect the data and information for the academic years 2009, 2010, 2011 and 2012 in these two additional districts—Syangja and Dadelhdhura. In the remaining 3 districts the data were collected in the year 2012.

The study basically focuses on trend analysis and cohort analysis<sup>1</sup>. This part of the report presents the cohort analysis of the four student cohorts enrolled in Grade I in the years 2002, 2003, 2004 and 2005. Most notably, it has made a remarkable breakthrough in systematizing the individual students' cohort data of the year 2002 as the base year. This is the first attempt of conducting this kind of research by CERID in Nepal.

The study has also adopted students' tracking system. Detailed information of all the students enrolled in Grade I was gathered in the first year of the study. Similarly, the information of these students was updated in the next year and also the information of new entrants of Grade I was collected. This process aimed to analyze real internal efficiency components—promotion, repetition and drop-out rates. Until now these rates are derived by the Reconstructed Cohort Model developed by UNESCO<sup>2</sup>.

## Objectives

The main objectives of this study are as follows:

- To provide research-based information on basic indicators to MOE/DOE for monitoring the attainment regarding the set targets of SSRP
- To find out internal efficiency of school system by using Cohort Analysis

## Methodology

Longitudinal study through cohort analysis in education, especially individual student tracking, is the first one of its kind in Nepal. The this study attempted to do the cohort analysis by giving ten digit unique students ID to each individual student of 62 sample schools of 16 districts of Nepal till the year 2009. However, in the year 2012, the data have been collected only from 9 schools of three sample districts—Dhankuta, Rasuwa and Banke—with three schools from each districts.

In the ten digit student ID, first two digits are for the enrolment year, subsequent two digits make district code, two digits make school code, single digit is the grade the student entered in the school and the last three digits provide student's serial number. For example: In the ID 5903081007, first two digits 59 is the year 2059, next two digits 03 is Ilam district, 08 is school number, 1 is the grade the student entered in that particular school and the last three digits 007 show the student's serial number.

The details of the methodology adopted for the study is given below.

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<sup>1</sup> A cohort study is a form of longitudinal study used in education, medicine, social science, etc. In statistics and demography, a cohort is a group of subjects who have shared a particular experience during a particular time span (e.g., people born in a certain year; batch army of XYZ; students enrolled in grade in a certain year). Cohorts may be tracked over extended periods of time in a cohort study.

<sup>2</sup> [http://www.uis.unesco.org/i\\_pages/indspec/cohorte.htm](http://www.uis.unesco.org/i_pages/indspec/cohorte.htm)

## Sample

There are three geographical regions (mountain, hill and tarai) and five development regions in Nepal. This makes a total of 15 stratum and Kathmandu valley (Kathmandu, Lalitpur and Bhaktapur districts) is taken as a separate stratum. In this way from total of 16 stratum, one district from each stratum was selected on the basis of various programs of BPEP II in the year 2002. The sample districts have been finalized in close collaboration with DOE/MOE.

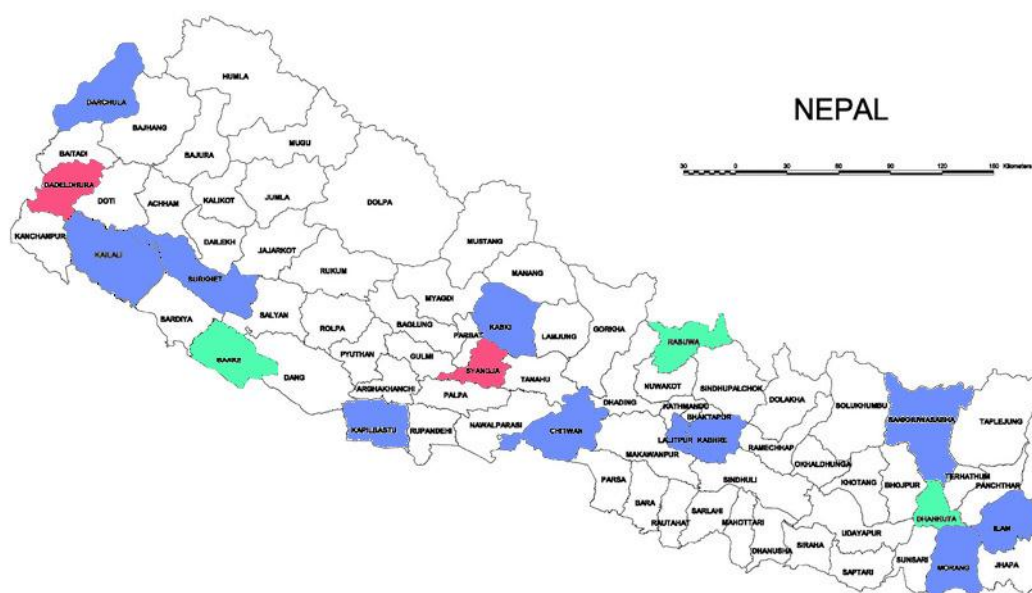
The size of the sample school within a stratum is made proportionate to the total school size of the stratum. From each sample districts, 3 to 5 sample schools were selected. The population of the primary age children in the district was considered to determine the number of sample schools in the district. These schools were then selected in consultation with the DEO personnel from each sample district. Out of 3 to 5 sample schools from each sample district, at least one primary school attached with Lower Secondary, Secondary or Higher Secondary School and other pure primary schools were selected as sample schools. All these schools are public/community schools.

The sample districts by number of sample schools are given in Table 1:

**Table 1: Number of Sample Schools by District and Stratum**

SN	District	Development Region	Geographical Region	Number of sample schools
1	Dhankuta	Eastern	Hill	2
2	Rasuwa	Central	Mountain	3
3	Syangja	West	Hill	4
4	Banke	Mid-West	Terai	3
5	Dadeldhura	Far-West	Hill	3
Total				15

**Figure 1: Sample Districts in the Map**



Districts in green color were included in 2012, districts colored in red are added in 2013 and districts colored in blue need to be added in the year 2014 in order to complete the original 16 districts sample framework.

## *Tools*

Laptop computers were used instead of traditional paper forms and pencils to gather the information directly from the schools. The software which was designed to enter the information collected in the forms and later computerized in CERID was installed in those laptops. This has made it easy to enter the data in the computer at the schools, reducing the errors and enriching the quality of data.

The information was collected in these four categories:

### 1. School Information

The general information of the sample school was collected. The location, address, type of school, number of students in all grades, classroom size, etc. are included in this form.

### 2. Student Information

The student information includes the basic information of the students, their caste/ethnicity, and information about their parents, monthly attendance, final achievement scores, and the status in the final school examination.

### 3. Teacher Information

Basic information of the teachers of the sample school was collected. The information on the work experience, level, training, attendance, etc. of the teachers was collected in this form.

### 4. School Finance and Other Information

The information on library, income and expenditure, SIP, PTA, VEC, and school visits by different personnel was collected.

Besides these, a guideline for the computer equipment monitoring was used to find out the physical situation of the computer set, UPS and printer provided to the schools as well as use of computer and the database software provided for the database management. Similarly, information was collected regarding the school's view on the further steps to make this equipment more useful in order to manage the data and use it at school level.

## *Data Collection Procedures*

The data were collected by the team of researchers from CERID by visiting the all the 15 sample schools in the five sample districts. The team visited the sample schools and gathered the necessary information from each school.

A team of two researchers in each sample district visited the sample schools of the district to gather necessary information, however, in Banke district there were three researchers in the team due to a large volume of students and time constraint.

In four sample districts the laptops were used to computerize the data at school level by the researchers, however, due to some technical reason this was not done in Rasuwa district and the collected data were entered at the centre.

The experienced and dedicated team members were able to manage to get very vital and essential information for the cohort and trend analysis within this time limitation.

The years and grades the data collected in this year from are presented in Table 2.

**Table 2: Years and Grades the Data Collected in 2012**

BS	AD	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2059	2002	1										
2060	2003	2	1									
2061	2004	3	2	1								
2062	2005	4	3	2	1							
2063	2006	5	4	3	2	1						
2064	2007	6	5	4	3	2	1					
2065	2008	7	6	5	4	3	2	1				
2066	2009	8	7	6	5	4	3	2	1			
2067	2010	9	8	7	6	5	4	3	2	1		
2068	2011	10	9	8	7	6	5	4	3	2	1	
2069	2012	11	10	9	8	7	6	5	4	3	2	1

SSRP core document defined Grade I-VIII as Basic Level of Education; therefore this report presents analysis of four cohorts of the year 2002 to 2005 up to Grades VIII.

### Limitations

Due to the limitation of time and resources available for the study, comparison has been made only in a few of the indicators. There are tremendous possibilities for looking in the various characteristics of education of Nepal by using huge amount of information gathered in the course of this study using other statistical analysis; however this has not been explored in this report.

## Chapter II: Student Cohort Flow

The analysis of four cohorts of students who were enrolled in Grade I and reached Grade VIII without repeating any grades in eight consecutive years is presented in the following section. Only the students who were enrolled in Grade I as fresh new entrants were included and analysed in this student cohort flow.

The repeater students who were already in Grade I have been excluded from overall student flow. These repeater students and new entrants are included and analysed in trend analysis. The school leaver students were not included in the analysis.

### Student Flow of Cohort 2002

The overall student flow of the cohort 2002 is presented in the following table. The number of students enrolled in Grade I in the year 2002 is taken as the base year and as 100 percent. Subsequently, the number and percentage of students who were upgraded in the next year is presented in the table.

**Table 3: Flow of Cohort (2002)**

Year	Grade							
	I	II	III	IV	V	VI	VII	VIII
2009								32 (12.8)
2008							43 (17.2)	
2007						51 (20.4)		
2006					67 (26.8)			
2005				76 (30.4)				
2004			94 (37.6)					
2003		160 (64.0)						
2002	250 (100)							

*(Figures in parenthesis show the percentage of the students.)*

- More than 13 percent students enrolled in Grade I in 2002 were able to reach Grade VIII in the year 2009 without repeating any grades.
- Altogether 64 percent students reached Grade II in the year 2003.

### Student Flow of Cohort 2003

The flow of student cohort of the year 2003 who reached to Grade VIII in the year 2010 is shown in the following table.

**Table 4: Flow of Cohort (2003)**

Year	Grade							
	I	II	III	IV	V	VI	VII	VIII
2010								36 (12.6)
2009							37 (13.0)	
2008						44 (15.4)		
2007					60 (21.1)			
2006				75 (26.3)				
2005			101 (35.4)					
2004		147 (51.6)						
2003	285 (100)							

*(Figures in parenthesis show the percentage of the students.)*

- Among the total number of students enrolled in Grade I in 2003, only about 13 percent were able to reach to Grade VIII in the year 2010 without repeating any grades.
- More than half of the students enrolled in Grade I were able to reach to Grade II from the Cohort 2003.

## Student Flow of Cohort 2004

The flow of student cohort, who were enrolled in Grade I as new entrants in the year 2004 and reached to Grade VIII in the year 2011 is shown in the following table.

**Table 5: Flow of Cohort (2004)**

Year	Grade							
	I	II	III	IV	V	VI	VII	VIII
2011								45 (13.6)
2010							58 (17.6)	
2009						78 (23.6)		
2008					85 (25.8)			
2007				104 (31.5)				
2006			133 (40.3)					
2005		176 (53.3)						
2004	330 (100)							

*(Figures in parenthesis show the percentage of the students.)*

- In 2004 Cohort, about 14 percent students were able to reach to Grade VIII in the year 2011 without repeating any grades.
- About 53 percent students reached to Grade II in the year 2005.



## Student Flow of Cohort 2005

The flow of student cohort, who were enrolled in Grade I as new entrants in the year 2005 and reached to Grade VIII in the year 2012 is shown in the following table.

**Table 6: Flow of Cohort (2005)**

Year	Grade							
	I	II	III	IV	V	VI	VII	VIII
2012								44 (12.5)
2011							57 (16.1)	
2010						72 (20.4)		
2009					81 (22.9)			
2008				95 (26.9)				
2007			122 (34.6)					
2006		167 (47.3)						
2005	353 (100)							

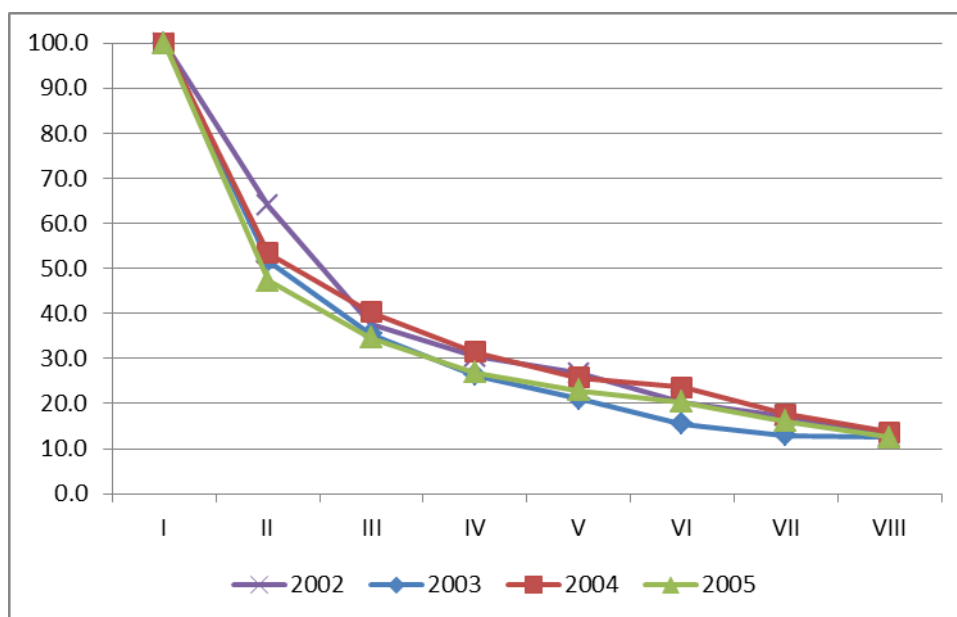
*(Figures in parenthesis show the percentage of the students.)*

- From this cohort (2005) there were about 13 percent students who were able to reach to Grade VIII in the year 2012 without repeating any grades.
- About 47 percent students reached to Grade II in the year 2005.

## Comparison of Student Flow of Cohorts

The flow of students in the four cohorts is presented in the following chart.

**Figure 2: Student flow in the four cohorts**



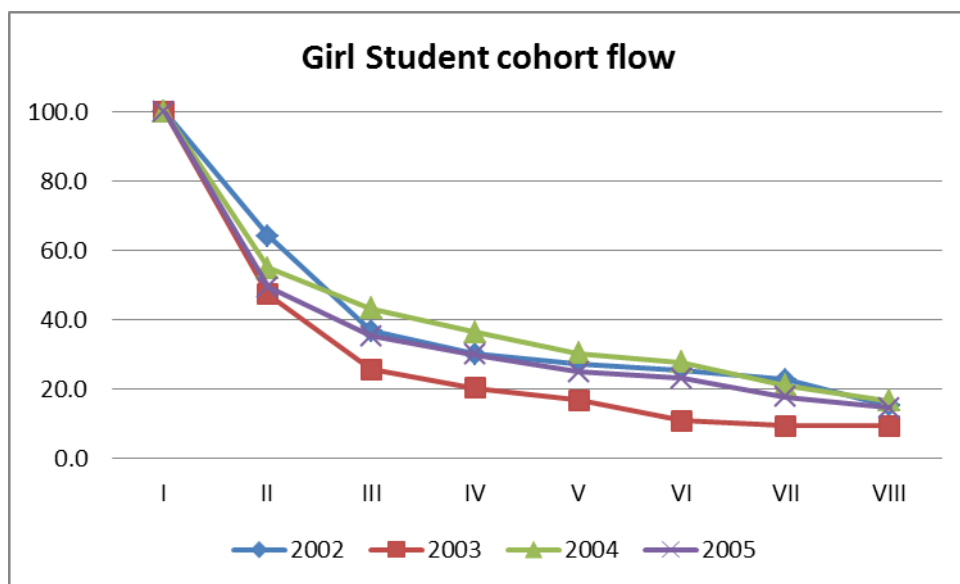
- There is a steep downfall in the percentage of the students' flow from Grade I to Grade II in all the four student cohorts except for the cohort of 2002.
- The pattern of the students' flow from Grade I to Grade VIII in all four student cohorts is similar.
- The student flow shows that the students who were enrolled in Grade in the years 2002 to 2005 and who reached to Grade VIII, without repeating any grades was near 13 percent, however it was found that the cohort of 2004 reached up to 14 percent.

### Student Flow by Gender

The gender of the students and the differences in the pattern of their flow in different grades in the successive years are presented in this section.

The following figure shows the comparison of flow of girl students in the four cohorts.

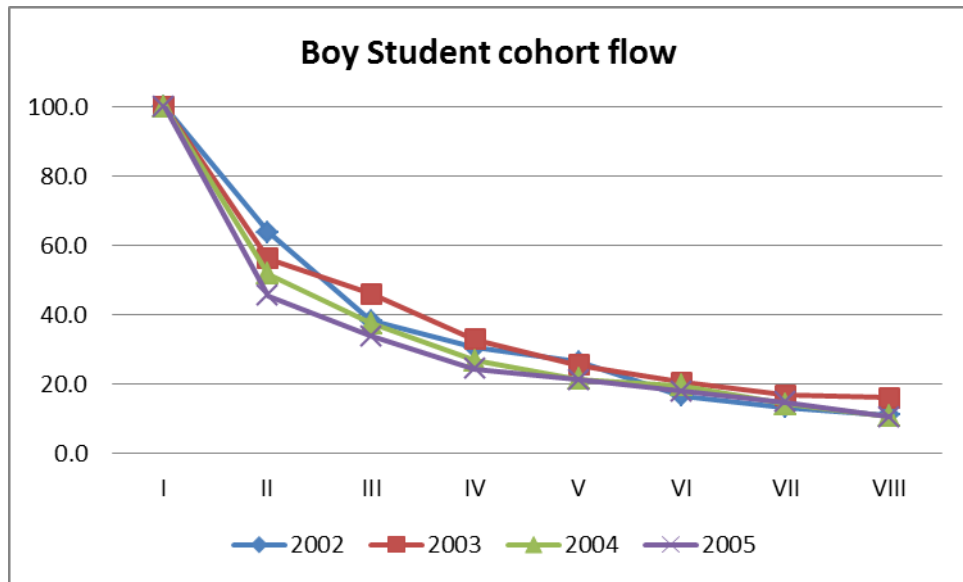
**Figure 3: Flow of Girl Students in Four Cohorts**



- The girl students' flow in 2004 cohort is higher compared to the flow of cohorts of the years 2002, 2003 and 2005.
- The flow of girl students is lower in 2003 cohort compared to other three cohorts.

The following figure shows the comparison of flow of boy students in the four cohorts.

**Figure 4: Flow of Boy Students in Four Cohorts**



- The percentages of boy students' cohort flow show not much difference in the four cohorts in all the grades.
- The percentage of boy students' cohort flow is slightly lower in 2005 cohort compared to the other three cohorts.

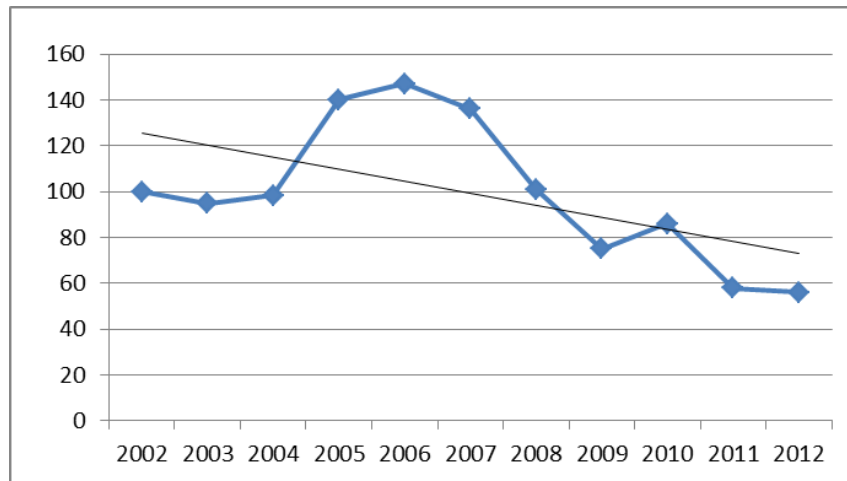
### Chapter III: Trend Analysis of Selected Indicators

One of the major tools used in the longitudinal studies for data analysis is Trend Analysis. In this section the trend analysis of some pertinent indicators is done over a period of time 2002-2012. The year 2002 is taken as the base year and the percentages are calculated accordingly.

#### *Student Enrolment*

The following figure presents the student enrolment trend in Grade I in the sample schools.

**Figure 5: Student Enrolment Trend in Grade I**

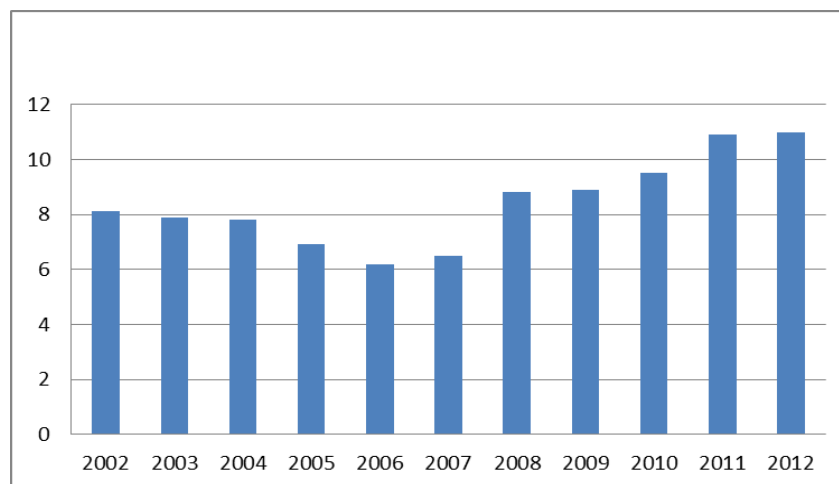


The trend shows a decline in student enrolment in Grade I since the year 2007; however in 2010 it increased and started falling again in the subsequent years. The linear trend line shows that the enrolment of students in Grade I is in decreasing trend from 2002 to 2012.

#### *Per Student Classroom Space*

The Education Regulation has set 0.75 sq. meters i.e., 8.1 sq. ft. per student classroom space for Basic Level. The available space for the students in the sample schools during the study period is presented in this section.

**Figure 6: Per Student Classroom Space (in sq. ft.)**



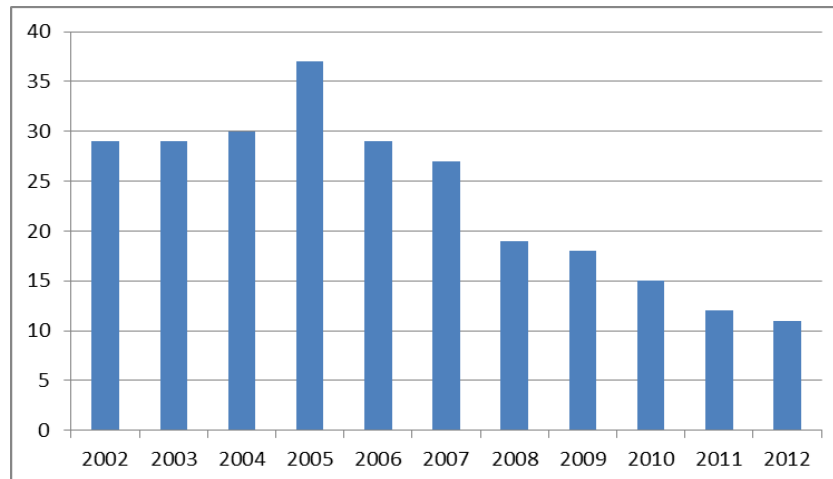
In the beginning years per student classroom space was almost as per the government norms. Then the sudden increase in the student enrolment in the years 2005 to 2007 (*see figure 5*

above) has decreased the per student classroom space. Again, the decrease in the student enrolment since 2008 has increased per student classroom space.

### *Pupil Teacher Ratio*

The ratio of pupil and teacher in the classroom has significant effect in teaching learning process. The trend of pupil teacher ratio in the given sample schools during the study period of 2002 to 2012 is presented in the figure below.

**Figure 7: Pupil Teacher Ratio**



The pupil teacher ratio was less than 30:1 in the beginning years; however, it reached up to 37:1 in the year 2005. The ratio started decreasing from the year 2006 resulting into 11:1 in the year 2012.

### **Teachers and Teaching Learning Materials**

The teachers' qualification, trainings, ethnic composition of teachers in the schools and availability of the teaching materials are some of the factors analysed in this section.

#### *Teachers Qualification*

The distribution of teachers by their educational attainment in the sample schools is analysed in the section.

**Figure 8: Distribution of Teachers by Educational Attainment**

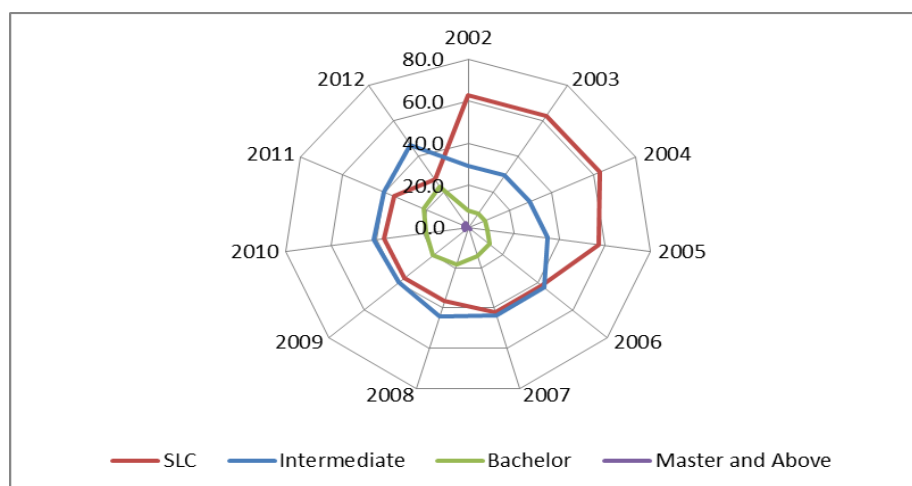
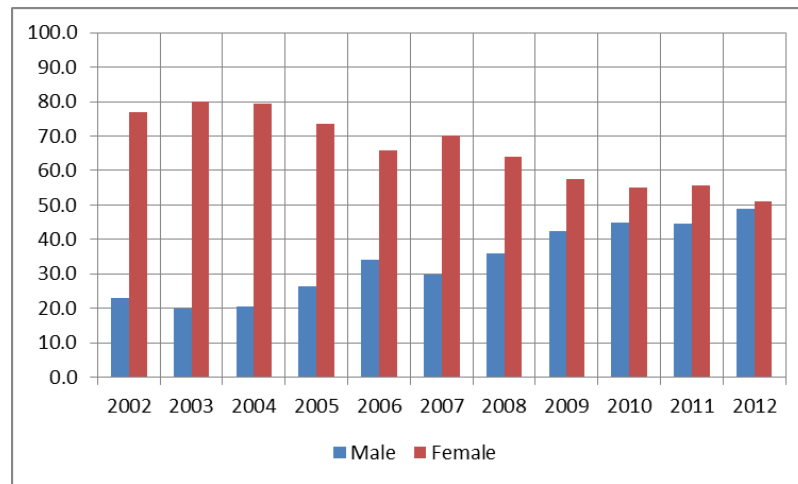


Figure 8 shows that the majority of teachers were with the educational qualification of SLC in the base year 2002, which gradually started decreasing in the subsequent years and there were only around 27 percent teachers with SLC in the year 2012. The percentage of teachers with the qualification of Intermediate level has started increasing gradually from 2002 in the subsequent years. In the year 2012, there were more than 47 percent teachers with Intermediate level of educational qualification. The percentage of teachers with Bachelor Level of educational qualification was about 8 percent in the year 2002 and it reached to 24 percent in the year 2012. There were no primary school teachers with Masters Level of educational qualification in the base year; however, there were 2 percent teachers with this qualification in 2012.

### *Teachers with Training Certificate*

There are various trainings provided by the government to the teachers. After successfully completing the trainings, certificates are provided to the teachers. In this regard, distribution of the teachers who received the training certificate is presented in Figure 9.

**Figure 9: Distribution of Teachers with Training Certificate by Gender**

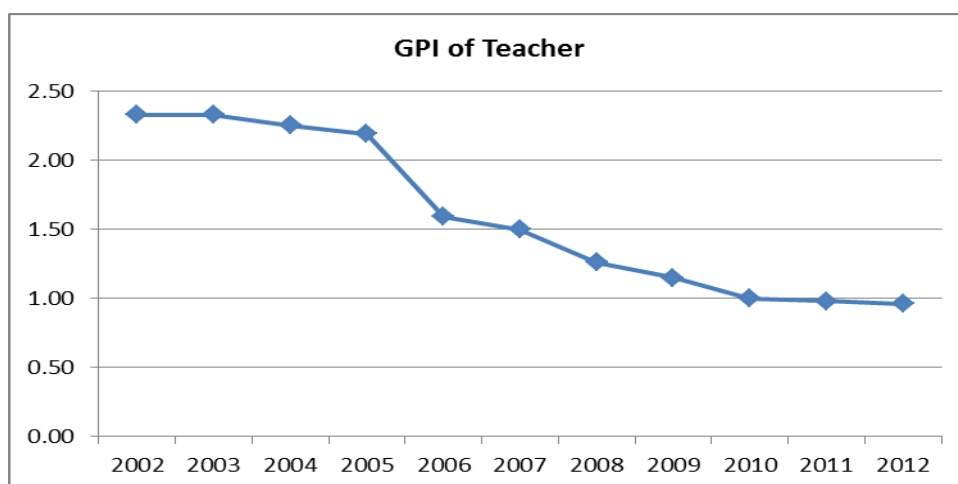


There were more female teachers compared to male teachers with teacher training certificate in the base year. The percentage of male teachers with training started to increase from the year 2005. In 2012 the number of teachers with teacher training certificate was found almost equal to the percentage of female teachers with training.

### GPI of Teachers

The Gender Parity Index (GPI) of teachers shows the participation of female teachers in the education sector.

**Figure 10: GPI of Teachers**

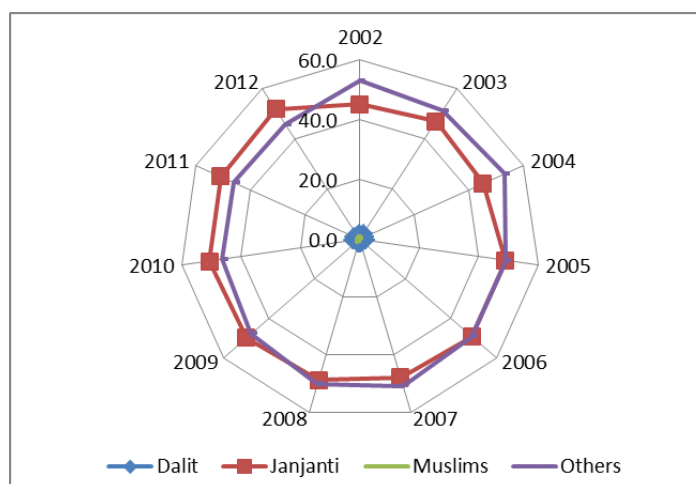


In the base year the GPI of teachers was 2.33 and after 2005 it started to decreasing, resulting into 0.96 in 2012. This indicates that the percentage of female teachers has increased in the sample schools. The above figure shows that the number of male and female teachers in the sample schools was equal in the year 2010 and 2011. The number of female teachers increased in the year 2012.

### Teachers and Ethnicity

The distribution of teachers by their ethnicity in the sample schools is presented in the following figure.

**Figure 11: Distribution of Teachers by Ethnicity**



Majority of the teachers were from others (Bhramin/ Chhetri) and Janajati ethnicity; and there were a very few percentage of teachers from Dalit ethnicity as shown in the Figure 11. The number of Muslim teachers is negligible in the sample schools. In the beginning years there was no teacher from Muslim community; however, there is one Muslim teacher since 2009.

## Chapter IV: Major Findings and Recommendations

The major findings and recommendations of the study are presented in this section. The major findings of the cohort analysis and trend analysis are presented separately. The overall recommendations based on the major findings from both cohort and trend analysis is presented.

### Major Findings

#### *Cohort Analysis*

- In all the four cohorts, the net student flow from Grade I to Grade VIII has remained conspicuously low about 13 to 14 percent.
- The flow of the students shows that Grade I to Grade II appears to be the most difficult hurdle for all the cohorts, with the lowest flow.
- The flow percentage of girl students who reached Grade VIII in eight subsequent years in all the cohorts except for the cohort of 2003 is higher compared to that of boys.

#### *Trend Analysis*

- The enrolment of students in Grade I show a declining trend.
- In the beginning years of the study, per-student-classroom-space in the primary grades was generally less than the national norm; however, decrease in the enrolment of students has increased per student classroom space in the later years.
- Decrease in the student enrolment has also decreased the pupil-teacher ratio, however there was no definite pattern in the trend.
- The GPI of the primary teachers in the sampled schools was higher in the base year, and it started decreasing in the consecutive years and in the year 2012 the index was less than one.
- Majority of the teachers were Brahmins/Chhetris and Janajatis, very few Dalits and one from Muslim community. There is stability in the composition of the teachers by their ethnicity over the study period in the sample schools.
- The trend shows that the percentage of teachers with the educational qualification of Intermediate and Bachelor level are found increasing. This has decreased the percentage of teachers with only SLC qualification. There is very few percentage of teachers with qualification of Masters' Degree.
- The trend analysis shows that the percentage of teachers with teacher training certificate is in increasing trend.

### Recommendations

- The stakeholders should take ownership of the data generated in the schools and use it for planning. The school level data keeping and the data analysis need to be consistent in all the schools. The school level data keeping system needs to be strengthened at the school level for analysis, reporting and their use.



- The students should be given ECED experience prior to their enrolment in Grade I so that the hurdle of Grade I can be minimized.
- There is a need to encourage the potential individuals from so called “lower castes” and Muslim community to join the teaching profession.

## References

- CERID. (2012), *Longitudinal Study on System Indicators, Cohort Analysis and Trend Analysis*. Kathmandu, Nepal: Author
- CERID. (2009), *Longitudinal Study on System Indicators, Cohort Analysis and Trend Analysis*. Kathmandu, Nepal: Author
- CERID. (2007), *Longitudinal Study on System Indicators, Cohort Analysis*. Kathmandu, Nepal: Author
- CERID. (2005), *Longitudinal Study on System Indicators*. Kathmandu, Nepal: Author
- CERID. (2004), *Longitudinal Study on System Indicators*. Kathmandu, Nepal: Author
- CERID. (2003), *Longitudinal Study on System Indicators*. Kathmandu, Nepal: Author
- Department of Education. (2004). *Flash Report II*. Sanothimi, Nepal: Author
- Department of Education. *School Level Educational Statistics of Nepal*. Sanothimi, Nepal: Author
- Department of Education. *Flash Report I and II*. Sanothimi, Nepal: Author
- Garrett, H. E. & Woodworth, R.S. (1981). *Statistics in Education and Psychology*. Bombay: Vakils, Feffer and Simons Ltd.
- Ministry of Education and Sports. (1997). *Basic and Primary Education Master Plan (1997-2002)*. Kaiser Mahal, Kathmandu, Nepal: Author
- Ministry of Education. (2003). *EFA Core Document*. Kaiser Mahal, Kathmandu, Nepal: Author
- [http://www.uis.unesco.org/i\\_pages/indspec/cohorte.htm](http://www.uis.unesco.org/i_pages/indspec/cohorte.htm)