

THE IMPACT OF POST 7TH NFC AWARD FINANCING ON
ENROLMENT IN INDEPENDENT GOVERNMENT PRIMARY SCHOOLS
OF THE PUNJAB.

By

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ACRONYMS

NPA	National Plan of Action
ESR	Education Sector Reforms
SDGs	Sustainable Development Goals
UPE	Universal Primary Education
PDSSP	Punjab Devolved Social Services Program
PLGO	Punjab Local Government Ordinance
MDG	Millennium Development Goals
PSSPER	Punjab Social Sector Public Expenditure Review
PESRP	Punjab Education Sector Reforms Programme
CMESRP	Chief Minister Education Sector Reforms Programme
LEAPS	Learning and Education Achievements in Punjab Schools
ESE	Elementary School Educator
SESE	Senior Elementary School Educator
UNDP	United Nations Development Programme
PTR	Pupil Teacher Ratio
PTC	Primary Teaching Course
CT	Certificate of Teaching

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Abstract

The purpose of this research is to undertake an evaluation of the role of increased fiscal transfers to the Punjab through the 7th NFC Award in improving selected basic social indicators in public education at the primary level. The component of primary education focused upon comprises the stand-alone schools in the primary sector.

The significant increase in fiscal transfers due to an enlarged divisible pool has enabled provincial governments to devote more resources to development in the social sectors which have remained traditionally under resourced. With increased resources and responsibilities now available to provinces in the wake of the 7th NFC Award and the 18th Constitutional Amendment, the potential for providing and managing enhanced allocation to the social sectors has increased.

Taking into account the lackluster performance of Punjab's public primary education sector, this study looks at the degree to which this promise of adequately providing for primary education has been actualized. Following the priorities spelt out in the Sustainable Development Goals (SDGs) 2030, the paper focuses on three factors that literature identifies as critical to primary level enrolment, one relating to physical facilities and two to qualitative aspects.

The funding patterns for (i) school infrastructure, (ii) female teacher induction and (iii) trained teachers in the primary education sector are investigated against the adequacy of outputs in these areas as evident from some indicators relevant to primary level gross and net enrolment in independent/ stand-alone public primary schools during the pre and post NFC periods. The cause and effect relationship is then analyzed to see what explains the perceived patterns.

1. Introduction

Fiscal transfers from a remote central government are considered to be a lifeline for provincial governments which need additional resources to provide basic services at their level of jurisdiction. Such transfers play a pivotal role in strengthening the fiscal operations of sub-national governments.

Higher fiscal transfers enable sub-national governments to enhance social service delivery and efficiently allocate resources in the most deprived areas. Such fiscal transfers are the major source of financing social service delivery in developing countries.

Many studies show that fiscal transfers increase the responsibilities of sub-national governments. Being an important growth accelerating measure, fiscal transfers help sub-national governments to act as partners of the central government on specified subjects. Social policies can be implemented more effectively through decentralized arrangements as subnational governments are in a better position to cater to the needs of their people. Social service delivery is efficiently addressed by decentralization as planning and implementation at the lowest level has a greater impact on the economic welfare (Oates, 1999). It is a general perception that fiscal decentralization is a successful way to increase the efficiency of public expenditure and revenue and may remove the obstacles to government decision-making and implementation process (Oates, 1972).

The provision of social service delivery has been devolved to provincial governments after the enactment of the 18th Constitutional Amendment which enhances provincial autonomy by increasing its fiscal authority. This has given more flexibility to each federating unit to manage its fiscal problems as it pursues its development goals at the provincial level and to increase allocations for sectors that are most in need of additional funds. A number of subjects such as

health and education have been devolved to provinces coupled with an increase in fiscal transfers given under the 7th NFC Award (PSSPER, 2013).

Education is a provincial subject where each province enjoys an autonomy in formulating education policies within the context of national policies. To improve enrolment in government schools, the National Education Policy (1998-2010) stressed on higher budgetary allocations for elementary education, improving quality by increasing teachers' competence through training programs and bringing improvement in school infrastructure. Subsequently, the Education Sector Reforms (ESR) program (2001-2005), a comprehensive sector wise program, was developed on the long term view of the National Education Policy to improve enrolment and the quality of education through trained teachers.

Pakistan has signed international commitments in relation to universalization of quality primary education under Article 26 of the Universal Declaration of Human Rights, 1948, which declared quality primary education as a basic right of all people. Moreover, Goal 4 of the Sustainable Development Goals aims at ensuring the availability of quality primary education for everyone by 2030, when all boys and girls should be getting free primary and secondary education. After Pakistan become a signatory to this international commitment, the Government of Pakistan launched the National Plan of Action (NPA) in 2001-2015 for Education for All which aims to increase enrolment and to improve the quality of basic education. The next National Education Policy (NEP) of 2009 was also devised in the light of international commitments related to primary education under the Millennium Development Goals and the Dakar Framework of Action Education for All 2000. This policy of 2009 aimed to rebuild trust in public sector education and reiterated commitment towards Universalization of Primary Education (UPE) by 2015 in order to fulfill the priorities spelt out in the then Development Goals (Zakar, et.al, 2013). The policy implementation framework affirmed that provincial and area governments were responsible for plan formulation and implementation

strategies. For the successful implementation of the NEP, federal-provincial ownership, and coordination within the basic principle of provincial autonomy was considered important.

UPE becomes imperative in the aftermath of the 18th Constitutional Amendment under Article 25-A which made it obligatory for each province to provide free and compulsory education to all children aged between 5-16 years which has been declared a fundamental right (UNESCO, 2011).

In view of the goal of attaining UPE in Pakistan, Punjab's role is important, because it incorporates 60% of the total population of the country, and thus Punjab's indicators affect the national indicators. With regard to such universalization, enrolment and retention of students is important and this is largely affected by the school environment as well as the quality of teaching. Accordingly, the nature of physical facilities as well as provision of trained teachers, specifically female teachers, are considered critical to bringing about sustainability in the enrolment and retention rate. According to Mohanty, (2000) teacher performance, being a critical component in the education system, is affected by his/her environment, as well as his/her qualification, experience, and training. Many studies find that the wide gaps between male-female enrolment and retention rates can be improved by overcoming shortage of female teachers at the basic level of education as society gives more respect to female teachers compared to male teachers (Nadeem, et.al.2011).

There are a number of other aspects to quality education on which there is considerable literature – such as effective curriculum, language of instruction, parent involvement, school management oversight etc. All these factors are important but none is as key as the quality of the teacher. Neither a good curriculum nor a wise choice of language of instruction can deliver anything significant if the core requirement of a qualified teacher with appropriate behavior qualities is missing. Ultimate quality comes from the teacher and how professionally he or she is equipped to undertake the responsibilities effectively. But before professional ability comes

the important aspect of teacher behaviour towards children and considerable research suggests that small children in their early years of education respond best to the soft touch of a mother figure. Therefore, for the purpose of this research female teacher recruitment in general and trained female teacher prevalence in particular has specifically been picked as representing the important qualitative aspects that provide incentives for sustainable enrolment.

Prior to devolution in 2010, the Punjab Devolved Social Service Programme (PDSSP) was launched during 2004-2008 in line with the Punjab Local Government Ordinance, 2001 (PLGO) to support delivery of the devolved social services for achieving progress on MDGs related to education and health, after which district governments were created and made responsible to manage school education (PSSPER, 2013). Under the devolution, districts become responsible for the delivery of free primary education, for which additional female teachers were to be recruited (Shaukat, 2009). Keeping in view the significance of these determinants for primary education, the Government of Punjab undertook a program namely the “Punjab Education Sector Reforms Program (PESRP) in 2003, with the financial and technical support of the World Bank to address the quality and access issues in the education sector. The reforms process was further reinvigorated in the wake of the Chief Minister’s School Reforms Roadmap in 2011 under which the financing for public schools was enhanced to improve the quality of public school teachers (PSSPER, 2013). Despite all the efforts made by the Government of Punjab, the primary net enrolment rates in government primary schools in the Punjab have not increased.

It is commonly argued that the poor state of enrolment rates is attributable to the lower provincial finances available for investment in the education sector (PSSPER, 2013). After the 7th NFC Award, it was hoped that access to basic education would increase, but literature suggests this does not happen automatically. It requires political will, sustained commitment and a sound strategy to achieve the desired outcomes. Strong political will helps in mobilizing

the community by creating awareness about the significance of education which helps with regard to enrolment and retention of children in a school. The absence of political will and strong commitment to enhance the condition of the public schools is often found as the main cause for the failure of public schools (Gazdar, 1999). Another study shows that the primary education sector could not improve due to political uncertainty, weak democracy and the culture of nepotism (Ashraf , 1983)

The issue of low enrolment and high dropout rates has been articulated in all provincial and national education policies, but the situation is still not satisfactory. Therefore, in this research, the performance of the Punjab government is investigated in the three critical areas indentified above keeping in view the enhanced availability of resources after the 7th NFC Award.

2. Relevance and justification of the study

The role of provincial governments in financing and delivery of education and health services has increased after the passage of the 18th constitutional amendment. Prior to it, both the federal and provincial governments shared these subjects. This study will look at the fiscal outlays of the Punjab government in the primary education sector after the increased resource mobilization through the 7th NFC Award. The allocation of a higher share of taxes in the divisible pool provided the expectation that social expenditure mainly on education would rise. Hence, it is intended to look into the major changes and effects of the 7th NFC award on allocations for improving social indicators specifically in the domain of public primary education as reflected in the independent/stand-alone primary schools.

3. Research Objectives

A large body of literature has laid emphasis on three important factors for increasing enrolments at primary level i.e. school infrastructure, availability of female teachers, and

trained teachers and these are studied for investigating the factors behind the poor gross and net enrolment rates in public primary schools of the Punjab.

The input and output side of the research exercise will be as follows:

Sub-Sector	Inputs	Outputs
Primary Education	<ul style="list-style-type: none"> • Primary School infrastructure • Female Teacher Strength • Trained teacher strength (especially of female teachers) 	<ul style="list-style-type: none"> • Gross/ Net Enrolment Rates in Independent Govt. Primary Schools

The objective of this investigation is to see the role and performance of these critical inputs keeping in view the overall outcome of a static primary enrolment rate.

4. Research Question

The research question that follows from the above discussion is: “To what degree were the additional resources flowing to the Punjab government in the wake of the 7th NFC Award put to use to enhance services in the primary education sector, specifically in impacting net primary enrolment rates in the public sector, and with what outcomes?”

Narrowing this down to specific areas of primary education, the question boils down to: “How have the three contributory subsectors of school infrastructure, availability of female teachers and the quantum of trained staff performed in the pre and post NFC periods keeping in view the continuing poor enrolment indicators in independent primary schools of the Punjab?”

5. Division of the study

The study consists of eighteen (18) sections which commences with an introduction in section one (1) where the significance of fiscal transfers and provincial autonomy in enhancing social sector indicators is discussed. The second (2) section provides the relevance and justification of the study followed by the research objectives and research question in sections three (3) and

four (4) of the study respectively. This fifth (5) section is followed by a review of the literature on the subject in the sixth (6) section. The seventh (7) section provides the theoretical framework of the study followed by the methodology and data sources with data limitations and its treatment in sections eight(8) and nine(9) respectively. The tenth (10) section discusses the 7th NFC Award 2009 and looks at some key aspects of the 7th NFC Award vis-à-vis strengthening the provincial resource position. In section eleven (11), transfers to Punjab in the pre and post 2010 period are discussed. Section twelve (12) discusses primary education indicators at the national level as well as in the Punjab province. The Punjab education budget and expenditure is analyzed in the thirteenth (13) section which further discusses the primary education budget and expenditure in its current and development form. The fourteenth (14) section highlights the position of school infrastructure in independent public primary schools of the Punjab followed by the quality factors in the fifteenth (15) section. The sixteenth (16) section discusses the quality of education in public schools of Punjab with the help of some important ratios. The seventeenth (17) section provides the analysis and key findings of the study followed by the conclusion and key lessons learned from the study in section eighteen (18).

6. Literature Review

Studies on fiscal decentralization generally view it favorably for the delivery of public services. For example, De Mello (2000 & 2011), and Uchimura and Suzuki (2009) empirically state that fiscal decentralization can be used as an instrument to strengthen social capital by bridging the gap between the central government and the people.

According to Putnam (2000) social capital has vital effects on our lives. Lower crime rates, better health and education indicators are amongst these quantifiable effects. The study explores the relationship through various studies by using multiple indications which helps to

ascertain that fiscal decentralization has a positive impact on public spending and helps in the creation of social capital.

Ghaus and Pasha (1994) use an econometric model for Pakistan to examine the budgetary consequences of increased transfers constituted through the 1991 NFC Award. They find relative increases in provincial expenditures on delivery of social services along with the crowding out of provincial revenues.

Sabir (2010) in his study has attempted a comparative analysis between the 7th NFC Award and the other three conclusive NFC awards announced in 1991, 1997 and 2006 to examine the increasing trend in provincial revenues. He states that the 7th NFC award has increased the share in the divisible pool taxes for provincial governments which has benefitted Punjab the most owing to its share of more than 50 percent in the divisible pool.

Sabir (2014) explains developments after the 7th NFC Award in improving fiscal transfers through vertical and horizontal flows in the post-2010 years, and finds that in percentage terms, the increase in transfers to provincial government ranges from 23.7 percent to 27.9 percent as a result of changes made in the distribution formula in the 7th NFC Award. In actual numbers it has increased by over Rs 160 billion, Rs 221 billion, Rs 247 billion and Rs 226 billion in 2010- 11, 2011-12, 2012-13 and 2013- 14 respectively. He further finds that in the case of the development expenditure of federal and provincial governments as a percentage of GDP, the former's development expenditure generally increased in the pre 7th NFC period i.e. 2006-07 to 2009-10 but dropped during the first year in the post 7th NFC period i.e. 2010-2011 to 2013-14, whereas the development expenditure of provincial governments increased on average except that of the Punjab which came down from 1.0 percent in the pre 7th NFC period to 0.7 percent of GDP in the post 7th NFC period.

Mustafa (2011) highlights that the provincial government witnessed large fiscal transfers in 2011 due to reduction in collection charges and an increased provincial share of divisible pool. According to him, despite the large transfers, little improvement in their expenditures on transferred functions such as education and health was witnessed.

On the other hand, Salman & Iqbal (2011) argue that increased transfer of resources and powers through the 7th NFC award to lower governments resulted in a more efficient level of delivery of public goods as well as promoted economic growth.

Padda, Hyder, & Akram, (2011) explore the centralization of the public finance system and hypothesize that provincial governments being closer to people are always facing demands from their voters to deliver quality services. However, owing to limitations in revenue collection, they fail to deliver the services adequately. Historical data from 1995-2009 show that provinces remained dependent on federal transfers which constrained their ability to deliver as they were incapacitated to generate required revenues from their own tax base. The study analyses the fiscal situation of each province employing a time series analysis and looks at total revenue and total spending of each federating unit which suggests that Punjab, being the higher beneficiary, received a higher share in the divisible pool taxes and its expenditure requirements were fulfilled both through its own sources and through transfers from the federal government.

Ghaus and Sabir (2015) assess the effects of NFC transfers on public spending on primary and secondary levels of education. They highlight that Goal 2 (Universal Primary Education) and Goal 3 (promoting gender equality and empowering women) of the Millennium Development Goals (MDGs) cannot be achieved by Pakistan as the education statistics indicate that the pace of progress made towards them is very slow. The transfers made to the provinces through the NFC Awards are not monitored to oversee the progress made at the provincial level. In addition, the allocated budgets to finance education have historically remained very low i.e.

about 2.4% of the GDP. Despite the increased transfers, provincial governments in Pakistan have failed to deliver in real terms as the design of transfers constituted even through the 7th NFC Award did not link provincial financial resources to fiscal needs to educate boys and girls. In short, fiscal transfers are still not linked with output indicators, mainly enrolment rates. While increased fiscal transfers to provinces cause a marginal increase in provincial expenditure on education, they do not get translated into higher growth in spending on education.

Awan and Riasat (2015) in their study of the D.G Khan district argue that female teachers are more helpful in resolving student issues and challenges in school. They are often found to be soft in nature, tolerant and avoid beating students. They further argue that availability of female teachers in primary schooling induces a higher inclination for a student to enroll and become literate. Their study states that the female student teacher ratio is rising more than the male student teacher ratio during the post 7th NFC Award years. Consequently, female enrolment has increased due to the parents' preference for women teachers who are considered more sincere and loyal to their profession compared to male teachers who usually get involved in local politics and show little interest in their jobs.

Farooq (2013) in his study explores the reasons for dropouts in primary schools and argues that it is the result of cumulative effect of different causes; this includes students themselves, the family, the community and the school. The common reasons for drop-outs reported by students and parents was the harsh attitude of the teachers, while teachers reported that lack of the physical facilities in schools and large class sizes were the possible factors behind the drop-outs. His study also proposes an inclusive schooling model for the prevention of drop-outs through better trained and motivated teachers in child responsive schools.

Hussain, Salfi and Khan (2011) highlight the grim scenario of enrolment and dropouts at the primary level in Pakistan. They identify the lack of physical facilities and teachers' problems

as the major reasons behind the students dropout rate at the basic level of education. Teachers' problems include high student-teacher ratio, improper residential facilities and long distances from home which serve as factors to lower the morale of female teachers to teach. Likewise, less facilities in schools also demotivate students and teachers to attend school which results in school dropouts. In addition, they argue that geographical factors are important for student retention. They find that long distances of schools from homes serve as an important factor in the dropout rate.

Tanveer and Bajwa (2015) constructed a school infrastructure quality index (SIQI) as a proxy to study enrolment among girls and boys at primary-middle school education. Their study comprises school enrolment of children aged between 5-14 years in 36 districts of the Punjab over the period 2007/08 and 2010/11. It looks at gender disparity in enrolments owing to differences in quality of school infrastructure in public schools. They argue that several theorists such as Branham (2004), have established a significant relation between the quality of school infrastructure and school enrolment. In highlighting the dismal state of school infrastructure in Punjab public schools, as revealed through a study conducted in 2008 by Learning and Education Achievements in Punjab Schools (LEAPS), they find that a one unit improvement in school infrastructure quality index increases female enrolment by 2.72% due to parental concerns whereas for males it increases only by 0.402%.

Saeed and Wain (2011) attempt a situational analysis of missing physical facilities by administering an inspection proforma as well as through an informal discussions with head teachers and senior teachers at the primary, elementary, secondary and higher secondary level of education in Punjab. They contend that availability of physical facilities such as drinking water, electricity, boundary walls and functional toilets in schools serves as an impetus for students to pursue learning in a congenial environment. They believe that availability of physical facilities have a significant impact on students' performance.

Saeed and Wain also refer to other researchers like Shami and Hussain (2005) and Bruce (2006) who characterise the physical learning environment as being the third teacher in schools. They also cite Bolorunduro (1998) who states that the availability of basic facilities in schools enable an encouraging environment for students and teachers for effective learning. Other studies by Naseer and Saeed (2007) as quoted by Saeed & Wain in their study have also found a strong relationship between space and students' learning, where it was pointed out that children in smaller classes performed well as compared to those in regular-sized classes.

The Saeed and Wain study presents a dismal picture with regard to the availability of physical infrastructure in Punjab schools where hardly 5% of the total schools upto higher secondary level opined satisfaction with the present infrastructure. Their survey shows that 33% of the schools had no functional toilets, clean drinking water and boundary walls which badly affected girls' participation in schools. Moreover, scarcity of teachers in public schools also restricted parents from enrolling their children. They highlight that physical facilities were found better in urban and female schools with more focus on high and higher secondary schools. The primary and elementary schools lack an adequate learning environment because no head teacher was designated to maintain and improve the school infrastructure.

Rafiq (1996) in his study attempts to analyze educational waste by collecting primary data through a school census conducted in 1994, 1995 and 1996 on three key aspects i.e. schools' internal efficiency, school capacity utilisation and student teacher ratio in the public schools of Punjab. The dropouts and repeaters were the quantitative estimates of waste in the flow of students while examining the internal efficiency of schools. It was found that more dropouts were witnessed in the elementary and secondary level of education except class I which means that students after having studied up to this level in schools, find themselves in a blind alley. Furthermore, he argues that schools aim to attain enrolments and produce literates in a society for which important inputs are school buildings, infrastructure and teachers that requires a

minimum expenditure from the provincial exchequer. The author further explains the third aspect of educational waste in Punjab schools as either high or low student-teacher ratio which was not appropriate because recruited teachers were not effectively spread across the schools.

Farooq (2016) carried out qualitative research for documenting the voices of 104 male students who dropped out only in the single district of Gujrat in the Punjab. It showed that most students dropped out in class 4 and class 5 due to school based problems i.e. non-availability of physical facilities like electricity and lack of competent teachers.

Khan and Yasmeeen (2011) in their paper highlight that long distances to primary schools in rural areas are a major problem that adversely affects enrolment, especially in the case of girls. Among other problems are the lack of basic facilities and harsh attitude of teachers in schools which prevents students to remain in a school.

Ahmad, Rauf, Rashid, Rehman and Salam (2013) in their paper analyze the constraints faced by the primary education system in Pakistan and consider the lack of professional development of teachers as the significant factor responsible for the poor performance of the education system. The lack of professional development of teachers can be attributed to limited training facilities available which ultimately impacts negatively on the academic performance of students and on the retention rate among enrolled students.

Saleem, Naseem, Ibrahim, Hussain and Azeem (2012) in their study suggest quality, professionalism, school environment and administration/management as possible determinants of the effectiveness of schools. Their findings suggest that while designing policy, these factors complement each other rather than act as substitutes. The findings also suggest that professionalism is a major contributory factor for school effectiveness which could be improved through decentralized pre-service/ in-service teacher training. Improving teachers' performance and introducing teacher training program requires skilled and qualified

trainers, latest technology for effective delivery and funds to carry out training programs. Evidence from Punjab suggests that teacher training programs faced administrative and financial problems, shortage of qualified teaching staff and scarcity of funds (Anjum, Iqbal and Rao, 2012).

Iqbal and Anwar (2008) find that female primary school teachers in Tehsil Sargodha of Punjab lack high aspiration and have chosen the occupation since there was no other choice available for them given their current education level. They also find that teachers' performance is indirectly related to distance of home from workplace as greater distance creates physical and mental fatigue which results in lower performance.

This factor is also emphasized in the case of female teachers from Bahawalpur district of Punjab by Nadeem, et. al., (2011). They highlight that urban female teachers attained a better mean score compared to rural female teachers. The contributory factors to this situation is the lack of residential and transposition facilities for female teachers in rural areas where they have to travel long distances to attend a school in a remote location wherein they also faced issues of security.

A policy brief of ASER (2011) quotes the study of Little (2001) which highlights the conditions under which multi-grade teaching becomes a practice if enrolment is low in schools which are widely scattered and are situated in low dense population areas. Multi-grade teaching also results from teacher absentism in school, and also where teacher strength is low. In addition to this, multi-grade teaching is carried out in such schools where there is an insufficient number of classrooms.

We see from the above discussion that the literature on the subject of elementary level enrolment and retention places great emphasis on the general school environment as a feature that is fundamental to attract parents to enroll their children in school. The attractiveness of the environment flows from the physical state of the institution as this creates the first favourable or unfavourable impression for parents. In the context of the Punjab, as in the rest of the country, the major composites of the physical environment, apart from the number and state of classrooms, are adequate provisioning of boundary walls, latrines, electrification and water supply.

While the above stated physical infrastructure is of great importance in making enrolment an attractive proposition for parents, it is ultimately the quality of teaching that influences them to retain their child in school. As the literature suggests, mild mannered teachers, as against harsh ones, provide a much more congenial environment for the early experience of small children in school. Hence, induction of female teachers for elementary schools is stressed as of key importance by literature. But the advantage of female teachers is minimised if they are not professionally qualified or adequately trained to teach children during their very early years.

It is a focus on the above factors that will form our framework to assess to what degree their adequacy or inadequacy has affected the current picture of an obstinately low net enrolment rate in the Punjab.

7. Theoretical Framework

The theoretical framework for this dissertation consists in testing certain theoretical propositions on the efficacy of incentives that literature suggests are key to promoting and sustaining enrolment at the elementary level of education. These incentives comprise (i) the school environment, specifically the infrastructure (ii) female teacher availability (iii)

increasing trained female teachers. The theoretical framework, therefore comprises both the hardware and software of primary education, with the hardware being the physical infrastructure and the software being teacher quality.

The outcomes of the Punjab government's performance are studied within this framework in the pre and the post NFC period to observe the trend and adequacy of incentive provisions over the years, specifically in the light of the increased resource availability of the Punjab govt and its enhanced responsibilities under the 18th Amendment to the constitution.

These areas become particularly important in the case of girl students keeping in view the generally conservative environment in the country where parents view with apprehension the prospect of male teachers teaching girls. Infrastructure, such as boundary walls and separate latrines for boys and girls, while generally an incentive factor, specifically encourage attendance by girl students.

Within the framework of this set of incentives, it is proposed to investigate the relative emphasis placed on each by the Punjab government, specifically in comparison to the pre- NFC years when there was a comparative inadequacy of resources, with the object of analysing deficiencies therein that could point to the static primary enrolment rates even after resources to the province were enhanced.

8. Methodology

A qualitative research approach has been employed with documentary research as the principal tool to investigate the research question.

The analysis will be carried out over the two sets of periods i.e. 1999-2009 and 2010-2015 (pre and post 7th NFC) incorporating (i) annual fiscal transfers to Punjab, (ii) annual outlays for primary education in the current and development budgets and the (iii) annual outputs

documented in respect of the specific areas identified under primary education. The purpose is to examine to what degree enhancement in fiscal transfers have been matched by enhancement in budget allocations for the selected activities in the education sector and the consequent pattern of outputs in these areas.

The analysis would include (i) looking at resources allocated to the education sector as a ratio of the total current and development budgets and (ii) examining allocations in primary education budget as a ratio of the total education budget followed by allocations in the specifically selected areas in education to the total annual Punjab education budgets. The purpose is to detect trends of resource dedication over time in the specific activities under focus and to see how this reflects on the data on targeted outputs.

9. Data Sources

- i. Punjab Annual Budget Statements from the period in between 1999-2015
- ii. Punjab Annual Development Programs during period from 1999-2015
- iii. Year wise reports of Pakistan Social and Living Standard Measurement Survey
- iv. Pakistan Education Statistics, yearly reports from 1999-2015
- v. Reports of Punjab Development Statistics
- vi. Punjab Budget Books; both current and development
- vii. Data extracted from District Budget Books of Punjab during 2004-2007
- viii. Annual publications of White Papers issued by the Finance Department, Government of Punjab
- ix. Reports of the National Finance Commission Award, 2009
- x. Publications of the Ministry of Finance, GoP
- xi. Report of Punjab Social Sector Public Expenditure Review, 2013
- xii. Data from the SAP system, Finance Department, GoP

- xiii. I-SAPs publication ‘Public Financing of Education in Pakistan, 2010-11 to 2014-15’
- xiv. Data obtained from the Punjab School Education Department
- xv. Data obtained from the Office of Accountant, General Punjab

9.1 Data Limitations and Treatment

Data on the public primary sector is published by level as well as by stage. Data by level refers only to data for stand-alone/independent public primary schools, including mosque schools, while data by stage takes in the public primary sector as a whole which includes enrolment in stand-alone primary schools as well as in the primary sections of middle, high and higher secondary schools.

There are data limitations in the break-up of the primary sector into its stand-alone component.

Firstly, net enrolment figures are only available by stage and not by level which means that no separate net enrolment figures are available for the stand-alone government primary schools in the Punjab.

Secondly, no data on the apportionment of the budget allocated or expenditure incurred separately by level is recorded.

However, absolute numbers of gross enrolment are available, both by level and by stage (Pl. see Table 8).

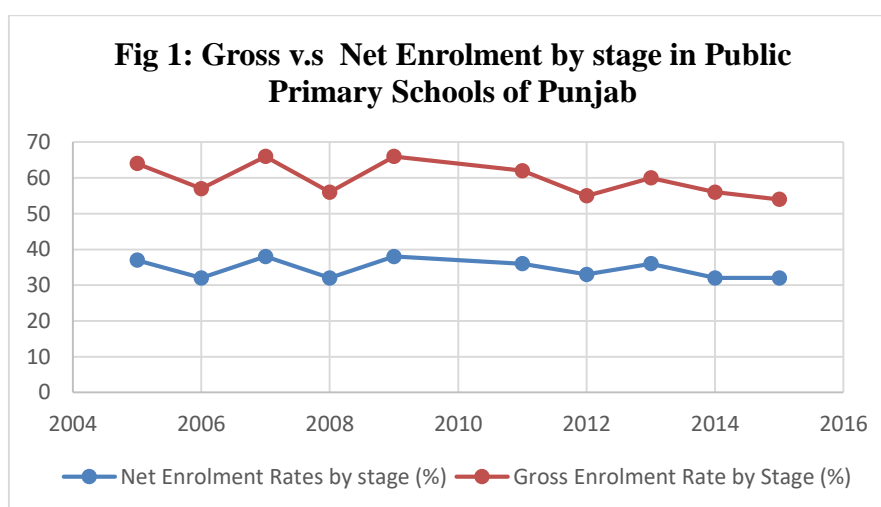
To overcome this difficulty, it was decided to explore the possibility of relying on the gross enrolment rate by examining how closely the gross enrolment rate mimics the net enrolment rate in the primary sector. This shows up in Table 1 and Figure 1 below.

**Table 1: Gross & Net Enrolment Rates in Punjab Govt. Primary Schools
(Age 5-9)**

Financial Year	Net Enrolment Rates by stage (%)	Gross Enrolment Rates by Stage (%)
2005	37	64
2006	32	57
2007	38	66
2008	32	56
2009	38	66
Post 7th NFC		
2011	36	62
2012	33	55
2013	36	60
2014	32	56
2015	32	54

Source: Net and Gross Enrolment Rates by stage are taken from the yearly reports of Pakistan Social & Living Standards Measurement Survey.

Notes: Katchi Class is excluded.



As the gross enrolment rate moves closely and in tandem with the net enrolment rate, and is, therefore, reflective of the trend of enrolment in the primary sector, it was decided to use the gross enrolment absolute figures where required in view of their availability.

To overcome the problem of using working figures for separate budget allocation to the stand alone primary schools, a correction has been applied to the consolidated primary education budget figures by separating this yearly resource allocation on the basis of weightage of

absolute gross enrolment by level (Table 8). Gross enrolment by level shows a diminishing percentage as more and more schools are merged as primary sections of secondary and higher secondary schools over the years and annual financing for stand-alone schools has been apportioned accordingly.¹

(ii) 'Teacher training' is generally defined as not only enhancement of qualification, but also the short training. This type of training is carried out at the time of teacher induction in a school, and teachers receive from time to time to learn and re-learn subject knowledge and teaching methods, and then after a few years of teaching in a school, and which is referred to as in-service teacher training being provided through short refresher courses. Due to the data unavailability on in-service teacher training, the data relied upon for teacher quality is the prescribed enhanced qualification acquired either before entry into service or during the period of service.

10. The 7th NFC Award

The 7th NFC Award was finalized in December 2009 and was considered a landmark development in Pakistan. Two major changes were witnessed at the time of this award where the share of federal government in the divisible pool was reduced by 10 percentage points and multiple indicator criteria was created which overrode the early criterion based solely on population. The Award significantly increased the share of provinces from 46.25 percent to 56 percent in 2010-2011 and then to 57.5 percent for the remaining years. The approach used in the seventh NFC is based on the premise that most of the development work needs to be initiated at the provincial level to ensure timely delivery of services at the grass roots level. It

• ¹ For example, in 2015, the weightage of gross school enrolment by level stood at 56% of the gross enrolment by stage in the primary education sector. Accordingly, the budget allocation for the stand alone schools (i.e. by level) has been taken as 56% of the total primary school sector (by stage) allocation of Rs 108.6 billion which comes to Rs 60.8 billion for the stand alone schools in 2015 (Table 8).

proposed that vertical programs of the federal government yielding no desired results should be reduced and more resources should be transferred to the provincial governments. Furthermore, it slashed down the share of population from 100 to 82 percent which affected Punjab's share. However, Punjab remained the major beneficiary of resource distribution based on a per capita basis. The award addressed the demands of the less developed provinces by incorporating other important variables as well and introduced a new formula for revenue sharing which was unanimously agreed to by all the provincial governments.

11. Transfers to the Punjab

In this section the case of Punjab is discussed in relation to increased resource transfers in the wake of the 7th NFC Award. Table 2 tabulates the major source of fiscal transfers i.e. divisible pool taxes and total federal transfers to the Punjab in the Pre & Post 7th NFC Award periods i.e. 1999-2009 and 2010-2015 respectively.

Table 2: Transfers to Punjab in the Pre & Post 7th NFC Award Period

(Rs. In Millions)

Financial Year	Divisible Pool Taxes		Total Federal Transfers
	Budgeted	Revised	Budgeted
1999	68,475.366	62,323.561	70,839.235
2000	70,872.230	71,018.976	72,618.658
2001	86,771.294	81,135.684	94,098.546
2002	91,728.458	N/A	99,977.421
2003	92,162.994	90,900.615	107,985.11
2004	101,166.475	101,232.560	119,001.365
2005	115,224.617	119,250.962	144,222.866
2006	131,117.449	140,307.073	165,513.470
2007	180,240.820	184,679.000	201,409.781
2008	226,934.715	220,150.628	259,010.611
2009	284,638.476	268,585.555	312,920.192
Total	1,449,332.894	1,339,584.614	1,647,597.256
2010	321,022.410	323,057.143	336,770.367
2011	435,503.995	419,474.874	444,607.238
2012	531,528.327	533,830.744	541,458.658
2013	650,735.911	568,769.226	659,468.003
2014	702,120.646	650,390.499	716,543.244
2015	804,195.607	746,029.175	823,802.589
Total	3,445,106.896	3,241,551.661	3,522,650.099

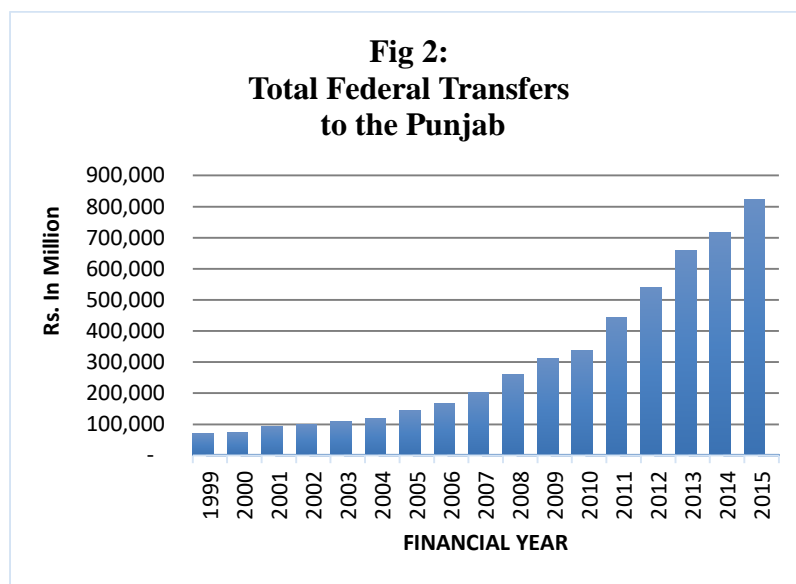
Source: Budgeted and Revised estimates of divisible pool taxes along with the total federal transfers during 1999-2015 are taken from the yearly annual white papers issued by the Finance Department, Govt. of the Punjab.

Notes:

(i) Budgeted and Revised estimates are taken for divisible pool taxes only as they account for the major source of revenue. The other sources contain small amounts of transfers. Revised estimates for total federal transfers are not taken because data is missing for other types of transfers.

(ii) N/A implies not available.

Figure 2 below exhibits the overall increasing trend in total federal fiscal transfers to the Punjab which have increased significantly from Rs. 70, 839.235 million in 1999 to Rs. 312,920.192 million in 2009 during the pre-7th NFC period. However, in the post 7th NFC period, they increased from Rs. 336,770.367 million in 2009/10 to Rs. 823,802.589 million in 2014/15 highlighting the fact that the 7th NFC Award substantially improved the total fiscal transfers to Punjab.



The 7th NFC Award increased the provincial revenues of the Punjab government phenomenally during the 5 year period 2011-2015 compared to previous 5 year period 2006-2010. Table 3 tabulates the total fiscal transfers to the Punjab during these two time periods in order to compare the flow of resources between these two financial periods.

Table 3: Transfers to Punjab during 2006/10 to 2011-15

Financial Year	Divisible Pool Taxes		Total Federal Transfers
	Budgeted	Revised	Budgeted
2006	131,117.449	140,307.073	165,513.470
2007	180,240.820	184,679.000	201,409.781
2008	226,934.715	220,150.628	259,010.611
2009	284,638.476	268,585.555	312,920.192
2010	321,022.410	323,057.143	336,770.367
Total	1,143,953.87	1,136,779.399	1,275,624.421
2011	435,503.995	419,474.874	444,607.238
2012	531,528.327	533,830.744	541,458.658
2013	650,735.911	568,769.226	659,468.003
2014	702,120.646	650,390.499	716,543.244
2015	804,195.607	746,029.175	823,802.589
Total	3,124,084.486	2,918,494.518	3,185,879.732

Source: Data is taken from the Table 2 for comparison purposes.

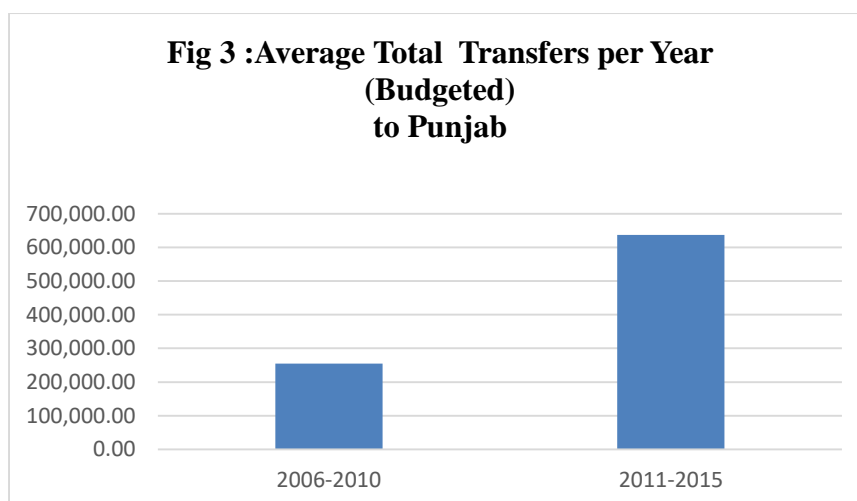
Table 4: Average Transfers per year to Punjab in 2006-10 & 2011-2015.

(Rs. In Millions)

Period	Divisible Pool Taxes		Total Federal Transfers
	Budgeted	Revised	Budgeted
2006-10	228,790.744	227,355.879	255,124.884
2011-15.	624,816.897	583,698.903	637,175.946
% change	173%	157%	150%

Note: In the 2006-2010 period, budgeted estimates and revised estimates are divided by 5. In the 2011-2015 period, both budgeted and revised estimates are also divided by 5.

Table 4 shows the average transfers to Punjab during the pre and post 7th NFC period where a sizeable increase in both budgeted and revised estimates of divisible pool taxes is found in the post 7th NFC period with a percentage change of 173 percent and 157 percent respectively. Also, the percentage change of 150 percent in total federal transfers shows a substantial increase in the post 7th NFC period compared to the pre 7th NFC period. This substantial increase in fiscal transfers due to an increased divisible pool led to expectations that the Government of Punjab would devote more resources to the education sector which was viewed as previously under resourced (PSSPER, 2013). The increased average transfers in total per year to Punjab during pre and the post 2010 period is exhibited in Figure 3 below:



The next part looks at one of the basic indicators for primary education i.e. Net Enrolment Rates in public primary schools.

12. Primary Education Indicators

Table 5 presents the Net Enrolment Rates by stage in Government Primary Schools of Pakistan by location and gender in the pre and post 7th NFC Award Period. It shows a net enrolment position hovering around the thirties in percentage terms. There is a clear stickiness in the trend even in the post 7th NFC Award period where a similar fluctuating pattern as earlier observed is evident.

**Table 5: National Net Enrolment Rates by Stage in Govt. Primary Schools
(Age 5-9) By Gender & Location**

(%)

Financial Year	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2005	32	31	32	42	34	39	40	33	37
2006	25	24	24	39	31	35	35	29	32
2007	28	29	28	45	36	40	40	34	37
2008	25	29	27	39	34	37	35	32	34
2009	29	31	30	46	38	42	42	36	39
Post 7th NFC Period									
2010	N/A								
2011	28	28	28	44	37	41	40	34	37
2012	20	23	22	39	36	38	34	32	33

2013	26	29	28	43	36	40	39	34	37
2014	24	25	24	39	34	36	34	31	33
2015	25	27	26	41	33	37	36	32	34

Source: Figures are extracted from the Pakistan Social & Living Standards Measurement Survey during the period of 2005-2015.

Notes:

- (i) Table 5 is from the year of 2005 because PSLSM survey starts in 2005.
- (ii) Katchi class is excluded.

Table 5 also shows a strong urban-rural disparity in the net enrolment rate with the rural rate being consistently higher than the urban rate. An explanation for this, as will be discussed later, is the higher shift of students to private schools in the urban areas in view of higher availability of private schooling in towns and cities. From the gender point of view, both male and female net primary enrolments remains fluctuating during the pre and post 7th NFC period.

Table 6: Net Enrolment Rates by Stage in Punjab Govt. Primary Schools (Age 5-9) By Gender & Location

(%)

Financial Year	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2005	28	29	29	43	38	40	39	36	37
2006	22	22	22	37	33	35	33	30	32
2007	25	27	26	45	41	43	39	37	38
2008	22	24	23	35	35	35	31	32	32
2009	26	29	27	45	40	42	40	37	38
Post 7th NFC Period									
2010	N/A								
2011	26	27	26	41	39	40	37	36	36
2012	18	22	20	38	38	38	33	34	33
2013	24	31	27	42	38	40	37	36	36
2014	22	27	24	37	38	38	33	35	34
2015	22	26	24	37	35	36	33	32	32

Source: Figures are extracted from the Pakistan Social & Living Standards Measurement survey during the period of 2005-2015.

Notes:

- (i) Table 6 is from the year of 2005 because PSLSM survey starts in 2005.
- (ii) Katchi class is excluded.

Table 6 presents the Net Enrolment Rates in Government Primary Schools of Punjab by location and gender in the pre and the post 7th NFC Award Period. It shows a similar fluctuating

net enrolment position as in the case of national indicators. There is no evidence of the rate on a consistent upward trajectory and there is a downward trend in the post 7th NFC Award period where it decreased from 36% in 2011 to 32% in 2015 as depicted in Figure 4, despite the flow of increased transfers. This calls for an inquiry into why there is no improvement in this basic education indicator even when there were large resources given to the Province of the Punjab.

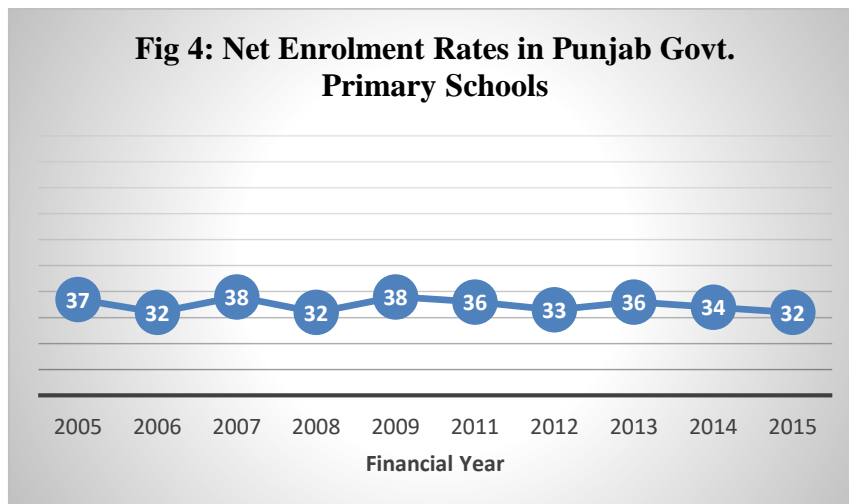


Table 6 also establishes a strong urban-rural disparity in the net enrolment rate with the rural rate being consistently higher than the urban rate. An explanation for this phenomenon lies in (i) the absorption of enrolment by the much higher number of private schools in the urban areas as against public schools (PSSPER, 2013), as well as (ii) the higher numbers of qualified female teachers in the rural primary schools. Data on these aspects will be presented later.

Looking at the data of gross enrolment by stage, which has been extracted from Pakistan Education Statistics (Table 7), it increased during the pre-7th NFC period from 5.4 million in 1999 to 8.2 million in 2007 showing a rise. However in the years onward it started to decline from 8.1 million in 2008 to 7.3 million in 2015 during the post 7th NFC period as illustrated in Figure 5 below, despite the increased transfers to Punjab through the 7th NFC Award. The increased resources in post 2010 period enabled the government of Punjab to initiate certain reform programmes such as up-gradation of primary schools and the CM School Reforms

Roadmap in 2011 for development of the primary education sector. The roadmap intended that every child enrolls in school, every child is retained in school and every child learns and makes progress. It is significant to note that despite all the programs devised by the Government of Punjab, the primary enrolment in public primary schools stood at a stagnant level during the final of the Award.

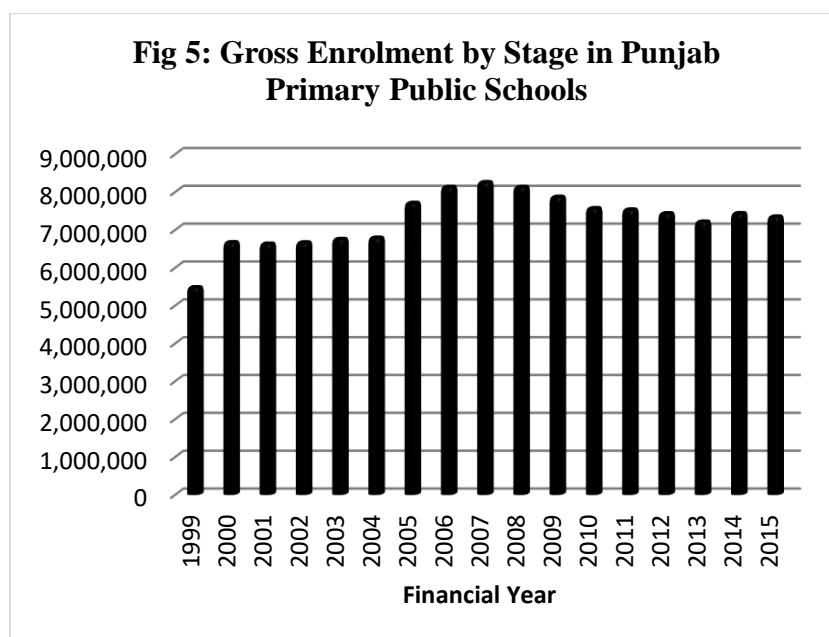
Table 7: Gross Enrolment by Stage in Punjab Primary Public Schools by Location & Gender

(Absolute Numbers)
(Punjab)

FY	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	477,514	410,451	887,965	2,963,387	1,618,733	4,582,120	3,440,901	2,029,184	5,470,085
2000	597,830	644,406	1,242,236	3,371,104	2,046,450	5,417,554	3,968,934	2,690,856	6,659,790
2001	562,265	635,449	1,197,714	3,258,477	2,166,323	5,424,800	3,820,742	2,801,772	6,622,514
2002	605,731	632,495	1,238,226	3,165,663	2,252,418	5,418,081	3,771,394	2,884,913	6,656,307
2003	613,596	641,323	1,254,919	3,208,806	2,283,951	5,490,757	3,820,402	2,925,274	6,745,676
2004	589,889	666,837	1,256,726	3,222,430	2,302,243	5,524,673	3,812,319	2,969,080	6,781,339
2005	657,044	708,822	1,365,866	3,551,325	2,785,611	6,336,936	4,208,369	3,494,433	7,700,802
2006	737,665	780,212	1,517,877	3,869,719	2,775,575	6,645,294	4,377,392	3,745,787	8,123,179
2007	724,470	743,332	1,467,802	3,694,153	3,085,149	6,779,302	4,418,623	3,828,481	8,247,104
2008	646,837	702,014	1,348,851	3,704,053	3,086,833	6,772,886	4,350,890	3,770,847	8,121,737
2009	618,056	689,520	1,307,576	3,574,083	2,979,035	6,553,118	4,192,139	3,668,555	7,860,694
Post 7th NFC Period									
2010	612,022	676,390	1,288,412	3,428,312	2,843,165	6,271,477	4,040,334	3,519,555	7,559,889
2011	593,084	666,503	1,259,587	3,430,889	2,833,428	6,264,317	4,023,973	3,499,931	7,523,904
2012	617,294	697,949	1,315,243	3,314,282	2,794,899	6,109,181	3,931,576	3,492,848	7,424,424
2013	604,611	673,075	1,277,736	3,196,242	2,730,233	5,926,465	3,800,903	3,403,298	7,204,201
2014	617,025	681,976	1,299,001	3,275,892	2,851,347	6,127,239	3,892,917	3,533,323	7,426,240
2015	623,035	701,010	1,324,045	3,191,600	2,822,826	6,014,426	3,814,635	3,523,836	7,338,471

Source: Data is extracted from the yearly reports of Pakistan Education Statistics.

Note: Pre-Primary which includes katchi class and un-admitted class is included.



This study specifically deals with the stand-alone primary schools in Punjab, therefore, it is essential to look into percentage share of stand-alone primary school enrolment in total primary school enrolment, therefore, Table 8 tabulates the gross enrolment by level and by stage respectively, instead of net enrolment rates by level, which is not available in any publications.

Table 8: Share of Gross Enrolment in stand-alone primary schools

FY	Gross Enrolment By Stage	Gross Enrolment By Level	Gross Enrolment share of stand-alone schools %
1999	5,470,085	3,918,616	72
2000	6,659,700	4,558,405	68
2001	6,622,514	4,522,002	68
2002	6,656,307	4,490,353	67
2003	6,745,676	4,550,550	67
2004	6,781,399	4,609,538	68
2005	7,702,802	5,246,847	68
2006	8,123,179	5,505,100	68
2007	8,247,104	5,585,037	68
2008	8,121,737	5,503,017	68
2009	7,860,694	5,270,046	67

Post 7th NFC Period			
2010	7,559,889	4,982,979	66
2011	7,523,904	4,849,794	64
2012	7,424,424	4,582,023	62
2013	7,204,201	4,213,700	58
2014	7,426,240	4,254,047	57
2015	7,338,471	4,118,980	56

Source: Proportion of Gross Enrolment in stand-alone primary schools is calculated as gross enrolment by level is divided by gross enrolment by stage from the yearly reports of Pakistan Education Statistics.

Notes:

- i. Enrolment of Mosque Schools included.
- ii. Pre-Primary which includes Katchi and un-admitted is included in Table 8 because in 2009 onwards, reports of Pakistan Education Statistics did not provide bifurcation for primary classes separately in case of by level enrolment.

As mentioned earlier, the critical areas identified in the literature that promote primary education include the school infrastructure, availability of female teachers and teacher skills through training. A review of literature shows a strong linkage between provision of missing facilities, availability of female teachers and the probability of child enrolment in schools. However, before going into an examination of these aspects, we will look at the resource allocations to the education sector by the Punjab government as a ratio of the total current and development budget and, within that, we will look at allocations to the primary education sector as a ratio of the total education budget.

13. The Education Budget

13.1 Education Budget as a Percentage of Total Provincial Budget

This section looks at the budgetary allocations in the education sector as a ratio of the total Punjab current and development budget in the pre and post 7th NFC Award period. This is shown in the Table 9 below with further detail on primary education allocations as a percentage of the total education budget as well stand-alone school allocations as ratio of the education

budget in order to determine the thrust of the Punjab government towards improving poor education indicators in the province.

Table 9: Ratios in the Education Sector Budgets

(Rs. In Millions)

	Total Provincial Budget (Gross)	Total Education Budget	Total Primary Education Budget	Primary Stand-alone Budget	Foreign Funding	Education Budget as a ratio of the Total Provincial Budget	Primary Education Budget as a ratio of the Total Education Budget	Primary Stand-alone Budget as a ratio of Total Education Budget	Foreign Funding as a ratio of the Primary Education Budget
FY 1999									
Current	87,422.891	29,900.000	19,599.587	14,111.702	Nil	34%	66%	47%	n/a
Dev	17,743.000	2,570.000	2,238.801	1,611.936	966.215	14%	87%	72%	43%
Total	105,165.891	32,470.000	21,838.388	15,723.639	966.215	31%	67%	48%	4%
FY 2000									
Current	90,940.834	29,900.000	19,811.873	13,472.073	Nil	33%	66%	45%	n/a
Dev	15,935.500	1,735.000	1,132.694	770.231	744.004	11%	65%	44%	66%
Total	106,876.33	31,635.000	20,944.567	14,242.305	744.004	30%	66%	45%	4%
FY 2001									
Current	107,153.714	30,100.000	19,703.069	13,398.086	Nil	28%	65%	45%	n/a
Dev	21,220.000	1,746.000	1,144.603	778.330	717.625	8%	66%	45%	63%
Total	128,373.714	31,846.000	20,847.672	14,176.416	717.625	25%	65%	45%	3%
FY 2002									
Current	108,140.235	30,299.000	17,022.874	11,405.325	Nil	28%	56%	38%	n/a
Dev	20,130.000	1,382.000	921.233	617.226	525.000	7%	67%	45%	57%
Total	128,270.235	31,681.000	17,944.107	12,022.551	525.000	25%	57%	38%	3%
FY 2003									
Current	117,100.205	31,165.000	18,509.365	12,401.274	Nil	27%	59%	40%	n/a
Dev	21,593.000	2,455.000	1,051.530	704.525	585.162	11%	43%	29%	56%
Total	138,693.205	33,620.000	19,560.895	13,105.799	585.162	24%	58%	39%	3%
FY 2004									
Current	129,195.489	37,145.000	21,599.614	14,687.737	Nil	29%	58%	40%	n/a
Dev	31,357.000	6,976.000	2,173.049	1,477.673	399.285	22%	31%	21%	18%
Total	160,552.489	44,121.000	23,772.663	16,165.410	399.285	27%	54%	37%	2%
FY 2005									
Current	141,884.425	42,495.000	26,335.671	17,908.256	Nil	30%	62%	42%	n/a
Dev	44,456.213	9,630.000	4,324.364	2,940.567	260.648	22%	45%	31%	6%
Total	186,340.638	52,125.000	30,660.035	20,848.823	260.648	28%	59%	40%	1%
FY 2006									
Current	157,528.032	48,704.000	26,210.421	17,823.086	Nil	31%	54%	37%	n/a
Dev	55,535.440	9,600.000	3,845.680	2,615.062	270.322	17%	40%	27%	7%
Total	213,063.472	58,304.000	30,056.101	20,438.148	270.322	27%	52%	35%	1%
FY 2007									
Current	191,378.165	63,500.000	30,983.977	21,038.504	Nil	33%	49%	33%	n/a
Dev	117,124.520	12,080.000	1,681.593	1,143.483	Nil	10%	14%	9%	n/a
Total	308,502.685	75,580.000	32,665.570	22,212.587	Nil	24%	43%	29%	n/a
FY 2008									
Current	243,487.287	109,247.000	43,599.220	29,647.469	Nil	45%	40%	27%	n/a
Dev	166,833.664	21,755.000	1,226.753	834.192	Nil	13%	6%	4%	n/a
Total	410,320.951	131,002.000	44,825.973	30,481.661	Nil	32%	34%	23%	n/a
FY 2009									
Current	256,948.656	115,455.000	47,088.816	31,549.506	Nil	45%	41%	27%	n/a

Dev	165,337.196	29,351.000	1,625.390	1,089.011	Nil	18%	6%	4%	n/a
Total	422,285.852	144,806.000	48,714.206	32,638.518	Nil	34%	34%	23%	n/a
Post 7th NFC Period									
FY 2010									
Current	314,873.085	129,767.000	60,589.688	39,989.194	Nil	41%	47%	31%	n/a
Dev	188,248.186	25,545.000	3,811.756	2,515.758	Nil	14%	15%	10%	n/a
Total	503,121.271	155,312.000	64,401.444	42,504.953	Nil	31%	41%	27%	n/a
FY 2011									
Current	386,786.957	136,427.110	71,125.290	45,520.185	Nil	35%	52%	33%	n/a
Dev	207,546.739	18,727.560	1,788.230	1,144.467	Nil	9%	10%	6%	n/a
Total	594,333.696	155,154.670	72,913.520	46,664.652	Nil	26%	47%	30%	n/a
FY 2012									
Current	434,749.818	163,450.830	82,627.620	51,229.124	Nil	38%	51%	31%	n/a
Dev	220,000.000	28,527.480	1,284.510	796.396	Nil	13%	5%	3%	n/a
Total	654,749.818	191,978.310	83,912.130	52,025.520	Nil	29%	44%	27%	n/a
FY 2013									
Current	532,859.871	185,548.690	93,972.530	54,504.067	Nil	35%	51%	29%	n/a
Dev	250,000.000	35,026.940	1,023.350	593.543	Nil	14%	3%	2%	n/a
Total	782,859.871	220,575.630	94,995.880	55,097.610	Nil	28%	43%	25%	n/a
FY 2014									
Current	607,569.311	200,110.310	97,227.230	55,419.521	Nil	33%	49%	28%	n/a
Dev	290,000.000	32,456.030	1,735.250	989.092	Nil	11%	5%	3%	n/a
Total	897,569.311	232,566.340	98,962.480	56,408.613	Nil	26%	43%	24%	n/a
FY 2015									
Current	699,951.083	221,039.320	106,088.330	59,409.464	Nil	32%	48%	27%	n/a
Dev	345,000.000	38,589.720	2,490.670	1,394.775	Nil	11%	6%	4%	n/a
Total	1,044,951.083	259,629.040	108,579.000	60,804.24	Nil	25%	42%	23%	n/a

Sources:

(i) Estimates for the Total Provincial Budget (Gross) including Current & Development during 1999-2015 are taken from the year wise Annual Budget Statements.

(ii) Estimates for the Total Education Budget (Current & Development) including districts during 1999-2010 are taken from the Finance Department records, Government of Punjab. Estimates during 2011-2015 (Current & Development) including districts are taken from the I-SAPs publication 'Public Financing of Education in Pakistan, 2010-11 to 2014-15'.

(iii) Estimates for the Total Primary Education Current Budget including districts during 1999-2010 are taken from the various sources for different years: For 1999- 2002, data is extracted from the Punjab budget books "Estimates of Charged Expenditure and Demands for Grants (Current Expenditure), Grant No. 15". For 2002-03, data is extracted from the ABS. For 2004-2007, after the formation of local governments, data in the Punjab budget books became a single line budget as lump allocation for districts. Therefore, this data has been extracted from the district budget books. For 2008-2010, data is extracted from the SAP system, Accountant General, Government of Punjab. For 2010-2015, data including districts budgets are taken from the I-SAPs publication 'Public Financing of Education in Pakistan, 2010-11 to 2014-15'.

(iv) Estimates for the Total Primary Education Development Budget including districts during 1999-2010 are the authors own calculation using the various sources for different years: For 1999- 2001, the development budget is calculated using the Annual Development Plans where both the revenue and capital component of each development scheme for the primary education is extracted in accordance with the chart of accounts under grant no. PC22036 and grant no. PC12042 respectively in the Punjab Budget Books "Estimates of Charged Expenditure and Demands for Grants (Development). For 2002-2007, after the formation of local governments, single line budget as lump allocation for districts are provided, therefore, data has been extracted from the district budget books. However, even after the formation of local governments, allocation for districts were made also in the ADP which is a provincial level document. Therefore, the total development budget for districts has been worked out by

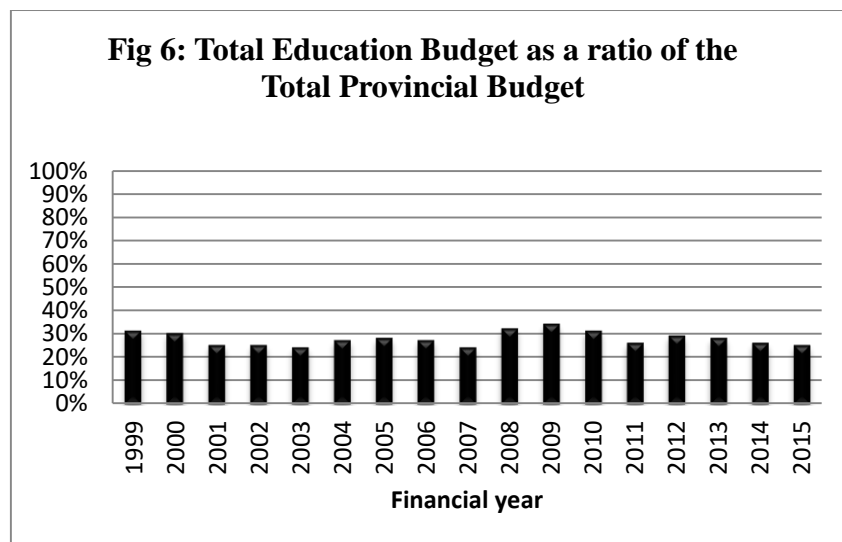
including the district Annual Development Plans with the same methodology as explained earlier. For 2008-2010, district budgets are extracted from the SAP system, Accountant General, Government of Punjab on a similar basis.

Estimates including districts during 2011-2015 are taken from the I-SAPs publication ‘Public Financing of Education in Pakistan, 2010-11 to 2014-15’.

(v) Budgeted Estimates for Foreign Aided Projects (Development) during 1999-2015 are extracted using the ADPs.

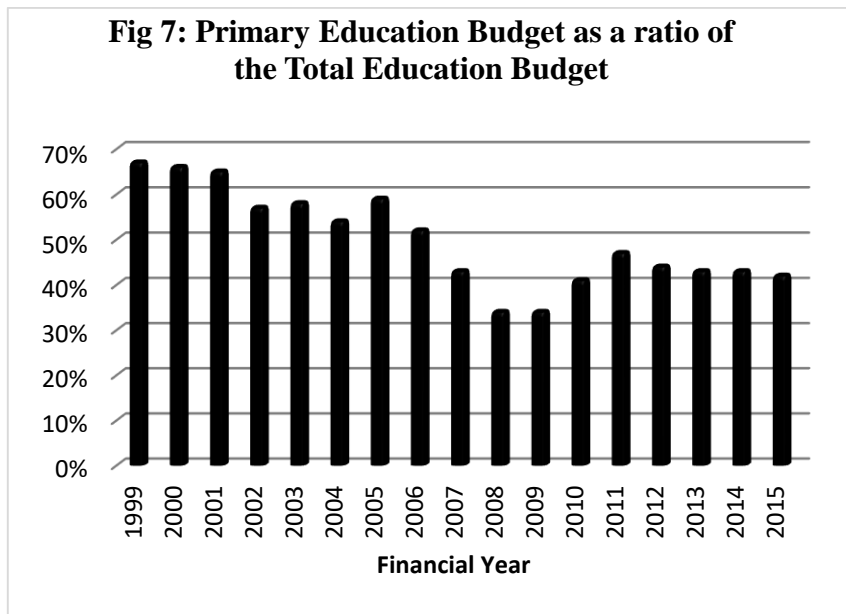
Note: Primary stand-alone budget is calculated on the grounds of share of gross enrolment in stand-alone primary schools as shown in Table 8.

It is evident from Table 9 that the share of education in the total provincial budget decreased from 31% in 1999 to 24% in 2007 and then increased to 34% in 2009 before the launch of the 7th NFC Award. However, after the increased transfers in the post 7th NFC period, the education budget decreased from 31% of the total budget in 2011 to 25% in 2015. The Punjab government increased the education budget in absolute numbers during the last three years of the 7th NFC Award, but despite this increase in the education budget, its share in the total provincial budget has decreased over the last three years (I-SAPS, 2011-2015). The trend is depicted in Figure 6 below:

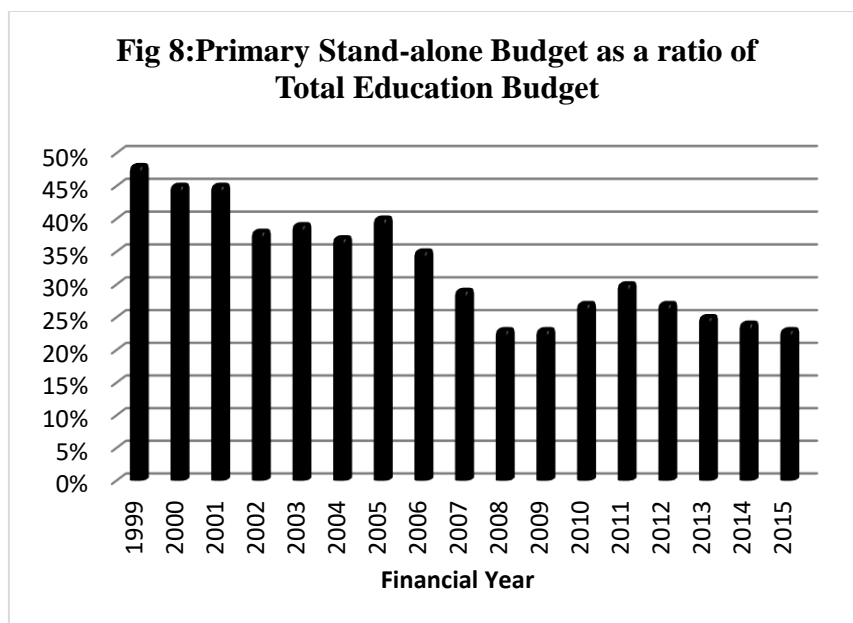


Furthermore, it is notable that within the total education budget, the primary education component also decreased consistently from 67% in 1999 to 34% in 2009 which then increased to 47% in 2011 during initial years of the 7th NFC award, but again witnessed a drop in the next

year and has consistently remained stagnant over the years and stood at 42% in 2015 as illustrated in Figure 7 below.

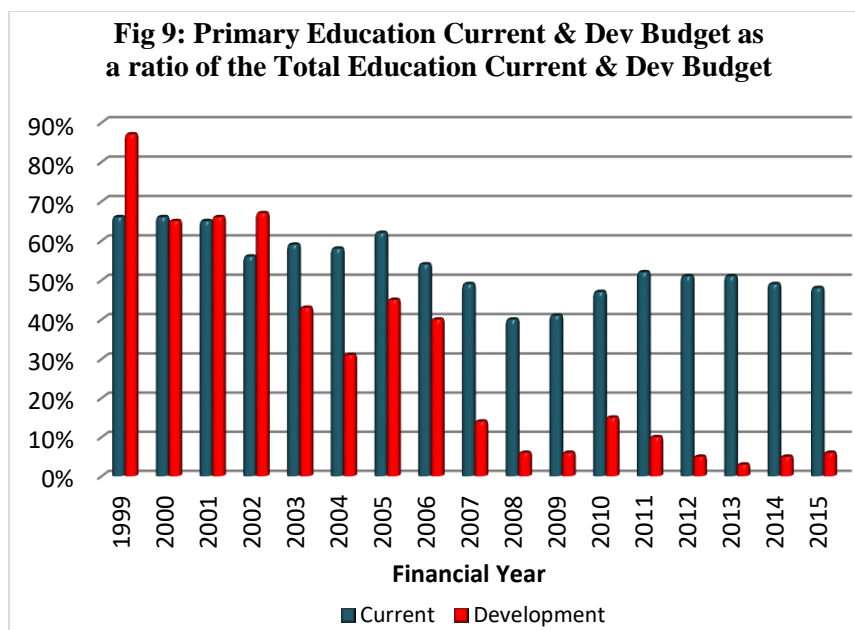


It is significant to note here that this share of primary education budget is by stage (i.e. includes the entire primary sector). However, a similar trend is witnessed in the case of stand-alone primary schools. Table 9 shows the budgetary allocations for stand-alone primary budget as a ratio of total education budget during the two time periods 1999-2009 and 2010-2015. It shows a declining trend from 48 percent in 1999 to 23 percent in 2009 which then increased in initial years of the 7th NFC award, but again witnessed a drop in 2012 and has consistently remained stagnant over the years and stood at 23% again in 2015. This trend is depicted in Figure 8 below:



It is recognised that this gradual drop in the share of resource allocation for independent primary schools corresponds to a gradual reduction of the share of gross enrolment in such schools within the overall gross enrolment in the public primary sector of education. However, while this is indeed a factor in the declining share of budget allocations for independent schools, what still needs to be explored is whether the share of annual outlays available over the years was sufficient to cater to adequate progress in the critical areas identified, both physical and qualitative. This question of adequacy is explored in the light of the outcomes in these areas against the share of allocations for independent/stand-alone schools.

Figure 9 below exhibits the bifurcation of the primary education further into current and development budgets where the latter recorded its highest level at 87 percent of the total education development budget in 1999 and then came down to 6 percent in 2009 showing a steep fall over 11 years.

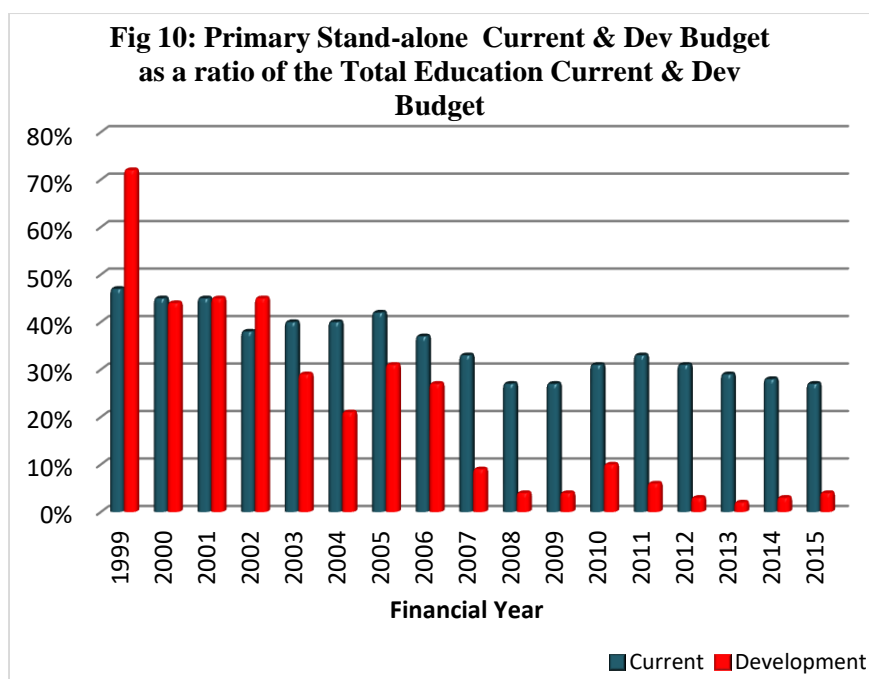


The declining trend in the development budget of primary education between 1999 and 2009 is explained by the fact that in 1998-1999 considerable resources were allocated for developing infrastructure of shelter-less primary schools by constructing their buildings and by the reconstruction of dangerous buildings. In addition to that, substantial resources were also allocated for the construction of boundary walls, provision of furniture, up-gradation of primary schools into middle level schools and conversion of mosque schools into regular primary schools. It is important to note that during the year 1998-1999 foreign funding in primary education also remained high which comprised 43 percent of the primary education development budget (Table 9). These funds were granted for the training of teachers, establishment of model primary schools and promotion of primary education among girls in rural areas. An overview of the primary education development projects funded by the foreign donors reveals that funds were provided for the establishment of Community Model Schools, and Teacher Resource Centers for in-service teacher training through short courses and for the development of Quality Improvement Cells.

Hence, in 1999 the very high share is attributed to the participatory role of foreign donors in primary education. In the following years, the foreign funding started to increase and consumed a higher share in the primary education development budget till 2001. Later, its share in primary education development budget started to decline. Later, the share of foreign funding in the primary education development budget disappeared altogether. Resultantly, the share of development budget fell and reached its lowest point at 6 percent in 2009. Coupled with this, the government policy of rationalization, in which smaller and less-well-resourced schools were merged into better-resourced schools, is also a factor that created a stark decline in spending on education as the merged schools shared the existing infrastructure of the latter.

Government rationalization policy remained a trend in 1998, 2005, 2008, 2010, and more recently in 2012². The objective behind school consolidation is to utilize the existing infrastructure through merging primary schools into middle schools or with the primary portion of high schools instead of investing in new infrastructure. Similarly in order to improve the student teacher ratio, surplus teachers were moved to schools which had shortages. It is evident from the trend towards rationalization that instead of allocating more resources for the primary education development budget, the Punjab Government, through rationalization, reduced the allocations which led consistently to a huge decrease in primary education development budget during the pre-7th NFC period. This study pertains to stand-alone primary schools in Punjab and Table 9 also tabulates the development budget for stand-alone primary schools, which shows a similar declining trend, which decreased from 72 percent in 1999 to 4 percent of total education development budget in 2009. This trend is shown in Figure 10 below:

² vide Notification No: 1998 Letter No:PA/ASG/Misc/98)-1998, Notification: SO(S-iv) 2-16/2003, Dated 19th Sep.2005, Notification : SO (iii) 2-13/07 Dated 23.06.2008, Letter No. SO (SE-III) 2-13/2007, Government of the Punjab, School Education Department, Dated 26th February, 2010, Letter NO. PS/SSE/MISC/2010/02, Government of the Punjab, SED Dated 14th February, 2009 and Notification No. SO (SE-III) 2-13/2007 Dated 31st May, 2012 respectively.



Another reason behind the decline in total primary education development budget (Figure 9 & Figure 10) is that the government wanted to focus more on higher levels of education i.e. secondary education which received larger budgetary allocations under the programme titled ‘Punjab Education Sector Reforms Programme (PESRP)’ in 2007 to improve infrastructure in colleges. This programme accounted for a higher share in the total education development budget, resulting in a compromise in allocations on the primary education development budget during the pre-7th NFC period.

However, in the post 7th NFC period (Figure 9) the situation improved in 2010 where the total primary education development budget increased to 15% of the total education development budget due to massive allocation towards the up gradation of 600 primary schools to middle level, but which again decreased to 10% in 2011, and started to decrease gradually and reached the figure of 6 percent of the development budget in 2015 in the final year of the Award. A significant factor for this decrease is that the secondary level of education was given a major share in the total education development budget in the post 7th NFC years, which does not align with the Article 25-A of the constitution in relation with the commitment of achieving

Universal Primary Education (UPE) by 2015 (I-SAPs, 2011- 2015). The relatively higher share in the first year of the 7th NFC Award is attributable to the Chief Minister's School Reforms Roadmap in 2011, which was launched to improve the quality of public school teachers through provision of teachers' guides and accelerating the provision of school facilities to ensure enrolment and retention of all children in school-going age in schools (PSSPER, 2013).

A similar declining trend is seen (Figure 10) in the development budget of stand-alone primary schools in the post 7th NFC period.

Figure 9 also depicts the trend in the primary education current budget as a ratio of the total education current budget. This decreases from 66 percent in 1999 to 41 percent in 2009 showing a declining trend. In the post 7th NFC period, it increased to 52 percent in the initial year of the Award i.e. 2011, but it came down to 48 percent in the terminal year of the Award i.e. 2015. In addition to this, the stand-alone primary education current budget as a ratio of the total education current budget also shows a declining trend from 47 percent in 1999 to 27 percent in 2009. In the post 7th NFC period, it increased to 31 percent in 2011 but came down to 27 percent in 2015 (Figure 10). The factors for decline are discussed later in the context of staff rationalization and teacher recruitment.

13.2 Education Expenditure as a Percentage of Total Provincial Expenditure

This sub-section now looks at the actual expenditure in the education sector as a ratio of the total current and development expenditure in the pre and post 7th NFC Award period. This is shown in the Table 10 below along with further detail on primary education as a percentage of the total education expenditure as well stand-alone school expenditure as ratio of the education expenditure.

It is apparent from Table 10 that the total provincial expenditure increased three fold from Rs.105, 960 million in 2001 to Rs. 406,008 million in 2009 which shows an increasing trend

in overall expenditure. However after the 7th NFC period, it did not increase significantly in 2010 and 2011, but in the following years it increased significantly from Rs. 591,819 million in 2012 to 973,538.615 million in 2015.

The reason for the less significant increase in provincial expenditure during 2010 and 2011 is attributed to the devastating floods during 2010 for which funds were diverted for the aid of 20 million flood affected people in the province of the Punjab (UNESCO, 2011). The unprecedented floods in 2010 badly impacted all the development programs in the education sector in Punjab.

Table 10: Ratios in the Education Sector Expenditure

(Rs. In Millions)

	Total Provincial Expenditure	Total Education Expenditure	Total Primary Education Expenditure	Primary Stand-alone Expenditure	Education Expenditure as a ratio of the Total Provincial Expenditure	Primary Education Expenditure as a ratio of the Total Education Expenditure	Primary Stand-alone Expenditure as a ratio of Total Education Expenditure
FY 2001							
Current	94,969	24,675	14,052	9,555	26%	57%	39%
Dev	10,991	266	120	81	2%	45%	30%
Total	105,960	24,941	14,172	9,637	24%	57%	39%
FY 2002							
Current	96,294	26,683	15,157	10,155	28%	57%	38%
Dev	9,347	671	368	247	7%	55%	37%
Total	105,641	27,354	15,525	10,402	26%	57%	38%
FY 2003							
Current	117,495	31,383	18,190	12,187	27%	58%	39%
Dev	11,306	279	44	29	2%	16%	8%
Total	128,801	31,662	18,234	12,217	25%	58%	39%
FY 2004							
Current	129,542	37,444	20,550	13,974	29%	55%	37%
Dev	32,034	5,767	5,232	3,558	18%	91%	62%
Total	161,576	43,211	25,782	17,532	27%	60%	41%
FY 2005							
Current	129,874	42,010	23,692	16,111	32%	56%	38%
Dev	54,243	6,906	5,471	3,720	13%	79%	54%
Total	184,117	48,916	29,163	19,831	27%	60%	41%
FY 2006							
Current	157,158	50,187	30,037	20,425	32%	60%	41%
Dev	69,397	3,642	2,080	1,414	5%	57%	39%
Total	226,555	53,829	32,117	21,840	24%	60%	41%
FY 2007							
Current	193,111	60,939	33,281	22,631	32%	55%	37%
Dev	118,617	7,951	1,081	735	7%	14%	9%
Total	311,728	68,890	34,362	23,366	22%	50%	34%
FY 2008							

Current	223,472	69,319	38,669	26,295	31%	56%	38%
Dev	116,111	5,482	1,316	895	5%	24%	16%
Total	339,583	74,801	39,985	27,190	22%	53%	36%
FY 2009							
Current	287,135	93,150	40,034	26,827	32%	43%	29%
Dev	118,873	7,796	1,229	823	7%	16%	11%
Total	406,008	100,946	41,263	27,650	25%	41%	27%
	Post 7th NFC Period						
FY 2010							
Current	314,748	96,460	48,790	32,201	31%	51%	33%
Dev	131,518	8,774	1,445	954	7%	16%	11%
Total	446,266	105,234	50,235	33,155	24%	48%	32%
FY 2011							
Current	388,247	128,236	65,441	41,882	33%	51%	33%
Dev	94,724	8,653	831	532	9%	10%	6%
Total	482,971	136,889	66,272	42,414	28%	48%	31%
FY 2012							
Current	449,043	146,365	73,937	45,841	33%	51%	31%
Dev	142,776	20,446	784	486	14%	4%	2%
Total	591,819	166,811	74,721	46,327	28%	45%	28%
FY 2013							
Current	549,762.393	184,871.41	89,811.06	52,090.414	34%	49%	28%
Dev	166,858.377	7,889.48	461.49	267.66	5%	6%	3%
Total	716,620.77	192,760.89	90,272.55	52,358.079	27%	47%	27%
FY 2014							
Current	584,670.278	182,173.56	91,393.51	52,094.30	31%	50%	29%
Dev	224,114.594	28,933.71	794.85	453.06	13%	3%	2%
Total	808,784.872	211,107.27	92,188.36	52,547.36	26%	44%	25%
FY 2015							
Current	683,175.885	194,578.56	95,905.55	53,707.10	28%	49%	28%
Dev	290,362.730	17,620.08	189.58	106.16	6%	1%	0.60%
Total	973,538.615	212,198.64	96,095.13	53,813.27	22%	45%	25%

Sources:

(i) Actual figures for Total Provincial Expenditure, Total Education Expenditure and Total Primary Education Expenditure (Current & Development) including the share of districts till 2012 are taken from the Social Sector Public Expenditure Review, 2013.

(ii) Actual figures which are treated as 'Revised Estimates' for the Total Provincial Expenditure (Current & Development) including the share of districts during 2013-2015 are taken from the Annual Budget Statements.

(iii) Actual figures which are treated as 'Revised Estimates' for the Total Education Expenditure and Total Primary Education Expenditure (Current & Development) including the share of districts during 2013-2015 are taken from the I-SAPs publication 'Public Financing of Education in Pakistan, 2010-11 to 2014-15'.

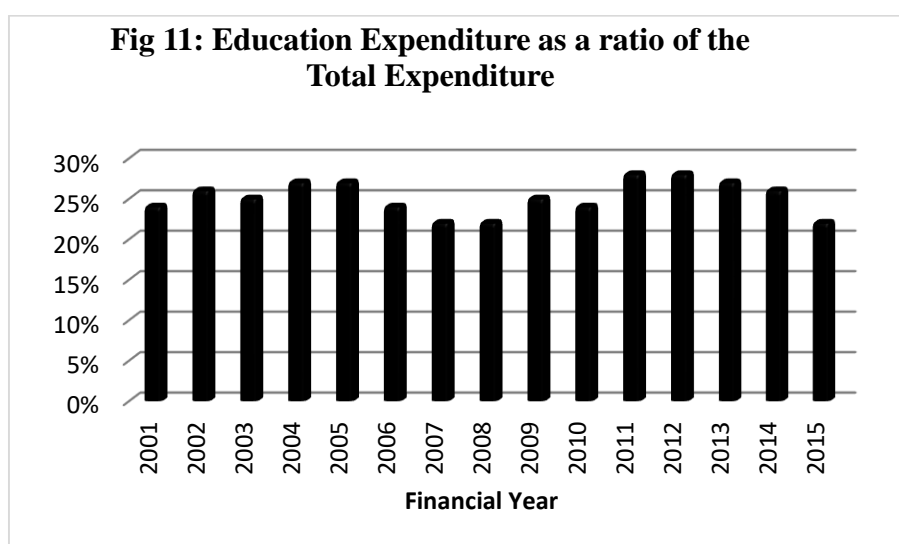
Notes:

(i) Table 10 is from the year of 2001 because estimates taken from the report of Punjab Social Sector Public Expenditure Review, 2013 started from the year of 2001.

(ii) Primary stand-alone budget is calculated on the grounds of share of gross enrolment in stand-alone primary schools as shown in Table 8.

It is evident from the table that the share of education in the total expenditure increased from 24 percent in 2001 to 27 percent in 2005 but it came down to 25 percent in 2009. Thereafter,

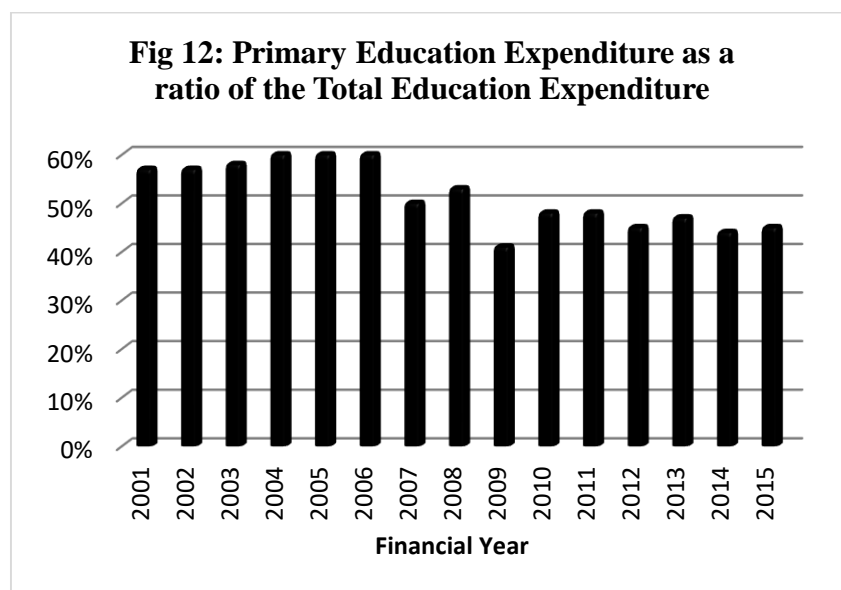
in the wake of increased fiscal transfers through the 7th NFC award, the expenditure in education sector increased further to 28 percent in 2012, but again declined to its lowest share of 22 percent in the terminal year of the 7th NFC Award i.e. 2015 as illustrated in Figure 11 below. During the same terminal year, the allocated budget for total education was 25% of the total budget. The higher budget allocation than the share of total education expenditure implies that allocated funds remained unspent. This points to absorption issues in the education sector due to which the allocated budget did not get utilized and resulted in the variation between the allocated and expensed budget (I-SAPs, 2011-2015).



Low absorption of resource allocation by the primary education sector has been primarily attributed to insufficient capacity to utilize funds, specifically development funds (Tabassum and Zahid, 2016). Malik (2015) estimates that between 2010 and 2014, “9% to 13% of Punjab’s education budget remained unspent” which is in keeping with the budget expenditure figures given in Table 10. A report by the Institute of Social and Policy Sciences (I-SAPs, 2015) says that during the year ending 2015, 18% of Punjab’s education budget remained unutilized owing to poor capacity. Major deficiencies in the capacity of the education department have been identified as inadequate data generation, poor planning and budgeting

processes, lack of coordination within the department, an unprofessional implementation apparatus and poor oversight and monitoring mechanisms (SDPI, Action Aid, CPDI, 2009).

Figure 12 below provides further insight into primary education expenditure where its share reduced from 60 % in 2006 to 41% in 2009 and recovered marginally in the initial years of the 7th NFC Award. However, it is notable that the expenditure share of primary education decreased from 48% to 45% in the years following the 7th NFC Award. In the initial years of the 7th NFC Award, the primary education expenditure as a ratio of total education expenditure was highest from 2010-11 to 2012-13. However, later, secondary education started to consume the highest expenditure, and the share of primary education expenditure decreased nominally (I-SAPs, 2011- 2015).



While this share of primary education expenditure is by stage (i.e. includes the entire primary sector), a similar trend is witnessed in the case of stand-alone primary schools. Table 10 shows the expenditure for stand-alone primary schools as a ratio of total education expenditure during the two time periods 2001-2009 and 2010-2015. It shows a declining trend from 39 percent in 2001 to 27 percent in 2009 which then increased in initial years of the 7th NFC award, but again

witnessed a drop in the last years of the Award to 25% of the overall education expenditure.

This trend is depicted in Figure 13 below:

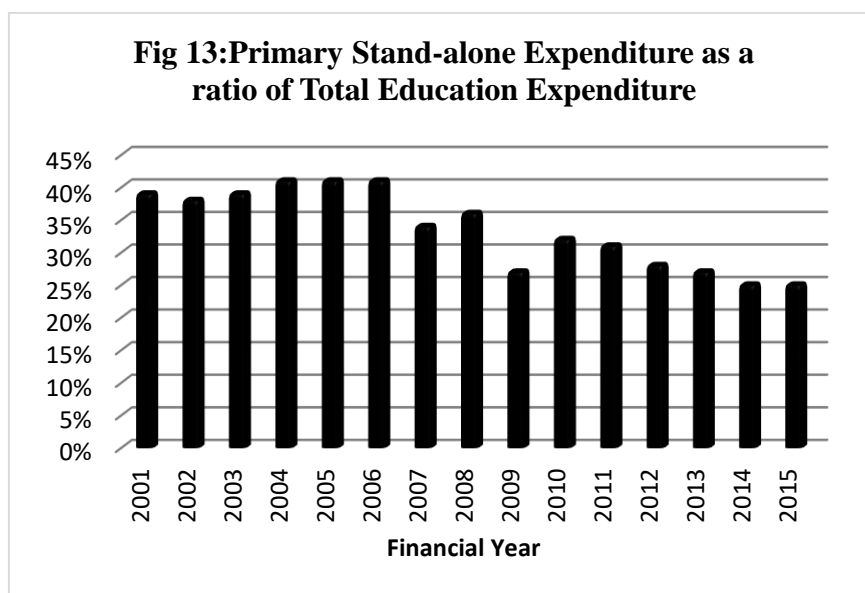
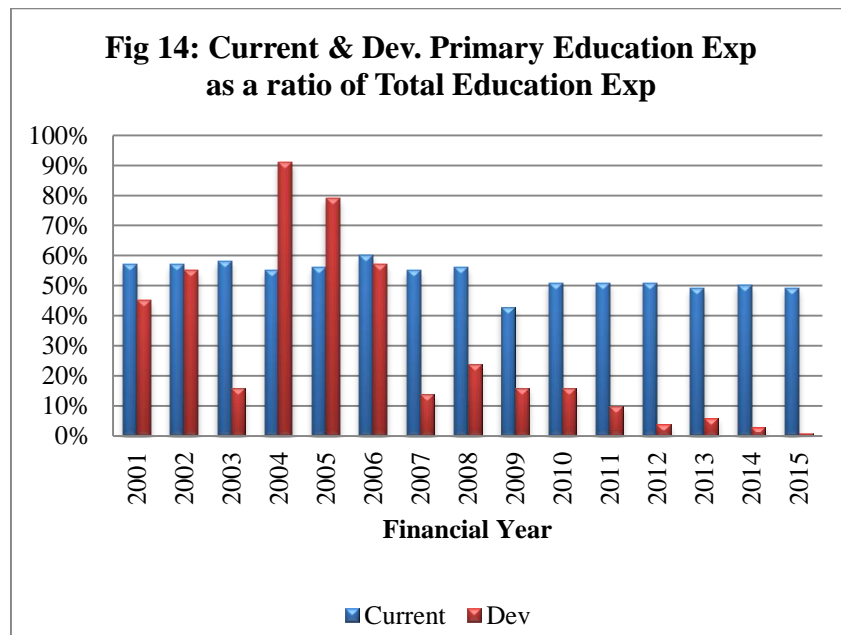


Table 10 seen with Figure 14 below further unpacks the bifurcation of total primary education expenditure into current and development expenditure. The high and low variations in development expenditure are notable; it stood at 91 percent of total education development expenditure in 2004 during the pre-7th NFC period but came down to 1 percent in 2015 during the post 7th NFC period. An examination of the factors responsible reveals that the Punjab government launched the Chief Minister’s Education Sector Reforms Programme (CMESRP) in 2003, which is also referred to as the Punjab Education Sector Reforms Programme (PESRP) initially for a period of three years to provide missing facilities in schools. As a result of this program, in 2004, primary development expenditure touched 91 percent because a large expenditure was incurred on providing missing facilities under PESRP (Rs. 147.000 million to all the districts). A study reveals that after 2003 primary education expenditure witnessed a sharp and substantial increase in the wake of PESRP (Shaukat, 2009). Another report finds that during this period, the government of the Punjab distributed free text books to 7.25 million

students from class katchi to class V at a cost of Rs. 494 million under the PESRP (Choudary, 2005).



Subsequently in 2007, the same Programme was launched in the higher education sector, mainly in colleges, to providing missing/ additional infrastructure to all colleges over the Punjab due to which the share of the primary sector in development expenditure diminished over time and reached its lowest level of 1% in the final year of the Award. Coupled with this, the Government of Punjab followed the policy of consolidation of primary schools instead of expansion which led to a decrease in the share of primary education development budget over the years.

This study relates to stand-alone primary schools in Punjab and Table 10 also tabulates the development expenditure for stand-alone primary schools, which shows a similar declining trend, which decreased from 30 percent in 2001 to 0.60 percent of total education development budget in 2015, as shown in Figure 15.

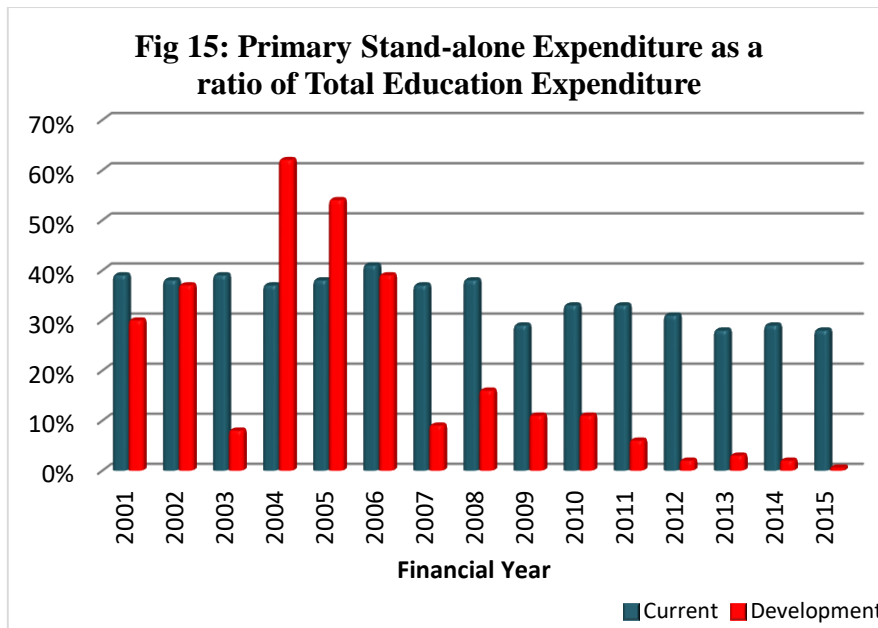


Figure 14 also exhibits the trend in total primary education current expenditure as a ratio of total education current expenditure. It shifts from 57 percent in 2001 to 43 percent in 2009 which shows a decreasing trend. However in the post 7th NFC period, it remained static at 51 percent in the initial years of the 7th NFC Award, and again shows a reduction to 49 percent in the terminal year of the 7th NFC Award i.e. 2015.

The trend in stand-alone primary education current expenditure is similar to the total primary education current expenditure, decreasing from 39 percent in 2001 to 29 percent in 2009, as shown in Table 10. However, in the initial years of the Award, it remained static but again declined to 28% in the last year, as shown in Figure 15.

The low increase in primary education current expenditure during both the periods is partly attributed to the staff rationalization policies which has remained a trend, as well to low allocations for teacher recruitment and teacher training. Due to such policies, the new recruitment against the additional posts of educators was not sanctioned. In addition to this, the already sanctioned posts for the educators did not get filled. It is notable to observe that during both the periods, the actual current expenditure of primary education is far less than the

allocated budget, pointing again to problems of absorption stemming from capacity issues in the sector.

We see that both the budget allocations as well as the expenditure incurred on primary education declined generally, and correspondingly for stand-alone/independent primary schools, in both the pre and the post 7th NFC period. It is important to see the impact of this declining share of primary education on the outcomes in the three variables that are selected in this research. Primary school infrastructure includes electrification, availability of drinking water, boundary walls, sanitation facilities and classrooms and progress on these aspects is now explored during both the pre and the post 7th NFC period.

While data on budget allocation and expenditure on the share of primary education in the Punjab may have declined during the period under study, it still needs to be seen whether the allocations and expenditures made, despite their declining share, remained adequate to improve the indicators identified as important by literature to incentivize enrolment at the primary level.

14. Primary School Infrastructure

According to existing literature, better school infrastructure plays an important role in promoting and retaining child enrolment at the basic level of education. The provision of electricity, drinking water, boundary walls and toilets are the categories of infrastructure investigated in this research. All data in this respect is by level.

14.1 Electrification

Table 11 presents the situation of electrification in independent public primary schools from two different dimensions i.e. urban-rural divide and male-female divide. The overall situation shows a significant improvement in electrification of schools, rising from 14 percent in 1999

to 81 percent in 2015. However, a more significant percentage change in the pre-7th NFC period is witnessed, compared with a less significant change in the post 7th NFC period. This could be because during the pre-7th NFC period the improvement is seen from a base value of 14 %. The coverage rose rapidly to 47 percent of schools by 2009. During the post-7th NFC period the electrification increased from a base value of 51 percent in 2010 to 81 percent in 2015 which results in a less significant percentage change in the following period.

Table 11: Availability of Electricity in Public Primary Schools by Level, Location & Gender (%)

(Punjab)

FY	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	43%	37%	40%	13%	9%	13%	16%	12%	14%
2000	43%	37%	40%	15%	11%	13%	18%	14%	16%
2001	17%	13%	16%	48%	43%	46%	20%	16%	18%
2002	46%	38%	22%	19%	15%	15%	22%	17%	17%
2003	38%	40%	39%	38%	40%	39%	38%	40%	39%
2004	61%	58%	60%	34%	31%	33%	37%	34%	35%
2005	54%	48%	51%	28%	26%	27%	30%	28%	29%
2006	54%	52%	53%	30%	28%	29%	33%	31%	32%
2007	62%	61%	61%	35%	33%	34%	38%	36%	37%
2008	73%	69%	71%	40%	38%	39%	43%	41%	42%
2009	75%	74%	74%	45%	43%	44%	48%	46%	47%
Post 7th NFC Period									
2010	75%	75%	76%	50%	47%	48%	52%	50%	51%
2011	84%	80%	82%	56%	54%	55%	58%	56%	57%
2012	84%	81%	82%	58%	57%	57%	60%	59%	59%
2013	89%	89%	89%	68%	71%	69%	69%	73%	71%
2014	90%	88%	89%	70%	76%	73%	72%	77%	74%
2015	94%	92%	93%	77%	84%	80%	78%	85%	81%

Source: Percentages are calculated from the data extracted from the yearly reports of Pakistan Education Statistics on Punjab during 1999-2015.

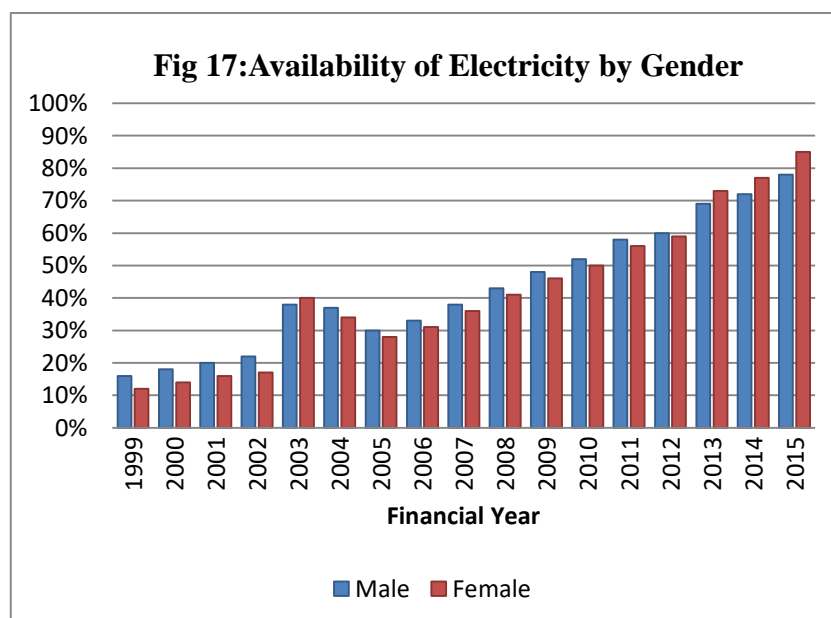
Note: Mosque Schools are included in Primary Schools.

Figure 16 below also exhibits the situation where a drop from 39% to 29% is witnessed during years 2003-2005 due to a lesser decrease in the number of independent primary schools during these years because of lesser closures and mergers in these years as also an increase in the number of rural schools in the year 2005 (Please see Table 17). A report by the State Bank of

Pakistan giving the salient features of the Punjab Education Sector Reforms 2003, finds that to improve the quality of education, a large number of new teachers were recruited on contract and correspondingly 50% of the closed or nonfunctional schools have opened in 2004. This explains the data showing lower coverage of electrification in these years (SBP, First Quarterly Report for FY06).

The spurt in 2012 from 59 percent to 81 percent in 2015 is because of more closures and mergers during these years (Please see Table 17).

From the point of view of urban-rural disparity, it is found that shortage of electricity is more prevalent in the rural areas. This is because there are a large number of public primary schools in the rural areas compared to urban areas which need to be catered for electrification (Please see Table 17). However, urban schools have been electrified faster, rising from 40 percent in 1999 to 93 percent in the terminal year of the 7th NFC Award i.e. 2014-15. On the other hand, in rural schools, there has been a rise in electrification from 13 percent in 1999 to 80 percent in the 2015. Another notable finding from the gender point of view is brought out in Figure 17; more male schools were electrified during 1999-2009, but in the years following the 7th NFC Award, female schools registered a comparatively higher figure of electrification in 2013, 2014 and 2015 which shows that there was a shift towards providing improved infrastructure for girls schools.



14.2 Drinking Water

The provision of clean drinking water in schools is a key part of school infrastructure. As shown in Table 12, the overall situation of drinking water supply improved from 68 percent of the schools covered in 1999 to 97 percent in 2015. Similarly, a more significant percentage change in the pre 7th NFC period is witnessed, compared with a less significant change in the post 7th NFC period. In the former period, the improvement is witnessed from a base value of 68 percent while in the latter period the improvement is seen from a base value of 82 percent which results in a less significant percentage change during the post 7th NFC period.

Table 12: Availability of Drinking Water in Public Primary Schools by Level Location & Gender (%)

(Punjab)

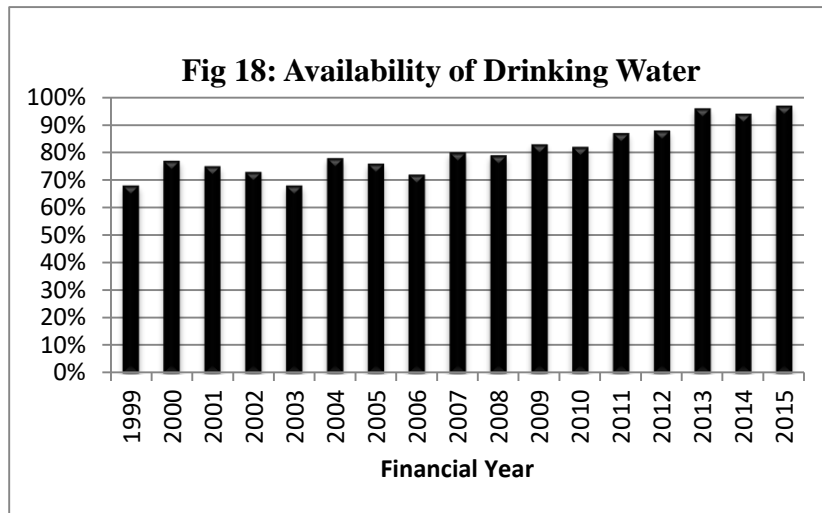
FY	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	76%	73%	75%	70%	63%	67%	71%	64%	68%
2000	80%	82%	81%	79%	72%	76%	79%	73%	77%
2001	81%	82%	81%	77%	72%	75%	77%	73%	75%
2002	79%	77%	78%	76%	68%	73%	76%	69%	73%
2003	64%	72%	67%	64%	72%	68%	64%	72%	68%
2004	83%	86%	84%	79%	75%	77%	79%	76%	78%
2005	81%	82%	82%	77%	72%	75%	77%	73%	76%
2006	70%	73%	71%	74%	69%	72%	73%	69%	72%
2007	84%	86%	85%	80%	78%	79%	80%	79%	80%
2008	85%	87%	86%	79%	78%	79%	80%	79%	79%
2009	86%	89%	88%	83%	83%	83%	83%	84%	83%
Post 7th NFC Period									
2010	87%	90%	88%	83%	80%	83%	84%	81%	82%
2011	90%	91%	91%	87%	86%	87%	88%	86%	87%
2012	93%	95%	94%	88%	86%	87%	88%	87%	88%
2013	98%	99%	98%	97%	96%	96%	97%	96%	96%
2014	96%	95%	95%	94%	94%	94%	94%	94%	94%
2015	99%	92%	98%	97%	97%	97%	97%	97%	97%

Source: Percentages are calculated from the data extracted from the yearly reports of Pakistan Education Statistics on Punjab during 1999-2015.

Note: Mosque Schools are included in Primary Schools.

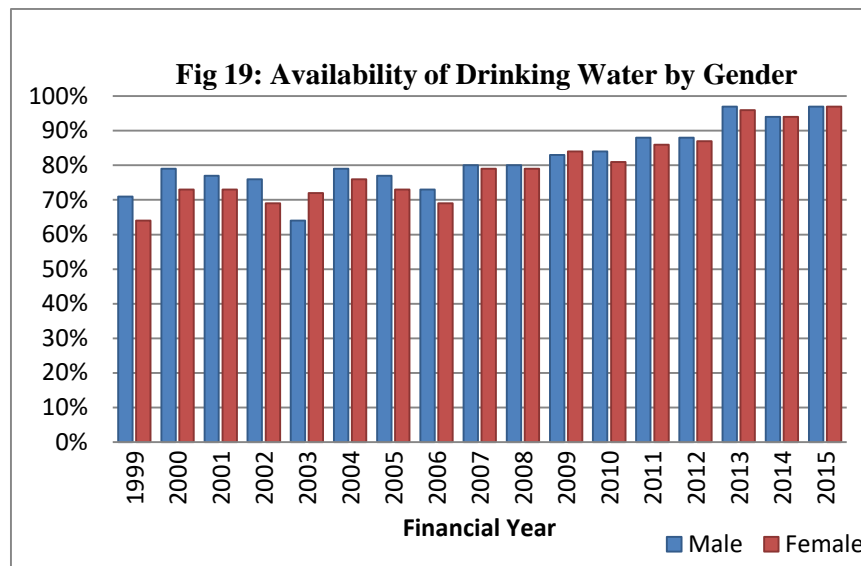
Figure 18 also exhibits the overall availability of drinking water in public primary schools where two major drops during the pre-2010 period from 77% in 2000 to 68% in 2003 and from

78% in 2004 to 72% in 2006 are witnessed. Similarly, another drop during the post-2010 period is witnessed; this was due to a lesser decrease in the number of primary schools during these years because of less closures and mergers in these years (Please see Table 17).



Looking at the provision of drinking water from the point of view of urban-rural disparity, it is found that the facility of drinking facility is more widespread in the urban schools. This is because there are lesser number of public primary schools in the urban areas compared to rural areas which need to be catered for this facility (Please see Table 17).

Likewise, from the gender point of view, male primary schools have better drinking water facility in the pre 7th NFC period, but, gradually female primary schools come at par with male schools in the last two years of the Award as illustrated in Figure 19 below. The improvement in 2015 is partly attributed to the declining number of both male and female independent primary schools (Please see Table 17) due to closures and mergers.



14.3 Boundary Walls

The availability of boundary wall in public primary schools is an important determinant to attract more female students to a school. Parents of girl students are usually reluctant to send their children in schools without the privacy of boundary wall as suggested by a large body of literature. The worsening law and order situation in the Punjab has also raised concerns about security, due to which provisions of building boundary walls in schools is seen as important.

Table 13 gives the percentage of improvement in the availability of boundary walls in the public primary schools giving an urban-rural divide and as well as male-female disparity over a period of 17 years during the pre and post 7th NFC Award. Overall, it shows an increasing trend in the addition of boundary walls in public primary schools, rising from 41 percent in 1999 to 92 percent in 2015 with an increase of 124 percent over a period of 17 years. Similarly, a more significant percentage change in the pre-7th NFC period is witnessed, compared with less significant change in the post 7th NFC period because in the former period it started from a lower value i.e. 41% whereas in the latter period it begins from the higher value i.e. 76% that results in a less significant percentage change in the post 7th NFC period.

Table 13: Availability of Boundary Walls in Public Primary Schools by Level & Location & Gender (%)

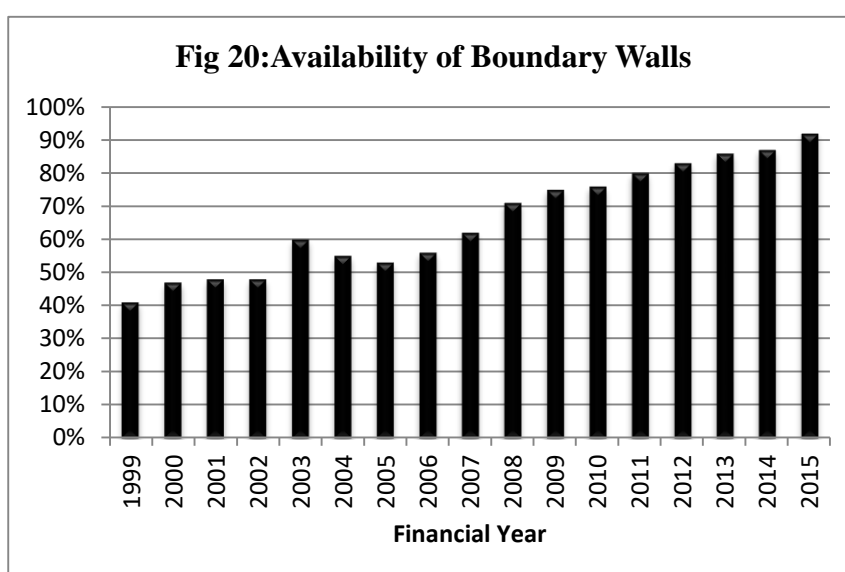
(Punjab)

FY	Urban				Rural				Total			
	Male	Female	Mixed	Total	Male	Female	Mixed	Total	Male	Female	Mixed	Total
1999	50%	74%		60%	22%	65%		38%	25%	66%	-	41%
2000	51%	79%	-	64%	21%	29%	68%	45%	29%	34%	68%	47%
2001	28%	72%	-	46%	55%	83%	-	67%	30%	73%	-	48%
2002	52%	77%	-	64%	29%	69%	-	46%	31%	70%	-	48%
2003	44%	83%	-	61%	42%	83%	-	60%	42%	83%	-	60%
2004	63%	86%	-	73%	34%	76%	-	53%	37%	77%	-	55%
2005	61%	82%	-	71%	34%	74%	-	51%	36%	75%	-	53%
2006	57%	81%	-	68%	36%	77%	-	54%	39%	78%	-	56%
2007	64%	86%	-	74%	45%	80%	-	61%	47%	80%	-	62%
2008	77%	93%	-	85%	54%	88%	-	70%	56%	89%	-	71%
2009	80%	96%	-	88%	59%	91%	-	74%	61%	91%	-	75%
Post 7th NFC Award												
2010	82%	95%	-	88%	63%	88%	-	75%	65%	88%	-	76%
2011	87%	95%	-	91%	70%	90%	-	79%	71%	91%	-	80%
2012	89%	97%	-	93%	73%	92%	-	82%	74%	92%	-	83%
2013	92%	99%	-	95%	76%	95%	-	86%	77%	96%	-	86%
2014	92%	96%	-	94%	78%	95%	-	86%	79%	95%	-	87%
2015	95%	97%	-	96%	85%	97%	-	91%	86%	97%	-	92%

Source: Percentages are calculated from the data extracted from the yearly reports of Pakistan Education Statistics on Punjab during 1999-2015.

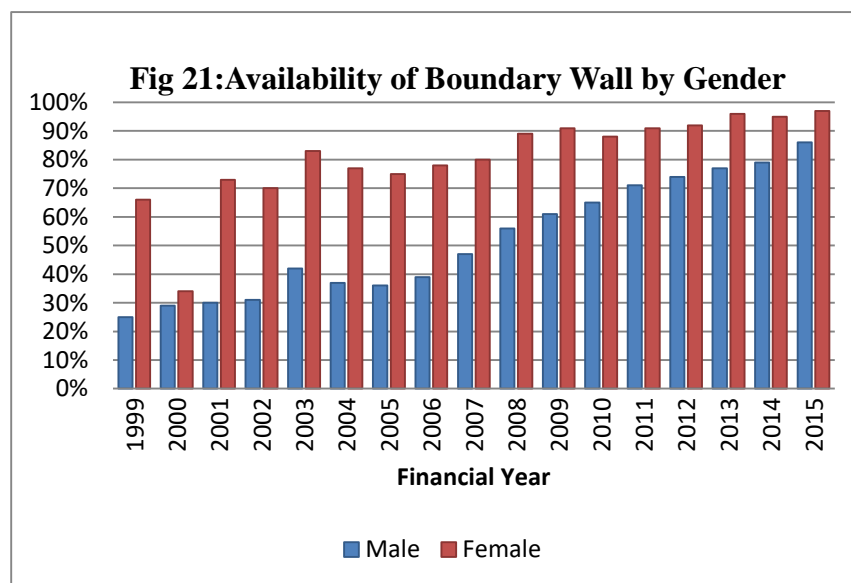
Note: Mosque Schools are included in Primary Schools.

The overall improvement in the availability of boundary walls in public primary schools is also depicted in Figure 20.



Looking at the urban-rural divide over the same time period, it is found that more urban primary schools are equipped with the boundary walls as compared to rural primary schools, rising from 60% in 1999 to 96% in the terminal year of the 7th NFC Award i.e. 2014-15. In rural schools, there has been a rise in availability of boundary walls from 38 percent in 1999 to 91 percent in the 2015. In between, the drop in percentage of improvement in the availability of boundary walls in urban public primary schools from 73% in 2004 to 68% in 2006 is primarily because of a significant increase in number of urban primary schools in 2006 (See Table 17), which eventually led to a decrease in the percentages. Similarly, owing to the increase in the number of rural primary schools in 2005, a drop in the availability of boundary walls in rural public primary schools from 53% in 2004 to 51% in 2005 is also witnessed.

The gender picture is depicted in Figure 21 below which shows the higher significance of boundary walls in female primary schools where it shows a relatively higher share compared to male primary schools. In all the pre and post years, urban female schools have a higher provision of boundary walls over the period of 17 years. Also, urban females schools tend to be better off compared to rural females schools in the years during the pre and post 7th NFC Award period, but come at par in the last year of the Award i.e. 2015.



14.4 Sanitation

Table 14 and Figure 22 exhibits the overall situation of toilets in public primary schools. A major improvement is witnessed over a period of 17 years, rising from a coverage of 30 percent of schools in 1999 to 95 percent in 2015. Growth in percentage change is higher in the pre 7th NFC period compared with the post 7th NFC period, as total access to sanitation increased by 140% in the pre 7th NFC period whereas it increased by 30% in the post 7th NFC award period. This is due to the base effect, as in other cases of school infrastructure development.

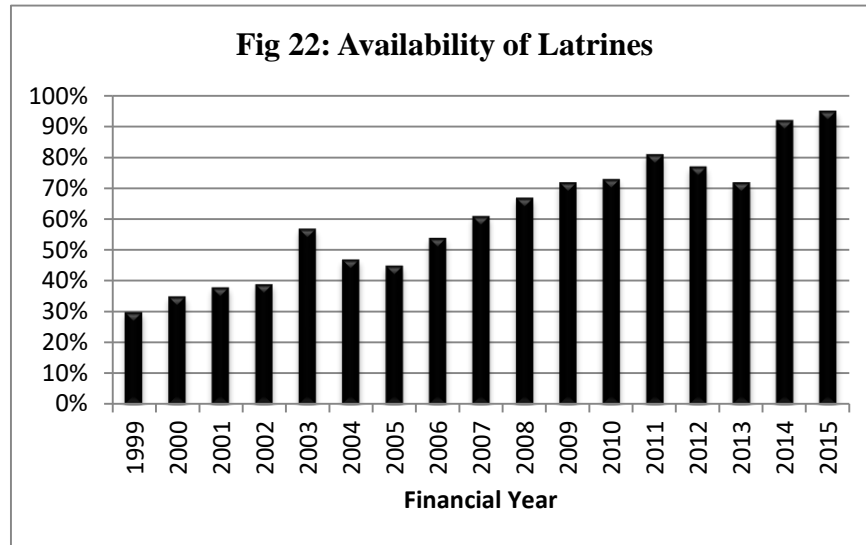
Table 14: Availability of Latrines in Public Primary Schools by Level, Location & Gender (%)

(Punjab)

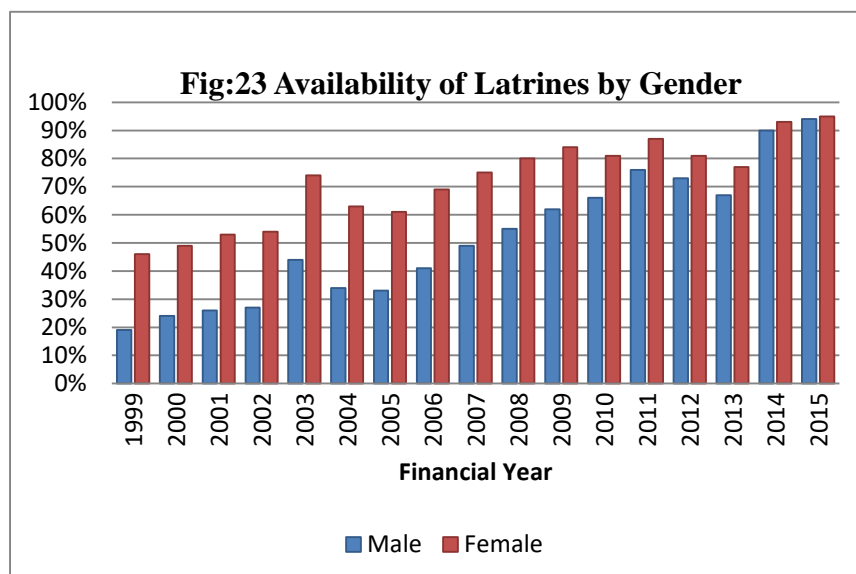
FY	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	41%	60%	49%	17%	44%	28%	19%	46%	30%
2000	44%	66%	54%	22%	47%	33%	24%	49%	35%
2001	48%	69%	58%	24%	52%	36%	26%	53%	38%
2002	45%	66%	55%	24%	52%	37%	27%	54%	39%
2003	45%	74%	58%	44%	74%	57%	44%	74%	57%
2004	55%	76%	64%	32%	61%	45%	34%	63%	47%
2005	53%	70%	61%	30%	60%	43%	33%	61%	45%
2006	55%	74%	63%	40%	68%	52%	41%	69%	54%
2007	64%	82%	72%	47%	75%	60%	49%	75%	61%
2008	74%	87%	81%	53%	79%	65%	55%	80%	67%
2009	79%	92%	85%	60%	84%	71%	62%	84%	72%
Post 7th NFC Award									
2010	79%	90%	85%	65%	80%	72%	66%	81%	73%
2011	88%	92%	90%	75%	87%	80%	76%	87%	81%
2012	82%	88%	85%	73%	81%	76%	73%	81%	77%
2013	78%	80%	79%	66%	76%	71%	67%	77%	72%
2014	92%	92%	92%	90%	93%	92%	90%	93%	92%
2015	96%	96%	96%	93%	96%	94%	94%	95%	95%

Source: Percentages are calculated from the data extracted from the yearly report of Pakistan Education Statistics on Punjab during 1999-2015.

Note: Mosque Schools are included in Primary Schools.



The trend in Figure 23 seems similar to other female related physical facilities in the context of male-female disparity; urban female schools remain more benefitted in respect of this facility. The drop in the availability of toilets from 64% to 61% and from 45% to 43% in urban and rural primary schools during 2004-2005 respectively is due to a lesser decrease in the number of urban primary schools in 2005 because of fewer closures and mergers (See Table 17). Conversely, the drop in the improved availability of toilets in the rural primary schools is owing to the increased number of rural primary schools in 2005 (See Table 17), which means that in this year the government of Punjab established additional schools in rural areas.



14.5 Number of Classrooms

Table 15 presents the percentage of classrooms availability in public primary schools of Punjab where it shows that during the pre and post 7th NFC period most of the primary schools have two classrooms. In the post 7th NFC period, the primary schools with more than two classrooms increased marginally.

Table 15: Classroom Availability Status by Level (%)

(Punjab)

FY	<u>One Room</u>	<u>Two Rooms</u>	<u>Three Rooms</u>	<u>Four Rooms</u>	<u>Five Rooms</u>	<u>Six Rooms</u>	<u>Seven Rooms</u>	<u>More than Seven Rooms</u>	<u>Not Reported</u>	<u>Total Institutions</u>
2007	11%	50%	13%	8%	4%	3%	1%	1%	9%	100%
2008	11%	51%	14%	8%	4%	3%	1%	1%	7%	100%
2009	9%	50%	15%	9%	4%	3%	1%	1%	8%	100%
Post 7th NFC Award										
2010	9%	50%	15%	9%	4%	3%	1%	1%	8%	100%
2011	8%	52%	16%	10%	5%	4%	1%	1%	3%	100%
2012	7%	51%	16%	10%	5%	4%	1%	1%	5%	100%
2013	7%	49%	16%	12%	6%	5%	1%	2%	2%	100%
2014	6%	46%	16%	13%	7%	5%	2%	2%	3%	100%
2015	6%	46%	16%	13%	7%	5%	2%	1%	4%	100%

Source: Percentages are calculated from the data extracted from the yearly report of Pakistan Education Statistics on Punjab during 2007-2015.

Notes:

- i. This Table starts from 2007 because data is not available in the previous year reports.
- ii. Mosque Schools are included in Primary Schools.

14.6 Shelterless Primary Schools

Table 16, and Figure 24, indicate that there is a stark reduction in shelter less schools from 12% in 1999 to 0.48% in 2015. During the pre-2010 period, it decreased from 12 percent in 2000 to 1 percent in 2009 due to the government rationalization policies since from 1998, 2005 and 2008. During the post-2010 period, it decreased from 3 percent in 2010 to 0.48 percent in 2015 due to school merger policy of 2010, where the government has merged shelterless schools with other schools, leading to a decline in the number of shelter less primary schools. The merger policy which was formulated to improve resource usage also contributed to a decline in the share of primary schools in total institutions.

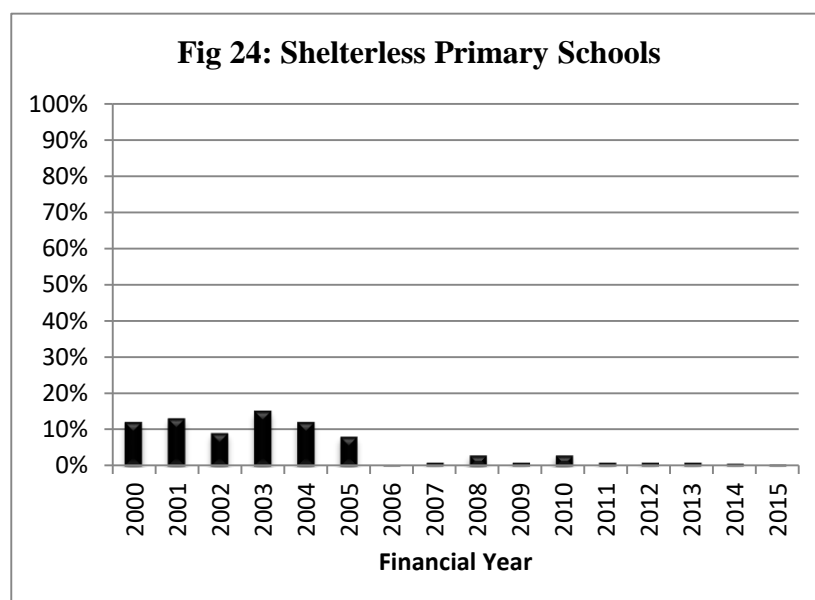
Table 16: Shelterless Primary Schools by Level Location & Gender

(Punjab)

Financial Year	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	Not Available								
2000	20%	9%	15%	14%	10%	12%	14%	10%	12%
2001	22%	11%	17%	17%	7%	13%	17%	8%	13%
2002	12%	7%	9%	11%	6%	9%	11%	6%	9%
2003	26%	8%	18%	21%	7%	15%	22%	7%	15%
2004	14%	12%	13%	13%	11%	12%	13%	11%	12%
2005	11%	5%	8%	11%	4%	8%	11%	4%	8%
2006	.27%	.07%	.18%	.72%	.07%	.44%	.67%	.07%	.41%
2007	2%	.30%	1%	2%	.18%	1%	2%	.20%	1%
2008	.72%	.31%	2%	4%	.51%	3%	4%	.49%	3%
2009	.62%	.29%	.45%	1%	.70%	1%	1%	.66%	1%
Post 7 th NFC Award									
2010	2%	.50%	1%	3%	1%	2%	3%	1%	3%
2011	.79%	.38%	.58%	2%	.57%	1%	2%	.55%	1%
2012	1%	.41%	.88%	2%	.55%	1%	2%	.54%	1%
2013	1%	.71%	.72%	2%	.90%	1%	2%	.83%	1%
2014	.77%	.40%	.57%	1%	.45%	.72%	1%	.45%	.71%
2015	.25%	.11%	.18%	1%	.06%	.50%	1%	.06%	.48%

Source: Percentages are calculated from the data extracted from the yearly reports of Pakistan Education Statistics on Punjab during 1999-2015.

Note: Mosque Schools are included in Primary Schools.



While there has been volatility in the resource allocation pattern for the development of the primary school sector with a declining ratio vis-à-vis education in general, the infrastructure

coverage performance by level looks satisfactory. The Punjab Education Sector Reforms Programme (PESRP) in 2003 to provide the missing facilities in school contributed substantially to this, especially in case of female schools. However, an important contributory factor explaining the higher coverage of infrastructure in primary schools has also been the closure or merger of a large number of primary schools which came about either because of low enrolment or absence of school buildings. The decreasing number of schools is an outcome of rationalization and merger policies. This declining number of schools as shown in Table 17 and 18 has helped to show increasingly higher percentages of infrastructure coverage over the years.

The next sub-section shows in tabular form this phenomenon of the decreasing number of stand-alone public primary level schools.

14.7 Declining Number of Primary Schools

Table 17 and 18 show a declining Pattern in the absolute number of independent public primary schools as well in their share in all school education institutions.

Table 17: Number of Public Primary Schools by Level

(Numbers)

FY	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	3,076	2,166	5,242	31,426	21,584	53,010	34,502	23,750	58,252
2000	2,874	2,375	5,249	26,622	20,533	47,155	29,496	22,908	52,404
2001	2,724	2,282	5,006	26,618	20,526	47,144	29,342	22,808	52,150
2002	2,982	2,466	5,448	26,037	20,550	46,587	29,019	23,016	52,035
2003	2,968	2,466	5,434	25,970	20,591	46,561	28,938	23,057	51,995
2004	2,841	2,410	5,251	26,013	20,434	46,447	28,854	22,844	51,698
2005	2,736	2,395	5,131	26,086	20,424	46,510	28,822	22,819	51,641
2006	3,249	2,704	5,953	25,456	20,214	45,670	28,705	22,918	51,623
2007	2,872	2,301	5,173	24,693	20,577	45,270	27,565	22,878	50,443
2008	2,361	2,195	4,556	24,455	20,534	44,989	26,816	22,729	49,545
2009	2,089	2,065	4,154	23,943	20,480	44,423	26,032	22,545	48,577
Post 7th NFC Period									
2010	2,038	1,994	4,032	23,324	20,648	43,972	25,362	22,642	48,004
2011	1,756	1,813	3,569	22,358	20,006	42,364	24,114	21,819	45,933
2012	1,800	1,936	3,736	21,375	18,953	40,328	23,175	20,889	44,064

2013	1,603	1,720	3,323	18,399	17,625	36,024	20,002	19,345	39,347
2014	1,546	1,731	3,277	17,664	17,486	35,150	19,210	19,217	38,427
2015	1,567	1,708	3,275	17,115	17,463	34,578	18,682	19,171	37,853

Source: Data extracted from the yearly report of Pakistan Education Statistics on Punjab during 1999-2015.

Note: Mosque Schools are included in Primary Schools.

Table 18: Share of Public Primary Schools by Level in Total Education Institutions till College level (%)

(Punjab)

FY	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	Not Available								
2000	75%	70%	73%	85%	83%	84%	84%	82%	83%
2001	75%	70%	73%	85%	83%	84%	84%	81%	83%
2002	76%	69%	72%	84%	82%	84%	83%	81%	82%
2003	75%	68%	72%	84%	82%	83%	83%	80%	82%
2004	74%	68%	71%	84%	81%	83%	83%	80%	82%
2005	73%	69%	71%	84%	81%	82%	82%	79%	81%
2006	73%	66%	69%	83%	80%	82%	82%	78%	80%
2007	70%	63%	67%	83%	80%	82%	81%	78%	80%
2008	67%	62%	64%	82%	80%	81%	81%	78%	79%
2009	65%	61%	63%	82%	80%	81%	80%	77%	79%
Post 7th NFC Period									
2010	63%	60%	61%	81%	79%	80%	79%	77%	78%
2011	60%	57%	58%	80%	79%	79%	78%	76%	77%
2012	58%	55%	56%	79%	76%	78%	77%	74%	75%
2013	54%	52%	53%	75%	74%	75%	73%	71%	72%
2014	54%	52%	53%	75%	73%	74%	72%	71%	72%
2015	57%	55%	56%	74%	73%	73%	72%	71%	71%

Source: Percentages are calculated from the data extracted from the yearly reports of Pakistan Education Statistics on Punjab during 1999-2015.

Notes:

(i) Mosque Schools are included in Primary Schools.

(ii) Total Education Institutions include primary, middle, high higher secondary, and inter/degree colleges.

15. Quality Factors

15.1 Female Teachers in Public primary schools

We now come to the qualitative factors of teacher availability and training.

Various studies advocate the role of female teachers as effective in incentivizing enrolment and retention of primary level students. Literature on the subject suggests that with their softer

and more gentle approach towards young children, women teachers create a more benign school environment which affects decisions of parents to admit or retain their children at the primary level of education. The next stage of the investigation is to see the situation in the Punjab regarding the extent to which female teachers have over the years been inducted in stand-alone public primary schools.

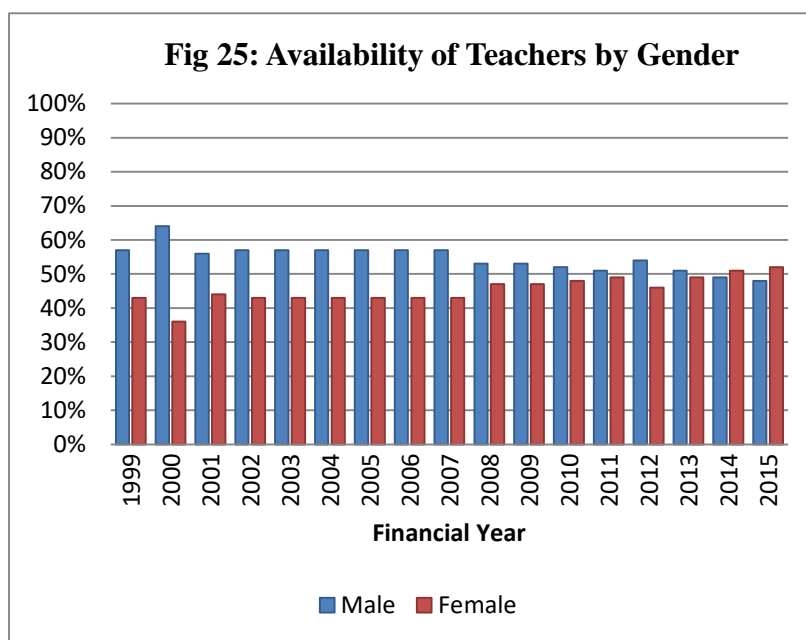
Table 19 below shows the proportion of female teachers at the primary level which hovers around 43% till 2007 and then increases to 52% in 2015. Thus, the male-female ratio seems better in favor of female teachers following the 7th NFC Award. In looking at the reversal of male-female ratio in last two years of the 7th NFC Award, it is found that more female primary teachers were recruited in rural areas in 2014 and 2015 compared to male teachers, which led to an increase in the overall availability of female teachers in Punjab in the last two years of the Award.

Table 19: Availability of Female Teachers by Level, Location & Gender (%)
(Punjab)

FY	Urban		Rural		Total		
	Male	Female	Male	Female	Male	Female	Total
1999	52%	48%	58%	42%	57%	43%	100%
2000	49%	51%	58%	42%	64%	36%	100%
2001	48%	52%	58%	42%	56%	44%	100%
2002	50%	50%	58%	42%	57%	43%	100%
2003	50%	50%	58%	42%	57%	43%	100%
2004	51%	49%	58%	42%	57%	43%	100%
2005	51%	49%	58%	42%	57%	43%	100%
2006	52%	48%	58%	42%	57%	43%	100%
2007	52%	48%	58%	42%	57%	43%	100%
2008	43%	57%	55%	45%	53%	47%	100%
2009	43%	57%	55%	45%	53%	47%	100%
Post 7th NFC Period							
2010	43%	57%	54%	46%	52%	48%	100%
2011	41%	59%	53%	47%	51%	49%	100%
2012	46%	54%	56%	44%	54%	46%	100%
2013	48%	52%	52%	48%	51%	49%	100%
2014	45%	55%	49%	51%	49%	51%	100%
2015	46%	54%	48%	52%	48%	52%	100%

Source: Percentages are calculated from the data extracted from the yearly reports of Pakistan Education Statistics on Punjab during 2010-15.

Though urban female teachers remained greater in proportion compared to male urban teachers since 2008, the overall reversal in male-female proportion in last two years in the post 7th NFC period, as depicted in Figure 25, is largely attributable to the rise of female teachers in rural areas.



The data shows that more female teachers began to be recruited in the urban areas than male teachers since 2008. This urban reversal is explained in the light of the recruitment policies from the year 2008 onwards. The policy for recruitment of women educators in government schools (2008) allowed ten additional marks for local residence in the recruitment process, and, in the case of married female candidates, they could also use the domicile of their husbands for showing local residences. In addition to this, the Recruitment Policy, 2008 gives higher preference to female candidates. This provision is reproduced as under:

“Female candidates shall be eligible to apply for the posts of Elementary School Educators (ESE) and Senior Elementary School Educators (SESE) Science in Boys Primary & Middle Schools in addition to all categories of posts in girl schools.”

In the previous Recruitment Policy (2005-06), female candidates were also eligible to apply for the posts of ESE ad SESE in boys’ schools, and it also allowed ten additional marks for

local residence in the recruitment process, but the relaxation for married female candidates who could also use the domicile of their husbands for showing local residence was not there.

The benefits of the 2008 policy for women seems to have started from the urban areas where women teachers began to outnumber men from 2008. The policy not only provided more openings to women, in view of their eligibility to be appointed to boys schools, it allowed married women to use their husbands domiciles to claim appointments if they were living in localities that formed part of such domiciles. While rural women were given a similar advantage, the fact that fewer educated women reside in rural areas compared to urban areas, a similar reversal was not evident till the year 2014.

According to the study conducted by UNESCO, (2000), more qualified women for teaching are available in urban areas compared to rural ones, The Recruitment Policy, 2008 for Educators that gives preference for local residence induced higher recruitment of female teachers from urban areas compared to rural ones, as they were available in greater numbers in urban localities.

The lesser percentage of female teachers in rural areas during 1999-2013 compared to male teachers can be attributed to factors such as non-availability of educated women within the local communities, security problems and poor housing and transport/travelling facilities in the rural areas which deter non-local women from working in such areas (UNESCO, 2010). The (UNESCO, 2000) study also reveals that lack of adequate transport facilities for rural women residing in towns to commute daily to their workplace affects their presence in schools, coupled by the security concerns due to remote location of primary schools.

Another significant factor behind the lesser number of the female teachers is attributable to the introduction in 2005 of school specific (non-transferable) nature of contract employments offered against the post of educators, where the candidates are given a choice of three schools for a posting. This means that teachers can be appointed to schools in tehsils to which teachers

do not belong and this results in long distances for travel by teachers, which problem is further exacerbated by poor transportation facilities in rural areas. It is therefore a factor that discourages rural females to join the profession of teaching, especially in areas where there is a climate of insecurity and harassment (Choudary, 2005).

A further reason behind the large proportion of female teachers in urban areas is the social-cultural obstacles such as purdah faced by the women in rural areas which hinders their participation in the labor market (UNESCO, 2000).

As mentioned, ultimate reversal of the overall male-female proportion of primary school teachers in last two years of the 7th NFC Award is largely attributed to the rise of female teachers in the rural areas in these years, and this is further explained by the Punjab Recruitment Policy, 2013 for Educators which provides as under:

“For the posts of Elementary School Educator (ESE) (all categories) and Senior Elementary School Educator (SESE) (all categories) in Govt. Boys Schools, the candidates (male & female) will apply to DEO (EE-M), but for the post of ESE (all categories) and SESE (all categories) in Govt. Girls Schools, only female candidates will apply to DEO (EE-W). Only female ESE (Sci-Math) or ESE shall be posted in Consolidated Model Primary Schools. Female candidates for the post of ESE (Both categories) and SESE (all categories) may be posted in Boys Primary and Elementary Schools.

In the previous Recruitment Policy for Educators 2011, female candidates were also eligible to apply for the posts of ESE and SESE in boys’ schools, but there was no relaxation of age for female candidates. This came about in the Recruitment Policy, 2013 for Educators which provided: **“three years special relaxation in upper age limit across the board for all female candidates”** and prescribed that **“the maximum age limit shall be 38 years for females”**.

The Recruitment Policy, 2014 further provides for priority to female candidates in choice of posting if both male and female teachers have identical merit marks. The policy provides as under:

“For the posts of Elementary School Educator (ESE) (all categories) and Senior Elementary School Educator (SESE) (all categories) in Govt. Boys Schools, the candidates (male & female) will apply to DEO (EE-M), but for the post of ESE (all categories) and SESE (all categories) in Govt. Girls’ Schools, only female candidates will apply to DEO (EE-W). Only female ESE (Sci-Math) or ESE shall be posted in Consolidated Model Primary Schools. In case of priority between male and female candidates having same merit marks for the place of posting, the female candidates will be given preference”.

This shows that the provision of age relaxation in the case of female candidates in Recruitment Policies 2013 and 2014 helped to improve the strength of female teachers in the rural areas. It is clear that recruitment policies for educators in Punjab began to lay more emphasis on the recruitment and placement of female teachers at the primary level of education. In addition to incentives in the 2008 recruitment policy, the Recruitment Policy, 2013 and 2014 for Educators incentivized rural women for recruitment through age relaxation and more openings to women in view of their eligibility to be appointed to boys’ schools. This resulted in a rise in the proportion of female teachers in rural areas compared to male teachers in the last years of the 7th NFC Award.

15.2 Female Teachers per School

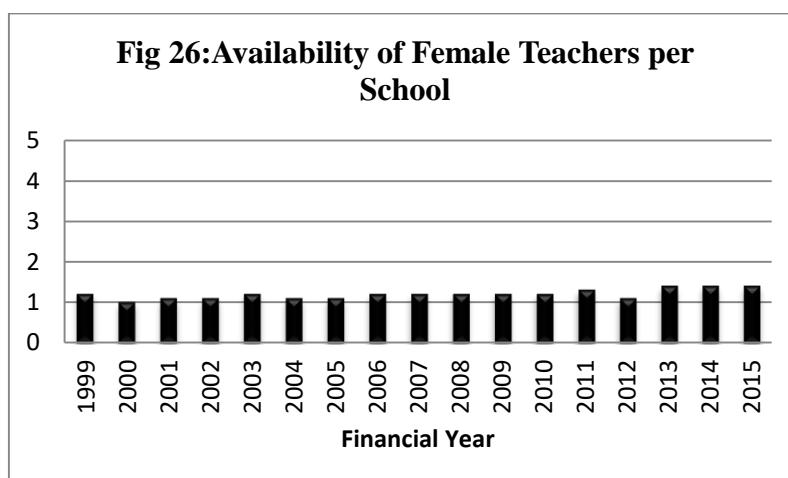
Table 20 presents further data to examine to what extent female teacher strength per school increased on average over the periods 1999-2009 and 2010-15.

Table 20: Availability of Female Teachers per school by Level

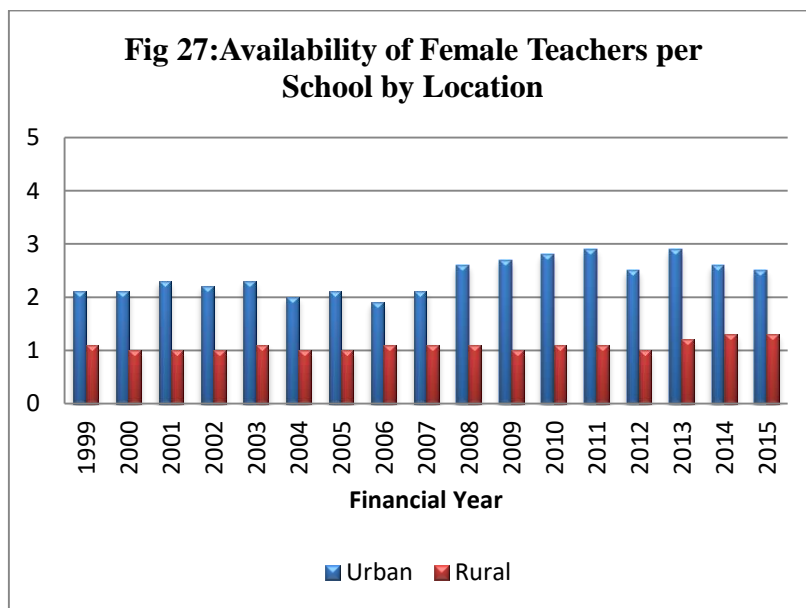
Financial Year	<u>Urban</u>	<u>Rural</u>	<u>Total</u>
1999	2.1	1.1	1.2
2000	2.1	1.0	1.0
2001	2.3	1.0	1.1
2002	2.2	1.0	1.1
2003	2.3	1.1	1.2
2004	2.0	1.0	1.1
2005	2.1	1.0	1.1
2006	1.9	1.1	1.2
2007	2.1	1.1	1.2
2008	2.6	1.1	1.2
2009	2.7	1.0	1.2
Post 7th NFC Period			
2010	2.8	1.1	1.2
2011	2.9	1.1	1.3
2012	2.5	1.0	1.1
2013	2.9	1.2	1.4
2014	2.6	1.3	1.4
2015	2.5	1.3	1.4

Source: Authors own calculation by dividing the number of female teachers by the total number of primary schools.

The data shows that during the pre-7th NFC Award period, the availability of female teachers per school remained at 1.2. However it increased to 1.4 in the post 7th NFC Award period, highlighting the somewhat improved situation in availability of female teachers per school at the primary level as depicted in Figure 26.



From the point of view of urban-rural disparity, it is evident that during the pre and post 7th NFC period, female teachers per school in urban areas remained higher compared to rural areas, as illustrated in Figure 27 below, which is due to the lesser number of urban public primary schools in the Punjab (See Table 18). Figure 27, seen with Table 20, shows a greater fluctuating trend in the proportion of urban female teachers per school in the pre and the post 7th NFC period because there are higher mobility options for women in urban areas compared to rural ones.



A study conducted on the teachers in three districts of the Punjab shows a higher number for years of teaching experience among female teachers which shows that the majority of them remained in the profession for a longer time, as there are less alternative forms of employment available, especially in the rural areas. The same study also highlights the perspective of female teachers in the Punjab who claimed that teaching in a school which is established in a locality where they belong offers the only employment option which their families are willing to consider because profession other than teaching involves commuting to the urban areas (Choudary, 2005).

It seems to be a reasonable assumption that due to the higher mobility among urban women, they have more options for employment elsewhere compared to rural women who are less mobile and, therefore, once the latter get recruited as teachers they tend to remain as teachers because of limited opportunities to move to other professions.

Looking at the data from the perspective of the literature on the subject, which supports a high percentage of female teachers at the primary level, it is evident that though there has been some progress in female teacher availability, it is still very low. Within the present average availability of 3 teachers per school (see Table 26), female teachers are less than 50% of the average staff per primary school.

15.3 Trained Primary Teachers in Public Primary Schools

Increasing the female strength of teachers in primary school has been supported by general literature on the subject as a critical ingredient in enhancing the primary enrolment rate. However, the true value of such strength is realized if such female staff is qualified and trained to teach at the primary level. This aspect is now examined in this section.

Table 21 gives the number of qualified teachers in the urban and rural areas of the Punjab.

Table 21: Availability of Trained Primary Teachers by Level, Location & Gender

FY	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	895	830	1725	5704	3598	9302	6,599	4,428	11,027
2000	862	1008	1870	7824	3718	11,542	8686	4726	13,412
2001	1062	1060	2122	7907	4026	10,871	7,907	5086	12,993
2002	1171	1106	2277	6662	3,964	10,626	7,833	5070	12,903
2003	1,255	1,185	2,440	7,130	4,245	11,375	8385	5430	13,815
2004	1475	897	2372	9351	6688	16,039	10,826	7585	18,411
2005	1800	1136	2936	12,509	9,915	22,424	14,309	11,051	25,360
2006	Data Not Available								
2007	2603	1488	4091	15,030	12,523	27,553	17,633	14,011	31,644
2008	1806	1519	3,325	12,682	12,595	25,277	14,488	14,114	28,602
2009	1628	1243	2,871	11,441	11,698	23,139	13,069	12,941	26,010
Post 7th NFC Period									
2010	Data Not Available								
2011	Data Not Available								
2012	1,617	978	2,595	10,698	9,531	20,229	12,315	10,509	22,824
2013	2,202	1,510	3,712	11,819	12,227	24,046	14,021	13,737	27,758

2014	1,963	1,522	3,485	12,290	13,584	25,874	14,253	15,106	29,359
2015	3,150	2,564	5,714	20,482	21,772	42,254	23,632	24,336	47,968

Source: Data extracted from the yearly reports of Pakistan Education Statistics 1999-2015.

Note: A qualified teacher who holds the professional degrees of B.E.d or M.E.d. is treated as trained teacher.

Table 22 tabulates the proportion of primary school teachers who possess a professional degree in Bachelors in Education (B.Ed) or a Masters in Education (M.Ed). In 2002 it became mandatory in the Punjab for primary school teacher to obtain B.E.d to teach at the primary level and the earlier criteria of Primary Teaching Certificate (PTC) and Certificate of Teaching (CT) was to be phased out. The NEP 2009 also raised the status of Pre-Service Teacher Education (PSTE) from certificate and diploma programs to a mandatory Bachelor's degree with a B.Ed. as an entry requirement for teaching at the elementary level and a phasing out of the PTC and CT qualification (SAHE, 2014). Teachers get this qualification from educational institutions in the Punjab such as the Punjab University, Institute for Educational Research (IER) and the University of Education, as well as from the Elementary Teachers Training Colleges functioning under the administrative jurisdiction of the Punjab School Education Department's Directorate of Staff Development (now called the Quaid-e-Azam Academy for Educational Development).

Table 22: Availability of Trained Primary Teachers by Level, Location & Gender (%)

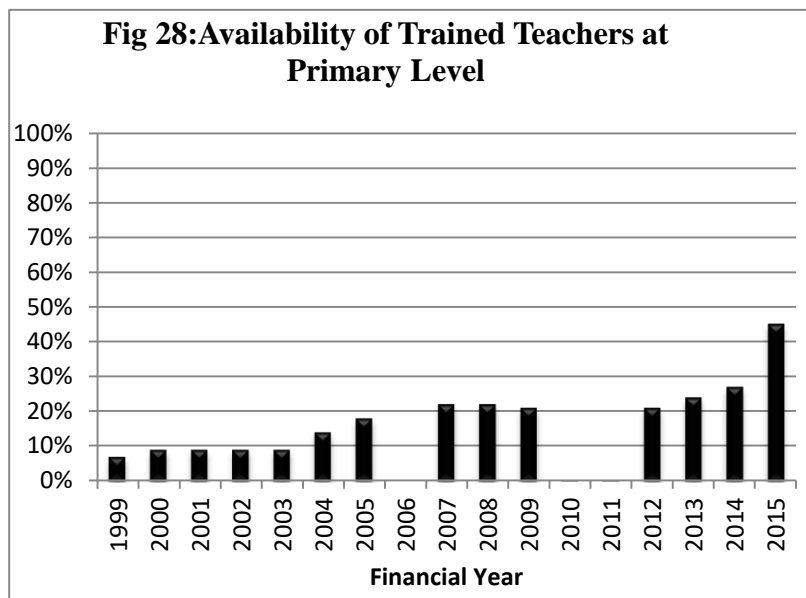
Financial Year	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	7%	7%	7%	7%	6%	7%	7%	6%	7%
2000	8%	9%	8%	11%	7%	9%	10%	9%	9%
2001	10%	9%	9%	11%	8%	9%	10%	8%	9%
2002	10%	9%	9%	9%	8%	9%	9%	8%	9%
2003	10%	9%	9%	9%	8%	9%	10%	8%	9%
2004	13%	8%	11%	14%	14%	14%	14%	13%	14%
2005	16%	11%	13%	18%	20%	18%	17%	18%	18%
2006	Data Not Available								
2007	21%	13%	17%	21%	24%	23%	21%	22%	22%
2008	19%	13%	16%	21%	25%	23%	20%	23%	22%
2009	19%	11%	14%	20%	25%	22%	20%	22%	21%
Post 7th NFC Period									
2010	Data Not Available								
2011	Data Not Available								
2012	20%	10%	15%	21%	23%	22%	21%	21%	21%

2013	24%	15%	19%	24%	27%	25%	24%	25%	24%
2014	28%	18%	22%	27%	29%	28%	27%	27%	27%
2015	45%	31%	37%	47%	47%	47%	46%	44%	45%

Source: Percentages of the data extracted from Pakistan Education Statistics are arrived at by dividing the number of primary teachers with B.Ed and M.Ed degrees by the total number of primary school teachers in each year.

Table 22 and Figure 28 highlights the improved scenario of availability of pre-service trained teachers at the stand-alone/independent primary level of education in the Punjab, rising from 7% in 1999 to 45% in 2015. While examining the significant increase in the last year of the 7th NFC Award, it is found that it was only in the aftermath of the Punjab Recruitment Policy for Educators 2011, 2013 and 2014, that many primary school teachers started to improve their qualifications as under the 2013 and 2014 policies PTC and CT diploma holder candidates became ineligible to apply and a time period for a complete phase out was specified. The above mentioned Recruitment Policies for Educators states that:

“The candidates having prescribed academic qualification will be considered for the post of Educators. However, the candidates without prescribed professional qualifications appearing in the merit list may be considered as per ranking criteria. Such candidates, in case of selection, will have to acquire the prescribed professional qualification within three years. Otherwise their contract will stand terminated, without any notice”.



The quantum of trained teachers at the primary level of education in the Punjab reached 45% in the terminal year of the 7th NFC Award. The ratio between trained male and female teachers remained close to fifty-fifty (Table 22). The increase in the number has not been in favor of female primary school teachers. So while there has been an overall increase, it is well below the requirement of universal coverage, both for teachers as a whole and, more importantly for female teachers.

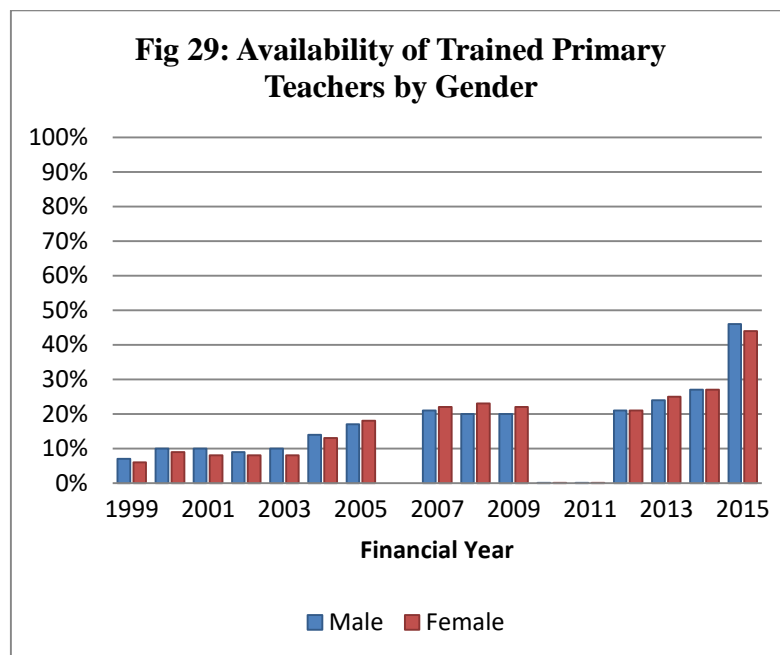
Looking at it from the point of view of urban-rural disparity, it is found that there are more trained primary schools teachers in the rural areas as compared to urban areas, rising from 7 percent of rural teachers in 1999 to 47 percent in terminal year of the 7th NFC Award i.e. 2014-15. In the urban areas, there has been a rise in trained primary teachers from 7 percent in 1999 to 37 percent in the 2015.

The reason behind this phenomenon is the obviously limited options available for women in rural areas compared to urban areas which restricts mobility, as explained earlier. Literature on the subject shows that the motivation behind women joining the teaching profession is the non-availability of jobs in other sectors (Iqbal & Anwar, 2008). Women in rural areas are often provided less opportunities to work outside their homes due to cultural and social constraints, but the education sector is considered as providing a more secure and safe environment for women. Consequently, parents more willingly allow their female children to work in this sector. Accordingly, more rural teachers qualified themselves over time when the higher professional qualification of B.Ed and M.Ed was made mandatory for primary school teachers.

A further factor is that the female public primary schools in rural areas are more in number compared to those in urban areas which consequently created more opportunities for rural women in the rural areas (See Table 17).

Table 19 shows a lower number of female teachers vs. male teachers in total till 2013, but within the lower percentages of female teachers, it is found that there is a higher percentage of

trained female teachers than trained male teachers in total during 2005 till 2013 as illustrated in Figure 29 below:



Trained male teachers in total were reported higher in percentage terms during the period 1999-2004, but owing to the higher turnover rates among males compared to females, the ratio started to become inverse from 2005 onwards till 2013. The higher turnover rate among males is attributable to the introduction of a fixed-term/short term contract policy of 2004 instead of the regular mode of appointment. Under this policy, Rule 4 of the Punjab Public Service Commission (Functions) Rules, 1978 excluded contract recruitment from the purview of the Punjab Public Service Commission. This raising concerns for job security on the part of teachers hired on contract.

The newly introduced concept of contract teachers in the Punjab has resulted in a two-tier arrangement of incentives, in which regular teachers have the better prospects for transfers compared to fixed term contract recruitments. In the subsequent Recruitment Policy of 2005

for recruitment of educators, it was made clear that recruitments/appointments on contract shall be school specific and the appointees shall be non-transferable.³

The study comprising three districts of Punjab shows that despite being offered higher salaries to teachers recruited on fixed-term contracts, they are found demoralized. Moreover, many of them were posted in remote, rural and insecure areas where there is a teacher shortage, which resulted in unintended outcomes such as teacher absenteeism as teachers began to look for more attractive form of employment (Choudary, 2005). The same report on the subject finds that those teachers who are recruited on merit for school based contract appointments make temporary decisions and constantly seek options even after their recruitment. If the school in which they get recruited does not suit them, they do not join it.

15.4 Trained Teachers per School

Table 23 presents the availability of trained teachers per independent school during 1999-2009 and 2010-15 where it shows that during the pre-7th NFC Award period the availability of trained teachers per school increased from 0.1 in 1999 to 0.5 in 2009 which further increased from 0.5 in 2012 to 1.2 in the terminal year of the 7th NFC award i.e. 2015.

Table 23: Trained Teachers per School by Level, Location and Gender

Financial Year	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1999	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1
2000	0.2	0.4	0.3	0.2	0.1	0.2	0.2	0.2	0.2
2001	0.3	0.4	0.4	0.2	0.1	0.2	0.2	0.2	0.2
2002	0.3	0.4	0.4	0.2	0.1	0.2	0.2	0.2	0.2
2003	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2
2004	0.5	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3
2005	0.6	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4
2006	Not Available								
2007	0.9	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6
2008	0.7	0.6	0.7	0.6	0.6	0.5	0.5	0.6	0.5
2009	0.7	0.6	0.6	0.4	0.5	0.5	0.5	0.5	0.5
Post 7th NFC Period									
2010	Not Available								

³ Letter NO. SO(S-IV) 2-34/2005, dated Dec 2005

2011									
2012	0.8	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5
2013	1.3	0.8	1.1	0.6	0.6	0.6	0.7	0.7	0.7
2014	1.2	0.8	1.0	0.6	0.7	0.7	0.7	0.7	0.7
2015	2.0	1.5	1.7	1.1	1.2	1.2	1.2	1.2	1.2

Source: Trained teacher per School is calculated by dividing the total number of trained teachers by the total number of primary schools in each year.

This demonstrates the improved situation in the availability of trained teachers on average in the public primary schools of the Punjab. However, as discussed, overall it presents an unsatisfactory picture. A notification issued by the School Education Department reveals that the government aims to ensure the presence of six teachers in each primary school to teach six subjects in order to ensure the dissemination of quality education.⁴ The data set reveals that although there is an improvement in trained teachers per school, this improvement falls very short of the desired outcome of having the preponderance of teachers as female.

Looking at the picture from the urban-rural perspective, it is observed that the availability of trained primary teachers per school is greater in the urban areas as compared to rural ones, rising from 0.3 in 1999 to 1.7 in 2015. In rural areas, there has been a rise in trained primary teachers per school from 0.1 in 1999 to 1.2 in 2015. The reason behind this urban-rural disparity is the relatively less number of primary schools in urban areas compared to rural areas (See Table 17), and this ensures higher availability on average of trained teachers in each urban public primary school in the Punjab.

While there has been an improvement in the provision of teacher training, especially after the minimum qualification of B.Ed became mandatory for primary school teachers in the post 2002 period, the highest level of the total teachers of 45 percent attained in the final year of the 7th NFC Award (Table 22), shows that not even half of them are trained before they enter a primary school to teach. This progress is too poor to contribute to the achievement of SDGs for

⁴ Letter No. SO (SE-III) 2-13/2017, GoPb, SED, Dated 31st May, 2012.

universalization of quality primary education by 2030. Despite teacher training being an important factor to meet the SDGs, the National Education Policy (NEP) 2009 does not provide any targets over a defined timeframe for ensuring achievement of 100% trained teachers as a means to promote the objective of universalization of quality primary education and to reduce dropout rates. NEP (2009) lays stress on the quality of learning but lacks an effective implementation strategy (Zakar et.al 2013). Moreover, the Education Sector Reforms Action Plan (ESR) 2001/06 also does not mention any specific measurable indicators for teacher training.

15.5 Elementary Training Colleges

Table 24 below tabulates the number of Elementary Teacher Training Colleges which are responsible to provide pre-service as well as in-service training to qualify elementary school teacher.

Table 24: Elementary Teacher Training Colleges by Gender

FY	Number		
	Male	Female	Total
1999	25	10	35
2000	25	10	35
2001	25	10	35
2002	25	10	35
2003	25	11	36
2004	25	11	36
2005	25	11	36
2006	25	11	36
2007	25	11	36
2008	25	11	36
2009	25	11	36
2010	25	11	36
2011	24	12	36
2012	24	12	36
2013	24	9	33
2014	29	8	37
2015	27	11	38

Source: Data is taken from Punjab Development Statistics, Bureau of Statistics.

The Table shows that the number of Elementary Teachers Training Colleges in Punjab has not increased to any significant extent over a period of 17 years during the pre and post 7th NFC period. It is further evident that the number of female colleges remains less than half that of male colleges despite research in literature that concludes that female teachers are a major factor in incentivizing enrolment at the elementary level.

As mentioned earlier, it is not only Elementary Teachers Training Colleges that are mandated to provide pre-service teacher education in Punjab, but at a broader level, colleges and universities also provide the professional degree of B.Ed and M.Ed. However, it is the Teacher Training Colleges on which the direct responsibility falls to increase the numbers of trained teachers, especially those who are in service. Ever since it has become mandatory for primary school teachers to upgrade their qualification, the responsibility of Teachers Training Colleges has become more critical as in-service teachers generally do not go to colleges or universities for the required qualification.

15.6 Teacher Training Budget

This part unfolds the budgetary allocations for teacher training as a ratio of the total education budget and looks further into the current and development budget for teacher training in the Punjab.

Table 25: Budgetary allocations for Teacher Training

	Total Education Budget (Rs. In millions)	Teacher Training Budget (Rs. In millions)	Teacher Training Budget as a ratio of Total Education Budget (%)
FY 1999			
Current	29,900.000	174.131	0.6%
Dev	2,570.000	270.651	11%
Total	32,470.000	444.782	1.4%
FY 2000			
Current	29,900.000	181.211	0.6%

Dev	1,735.000	138.734	8%
Total	31,635.000	319.945	1%
FY 2001			
Current	30,100.000	232.672	0.8%
Dev	1,746.000	Nil	n/a
Total	31,846.000	232.672	0.7%
FY 2002			
Current	30,299.000	315.311	1%
Dev	1,382.000	18.000	1.3%
Total	31,681.000	333.311	1%
FY 2003			
Current	31,165.000	290.306	0.9%
Dev	2,455.000	95.125	4%
Total	33,620.000	385.431	1.2%
FY 2004			
Current	37,145.000	Nil	n/a
Dev	6,976.000	44.806	0.6%
Total	44,121.000	44.806	0.1%
FY 2005			
Current	42,495.000	Nil	n/a
Dev	9,630.000	61.524	0.6%
Total	52,125.000	61.524	0.1%
FY 2006			
Current	48,704.000	3.000	0.01%
Dev	9,600.000	59.306	0.6%
Total	580,304.000	62.306	0.01%
FY 2007			
Current	63,500.000	823.625	1.3%
Dev	12,080.000	67.139	0.56%
Total	75,580.000	890.764	1.2%
FY 2008			
Current	109,247.000	2,129.192	1.9%
Dev	21,755.000	56.350	0.3%
Total	131,002.000	2,185.542	1.7%
FY 2009			
Current	115,455.000	1,535.854	1.3%
Dev	29,351.000	1.000	0.0%
Total	144,806.000	1,536.854	1.0%
FY 2010			
Current	129,767.000	1,719.760	1.3%
Dev	25,545.000	300.000	1.2%
Total	155,312.000	2,019.76	1.3%
FY 2011			
Current	136,427.110	2,295.851	1.7%
Dev	18,727.560	323.748	1.7%
Total	155,154.67	2,619.599	1.7%
FY 2012			
Current	163,450.830	3,340.018	2%
Dev	28,527.480	128.044	0.4%
Total	191,978.31	3,468.062	1.8%
FY 2013			
Current	185,548.690	3,468.701	1.9%
Dev	35,026.940	71.178	0.2%
Total	220,575.630	3,539.879	1.6%
FY 2014			
Current	200,110.310	3,787.455	1.9%
Dev	32,456.030	Nil	n/a
Total	232,566.340	3,787.455	1.6%

FY 2015			
Current	221,039.320	4,114.134	1.8%
Dev	38,589.720	75.233	0.2%
Total	259,629.04	4,189.367	1.6%

Source: Estimates for Teacher Training (Non-Development) are taken at an aggregate level from Punjab Budget Books whereas estimates for Teacher Training (Development) are taken from the ADPs.

Note: Total Education Budget includes the share of districts.

Table 25 lists the teacher training budget as a ratio of the total education budget in the two time frames to gauge the priorities of government towards this factor for increasing enrolment and retaining students in a school.

Looking at the budgetary allocations for teacher training, both for pre-service and in-service teacher training, the highest share of 1.8 percent as a ratio of the total education budget is observed in 2012 during the post 7th NFC period, as indicated in Table 25. This highest share is attributable to the highest allocation in the current budget of teacher training which stood at 2 percent of the total education budget in which in-service training received a larger share compared to pre-service training. However, this share is clearly too low to train the massive workforce employed at the basic level of education. The allocation for teacher training does not meet the desired level in order to fulfill the SDGs of universalization of quality primary education by 2030. Such an important determinant for primary education related to the quality of education has received low attention in the Punjab.

During the pre-7th NFC period, the overall share of teacher training shows a drop from 1.4 percent of the education budget in 1999 to 1.0 percent in 2009. However in between these years it remained fluctuating and reached its lowest point at 0.1 percent in 2004 and 2005. While analyzing the current budget of teacher training, it is found that no allocations were made for either pre-service or in-service teacher training education budget during these years.

The development budget for teacher training occupies a major share in 1999 and 2000 owing to the availability of foreign funded projects for teacher training namely the “Teacher Training

Projects”, sponsored by the Asian Development Bank. The share of the teacher training budget in the total education budget decreased as the share of foreign funded projects disappeared. It shows that Punjab government did not allocate adequate resources for the training of teachers from its own budget, and rather relied upon foreign assistance for such an important determinant for the promotion of primary education.

The data discussed above shows a greater focus on primary school infrastructure, than on the qualitative aspect i.e. on enhancing the availability of female teachers and on teacher training. Tables 11, 12, 13, 14, and 15 that are related to primary school infrastructure have shown a greater improvement for electrification, availability of water, boundary wall, latrines and classrooms respectively in public primary schools of Punjab. However, these larger improvements have not helped to improve the basic indicators of enrolment. Looking at the availability of female teachers in primary schools of Punjab in Table 19 and 20, and trained teachers in Table 21, 22 and 23, some improvement is visible, but much less in degree than in the improved physical infrastructure. The improvement in the qualitative aspect of teacher proficiency remains very limited.

16. Implications on Important Ratios

This part now looks at the implications of the policies discussed and their outcomes on ratios between teachers, students, schools and classrooms. We take the gross enrolment figures by level as net enrolment figures by level are not available in any publication (Please see 9.1 Data Limitations and Treatment).

In the first place, the decreasing number of gross enrolment over the years in independent public primary schools as well as in the number of schools and the number of teachers, is evident, as projected in Table 26. Table 26 tabulates the gross primary enrolment in public schools by level during the pre and the post 7th NFC period where it started to increase from

3.9 million to 5.5 million in 2008, but it started to decline in 2009 from 5.2 million to 4.1 million in 2015. This decrease in the gross enrolments during the post 7th NFC period is attributed to the policy shifts in mainstreaming the primary education sector through up-gradation, mergers, and consolidation of schools policy.

Table 26: Ratios at the Primary Level of Education

	Absolute Numbers			Ratios		
	Public Primary Schools	Gross Enrolment in Govt. Schools	Teachers in Govt. Primary Schools	Pupil Teacher Ratio (PTR)	Student Per School	Teacher per School
1999	58,252	3,918,616	163,776	24	67	2.81
2000	52,404	4,558,405	147,254	31	87	2.81
2001	52,150	4,522,002	142,035	32	87	2.72
2002	52,035	4,490,353	144,503	31	86	2.78
2003	51,995	4,550,550	154,602	29	88	2.97
2004	51,698	4,609,538	135,879	34	89	2.63
2005	51,641	5,246,847	143,703	37	102	2.78
2006	51,623	5,505,100	145,539	38	107	2.82
2007	50,443	5,585,037	145,073	38	111	2.88
2008	49,545	5,503,017	132,839	41	111	2.68
2009	48,577	5,270,046	125,579	42	108	2.59
Post 7th NFC Period						
2010	48,004	4,982,979	124,842	40	104	2.60
2011	45,933	4,849,794	121,943	40	106	2.65
2012	44,064	4,582,023	110,549	41	104	2.51
2013	39,347	4,213,700	113,604	37	107	2.89
2014	38,427	4,254,047	106,885	40	111	2.78
2015	37,853	4,118,980	105,716	39	109	2.79

Source: Public primary schools (which include mosque schools), enrolment in them, and the no. of teachers are all taken from the yearly reports of Pakistan Education Statistics.

Notes:

- (i) The no. of primary schools, enrolment in them and the no. of teachers are all taken by level, which means they all pertain to independent public primary schools.
- (ii) Pre-Primary which includes Katchi class and un-admitted class is included in Gross Enrolment by Level because reports of the Pakistan Education statistics did not provide the data on this category with the exclusion of pre-primary after 2009.

The Up-gradation of Schools Policy 2009⁵ approved the criteria for up-gradation of schools from Primary to Middle with total enrolment of 20 students in class IV & V for boys schools and 15 students in class IV & V for girls schools which meant that after the up-gradation of school at the middle level, the students enrolled in the up-graded school are reported by stage. This meant that after the merger of primary schools in the senior level school, the students enrolled in the merged schools are reported by stage.

Similarly, the policy of “Merger of Two or More Schools Functioning In the Same Premises 2010”⁶ proposed that two or more primary schools which are functioning in the same locality be merged into a single primary school. Consequently, the data of gross enrolment available by level shows a declining trend from 2009 onwards in the wake of the school merger policy.

This is only part of the reason behind the declining number of gross primary enrolments by level, but the gross primary enrolment by stage also shows a decline (please see Table 8). The main factors are qualitative in nature.

A major downside of the merger policy of primary schools into high level schools is that it leaves fewer schools in the rural areas, while the higher level schools into which merger takes place are established in towns. In both cases, distances to schools tend to increase both for students and teachers. Literature suggests that greater distance has a significant negative impact on primary school enrolment and lessens the probability that parents will send their children to school. The issue of distance becomes even more important in the case of female enrolment. Quoting Zakar et al (2013), Khan (2011) argues that many girls drop out of school due to extensive distances and security reasons. Another study highlights the ramifications of increased distances on school enrolment rates which tend to decrease consistently after each

⁵ Letter No. SO (schools) 4-18/2009, GoPb, SED, Dated 14th February, 2009

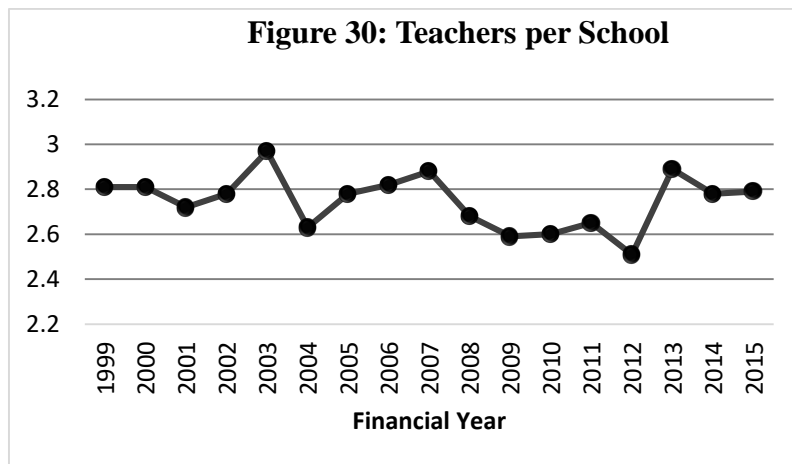
⁶ Letter No. PS/SSE/MISC/2010/02, GoPb, SED, Dated 14th February, 2009

increase in distance from school of 500 meter between the home and the nearest school (Andrabi et al, 2007). This is another factor that has negatively influenced primary enrolments in public primary schools of the Punjab.

Table 26 further calculates the pupil-teacher ratio, student per school and teacher per school over a period of 17 years during the pre and the post 7th NFC period to analyse these indicators in order to examine the qualitative aspect of education in public primary schools.

16.1 Teachers per School

Figure 30 reveals that during the pre and the post 7th NFC Award period, teachers per stand-alone school remained at 2.78 in 2005, and also stood at 2.78 in 2014 which shows a stagnation in this indicator of quality education. This stagnation is due to a continuous drop of primary schools teachers during the period of 17 years, from 163,776 in 1999 to 105,716 in 2015 and a corresponding drop in primary institutions from 58,252 in 1999 to 37,853 in 2015 (See Table 26).



Mushtaq and Soharwardi (2013) studied the teacher situation in the Punjab and NWFP and quoting Aly (2007) bring out that teachers per school in the urban areas substantially outnumber teachers in rural areas because the former use political patronage, with the result that many rural schools end up with one teacher teaching from first to fifth grade.

The consequence of continued stagnation in the average number of teachers per school has been that multi-grade teaching has subsisted over the years detracting from enhancing teaching quality in the schools.

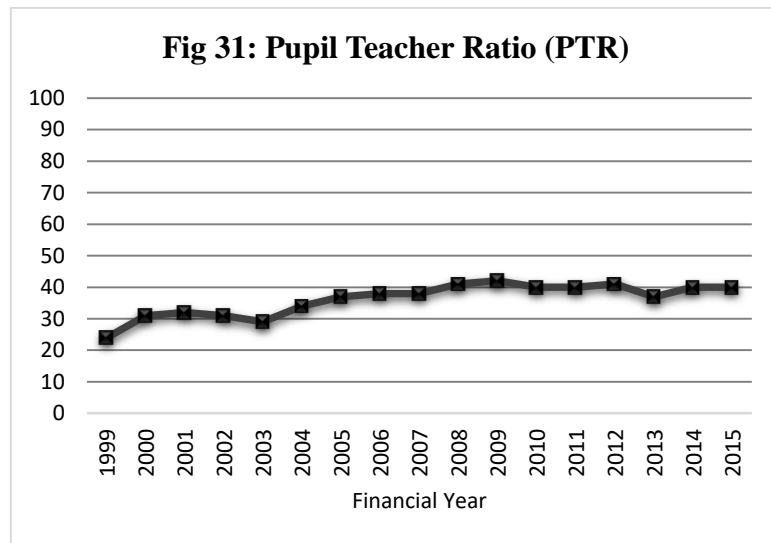
16.2 Pupil-Teacher Ratio (PTR) and Multi-grade Teaching

PTR is a commonly used indicator in education planning and for the resources devoted to the education sector. It is evident from Figure 31 that the student-teacher ratio in independent primary schools went up from 24 in 1999 to 42 in 2009 compared to post 7th NFC period and then went down to 39 in 2015. The overall situation generally remained static from the end of the pre NFC 2010 to the end of the post 2010 NFC period, showing that each school teacher attends to 39 students on average. A study highlighting the reason for low enrolment and retention in primary schools of Punjab is that teachers use corporal punishment for students, and this is further aggravated by a pupil teacher ratio of 1:39, with an average of only three teachers, each taking multiple classes simultaneously which affects the quality of teaching and discipline in a class (UNICEF, 2008).

The higher PTR is attributable to the decreasing number of public primary school teachers in the Punjab. The drop in primary school teachers is explained by the government policy of rationalization by which primary schools were merged into higher level schools, and resultantly, teachers were also moved into merged primary schools at the higher level leaving a smaller number for the merged independent primary schools where student numbers went up.

However, while by staff rationalization and schools merger policies in the pre 7th NFC period, as well as in the post 7th NFC period, the Government of Punjab controlled the uneven spread of teachers across the public primary schools, it also increased the workload on the existing school teachers. Another reason for the declining primary school teachers is that the already

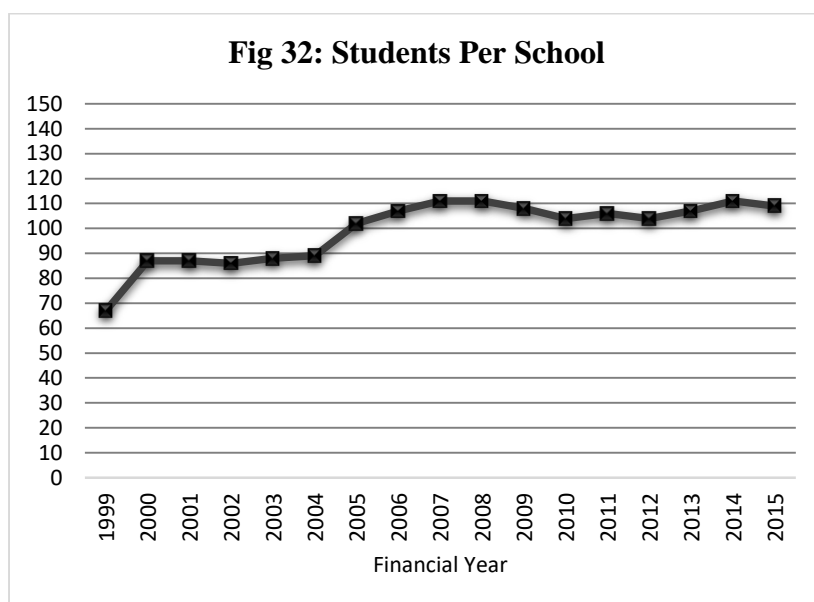
sanctioned posts of educators did not get filled up by the selected candidates because of the policy of school specific appointments (please see page 77 on male turnover).



16.3 Students per School

Another important indicator that relates to quality education is the number of students in each school. This figure increased from an average of 67 in 1999 to 109 in independent primary schools and remained around this figure in post 7th NFC period as illustrated in Figure 32 below. Overall, the number of pupils in each primary school of Punjab shows an increasing trend, and such an increase is attributed to the faster decline of independent public primary schools of Punjab than the decline in student’s enrolment, as tabulated in Table 26. It shows that the gross enrolment in government schools increased from 4.6 million in 2004 to 5.2 million in 2005, which results in a rise from 89 students per school in 2004 to 102 students per school in 2005. Such an increase in primary gross enrolment is partly attributable to the government’s reform programme i.e. Punjab Education Sector Reforms Programme (PESRP) in 2003 which aimed to increase enrolment and retention at the primary level of education. In the following years, it becomes static till 2008, and afterwards in the wake of school mergers policy 2009, it started to decline from 5.2 million in 2009 to 4.1 million in 2015, part of which can be explained by the merger of primary schools into senior level schools when the students

enrolled in the merged schools were reported by stage and thus were not included in the data for standalone primary schools. A further explanation, of course, lies in a deteriorating qualitative situation as evident in the relevant data.



16.4 Students per Classroom

Table 27: Average No of Students per Classroom

(Numbers)

FY	Enrolment in Govt. schools	No of classrooms in primary schools	Average No of Classrooms in primary schools	Average no of students per classroom
2007	5,585,037	114,331	2.7	49
2008	5,503,017	115,896	2.7	47
2009	5,270,046	114,825	2.7	46
Post 7th NFC Period				
2010	4,982,979	119,449	2.7	42
2011	4,849,794	121,039	2.7	40
2012	4,582,023	116,818	2.8	39
2013	4,213,700	111,412	2.9	38
2014	4,254,047	113,314	3.0	38
2015	4,118,980	109,007	3.0	38

Source: No. of classrooms in primary schools are extracted from the yearly reports of Pakistan Education Statistics during 2007-2015.

Notes:

(i) Gross Enrolment by level is taken from Table 26.

- (ii) Classrooms availability by level is taken.
- (iii) Excludes not reported schools and average no of classrooms are calculated accordingly.
- (iv) Table 27 starts from 2007 because previous year data for classrooms availability is not available.

Table 27 indicates that average number of primary students in each classroom decreased from 49 in 2007 to 46 in 2009, which further decreased in the post 7th NFC period till 2012. However in the years following it remained stagnant at 38 students per classroom. This is due to marginal increase in classrooms (See Table 15) which resulted in the continuation of multi-grade teaching on a large scale in the primary schools.

17. Analysis and Key Findings

Having examined the progress achieved by the Punjab government in creating essential infrastructure for independent public schools along with its efforts to introduce quality by inducting more qualified female teachers, we can now evaluate the outcomes in the light of the available data. The net enrolment rate at the primary level has remained sticky and the obvious conclusion is that these efforts by the Punjab government have been less than adequate to address the issue. They have barely managed to retain the enrolment rate at a constant low level which is an unsatisfactory outcome.

It is clear that budget allocations for education in general and stand-alone primary education in particular have not been adequate and, instead of steadily increasing, have steadily deteriorated over the years. We see, as a first observation, that the total primary education budget as a ratio of the total Punjab education budget decreased from 47 percent in 2011 to 42 percent in 2015, representing a downward trend. A similar declining trend is evident from Table 9 for the primary stand-alone budget as a ratio of the total education budget, which decreased from 30% in 2011 to 23 percent in 2015. In the primary education sector, it is found that the share of total primary education expenditure in total education expenditure also came down from 48 percent

in 2011 to 45 percent in 2015. Likewise, a similar declining trend is evident in case of the primary stand-alone expenditure as a ratio of the total education expenditure as seen in Table 10, which decreased from 31% in 2011 to 25 percent in 2015. In fact the share of total and stand-alone primary education in both the allocated and expensed budget showed a downward trend. Where there has been some jump in budgets, as for example in funding teacher training, it has been so owing to foreign funding. The increased availability of funding after the 7th NFC Award has played no significant part in enhancing resources for primary education in the Punjab.

The question then was that even with this decreased share, did the Punjab government adequately address the physical and quality needs of the primary sector in the areas delineated in this research?

Despite the decrease in allocated and utilized resources in the primary education sector, the overall situation of independent public primary schools infrastructure from the years during 1999-2015 shows a significant improvement in electrification of schools, rising from 14 percent in 1999 to 81 percent in 2015. There is also a phenomenal increase in toilets/sanitation facilities in public primary schools of Punjab over the period 17 years where a sizeable improvement is witnessed rising from a coverage 30 percent of schools in 1999 to 95 percent in 2015. Likewise, in the addition of boundary walls in public primary schools, there is an increasing trend, rising from 41 percent in 1999 to 92 percent in 2015 with an increase of 124 percent over the period of 17 years. The overall situation of drinking water supply also improves from 68 percent in 1999 to 97 percent in 2015. The increase in infrastructure coverage of primary schools in terms of boundary walls, electrification, latrines and drinking water is notable.

Data shows that coverage for girl's schools has been emphasized and, therefore, it has gone up substantially, especially in the later years of the 7th NFC Award. However, the focus on enhancing classroom availabilities per school has been less notable. (Table 15).

It is pertinent to highlight that the improvement indicators in infrastructure are partly a reflection of a declining share of the public primary schools in Punjab owing to closure, up-gradation and schools merger. The Government of Punjab rigorously followed the policy of consolidation, in which existing primary schools were added to higher schools, non-functioning schools were closed and such primary schools were merged with each other where there was non-availability of teachers or lack of enrolment. The phenomenon of school mergers and staff rationalization remained a trend in the Punjab in 1998, 2005, 2009, 2010, 2012, 2013⁷ and more recently in 2014⁸. The budgetary allocations for the primary education development budget shows a declining trend in the pre and post 7th NFC period, owing to Government of Punjab's schools consolidation policy, because after the merger of primary schools into upper level schools, the budgetary share of primary education got absorbed in the secondary education budget. It is significant to note here that the trend in primary stand-alone development budget witnessed a similar pattern owing to similar reasons.

The bulk of funding in the education sector seems to have gone into brick and mortar projects. The improvement in physical/missing facilities in independent public primary schools of Punjab can also be partly explained by the success of the Punjab Education Sector Reforms Programme (PESRP) launched in 2003, which includes a component on replenishment of missing facilities. However, despite the big improvement in primary school infrastructure, the enrolment in public primary schools remained static. Here, the urban-rural disparity is evident; all physical facilities in the urban primary schools of Punjab were greatly enhanced as

⁷ Letter No. SO(SE-III)5-49/2013

⁸ Letter No. SO (SE-III) 2-13/2007 (P-IV), GoPb, SED, Dated 14th Jul, 2010

compared to rural primary schools. However, despite this improvement, urban primary enrolment showed no improvement in the post 7th NFC period. In rural areas too, missing facilities were improved significantly in the post 7th NFC period, but despite this improvement the rural primary enrolment in the Punjab showed no progress. Official data on provision of essential infrastructure in Punjab's stand-alone primary schools shows a high level of improvement in physical facilities but overall gross and net enrolment rates do not seem to have budged.

Turning to the Punjab government's improvement in the qualitative aspect i.e. in teacher quality over the same period, as seen through female staffing and, more importantly, trained female staffing we see a lesser emphasis than on physical infrastructure. As brought out earlier, literature suggests that females are generally softer towards students and their availability in schools increases the probability of school enrolment. If, as the literature suggests, female teachers at the primary level is a critical element in encouraging primary enrolment, then it is a reasonable assumption that primary schools should have female teaching staff either exclusively or as far as possible. Some attention clearly seems to have been given to this requirement, over time.

There is an improved proportion of female teachers at the primary level of education in Punjab, which after hovering around 43 percent of the total teacher strength till 2007, gets augmented to 52 percent in the final year of the 7th NFC Award, showing around a 50:50 ratio between men and women. Similarly, another indicator of availability of female teacher per school shows that during the pre-7th NFC Award period it remained at 1.2, but increased to 1.4 in the post 7th NFC Award period, highlighting an improved situation of availability of female teachers per school at the primary level of education. From the urban-rural perspective, it is found that there are more female teachers per school in urban areas compared to rural areas during all the years

between pre and post 7th NFC period. However, as is clearly evident, this improvement falls well short of the objective of maximizing female teacher strength in public primary schools.

Data shows some improvement in the provision of trained teachers in independent public primary schools of Punjab, rising from 7% of teacher strength in 1999 to 45% in the terminal year of the 7th NFC Award i.e. 2015. In addition to this, the proportion of trained teacher per school also increased from 0.1 in 1999 to 0.5 in 2009 which further increased from 0.5 in 2012 to 1.2 in the last year of the 7th NFC award i.e. 2015. Hence, a certain degree of improvement in teacher qualification is also seen, and within the rise in the number of qualified teachers, there is a greater rise in female teachers. While analyzing the resource allocation in teacher training, budgetary allocations at an aggregate level show some improvement, with acute fluctuations in between from 1.4 percent of the total education budget over the pre NFC period to 1.8 percent during the post 7th NFC period. However, the share of teacher training in the total education budget remained very negligible.

Another notable finding from the urban-rural context, is that there is a higher availability of female trained teachers in the rural areas. This has helped to augment rural primary enrolment compared to urban enrolment (see Table 6). The decline in urban enrolment is explained by the relatively lesser availability of female trained teachers in urban primary schools. This points to the probability that the lesser number of trained teachers in urban primary schools (see Table 22) has had a negative effect on urban primary school enrolment in the Punjab.

The increase in the strength of female teachers overall and trained teachers in particular, in the rural areas can be attributed to the positive fallout of the merger and recruitment policies of the Punjab government which introduced contract appointments with terms that were more suitable and attractive for female candidates, as discussed earlier. However, the downside of these policies had more acute consequences as the overall availability of elementary school teachers

declined over the years, distances for travel to school for students and teachers increased in many cases, the practice of multi-grade teaching continued, and teacher load increased owing to an increasing average number of students per school.

It is evident from the above discussion that the Punjab government has focused more on the physical requirements of primary schools than providing for the fundamental requirements that promote the quality of education imparted. It is clear from the enrolment situation that physical facilities, though important cannot substitute for the quality factor. While the percentage of female teachers in general, as well as trained female teachers, has improved, it is nowhere close to the situation of a vast majority of teachers at the primary level being female. Literature suggests that the quality of education being an important determinant also helps to enroll students in a school. Our data analysis shows the quality of education being provided in public primary school of Punjab on these two counts related to teachers as inadequate. The qualitative aspect relating to teacher adequacy and quality, especially in the matter of a higher induction of trained female teachers, falls well short of the mark. Since teacher quality is universally acknowledged in literature as a key determinant to incentivize enrolment and retention, it stands to reason that lack of progress in this important requirement is closely related to lack of progress in raising the enrolment rate in the Punjab during the period under study.

Generally the lower number of students in many schools, which led to the rationalization and merger policy, has also kept down the recruitment of new teachers in keeping with the low number of students. This approach of matching teachers with existing students in independent primary schools tends to give rise to a vicious circle where recruitment is low because of the low number of students, and enrolment continues to suffer because of low availability of teachers.

Furthermore, what this has resulted in is less than an average of three teachers per school which means that it is not possible to simultaneously hold separate classes for each of the six sections at the primary level.

Notification No. SO (SE-III) 2-13/2007 dated 31.05.2012 of the Punjab School Education Department says that:

“A proper Primary School should have six teachers and six classrooms for six classes but then it should also have an enrolment of 200 or above @ 40 students per teacher and classroom”.⁹

As the ideal number of six teachers for six classes is nowhere to be found during the period under review, the result has been multi-grade teaching by the available teaching strength by putting students of different primary grades in a common classroom. This leads to a situation where students are being taught either above or below their comprehension and absorption abilities, leading to sub-optimal results in terms of learning outcomes. Schools equipped with an inadequate strength of teachers make for poor incentives for parents to send their children to such schools and so a vicious circles ensues in which each of these situations feeds on the other with a deteriorating effect on primary level enrolment and student retention.

The outcome of the merger policy in bringing down the number of stand-alone schools gave rise not infrequently to the problem of inconvenient access to a school in terms of distance from home. Closed schools or schools merged with higher level school, which are invariably in towns, made the travel distance to alternate schools longer for students and teachers alike. In an environment where disinclination to send children to school is not uncommon, this

⁹ No. SO (SE-III) 2-13/2007 dated 31.05.2012

development served as a significant disincentive for parents to send their children to school because of longer absence of the child from home, security concerns or transportation costs.

The other downside of wholesale mergers and closures was the increased number of children per school in the independent primary schools where children from closed schools accumulated. While classroom capacity still looks available, an increased workload on the existing strength of teachers comes about because of the necessity of multi-grade teaching.

The problem was exacerbated owing to the general shortage of teachers and specifically the shortage of trained teachers. The policy of contract appointments, though meant to relate teacher retention to performance, had the adverse effect of inclining potential teachers, especially male teachers, to look for alternate, more secure, employment. The school specific and non-transferable nature of the contract appointments served as a further disincentive for male teachers looking for alternate employment near their homes.

However, the policy did have an upside-that of ratcheting up the number of female teachers as compared to male teachers. But in view of the limited number of qualified female candidates available, the overall effect was a falling rate in teacher availability.

The drop in male applicants, not being anticipated, was not countered by effective policy to attract female teachers. Though attraction was provided to women by giving them priority in appointments on certain grounds discussed earlier, equipping them with the required qualification was not emphasized adequately. Resource allocation, on the whole, for training was far too low. It seems the Punjab government relied almost entirely on external funding for the training component than on their own enhanced resources and once foreign funding dried up, so did the training tempo. The number of Teacher Training Colleges was not enhanced even after the demand for the minimum required qualification for primary school teachers was

upgraded to B.Ed. with a time frame to acquire this degree within three years from the date of the notification creating this mandatory requirement.

More significantly, the number of teacher training colleges for women, whose training requirement was most critical for service at the primary level, remained constant at half the number for colleges for men.

With the enrolment level in public primary schools having more or less flattened out in the post NFC period, the question that arises is that with a growing population ‘where are primary level students, going if not to public primary schools?’ The intuitive answer is ‘to private schools’.

Table 28 looks at data over a number of years of public and private enrolment at the primary level.

Table 28: Share of Public and Private Gross Enrolments by stage in Total Primary Enrolments by stage in the Punjab

FY	Public Enrolment	Private Enrolment	Other Public	Total Enrolment	Public enrolments as % of total enrolments	Private enrolments as % of total enrolments
2007	5,825,542	3,157,393	149,275	9,132,210	64%	35%
2008	5,770,429	3,176,029	151,495	9,097,953	63%	35%
2009	5,723,914	3,215,293	154,400	9,093,607	63%	35%
Post 7 th NFC Period						
2010	5,554,086	3,244,583	157,052	8,955,721	62%	36%
2011	5,369,850	3,274,455	159,781	8,804,086	61%	37%
2012	5,096,337	3,944,555	162,565	9,203,457	55%	43%
2013	4,969,416	3,989,118	165,418	9,123,952	54%	44%
2014	5,080,961	4,126,857	168,356	9,376,174	54%	44%
2015	5,139,770	4,476,201	170,356	9,786,327	53%	46%

Source: Percentages are calculated from the data extracted from the yearly reports of Pakistan Education Statistics 2007-2015.

Notes:

- (i) Public Primary Enrolment (Excluding Katchi Class) is taken by Stage.
- (ii) Private Primary Enrolment (Excluding Katchi Class) is taken by Stage.
- (iii) Other Public Enrolment (Excluding Katchi Class) is taken by Stage which includes enrolment in institutions run by other than Ministry of Education or Provincial/ Regional Education Departments, such as Railways, Armed Forces etc.

(iv) Table 28 begins from 2007 because bifurcation of total enrolment by stage at primary level is not available for the years before.

The rise in private enrolments as a % of total enrolments in Punjab shows the phenomenal growth of private school education over a period of 9 years. A surge is evident from the absolute numbers of private enrolment by stage during the last four years in the post NFC period in the Punjab.

Table 29 tabulates the absolute numbers of private enrolment at the primary level in Punjab by location and gender which continued to grow at a faster pace showing a continuous increase from 3.1 million in 2007 to over 4.4 million in 2015, as shown in Figure 33. This highlights the fact that increasing number of primary aged children have started to enroll in private schools in Punjab instead of in public primary schools and explains the absorption of a large number of primary school enrolment in private education sector. It clearly reflects the hugely expanding role of the private sector in delivering primary education.

Table 29: Gross Private Enrolment by Stage at Primary Level by Location & Gender in the Punjab

(Absolute Numbers)

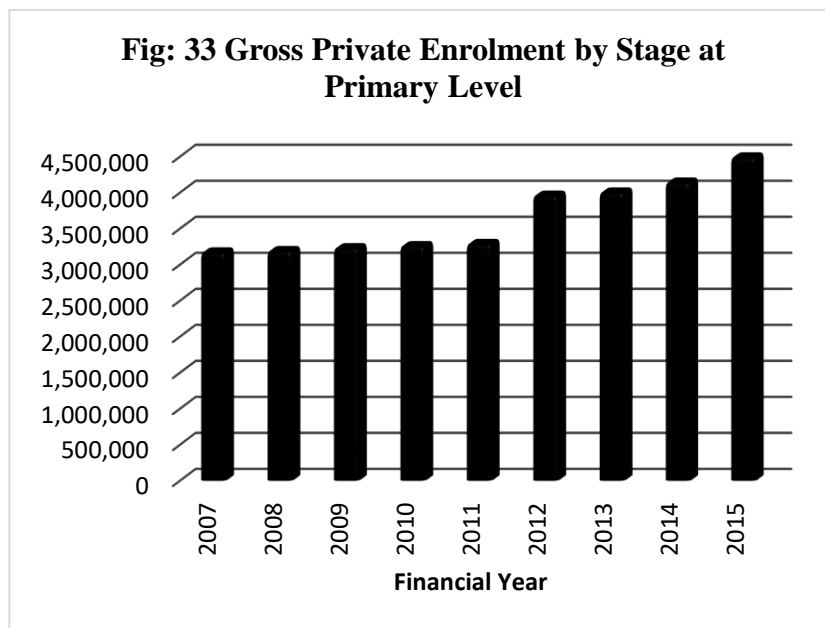
FY	Urban			Rural			Total		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2007	972,790	917,134	1,889,924	683,152	584,317	1,267,469	1,655,942	1,501,451	3,157,393
2008	976,681	924,471	1,901,152	685,885	588,992	1,274,877	1,662,566	1,513,463	3,176,029
2009	988,755	935,899	1,924,654	694,364	596,275	1,290,639	1,683,119	1,532,174	3,215,293
Post 7th NFC Period									
2010	997,761	944,425	1,942,186	700,690	601,707	1,302,397	1,698,451	1,546,132	3,244,583
2011	1,006,301	953,794	1,960,095	706,685	607,675	1,314,360	1,712,986	1,561,469	3,274,455
2012	1,006,411	891,119	1,897,530	1,131,504	915,521	2,047,025	2,137,915	1,806,640	3,944,555
2013	1,017,781	901,186	1,918,967	1,144,287	925,864	2,070,151	2,162,068	1,827,050	3,989,118
2014	1,066,131	942,265	2,008,396	1,170,715	947,746	2,118,461	2,236,846	1,890,011	4,126,857

2015	1,156,759	1,021,633	2,178,392	1,270,233	1,027,576	2,297,809	2,426,992	2,049,209	4,476,201
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Source: Estimates are taken from the yearly reports of Pakistan education statistics 2001-2015.

Notes: (i) Pre-Primary class is excluded.

(ii) Table 29 starts from the year 2007 because in the previous year's data pre-primary enrolment by stage is included in primary enrolment, and no separate bifurcation for primary enrolment is available.



Looking at the situation from the urban-rural context, more primary aged students stood enrolled in private urban schools in 2011, rising from 1.8 million in 2007 to 1.9 million in that year. But in the years following the 7th NFC Award, rural enrolment has increased from 2 million in 2012 to 2.2 million in 2015 which shows that the private sector has also penetrated into the rural market over the post 2010 period.

The phenomenon of private schooling at the level of the primary stage no longer remains an urban exclusive phenomenon. According to the situational analysis of school participation in rural Pakistan, conducted by the Social Policy and Development Centre, private schools in rural areas have also become affordable to middle or even low income segments in society (Jamal, 2014). Enrolment in private schools now matches that in the public sector.

A study shows that parents choose private instead of public schools not only because of the dearth of access to public schooling but also because of the perceived quality of education in

public schools as being very low (AEPAM, 2015-16). Parents who have relatively higher income take out their children from public to private schools as they have more confidence in private schooling. They perceive public schools are inadequate in quality to equip their children to match the demands of the market compared to private ones which provide better employment prospects for their children.

Literature also suggests that parents perceive private schools to have a healthier infrastructure, more capable teachers, and an advanced standard of subject teaching in disciplines such as mathematics, english, and the sciences. The Annual Status of Education Report 2016 endorses the view that private schools perform better than public schools when measuring learning outcomes. According to ASER (2016), the incidence of private tuition which is more prevalent in private school students compared to government school students is also a relevant factor. According to this data the overall tuition in private schools is attended by 33% students compared to 15% students in government schools because of higher availability of tuition in private schools. The reason behind private school teachers offering more tuition than public school teacher is that private school teachers have lower salaries compared to public school teachers, due to which they have to provide private tuition in order to make their ends meet (Saqib et al. 2015). Theorists refer to private tuition as shadow education that supplements formal education rather than replacing low quality formal schooling. Hence, the quality of learning outcomes in private schools is further augmented through private education being delivered by the private school teacher after the lapse of school hours.

As pointed out in Table 29, the private sector has been absorbing the large share of enrolment, more specifically in the urban areas, but has also penetrated into the rural areas in the post 7th NFC period. Despite considerable improvement in infrastructure, and some progress in teacher training and increased female availability in public primary schools, the primary aged children are getting increasingly enrolled in private institutions which has led to a decrease in net primary

enrolment rates in the public sector. This shift is marked by the perceived quality differences between public and private primary schools where the former is commonly rated as being poor in quality and offering poor returns from education in the long run.

18. Conclusion and Key Lessons

The 7th NFC Award, being considered a milestone achievement, provided an increased level of resources to Punjab in the form of higher divisible pool taxes. The increase in fiscal transfers generated the expectation that the Punjab government would allocate the resources in such a manner that delivery of basic education in the province would be stepped up, in line with the international commitments to various conventions and for in the realization of Goal 4 of the Sustainable Development Goals 2030. We can now look at what lessons emerge from our findings based on the analysis of the data.

At the outset, the resources allocated for education in the Punjab, even after the NFC Award 2009, are seen to be far below the resources required to meet the objective of universal enrolment by the end year of the SDG i.e. by 2030. Pakistan spent 2.65% of its national GDP on education in 2015 while it has been estimated variously that resources equivalent to 4% to 5.5% of the GDP would need to be devoted to the education sector to reach the goals of the SDG 2030.

If we look at the figures of the GDP of the Punjab in 2015 and the figures of the total budget for education we see a similar gap.

In 2015, the final year of the 7th NFC Award, the GDP of the Punjab was estimated to be \$ 146.37 billion or Rs 14.6 trillion. With an education budget of Rs 259 billion, the Punjab

government's funding of education at the end of this period stood at 1.76% of its GDP which is substantially lower than the national figure of 2.65% of the GDP in 2015.¹⁰

We can conclude from the sub-optimal indicators of enrolment levels that this level of resource allocation is inadequate, and unless budget outlays are enhanced radically, there is little hope for any significant change in this situation.

In the years that the development budget has been relatively higher (2004-06) we see two sources for this financing: foreign aid and the Chief Minister's Education Sector Reforms Program 2003. As soon as these sources dried up, the development budget for primary education went down steeply. While foreign aid for projects had a limited time-frame, the Chief Minister's Education Sector Reforms Program in 2007 diverted its funding to higher levels of education which is evident in a sharp drop in allocations for primary education. The lesson here that neither foreign aid nor ad hoc programs can be depended upon to be sustainable in ensuring a regular flow of resources for any key area of development. Sound planning with budgeting ensured to meet the objectives of the plan over its life with assured resources and without ad hoc interventions outside the core development plan is the only way to move assuredly toward development goals.

The inadequacy of the current budget too is clear from the resource commitments for education over the years. Current budgets should be supportive of sustaining development objectives and for the maintenance and running of assets created for the purpose. They also support a variety of inputs that contribute to the goals of development initiatives. The declining share of current budgets for primary education had adverse repercussions for enhancing the strength of teachers,

¹⁰ Calculated on Punjab's share estimated at 54.1% of the GDP (Pasha 2015). With a national GDP of \$270.556 billion in 2015 (World Bank 2019), Punjab's GDP works out to \$146.37 billion.

and particularly for trained teachers as the training budget for primary level teachers fell over the years.

It is also seen that expenditure in the primary education sector has lagged behind the budgeted volumes, showing that the capacity to absorb resources has obvious limitations. Consequently, this manifests itself not only in sub-optimal utilization of resources but also in wastages. What this situation brings out is the great importance of developing capabilities for project execution and putting in place sound systems of governance for timely and efficient utilization of funds. Without this imperative being in place, even higher resource allocations will deliver limited outcomes.

Looking at infrastructure over the years under review, we find that there has been a steady improvement over time of school coverage in respect of some important components of the external environment such as electrification, water supply, boundary walls and sanitation with coverage approaching the full mark by 2015. A part of the reason for the higher figures of coverage was, of course, merging primary schools to the secondary and higher secondary schools and also merging shelter less schools with existing primary schools. This enabled the merged schools to share infrastructure and raise the coverage figure. However, there is much less progress in additional classrooms in schools over the same period. Reaching the ideal number of six classrooms in a primary school would add considerably to its qualitative appeal as all six sections will have their own space which would keep grade-specific instruction with the right teaching strength. What we can conclude from the infrastructure situation in Punjab's primary schools is that the very important component of classroom numbers has got secondary attention with poor implications for important back up infrastructural support for quality instruction.

The clear lesson that emerges from the discussion on Punjab's interventions in the elementary education sector is that the physical environment of schools, while undoubtedly important, is not critical to enhancing net enrolment. Good infrastructure does create a preliminary positive impression about a school, but such an impression is superficial in nature as it conveys nothing about the core mission of a school i.e. enhancing the quality of instruction. It is commonly observed that when appropriating funds, infrastructure seems to be more favoured as concrete structures have a more demonstrable effect which is considered politically more feasible. The immediacy of the visibility and impact of brick and mortar projects is conceived as providing more political value as opposed to the qualitative aspects of teacher skills, which are not only less visible but the outcomes of which lie in the distant future.

However, it carries the advantage of providing an initial incentive for decisions regarding admitting children to school and this does have important value.

Decisions taken to retain children in school is, however, subject to assessments made by parents on the qualitative input of the school in its teaching component. This affects the net level of enrolment by incentivizing children either to stay or leave the school.

In Pakistan generally, this is the weak area of school education. In view of the shortage of teachers, especially female teachers, and, more importantly, the still lower number of trained teachers, the qualitative aspects of school education remains poor. It is this aspect that determines the dropout rate and affects the net enrolment rate. We see, however, that even the gross enrolment rate has gone down in the Punjab which reflects a more serious situation of the perceived low quality in primary schools.

We come now to policy formulation during this period to see what consequences followed and what lessons can be drawn from them. The rationalization policy, though it did help in teacher reallocation to schools without teachers, did not turn out to be a good alternative to increasing

teachers on the whole. Data shows that independent public primary schools had an average of three teacher per school by the end of the 7th NFC period which is half the required teaching strength and necessitates multi-grade teaching, detracting from quality instruction, and a major disincentive for retention at the primary level. The conclusion here is that economies in expenditure that depart from fundamental requirements of enhancing quality can only deliver counterproductive results.

The merger policy also had an upside so far as schools without shelter or with very little enrolment were either merged at higher levels or with other independent schools and thus required better infrastructure. But the downside was that school distances for many families increased which served as a strong disincentive to put children in schools. Similarly, increase in travel time and cost also contributed to teacher absenteeism affecting the qualitative aspect of schooling.

The policy of enlisting teachers on contracts had a good governance and management motive i.e. tying performance to teacher retention. But it was observed that this adversely affected the strength of male teachers which went down vis-a-vis female teachers. Though the rise in the share of female teachers at the primary level appears to be a good sign, the overall drop in teacher strength reflects a counter-productive outcome.

Looking at these policy implications as a whole, it can be concluded that formulating policies without adequately thinking through the implications at the time of implementation is decidedly poor governance.

We observe a large number of policy interventions but poor implementation. While, for example, some important policy initiatives have had as their objective the enhancement in the trained female teacher strength at the primary level, implementation in the shape of supportive action to actualize the objective has been poor. There has been poor follow-through in

providing expanded facilities to enable teachers to enhance their qualifications. No special and determined effort has been made to train female teachers by expanding training facilities specifically catering to them, which have remained at half that of males.

Similarly, while carrying out reforms in changing the terms of employment of teachers (in the shape of contractual engagement and restricting place of service), the unintended consequences were not carefully assessed. Resultantly not only the turnover rate of male teachers went up, this policy serve as a disincentive and contributed to the declining number of teacher availability in subsequent years.

The implementation phase is rightly considered to be a part of the formulation phase, so that it has to be built into the policy framework at the time of policy making to guard against unintended consequences. Also no policy or plan can be effectively monitored without targets over defined time frames being clearly stipulated. This has been a missing element in Punjab's planning for primary education.

The ultimate lessons to be learnt from this experience are that without focusing on, and prioritizing, the qualitative aspect of elementary level education, there is no possibility of enhancing the net enrolment rate with an emphasis on the physical facilities of a school alone. Furthermore, while formulation of policies to do so is the simple part of the intervention, there is little likelihood of further progress unless implementation is undertaken and thought through with thoroughness and seriousness of purpose.

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