School ‘Quality and Effectiveness’
and parental attitudes towards education
in Rural India
and
Insights from the Alice Project

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Introduction

Since the independence, education has been one of the main sectors the Indian policy focused upon. However, despite investments and special programs for education, the situation still remains unsatisfying: with an enrolment rate close to the 95%, indicators concerning drop-out rate, out of school, schools’ infrastructures, provision of secondary schools, rural-urban inequalities, gender inequalities, social inequality in education and recent tests on learning level describe a situation in which quality of education is still far from reach. As Drèze and Sen (2013) argue, the demand of a quality education is high and concerns also the most disadvantaged groups of the population. The Indian sector of education is highly diversified and in continuous transformation due to the role that private schools are now playing, filling the gap between the demand of a quality education and the low supply provided by the government.

This work focuses on two main aspects: quality and effectiveness of education and parental attitudes towards education. The main goal of this research is to try to determine the main factors addressing quality of education towards a positive path and to investigate parental perceptions on education. The cornerstone of this research stresses the importance of the high interconnection between the single school, the family and contextual factors in addressing children’s learning and positive attitudes, determining on a large scale the extent of the main gaps and the effects of education.

I conducted a large literature review the arguments described above. Together with the literature review on the argument, which was mostly theoretical or strictly quantitative, I moved to rural India in order to address my research towards a more qualitative way. The location of the research was the area of the city of Sarnath, in Uttar Pradesh. The place was chosen in order to investigate school determinants by including in the sample a virtuous example of school: the Alice Project, which will be described in chapter IV.

I included 5 schools in my sample. Starting from the framework of school effectiveness developed by Heneveld and Craig (1994) I individuated for each school the level or the presence of the most important school factors in addressing school effectiveness. In order to do that, many unstructured interviews were conducted with students, school staff, and students’ parents. Moreover, quantitative data on enrolment and attendance were collected. I provided a math test, taken as a proxy of effective learning, to a total of 291 children in the 5 schools. Then, taking the test results as a
dependent variable, I developed a statistical model with the school factors taken as independent binary variables. The second part of my research includes the investigation of parental attitudes and perceptions towards education, accomplished by interviewing 40 people by adopting the Q methodology.

This research is structured in the following way: chapter one will focus on the concepts of school quality and effectiveness. The literature review conducted on the argument will represent the concept of school quality under different perspectives and approaches. Section II will be a brief analysis and a general description of education in India. Chapter III will focus more on household dynamics, trying to explain the major household determinants concerning education and by presenting a simple model of household decision in case of school quality, developed by Drèze and Kingdon (1999). Chapter IV is related to the first part of my experimental research concerning school factor analysis. Section V will be deepening parental attitudes and perception towards education by adopting the Q methodology. Final conclusions will be presented in chapter VI.

**Acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>AP</td>
<td>Alice Project</td>
</tr>
<tr>
<td>BIMARU</td>
<td>Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh</td>
</tr>
<tr>
<td>CEP</td>
<td>Commonwealth Education Partnership</td>
</tr>
<tr>
<td>DPEP</td>
<td>District Primary Education Programme</td>
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<tr>
<td>EFA</td>
<td>Education For All</td>
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<tr>
<td>EFAGMT</td>
<td>Education for All Global Monitoring Team</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
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<td>EWS</td>
<td>Economically Weaker Situation</td>
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<td>GC</td>
<td>General Castes</td>
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<td>IHDS</td>
<td>Indian Human Development Survey</td>
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<td>MDG</td>
<td>Millennium Development Goals</td>
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<tr>
<td>NFHS</td>
<td>National Family Health Survey</td>
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<tr>
<td>NGO</td>
<td>Non-governmental Organization</td>
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<tr>
<td>NSSO</td>
<td>National Sample Survey Organization</td>
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<tr>
<td>OBC</td>
<td>Other Backward Castes</td>
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<tr>
<td>PISA</td>
<td>Programme for International Student Assessment</td>
</tr>
<tr>
<td>PTA</td>
<td>Positive Teachers’ Attitude</td>
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<tr>
<td>RTE</td>
<td>Right to Education</td>
</tr>
<tr>
<td>SACMEQ</td>
<td>Southern and Eastern Africa Consortium for Monitoring Educational Quality</td>
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<tr>
<td>SBM</td>
<td>School based management</td>
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<tr>
<td>SC</td>
<td>Scheduled Castes</td>
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<tr>
<td>SMC</td>
<td>School Management Committee</td>
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<tr>
<td>SSA</td>
<td>Sarva Shiksha Abhiyan – Education for All Movement</td>
</tr>
<tr>
<td>ST</td>
<td>Scheduled Tribes</td>
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<tr>
<td>UN</td>
<td>United Nation</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<tr>
<td>UNGEI</td>
<td>United Nations Girls’ Education Initiative</td>
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<td>VEC</td>
<td>Village Education Committee</td>
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<td>WB</td>
<td>World Bank</td>
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Chapter I

Education Quality and Effectiveness

1.1. Introduction: The importance of Education

During the last decades, the role of education as a cornerstone for growth, development and social progress gained unanimous consensus. Universal education is one of the main objectives of the Millennium Development Goals (MDGs) and education is one of the three achievements being used by United Nations (UN) to compute the Human Development Index (HDI). These recognitions can be seen as an arrival point for classic economic theories and as a starting point for new development theories and practices concerning the importance of education. As Tilak (2008) argues, education has positive effect on the welfare of the whole society due to its externalities effect. From a classical economics perspective, education comports a Pareto improvement effect since it improves social welfare without making anybody worse off (Thomas et al., 2001), playing a role in the creation of new assets and acting as catalyst for spill-over processes. Haddad (1993) argues that improving access to and quality of basic education is a priority in every low-income and middle-income country, especially when taking in consideration girls’ education. According to Willms (2006) it is important to focus on school since “successful schools tend to be those that bolster the performance of students from less advantaged backgrounds” p. 66.

Empirical studies also demonstrated that investment in elementary education amplifies the productivity in all the sectors of the economy much more than other levels of education, and that economic returns to investment in primary education are greater than those arising from other levels of schooling (Christopher, 1980).

1.2. Evidences from research on education

1.2.1. Human capabilities

The key idea of the capability approach is that social arrangements should aim to expand people’s capabilities – their freedom to promote or achieve ‘functionings’ which are important to them. ‘Functionings’ are defined as the valuable activities and states
that make up people’s well-being, such as having a healthy body, being safe, or having a good job. Under the perspective of human development, education plays a significant role. It contributes to well-being of individuals instrumentally by improving income and standard of living and intrinsically by rising capabilities and individual freedoms (Agrawal, 2013).

Drèze and Sen (2013) argue how the abilities to read, write and count have powerful effects on the quality of life, considering the freedom to be informed, to communicate, to live an informed life and improving the way people can understand what happens in the society. These capabilities are fundamental tasks even for the most simple jobs and in the long term, together with specialization of skilled labor can be effective and fundamental in upgrading the quality of production with increasing opportunities on the market side. Basic freedoms and capabilities coming from education are also important when considering empowerment, political opportunities and democracy. Voice and participation in political life can in fact be more effective since educated people can better use and ensure their democratic rights, with positive effects on security and community-based decision processes. Illiterate people have limited ability in understanding, using and invoking their legal rights. Being educated gives people the possibility to resist to the violation of their established legal rights through better knowledge of the ways and the means that can be undertaken.

Development of education is often accompanied by a changing perception and a major request of human rights which Katherine Young (2012) identifies fundamental for freedoms and dignity, basically covering food, water, health, housing, education, freedom of speech and religion. Education can also play a large role in reducing inequality and society stratification. If the child is well supported, schooling can be considered in a much different way from the concept of school as a place where children learn 'notions': children can develop creativity, fantasy and capacities, enjoying school, learning, favouring socialization and creative confrontation.

1.2.2. Women's education

Women play a central role in every society and many improvements in the quality of life and in the development process have often a greater impact if we consider women level of education.

Many researchers found a high correlation between women years of schooling and
reduction of fertility rate\textsuperscript{1}. An evidence coming from India is provided by Drèze and Murthi (2002) who found women's education to be the major determinant in fertility decline, with a very large effect both across and within districts over time. It is in fact being argued by Murthi and Drèze (1995) that education reduces girl's desired number of children, improving their ability to reach the desired family size. Educated girl may have higher chance to marry educated men, who may also have similar desires concerning ideal family dimension. School can be fundamental in providing information on basic health, including the use on contraceptive methods with high positive influence on birth control. It is important to keep in consideration the link between a reduction in fertility and the increase in survival rate: the relative disposal of every kind of resources is higher for smaller households, with a positive impact for children health and growth. It has been found a very close relationship between female literacy and children survival in many countries (Drèze and Sen, 2013). With more years of schooling, it is possible for a woman to enhance her decisional power to be more important and influent in household's dynamics. Following the capabilities approach developed by Sen, better educated girls can gain voice and necessary knowledge to pursue a life they value. Especially in developing countries the role of women usually requires taking care of the house and growing up children. Educated mothers have a positive influence on their children health and on their children future achievements, such as school test-scores results. Promoting social welfare, including women's welfare is one of the main basis for human security. According to Schultz (1993) economic gains of women deriving from level of education are generally equal to the ones of men.

1.2.3. Education and health

There is a significance correlation between education and health. “Knowledge and skills (personal & social) achieved through it can better equip us to get benefited from maximum health services and incentive programmes” (Dwivediedi and Singh, 2010). General education can be helpful in developing knowledge and capacities to think and to understand hygiene and health problems, encouraging them to use health care system, promoting their and others' health (Caldwell, 1986). In surveys conducted in both developed and developing countries, people with more years of schooling reported themselves to be significantly healthier (Case, 2002). Better educated people can understand the utility and the necessity of new health innovations more quickly and, as

\begin{flushright}
\textsuperscript{1} See Murthi, Guio and Dèze, 1995; Bledsoe et al. (1999)
\end{flushright}
a consequence, can also change their behaviour more swiftly (Case, 2004). According to Drèze and Sen (2002) education affects welfare of future generations through intergenerational transmission: better educated parents not only support their children in their education, but also can adopt measures and necessary behaviours in order to have healthier children. It is also a common understanding that healthier children can better benefit from schooling, given a greater capacity to concentrate, greater attentiveness and higher attendance possibilities.

1.2.4. Human capital
The concept of human capital originated during the ’50s. Despite many critics, it became a new way of thinking about economic growth and one of the most influential economic theories for government policies since the early ’60s. Human capital expansively includes the meaning of ‘human as creator’ who frames knowledge, skills, competency, and experience originated by continuously connecting between ‘self’ and ‘environment’ (Kwon, 2009). Some researchers define that human capital is “the knowledge, skills, competencies and attributes in individuals that facilitate the creation of personal, social and economic well-being’ with the social perspective” (Rodriguez & Loomis, 2007). Accumulation of human capital plays a crucial role in economic growth theory. These perspectives stresses on knowledge and skills obtained throughout educational activities such as compulsory education (De la Fuente & Ciccone, 2002). To pay close attention to education, training and health is particularly important for a successful economy. Becker, one of the main developer of the human capital concept argues that capital accumulation arises from investments in these and other sectors. It is worth to notice that not only the development of skills and competencies for the individual is crucial for human capital accumulation, but also creativity, attitudes and behaviours. In order to develop these characteristics, school, family and experiences are crucial and quality of education act as a strong determinant on which it is important to focus when facing investment decisions.

Recently human capital theory started focusing in particular on returns to education and its role in alleviating poverty and promoting social welfare.

1.2.5. Economic Growth and Quality of Education
Quality of school can influence what people learn during one year of schooling. For example, what a person learns after one year of schooling in India might be different from what a person learns after one year of school in Italy. This happens because an increase in skills and knowledge depends on the quality and efficiency of the education quality
(Hanushek and Wößmann, 2007), including quality of teaching, infrastructures, enabling environment, quality of the materials and other factors, which will be deepened in the literature of this argument in paragraph 1.4. The focus of research on the correlation between Growth and income should, then, follow also rely on effective learning, effective knowledge resulting from education quality, instead of education quantity.

Hanushek and Kimko (2000) find a statistically significant positive effect of quality of education – measured as cognitive tests results – on the 1960-1990 economic growth, highly reducing the association between quantity of education and growth. In fact, they found that the addiction of educational quality to a model – for 31 countries – including income and education quantity, increases the way their model explains GDP increase from 33 to 37% percentage points. Barro (2001) argues that quality is much more important than quantity in determining GDP growth, also considering that both have an effect. Wößmann (2002) shows evidences of the high impact of education quality from a cross-country analysis concerning differences in human capital.

However, it can be argued that these relationships are the result of an inverse causality, reflecting that higher performances are the result of growth, which allows higher investment and a favourable environment for education, on education quality (Hanushek and Wößmann, 2007).

**1.2.6. Education and income**

Both in developed and developing countries, better educated people earn higher wages than less educated people. As Case (2006) explains, this is true for a host of reasons, which complicate attempts to quantify casual effects of schooling on earning: in developing countries, wealthier families can better support their children education and aid members of their families to find superior jobs. Many aspects concerning quality of education also arise while trying to develop comprehensive theories on education and will be deepened in the next chapter. Further steps in determining how education causes earnings to rise can be made, given the improvement of quality and quantity of data collected.

**1.3. School quality**

**1.3.1. Introduction**

The importance of education is not so difficult to see. Effects of education have been analysed on different scales and different perspective such as individuals, community, society, cultural, political, economic and effects on markets.
Quality and effectiveness of education are two different concepts often associated and confused when approaching to education evaluation. By the way, in order to be able to better understand school mechanisms and to be able to provide a complete overview on these phenomena, these two approaches can be tied together, trying to integrate different perceptions, which move forward toward the same direction. It can be argued that in order to produce a comprehensive framework of education quality, school effectiveness plays an important role.

We can understand from the literature general trends of positive effects of education.

### 1.3.2. Quality in Education

Quality in education covers many aspects, indeed it is not easy to define. Hawes & Stephens (1990) important text on basic education in low developing countries proposes that quality can be interpreted as having three strands:

- Efficiency in meeting set goals
- Relevance to human and environmental needs and conditions
- “Something more” in relation to new ideas, creativity and pursuit of excellence.

Wilcox (1990) argues that education quality evades precise definitions. However, according to Wilcox it is important to take in consideration both quantitative and qualitative indicators, including test-scores results to be which has to be evaluated under the notion of *value added*. Value added addresses researchers in understanding that school quality does not have to be measured only relying on students final result, but on which improvements in performance are achieved by students while at school, stressing the importance of social and economic context of the school. It is true that in the beginning of school quality evaluation, too often examinations and test results were adopted as indicators of quality, that is why, according to Vulliamy, the notion of quality:

> [...] presupposes a consensus on the desired outcomes of schooling, which tends to disembodied schools from their wider social, political and economic context... In the Papua New Guinean context, for example, it may be that school with relatively poor examination results is providing a relatively better preparation than other schools for those of its students who are likely to return home to their villages (Vulliamy, 1987, pp. 220-221)

In order to better understand education quality it is possible to indicate three main approaches, which try to provide a framework for education quality:

- Human Capital Approach
- Human Rights Approach
- Social Justice and Human Capabilities approaches
1.3.2.1. Human Capital Approach

As shown in the previous chapter, human capital approach took in consideration education as one of the main determinants of economic growth. However, direct focus on education quality and its role in poverty alleviation, in empowering social groups and women in particularly, arises during the shift from Washington Consensus to Post-Washington Consensus (Robertson et al. 2007). More investments and interventions in guaranteeing quality basic education became necessary in order to guarantee provision of basic skills and useful knowledge to population of low-income countries. Human Capital literature finds three main sources of inequality: gender, rural-urban and regional. Wils et al. (2005) argue that countries with higher levels of inequality of these kinds have also slowest national growth rate. Human capital approach does not indicate a framework to better understand educational quality, but focuses on school effectiveness based on basic inputs and standardized process models such as the one provided from Heneveld and Craig (1996) which look at the single school as basic unit of change. Heneveld's model will be deepened in IV since it provides the basic framework for the author's research.

Heneveld's model provides instruments to determine school quality based on school functionings. School functionings means that school staff, together with school characteristics create and ideal environment through which students, together with teachers, are able to be presented in school and are physically, emotionally and mentally well enough to apply themselves to teaching and learning.

Human capital approach remains one of the most influential economic theory. As Tikly and Barrett (2011) show, it has been institutionalized in the Dakar Framework for Action for the Education For All (EFA) movement, which assumes the role of the state in ensuring excellence for all, despite focusing only on outcomes, not making any reference to any process:

\[\text{Improving all aspects of the quality of education and ensuring excellence for all so that recognized and measurable learning and outcomes are achieved by all, especially in literacy, numeracy and essential life skills. (UNESCO, 2007, p. 66)}\]

Farrell (2002) comments on human capital approach and its efficiency framework developed by Heneveld, arguing that it is not flexible enough to catch and evaluate school factors in situations of high deprivation and critical poverty, or in situations where demand for child labor is particularly high. Other critiques move on the excessive

focus of human capital approach on cognitive learning and test-scores outcomes to determine quality of education (Barrett, 2009). The main mistake can result in a problematic misunderstanding of indicators as *definitions* of quality, with consequent possible errors and difficulties in addressing quality education policies.

The main critiques on EFA argue that this kind of approach attracts models that are “economic drive, associated with workforce training, productivity, functional literacy and notions of human capital” (Lonsdale and McCurry, 2004, p.14)

1.3.2.2. Human Rights Approach

The human rights approach to education quality mainly focus on the necessity of ensuring rights to education, rights in education and rights through education (Unterhalter, 2007). Centrality of these rights implies discussions regarding education quality, taking also in consideration negative rights, such as protection from physical abuse, and positive rights such as participation to debates through democratic institutions and the use of local languages in schools. From these kinds of premises the approach identifies a learner-centred teacher approach to be pursued and promoted. Actions in this direction were made in order to challenge children physical punishment in schools and in order to guarantee democratic access to school and education for all. Pigozzi (2008) illustrates three important aspects of education as human right:

– Participation in quality education in itself;
– The practice of human rights in education; and
– Education as a right that facilitates the fulfilment of other rights

Pigozzi also provides a very interesting definition on education quality:

* A quality education understands the past, is relevant to the present, and has a view to the future. Quality education relates to knowledge building and the skillful application of all forms of knowledge by unique individuals who function both independently and in relation to others. A quality education reflects the dynamic nature of culture and languages, the value of the individual in relation to the larger context, and the importance of living in a way that promotes equality in the present and fosters a sustainable future.* (Pigozzi, 2008, p.4)

According to Pigozzi, the main characteristic of a quality education it is inclusive. It must be able to ensure to every individual, regardless of sex, ethnicity, religion and other characteristics, the possibility to participate and learn from the school process. She actually developed a basic framework to define education quality, taking into account the level of the learner and his environment and the level of the system in its role in creating and supporting learning activities and experiences.
According to the human rights approach it is possible to individuate a principle of 'democratic participation': children, families and all the members of the community, including political leaders, are involved in determining the process of education, its structure, its content and its structure.

The main critiques argue that human rights approach considers school as isolated from the socio-cultural context, and education quality must be developed considering local realities, interests depending on this context (Tikly and Barrett, 2011). Robeyns (2006) specifies how this approach only takes in consideration legal rights formulated at the international level. However it must be said that many human rights quality frameworks take in consideration moral rights aspects underlying the moral and ethical dimension of education.

1.3.2.3. Social Justice and Human Capabilities

Social Justice

According to Nancy Fraser:

"[...]justice requires social arrangements that permit all to participate as peers in social life. Overcoming injustice means dismantling institutionalized obstacles that prevent some people from participating on a par with others as full partners in social interaction (Fraser, 2008, p. 18)."

Injustice is seen as disparity in participation, and inequality in opportunities. The main cause of social injustice come from institutionalized obstacles, which can be
summarized as society mechanisms through which inequality is reproduced. These obstacles include both formal and informal institutions and networks, depending on how the society is structured. Cultural hierarchy may deny to some groups and communities the possibility to stand, being excluded from decisional processes. Services provided by the society and institutions can be the main instruments to reproduce inequality both directly and indirectly.

Unfortunately, education sector is one of the main area through which inequalities are reproduced.

Jeffrey et al. (2005) show, for example, how rural elite in Bijnor district, Uttar Pradesh, India, used their superior health and connections to ensure privileged access to schooling and government employment, raising their social standing. Gender differences in literacy attainment in Uttar Pradesh was found to be significant in female attainment and gender gap (McDougall, 2000).

Fraser indicates three dimensions of social justice: 'redistribution', 'recognition' and 'participation'. Redistribution stands for the possibility of access to resources, such as quality education and its outcomes. Recognition is necessary for recognizing marginalized groups that need more support in order to avoid difference reproduction and to have the chance to live a better life. Participation indicates the right of these marginalized group to participate in decision making process. It is important to underline that education quality represents a political issue, which needs interventions and voice of marginalized groups to be addressed in a more equitable way.

**Human Capabilities**

The main principle and aspects of the capabilities approach were described in the chapter above. Sen's arguments provide a basic to better understand social justice and freedom in relation to education and development. Sen underlines the importance of education as a fundamental instrument in supporting livelihoods, income generation and insecurity reduction. Nussbaum (2000, p. 75) identifies ten core capabilities, which have the status of 'Universal Entitlements', including “being able to use senses, to imagine, to think and to reason” and indicates adequate education as the main mean to cultivate this capability in a 'human way'. Walker (2006) affirms that under a human capabilities perspectives, education is an unqualified good for human development freedom. According to Unterhalter (2007) the capability approach urges when making evaluation on education: it should not only consider inputs such as the number of teachers, hours in class, learning materials and outputs such as test-scores results, but “evaluations should
look at the condition of being educated […] and the ways in which being educated supports what each and every person has reason to value.” This is the way through which education becomes and instrument to ensure equality of opportunities, going beyond the classic perception that mainly looks at mainstream inputs and outputs.

Sen (2009) underlines how different economic, cultural and political features could prevent disadvantaged population reach basic capabilities and functionings. Personal characteristics of the individual such as gender, ethnicity and disabilities and basic social relation are central in determining individual capabilities. Following this perspective, Walker (2006) indicates that capabilities of a girl are highly influenced by society's social norms and conventions. Girls can suffer in fact from the presence of sexist norms, behaviours and abuses despite the availability of good quality school in the locality. To understand the importance of the society and of the context in which the person lives is important in the conceptualization of the relationship between education quality and capabilities (Tikly and Barrett, 2011). Obviously the context in which a person lives can be scaled, this is why it is important to define capabilities on every dimension and their interrelation, considering community, regional, national and global level dynamics.

Both Social Justice and Capabilities approaches were developed recently, and the main problems arise during the attempt to define, capture and measure the various capabilities for the different dimensions cited above. Moreover it is important to understand how the success of education system in developing such capabilities can be measured (Tikly and Barrett, 2011).

1.3.3. Conclusion: how to deal with education quality
The three approaches indicated – human capital approach, human rights approach and social justice and capabilities approach – provide important elements to better understand education quality in developing countries. Quantitative and qualitative research conducted in the field of school quality provide a various set of informations which can be better understood by adopting the main concepts and principles of these approaches, keeping in mind their main critiques and limits.
1.4. School Effectiveness

1.4.1. Introduction

School effectiveness research started growing consensus since the 1980s. Lockheed and Hanushek (1988) provide a definition of efficiency as a ratio between inputs and outputs. Consequently, a more efficient system is the one through which it is possible to obtain, in comparison, higher outcomes with fewer inputs. For Lockheed “the output of education refers to the portion of student growth or development that can be attributed to specific education experiences” (1988, p.22). They argue that even when resources are limited, them should be used in an optimal way in order to promote society’s objective as fully as possible. Inputs include a various range of elements, such as student interaction with teachers, textbook, teacher training, school curriculum and so forth. It is important to distinguish between effectiveness and efficiency: it is common understanding that “efficiency” is linked to monetary inputs – cost-benefit ratio concerns – and “effectiveness” is used for inputs of different nature, broadly speaking, non-monetary inputs.

![Diagram of school effectiveness research](source: Scheereens and Bosker, 1997 – from Luyten et al., 2004)

Earlier research developed attracting growing consensus and political support and enhancing the capacity to collect and analyse data. Social scientific theory was introduced mainly during the end of the 1990s by authors such as Stringfield and Scheerens.

1.4.2. School effectiveness
School effectiveness researches are supported by both multilateral and bilateral agencies which operate in the educational sector. Policy-makers usually take into account the main findings of this research, and this criterion has to be accompanied by a range of political, cultural, economic and educational concerning to really make educational policies effective. Lockheed and Hanushek (1988) identify three internal constraints in enhancing school effectiveness: (1) inadequate knowledge of school internal about internal dynamics of effectiveness, (2) inadequate knowledge of inputs' costs, (3) complexity in getting information.

Luyten et al. (2004) believe in an approach in which the primary focus relies on the development and on the future of children that should be related to a preparation for the labour market, personal development and civic education. This approach requires a wider conceptions of education goals, addressing questions on basic goals of education such as knowledge and skills necessary to not in labour market but also on social and personal sphere of development. The way a school or the entire educational system is able to provide helpful service to enhance such spheres is hopefully a mean to reduce existing social inequalities. Reduction of inequality is seen as an effect of optimal education. Evaluation of outcomes requires, moreover, constant development and improvement of actual evaluation measures. According to the authors, much more attention should be paid to external determinants, such as learning influences and families’ background, which may have a larger influence for non-cognitive outcomes. Despite Thomas et al. (2002) find that school effects are small for non-cognitive outcomes; it is arguable that different in teacher approach, school curriculum and, more broadly speaking, school environment can be. School characteristics such as educational leadership, children support and evaluative potential, considered according to SER, can explain fundamental gaps in schools. Impact of school can be evaluated, for example, with an experimental situation and its counterfactual, after identifying similar contextual factors. Most SER studies adopt quantitative approaches, adopting statistical evaluation methods by using longitudinal data. Authors like Kruger et al. (2003) argue that research should be addressed to the use of evaluation methods, which sees to go beyond the merely statistical use of longitudinal and statistical data. Kruger finds that a growing number of empirical studies is showing the importance of indirect effects of school leadership in school outcomes and argues that a more accurate and specific theoretical framework is needed to better develop SER. Theories can be implemented or tested through the evaluation of educational interventions and school improvement operations (Stringfield, 1995). Reynolds and Teddlie (2001) argue that the
starting point for SER should be the individuation of ineffective schools in order to have a higher operational range to develop theories and practices. Heneveld (1994) develops his model for school quality and effectiveness, focusing on single school as main vector of change. A theoretical foundation for this approach is also explained by Miles (1998) who argues that singles school varies locally and that uniformed and centrally developed reforms for school improvement hardly can have an effect on every school, stressing the importance the power and the high influence of single places, communities, groups and cultures.

1.4.2.1. Critiques to school effectiveness

Critiques to this approach mainly focus on two argumentations. The first one concerns *objectivity* and *political-ideological influence*: Luke *et al.* (1998) argues that researches can't remain objective during SER process. Contamination may arise, for example, from political, ideological and personal sympathies of the researcher and can arise in every moment of the research, from a general theory formulation, to data collection and results interpretation. The second main critique focuses on the way *teaching and learning* is intended. Elliott (1996) contrasts SER arguing that too often children results are taken as a measure of teacher ability. Elliott stress the importance of teaching and that teaching-learning process does not have to identify according to final results, but it concerns a more complex process and the effect of teaching-learning activities may result in other spheres of children's life others from school test-scores results and similar evaluation. A teacher can be influent in shaping perceptions, ideas, in addressing towards a positive path of a honest life. Quality teaching may be fundamental in determining quality of life.

Like every kind of science, SER in constantly evolving and changing. Improvements need constant debate, constant attempts of research and implementation of new methodologies.

1.4.3. Effectiveness in developing countries

Quality and effectiveness of school research in developing countries provide a wide range of researches and theories. Most of the research focuses on longitudinal data analysis and a relatively elevated number of qualitative studies has been conducted in African countries. However, from a literature review of the argument, general trends can be identified. Levin and Lockheed (1991) focus on flexibility as a key characteristic for school improvement, also arguing that material inputs have a higher effect in developing countries with respect to developed countries, and deserve higher focusing and
attention. They distinguish between fundamental inputs and facilitating conditions. The basic inputs are: a well-development curriculum of studies, a sufficient level of instructional material supplied to students, adequate time for teaching and studying and teaching practice and experience. Facilitating conditions concerns community involvement, school-based professionalism and flexibility in school organization.

According to Haddad et al.:

*We know that well-managed, effective schools share several characteristics: they display an orderly environment, emphasize academic achievement, set high expectations for student achievement, and are run by teachers or principals who expend an enormous amount of effort to produce effective teaching and encourage pupils to learn, no matter what their family background or gender. Few schools in developing countries display these features (Haddad et al, 1990, p57).*

In his attempt to summarize knowledge on school quality and effectiveness in developing countries, Pennycuick (1993) reviewed evidence from both developed and developing countries, with the aim of providing guidelines for decision making that can be summarized as following:

- **Teacher quality**: investment in teacher training also providing useful resources for teaching morale result in efficiency improvement for almost every research conducted. Mixing pre-service training and in-service training is the method that provides better results.

- **Book and materials**: adequate provision of books (up to 2:1 pupil: book ratio) and instructional materials should be a priority, despite the main result depend on their utilization.

- **Curriculum**: improvement of the curriculum is more efficient than a curriculum reform.

- **Examinations**: examinations reforms can improve quality, but must be appropriated for the teaching method.

- **School organization**: increasing instructional time appears to be more effective than a decreasing in class size. Encouraging community involvement have positive effects.

- **Education management**: good decentralized organization result in higher school effectiveness, especially when accompanied by management training.

- **Teachability**: provisions of pre-primary education and the adoption of measures to improve child health increase quality.

Yu (2007) argues that efficiency of different inputs is much greater in developing
countries than in developed countries, mainly because of the scarcity of school resources in low-income countries. For example, having a blackboard, in context where provision of books is not sufficient, increases the in significance the contribution of having a blackboard taken as isolated factor. Yu also argues that the main two factors that have a negative effect on academic achievement are distance from school and average grade repetition. Concerning educational outcomes, Bossiere (2004) argues identifies five main determinant elements: (1) school building, classrooms and furniture, (2) software such as curriculum, pedagogy, textbooks provision and quality, (3) teachers characteristics, (4) management and institutional organization (5) context and cultural characteristics. In his book, Schubert (2005) analyses different case studies in order to individuate the major determinants of school quality, emphasizing the role of classroom as the place and the role it has in providing learning-teaching relationships with high effects on knowledge and capabilities. Mingat (2005) all education factors interact, intersect, and generate a system aimed at education quality provision, but the main risk is that interaction between these variables can differ and deviate substantially from what is expected and this may result in a different and uneven distribution of educational outcomes. Willms and Somers (2001) find that most effective schools tend to be those with a higher level of school resources, with classroom that are not multigrade, with a positive climate. They also confirms other theories, finding instructional materials and teachers’ credential as playing and important role also in determining the level of school resources and in determining assessment strategies.

1.5. Equity and main factors

1.5.1 Quality of education and gender inequalities

It is arguable that one of the main focal points in quality of education debate is equity. Inequality arises for different reasons. Inequality concerns many spheres of life and it may have its origins in cultural settings, monetary situations and on forms of discriminations. One of the main goals of school quality debate is to avoid and defeat inequality. Gender inequality received a lot of emphasis: MDG 2\(^3\) and 3\(^4\) also are an important example, but also EFA stresses the importance of primary education for all boys and girls. To promote gender equality in education also is a further step in

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\(^3\) To achieve universal primary education
\(^4\) To promote gender equality and empower women
enhancing women empowerment. Together, both gender equality and women empowerment are useful means for meeting the challenges of poverty and development (UNGEI, 2010). According to Aikman and Rao (2010), quantitative measures actuated to determine parity and equality do not go far enough in assessing what is the value of formal education for the increasing number of girls and women accessing school. E4 identifies that there are many political, cultural, social and economic constraints and factors that undermine women integration, deny their rights and obstacle their ability to have a quality education and use what they learn in their life. Social justice approach represents a good perspective through which provide solutions and and better understand gender inequality dynamics.

Unterhalter (2006) underlines the importance of the context with the aim of capturing the whole system of a community, place or country, which can undermine or ‘pull’ women participation inside and outside the school system. Aikman and Rao emphasize the concept of enabling environment, which is related not only to physical, social and cultural environment, but to a wider system, as Unterhalter argued, in which a school represents a function. Lewin (2007) finds that the majority of girls out of schools, and the majority of those not performing well, come from rural and poor background. According to these findings, research focused on possible incentives to rise girls’ enrolment and participation in schools, but the importance of the influence and the long-term transformation of social and cultural norms becomes central once again.

1.5.2. Factors influencing education quality and effectiveness
Abby Riddel, in his study Factors Influencing Educational Quality and Effectiveness in Developing Countries: A Review of Research provides a review of research of studies conducted on quality of education, mostly quantitative, and based on international and local data both. The attempt is to find general trends of school factors in order to determine if and how they affect school quality usually measured as student’s achievements. Here comes a list of these factors and a review of important articles cited in Riddell (2008):

Socio-economic status: a study from Sirin (2005) confirms the importance of this factor in determining the overall school achievement. Methodology adopted in determining correlations and the methodology adopted in collecting data are fundamental. This study focuses on the way different data can be interpreted, analysed and collected. It warns against the use of aggregate data, differences that arise for ethnic groups, the school system model and locations. An individual student level data, for
these determinants, could be more accurate and better help researcher do individuate bias and avoid interpretation errors. Lee et al. (2006) analyse school effects in Brazil, focusing on quality – measured as students’ achievement – and equality – equal distribution of student achievement – and found that socio economic status is strongly linked to gender. Moreover, they found that reading achievements do not meet quality and equality requisites.

**Parental involvement:** Park (2008) analyses parental involvement effect using data collected by PISA in 14 different countries. The focal point of the research is to investigate parental-child communication. His positive results demonstrate how parental involvement has an effect in improving overall quality of education system. What we learn from this research is that in more standardized, transparent and community-oriented school systems, parents are able to gain a higher access to necessary knowledge about schooling and about the school system. In such way, parents can be more involved in the school environment and can easily monitor their children achievements and compare them to the average results, given the transparency level of the system. Moreover, Park argues that higher parent-child communication can compensate some disadvantages associated with socio-economic status.

**Class size:** recent studies conducted on possible effect of class size are contradictory and counter-intuitive. It usually has a very small effect size, not always significant. Hattie (2005) compares class size with other factors of school effectiveness, finding that when a class is reduced due to new programs and policies, the effect of a reduction in class size is small because it is in relation with teachers’ teaching method. Teachers do not optimize new resources and possibilities coming from having fewer students. O’Sullivan (2006) reviews different studies (e.g. Michellealowa (2011), concluding that class size is not significant, stressing the importance of link between class size and pedagogical practices. O’Sullivan reviews started investigating the way class size was influenced by teaching strategies. With evidences from Uganda she argued that basic teaching skills, working groups, and a particular attention to the classroom context had positive effect when accompanied by a reduction in class size.

**Teachers and absenteeism:** given the EFA conditions, expansion of the number of teachers became an important argument for educational policies of developing countries. Indian policies for incrementing number of teachers will be deepened in the next chapter. Bennell and Akyeampong (2007) provided a study for several countries – including India, Kenya, Tanzania and others – and found that low teacher motivation and low incentives have a negative effect on school quality and learning outcomes.
What they found was that teachers claimed to be seriously underpaid. This was identified as the main factor in determining low morale, motivation and absenteeism.

*School based management* (SBM): SBM was indicated as one of the principal recipes in order to improve quality in education. SBM can better respond to local problems that central organization and policies cannot take in considerations. After reviewing literature on this argument, De Grauw (2004) argues that the effect of SBM on school quality are not significant, but the author also highlights that this is probably due the fact that very few initiatives of SBM had a direct link to classroom dynamics. Leithwood and Menzies (1998) studied 83 empirical cases and concluded arguing that SBM had no effects on students. Woessman (2003) uses data on 260,000 students collected by TIMSS in 29 countries. He finds that difference across countries do not relies on resources available, but differences in achievement results from a difference in central organization and the way examinations and control mechanisms are managed, in school autonomy in decisions and in individual teachers’ incentives. World Bank (WB) (2006) funded many programs addressed to teachers’ recruitment and incentive. WB argues that hiring local teachers is one of the best solutions in order to avoid, as possible, problems of lack of motivation and absenteeism. Their incentives results to be higher, given the possibility of expansion of their job opportunities and their relationship and direct involvement with the community.

*Language and private schools*: teaching language in school represents a focal point where parents’ education demand and school supply can meet or diverge. Teaching in English language is actually growing in Asia, and this phenomenon especially concerns private schools, which are growing exponentially. The teaching language in the school depends both on the parents’ expectations and it is influenced by the context. Different programs promote teaching in the homeland language, and introduce English language teaching by time. Private schools are rising in order to meet parents’ wishes. In developing countries, and especially in India, private schools have to be monitored since they are highly influencing school systems, but concerns about inequalities need to be deepened in order to see the overall impact of private schools. Literature on local language teaching demonstrates that in poor countries it helps in increasing the level of literacy and in increasing the basic capabilities in relation to other subjects (Riddell, 2008).

*Textbooks and materials*: provision of books and related materials has a direct effect on children learning in developing countries. Provision of computers in classroom, however, was seen by Lockheed and Verspoor (1991) as a ‘blind alley’. This
means that they can result to be effective under favourable conditions, but their costs could be too high for developing countries. Provision of good textbooks allows teacher to better use time and encourage homework of students.

**Rural-urban**: Lee *et al.* (2005) analysed SACMEQ data on literacy across 14 sub-Saharan countries. They found higher achievements in urban schools than rural schools. The authors stated that urban schools had better structures, higher materials provisions and higher quality teachers, who trained and had generally higher experience and preparation. It is worth to notice that difference in rural-urban achievements is also related to different perceptions on educations related to its opportunity-costs, and other factors such as distance, especially for developing countries.

What comes from these reviews addresses the debate on methodological approaches and on the real subject of education quality studies in order to implement and to structure education and development programs. It appears that classroom dynamics plays an important role in children education and that results vary in relations to different context and social dynamics. Longitudinal and econometric studies are useful means in providing general information and trends on education system and its inputs/outputs. Most of the researches reviewed here concludes arguing about the necessity of more and in-depth qualitative studies. Context and culture plays a determinant role in determining school effect, and these external conditions can hardly be fully included and analysed by models relying only on quantitative studies.

These main findings are similar to World Bank (WB) conclusions (Independent evaluation group, 2006) on education. WB argues that efforts undertaken for primary education in developing countries failed in providing basic primary school education skills, especially among disadvantaged people. WB finds that there is a general lack on information on the policy-makers side, resulting in lack of effective solutions for disadvantaged groups of population. Moreover, experimentations on the education side was low. This means that national or international policies were adopted, often without taking in consideration the context in which schools are situated.

**1.6. Economists and educationists: different approaches to education quality**

The research on education quality and effectiveness involved two different perspectives: economists and educationists. On one side, economist methodology is mainly based on the reliance on basic function models, randomized evaluations and econometric models.
Conclusions coming from this kind of approach usually concern aspects regarding single and individual variables, inputs and outputs, leading to a macro and quantitative observation of the phenomena. Variables often taken in consideration include teacher's personal incentives, school vouchers, materials provisions, teacher student ratios and buildings characteristics, evaluated through surveys and longitudinal data. This approach is not able to take in consideration special remote outputs, such as a good civic education, being a good citizen, the chance to make a positive contribution to society and its development (Pennycuick, 1993). Williams (1992) underlines the importance of process variables, for example the quality school management, the role of the head teacher, stating that basic input-output model is too simplistic. Moreover Pennycuick argues that statistically significant correlation between two variables does not establish causality. Despite many methodological problems were identified, Riddel (2008) states that new multilevel models can overcome many of them. On the other side, educationists approach focuses much more on the processes inside the school or on the whole education system. The bulk of educationists researchers in developing countries mainly focuses on the classroom practices, e.g., what is been taught and how it's been taught. Educationists attentions also goes to teachers' ability, and the way different school characteristics can affect cognitive and emotional learning.

These main difference does not results in an idealistic division or in a ideological dispute. There is in fact a general agreement on the basic factors influencing education quality. Typically, teacher's salaries, years of teacher's education, years of teaching experience, training courses, teaching subject content knowledge, class size and materials can be ways in which distinctions could be drawn in determining how education quality can be influenced (Riddell, 2008). The main difference comes in the way the two approaches consider these “promising” variables to be analysed. Investigations are carried out in a way that may bring to different findings, and also to a different use of it.

Economist vs. educationist debate does not have to be confused with a quantitative vs. quantitative debate. Despite educationist approach can mainly be identified with a qualitative method, economists could still play a role on the qualitative side of the research. It is a growing opinion that quantitative approach needs to focus much more on qualitative research to completely explain results previously obtained from quantitative methods. As previously explained, contextual factors are fundamental in explaining education quality gaps across and within countries. Schooling is of uneven quality and school programs across countries. Problems arise from measures generally
available which don't take in consideration cultural and other external factors which highly influence schooling and obtained results. The main goal of quantitative research is to uncover the best variables combination to guarantee school quality, but cultural and contextual bias has to be expected.

The majority of studies is commissioned by development agencies with the aim of assisting developing country educational development. Basing their action on the cost-effectiveness point of view, agencies pursued to produce better “estimates” of the educational efficiency of particular investments. Researchers conducted can be prospective or retroactive, both aimed to produce useful informations in order to better implement educational programmes.

Heneveld wrote about the requirements of designing an implementation plan for improving the quality of education:

[…] the plan must facilitate increases in teachers’, parents’ and system managers’ understanding of and commitment to the changes[…]the plan must include the design of an effective and feasible system for supportively managing the changes[…]and the plan must identify the kinds of inputs that will be needed at the school level if the quality of the school is to improve[…]This means paying more attention to the schools’ capabilities and to the processes of implementation and less to the exact specification of each of the system-level inputs required (Heneveld, 1994, pp. 9-10).

This chapter will briefly conclude by arguing how researchers, educationists, economists and international organizations are recognizing the need of new programs more directly centred on single communities and single schools.
Chapter II

Education in India

2.1. Introduction

2.1.1. Brief introduction to the Indian school system
From an historical perspective, Indian education system was run under the British rile from 1700s until its independence. The way school system was administered had a negative effect resulting in a rising in inequalities due to elitists and castes tendencies, which were fostered. India became independent from British power in 1947. Since then, new policies were adopted, placing education as one of the highest priorities. The new Indian constitution committed in order to reach the goal of universal primary and upper-primary education – for students aged from 6 to 14 years old –, by 1960. The goal was not met for the established time, and national statements on education were also made in 1968 and 1986. The goal of universal primary education has not been met yet, despite notably progresses towards universal primary education have been made. Despite this progress, attendance rate is not close to universal and school enrolment in secondary education remains very low.

2.2. Education in India

2.2.1. Background
The education sector in India is experience rapid growth and is in constant expansion. The expansion of the supply of education is one of the main priorities for central and state governments. Since the early 1990s, public spending on education rapidly expanded, helping underpin significant growth in education supply. Combined central and state government expenditure in the sector of education has risen, on average, at an annual rate of 6% from the 1990s (Hill and Chalaux, 2011). Traditionally, in India, states have the major responsibility in funding education. However since the 1990s, the central government policies have been more directed toward education, doubling its spending, now accounting for a quarter of total Sarva Shiksha Abhiyan education expenditure. Much of this growth in expenditure for education was directed in funding strategic programs including expanding access to school and primary education and cost reduction.
The system of primary education has gone through significant structural changes. Two main programs directly characterized Indian education system in the last two decades: District Primary Education Programme (DPEP) and (SSA) – Education For All Movement. These two programs have a large scale implementation and aim at the universalization of primary and upper primary education in India.

**District Primary Education Programme:**
DPEP was a part of the WB “social safety net”. It was launched in 1993, conceived as a tool for universalization of elementary education in all India, with emphasis on access and quality, community and teacher accountability (Kumar et. al. 2001).

- The main goals of DPEP were:
  - Provide all children with access to primary education
  - Reduce drop-out rates at primary level to less than 10%
  - Reduce difference in enrolment, drop-out rates and learning achievement among gender and social groups by 5%
  - Strengthen the capacity of national, state and district level institutions and organizations for planning, management and evaluation of primary education.

To be selected for the program, states had to have female literacy below the average level. By 2001, 1500 million dollars were committed, covering over 50 million children. DPEP, over several phases, covered 272 districts in 18 states of the country. WB mainly funded DPEP, together with other donors such as UNICEF and EU members. Unfortunately, no data were collected under the program for districts not included in the program. In order to evaluate the effects of the program, only secondary data – such as enrolment rates and educational attainments – could be used. Jalan and Glinkskaya (WB), trying to evaluate the major impact of the program, conclude that the program had no impact on girls’ enrolment and limited impact on other indicators. Net program impacts are observable, for secondary data, on boys and minority children. The conclusion of the authors is that the main content of DPEP was the new approach for education and primary school interventions, which cannot be measured only by secondary data.

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**Sarva Shiksha Abhiyan – Education for All Movement:**

SSA ideally replaced DPEP since 2001. It represent the renewal of the Indian government effort to universalize elementary education in the Indian states focusing on the community ownership of the schools system (Sekhar et. al. 2009). The aim was to provide useful and relevant elementary education for children aged from 6 to 14, continuing DPEP goals, by 2010. SSA is being implemented in partnership with State Governments to cover the entire country and address the needs of 192 million children in 1.1 million habitations. According to the Indian Ministry of Human Resource Development:

> The programme seeks to open new schools in those habitations which do not have schooling facilities and strengthen existing school infrastructure through provision of additional class rooms, toilets, drinking water, maintenance grant and school improvement grants. Existing schools with inadequate teacher strength are provided with additional teachers, while the capacity of existing teachers is being strengthened by extensive training, grants for developing teaching-learning materials and strengthening of the academic support structure at a cluster, block and district level. SSA seeks to provide quality elementary education including life skills. SSA has a special focus on girl's education and children with special needs. SSA also seeks to provide computer education to bridge the digital divide.

Accordingly, SSA basically failed in reaching its goals of universal primary education and educational quality – the actual situation of Indian educational system will be analysed in the following paragraphs -. However, many progresses has been made according to SSA (2014): increase in net enrolment rate (NER), gender gap reduction from 8.4% in 2005-06 to 3% in 2012-13, a reduction in student–teacher ratio, higher attendance rate and the improvement in learning skills (SSA, 2014). The implementation of the program was strengthened by the 2010 Right to Education Act (RTE), which stresses the importance of education as a fundamental right for every child from 6 to 14 years old. It specifies minimums norms and standard to be adopted in order to enhance education supply and its quality.

The total central expenditure for the program has been of 25 billion dollars (SSA, 2014). From 2002 to April 2013. It is possible to analyse general trends since 2001, when the program started, but to evaluate an impact of RTE is something to consider carefully, given that less data are available because of short data interval.

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6 Website: [http://ssa.nic.in/](http://ssa.nic.in/)


2.2.2. Indian School System

The Indian school system is based on the British model. Primary school goes from grade 1 to grade 5. Upper-primary school covers grades from 6 to 8. School is compulsory for these grades.

![Diagram of the Indian education system](Source: Ministry of Human Resource Development)

The general curriculum is reassumed in Table 1.

Indian education system is the second largest one in the world after the China one. India population is over 1.21 billion (Indian census 2011). In 2011, 32% of population under the age of 15 (calculation based on Indian Census 2011). The large number of its population, together with its elevated number of spoken languages, pervasive poverty, disparities in regional economic growths and relatively distance of rural areas was one of the main problem Indian governments have been facing in allocating resources aimed at improving effectively and
efficiently the Indian school system. Governments efforts toward this direction where principally aimed at increasing the number of primary schools. According to Cheney et al. (2005, p.4) “during the period 1950-51 and 2001-2002, the total number of primary schools grew three-fold, while the number of middle (upper primary) schools increased 16 times.” Today in India there are more than eight hundred thousand primary school providing education for 115 million children and almost two million of upper primary schools for 45 million students. Secondary stage is composed by grades from 9 to 12. India has more than three hundred thousand secondary schools serving almost 30 million students, with a teacher-student ratio of 1:34 (Unesco, 2003). Teacher-student
ratio is 1:45 (ASER, 2013) and 1:34 (UNESCO, 2003) for primary and secondary school, respectively. Private schools in India are rapidly growing (Kingdon, 2005). In general, evidence suggests private schools to be more efficient than government schools. Usually, private schools are officially recognized by the government. In broad terms, there are three kinds of private schools: recognized schools that receive governmental aid, recognized schools that run on student fees and unrecognized schools. An uncertain number of private schools is actually unrecognized and it is difficult to estimate the real number of private schools. A recent phenomenon is the rapid increase and expansion on low-cost private school in both rural and urban areas. These schools often have poorer facilities and infrastructure than the government schools, but are able to hire many more teachers and have smaller classes and greater teaching activity because private teachers are paid much lower salaries than public school unionized teachers (Cheney et al., 2005).

Private schools play a fundamental role for the educational sector, raising important issues for the debate on the education future in India. Growth and dynamics of private schools are nevertheless important in raising questions concerning inequality in educational opportunities. The growth of schools remained slower generally in states with lower educational indicators (Govinda, 2008).

![Graph showing growth of recognized educational institutions](Source: Selected Education Statistics, MHRD. From Krumar et al. (2008))

### 2.2.3. Literacy level

Literacy level represents a powerful indicator of society level of development. After
independence, the first Indian census of 1951 found only 9% of women and 27% of men to be literate. When approaching education, literacy is the most direct indicator of educational provision effect. As stated in the previous chapter, literacy plays an important role in influencing variables such as fertility and infant mortality. The number of literates and illiterates aged seven and above in India as per the provisional population totals of Census 2011 is 778,454,120 and 272,950,015 respectively (Census of India, 2011). There has been a marked improvement in the proportion of literates in the last decade. Literates in 2011 constitute 74 per cent of the total population aged seven and above as compared to 65 percent in 2001. On the other hand, illiterates form 26 per cent of the total population in 2011 as compared to 35 percent in 2001.

Figure 5 shows literacy trends over the period 1951-2011. There is a constant positive trend. Male-female gap – 16.68% in 2011 – reduction is an extremely positive achievement, given the reduction of 5 percentage points with respect to 2001 trend. Most independent tests of achievement levels continue to show lower levels of achievement in basic literacy skills

2.2.4. Out of school

Sen’s capabilities approach highlights poor quality education as a primary driver of school drop-out. India has the largest number of illiterate children and children out of school. Drop-out rate in India is slowly decreasing, but still remains very high. About 56% of students’ dropout before completing lower secondary school. More than 40% of students drop-out before completing primary school. One of the main reasons of children
dropping even during primary school relies in the fact that schools are not able to offer quality education e formative experience. Staying at school, students learn very little even after years of enrolment. Pather and children decide, so, to undertake other paths for different opportunities: even Sen argues that now in India poor people see education as an opportunity, but the main problems concerns the quality of the supply and not the demand of school. Differences in rural and urban areas are also reason for dropping out. In rural areas the facilities higher differ from urban school and children may have less access to schools, which are sometimes physically and/or socially inaccessible. To provide education to rural areas is a critical gaol. Together with the difficulties of rural area, also urban poor and slums inhabitants face numerous difficulties, being highly vulnerable and suffering from not enough sensitivity from institutions.

General poverty, from which arises the necessity of child labour, is the main cause of school non-attendance or school drop-out. Hunt (2008) finds that children from poor households are more likely to never attend school or a high probability to drop out once they’re enrolled with respect to children from better-off families. Tilak (1996) found that even when sending children to free-fee schools, sometimes parents do not have the possibilities to bare costs other than school fee. In 2004, Tilak concludes with its previous findings: poverty is a barrier to education. Costs other than fees to send their children to school are, e.g., the cost of uniforms, textbooks and costs covering distance from school and mobilization. To these, the opportunity cost of sending of addressing children to child labour rises the more families are poor.

Social status: while an improvement in economic situation certainly makes a difference, this alone does not explain lack of access or regularity of attendance in school and explains why the SC, ST and other minority groups (Muslims in UP) in the sample emerge at the bottom of the educational ladder. The attitudes and prejudices of teachers and children regarding social and community identities of marginal groups in the school also play an important role in defining educational outcomes for the latter (Vimala Ramachandran, 2003) Jha and Jhingran (2002) sheds light on competing factors that frame educational decision making in poor households. They argue that enrolment and attendance is not only determined by economic situation but also by the social status of groups. In the caste/gendered segmentation of the labour market women are disproportionately found in agricultural/rural labour, traditional domestic, low skilled, low status, or caste related (sweeping – scavenging) services in rural sectors. In urban sectors, poor women are located in lowly unskilled, low status feminised service sectors in urban informal economy. Educational careers of most Dalit girls are shaped
by this structure (Padma Velaskar, 2005).

Girls drop-out rates results tended to be generally higher than the boys’ one and are now decreasing, being even lower, in some years than the male drop-out. On factors concerning education quality, gender equality needs particular attention in developing countries. From a parental perspective, their lack of resources to provide education to their children influences allocation of resources towards boys, whose returns on investments are perceived as higher. Girls' condition is also influenced by the cultural tradition. In fact, once married, girls will be considered like belonging to the husband’s family and therefore to invest in her education is seen like a no-return investment. Social Status begins from the caste system. In many communities, girls marry at young age, being one of the main reason for dropout at secondary level.

Table 3. Dropout Rates over 1999-2011 period.

<table>
<thead>
<tr>
<th>Year</th>
<th>Primary (I-V) Classes</th>
<th>Elementary (I-VIII) Classes</th>
<th>Secondary (I-X) Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Total</td>
</tr>
<tr>
<td>1999-00</td>
<td>38.80</td>
<td>41.00</td>
<td>40.30</td>
</tr>
<tr>
<td>2000-01</td>
<td>39.70</td>
<td>41.90</td>
<td>40.70</td>
</tr>
<tr>
<td>2001-02</td>
<td>38.40</td>
<td>39.90</td>
<td>39.00</td>
</tr>
<tr>
<td>2002-03</td>
<td>35.85</td>
<td>33.72</td>
<td>34.89</td>
</tr>
<tr>
<td>2003-04</td>
<td>33.74</td>
<td>28.57</td>
<td>31.47</td>
</tr>
<tr>
<td>2004-05</td>
<td>31.81</td>
<td>25.42</td>
<td>29.00</td>
</tr>
<tr>
<td>2005-06</td>
<td>28.71</td>
<td>21.77</td>
<td>25.67</td>
</tr>
<tr>
<td>2006-07</td>
<td>24.57</td>
<td>26.75</td>
<td>25.60</td>
</tr>
<tr>
<td>2007-08</td>
<td>25.70</td>
<td>24.41</td>
<td>25.09</td>
</tr>
<tr>
<td>2008-09</td>
<td>26.68</td>
<td>22.90</td>
<td>24.93</td>
</tr>
<tr>
<td>2009-10*</td>
<td>30.25</td>
<td>27.25</td>
<td>28.66</td>
</tr>
<tr>
<td>2010-11*</td>
<td>28.70</td>
<td>25.10</td>
<td>27.00</td>
</tr>
</tbody>
</table>

Note: Total dropout during a course (stage) has been taken as percent of intake in the first year of the course (stage).
Primary, Middle and Secondary stages consist of classes I-V, I-VIII, I-X, respectively.
*: Data are Provisional.
Source: Ministry of Human Resource Development Govt. of India. (13456) & Rajya Sabha Unstarred Question No. 867, dated on 30.11.2012.

Several programs were run in order to improve educational service, aiming at enhancing provisions of education institutions and their quality. According to MHRD report (2010) that more than almost 99% of people have elementary school located within one kilometre from their residence. Bajpai and Goyal (2004) state that many schools have only one or two classrooms and often they are lacking of toilets and water and that a not satisfying number of students completing upper primary and secondary education have functional literacy. Drop-out rates for both primary and secondary schools are very high for both boys and girls, with a gender gap slightly getting negligible.
To date, CREATE has identified seven ‘zones of exclusion’ relating to education (Lewin, 2007):

Zone 0 children who are excluded from pre-schooling
Zone 1 children who have never been to school, and are unlikely to do so
Zone 2 children who enter primary schooling, but drop out before completing the primary cycle
Zone 3 children who enter primary schooling and are enrolled but are ‘at risk’ of dropping out because of irregular attendance, low achievement, or silent exclusion from worthwhile learning
Zone 4 children who fail to make the transition from primary to secondary schooling
Zone 5 children who enter secondary schooling, but drop out before completing the secondary cycle
Zone 6 children who enter secondary schooling and are enrolled but are ‘at risk’ of dropping out because of irregular attendance, low achievement or silent exclusion from worthwhile learning

These seven zones are inter-connected and highly inter-dependent.

2.2.5. Attendance

Attendance rate results to be a better indicator of school participation with respect to school enrolment, since the latter is usually measured at the beginning of the school year and does not take in consideration non-attendance or drop-out rates during the school year. Table 4 shows school attendance rates data provided by the National Family Household Surveys (NFHS) in 1993, 1999 and 2005. Next NFHS is now being undertaken and data are not available.
Table 4. School attendance by year, gender and residence.
(Source: NFHS-1, NFHS-2, NFHS-3 state and all-India reports)

<table>
<thead>
<tr>
<th>Year</th>
<th>MALE</th>
<th></th>
<th></th>
<th></th>
<th>FEMALE</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural Age 6-10</td>
<td>Rural Age 11-14</td>
<td>Urban Age 6-10</td>
<td>Urban Age 11-14</td>
<td>Rural Age 6-10</td>
<td>Rural Age 11-14</td>
<td>Urban Age 6-10</td>
<td>Urban Age 11-14</td>
</tr>
<tr>
<td>1993</td>
<td>71.4</td>
<td>73.4</td>
<td>86.2</td>
<td>84.2</td>
<td>55</td>
<td>47.9</td>
<td>81.8</td>
<td>75.7</td>
</tr>
<tr>
<td>1999</td>
<td>83.2</td>
<td>78.5</td>
<td>91.7</td>
<td>85.1</td>
<td>75.1</td>
<td>61.6</td>
<td>89.1</td>
<td>82.8</td>
</tr>
<tr>
<td>2005</td>
<td>84.0</td>
<td>79.0</td>
<td>88.0</td>
<td>83.0</td>
<td>79.0</td>
<td>66.0</td>
<td>88.0</td>
<td>81.0</td>
</tr>
</tbody>
</table>

From 1993 to 1999, school attendance of girls aged 6-10 raised and girls aged 11-14 respectively by 20 and 13.7 percentage points and both raised in 2005 by almost 4 percentage points. Attendance for girls aged 11-14 still remains very low, under 70%. School attendance of rural boys aged 6-10 and 11-14 increased respectively by 12 and 5 percentage points in the first period and increased by less than 1 percentage point for the second period. For urban boys and girls, the increase was more modest in the first period, like expected, since their attendance level was already higher. Surprisingly, in 2005, the attendance level, both for urban boys and girls, slightly decrease.

NFHS provides data also for ages 15-17 in 2005: attendance for both boys and girls from urban area was close to 51% while, in rural areas, the attendance rate was 47% while it was only 28% for girls. Gender gap for urban areas are negligible, while they remains persistent for rural areas, especially for people aged 15-17. By observing attendance data, it is possible to argue that even drop-out rates present similar trends concerning gender gap, when distinguishing for rural and urban. ASER 2013 found that students attending during the visit day were 71% of those enrolled. Actually, in rural India, 1 on 5 children is out of school. However, Kingdon et al. (2004) notes that attendance rate itself is not sufficient to reach desirable learning achievements

2.2.6. Enrolment

The constitution of India aimed at providing free compulsory education until the age of 14, by 1960; the goal was not met and it has not been met yet. Figure 6 shows net enrolment rates for primary school, starting from 1990. There is a net difference between 1990s and 2000s. From 1990 to 2001, net enrolment rate rises from 78.25% to 81.19%. During this period, net enrolment for boys remained stable around the 87%, while girls’ net enrolment raised from 66 to 74 percentage points. Data provided from UNESCO differentiates for gender enrolment until 2003, when net girls’ enrolment rate sharply
jumps by 10 percentage points, while male enrolment remains stable, reducing gender gap. Overall net enrolment rate slightly increases from 1990 to 2002. It jumps by 5 percentage points in 2003, reaching 85 percentage points. In 2007, net enrolment rate was close to 93 percentage points and remained stable for the following periods analysed.

2.2.7. Secondary education

Indian secondary education presents poorly encouraging trends. The government focused highly on primary education to the detriment of secondary education. DPEP and SSA are program directly focused in enhancing quality and universality of primary education. Secondary education goes from grade XI to grade XII, attended from age 15 to 17. With a very low attendance rate for boys and girls from rural areas with an attendance rate of 47 and 28 percentage points, respectively, with urban attendance rate being close to 51%. Figure 7 shows gross enrolment rate (GER) over time. In 1993, GER was 45.42 percentage points and remains stable until 2000, when starts slightly growing constantly over time. In 2009, GER was of 61.30% and increased by more than 7 percentage points by 2011.
Figure 7 shows, instead, growth of educational institution. Gap between primary and secondary schools is consistent and, despite almost 99 percent of population have a primary school within one kilometre, secondary schools provisions largely differs and may been one of the most influential factors in such low trend of enrolment.

2.2.8. Learning achievements levels

This section aim is to investigate aspects concerning effective learning at schools. One of the reasons found in the literature on the reason why children do not enrol, do not attend, or drop out from school, is that they learn to little even after years of schooling. Hanushek (2005) reviews literature concerning evidences and theories that what is learnt at school influences much more future labor productivity and earnings with respect to simply years of attending school. This evidence stresses the importance of effective education and its goals. Considering the rapid gains in enrolment and attendance, the extent to which these gains into improvements in learning achievement and better skills, with a positive impact on economic and social outcomes, highly relies on the quality of education provided.

Pratham is one of the Indian largest educational NGOs, its report on educational and learning achievement offer a good tool to analyse learning achievement. ASER report –*rural* – published by Pratham in 2013 covers 15,941 villages in 550 districts, with surveys conducted in 14,724 schools over 569,664 children between 3 and 16 years old. The report shows that 53.2 percent of school children studying at grade 5 were not able to read a story at level II of difficulty. For arithmetic skills, only 24.8 percent of children in grade 5 could solve simple divisions of 3 digits divided by 1 digit. In both

![Secondary Education - Gross enrolment rate (1993-2011)](image-url)
the areas, significant inter-state variation was registered, which will be analysed deeper for Uttar Pradesh in the next chapter.

Table 5. Learning levels by grade, subject and question level of difficulty.
(Source: ASER 2013)

<table>
<thead>
<tr>
<th>Reading</th>
<th>Arithmetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std</td>
<td>Not even 1-9</td>
</tr>
<tr>
<td>I</td>
<td>47.3</td>
</tr>
<tr>
<td>II</td>
<td>23.1</td>
</tr>
<tr>
<td>III</td>
<td>12.7</td>
</tr>
<tr>
<td>IV</td>
<td>8.0</td>
</tr>
<tr>
<td>V</td>
<td>5.0</td>
</tr>
<tr>
<td>VI</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>14.1</td>
</tr>
</tbody>
</table>

There were no data available on learning achievement before 2006. However, data reports that since 2006 learning levels for such these subjects is lowering by time. For example, in 2009, 82 percent of children studying at grade VIII were able to read a story of level II of difficulty, while in 2013 only 74.2 of them are able to do so. Similar trends are also registered for mathematic skills. As school participation continues to increase, to pay higher attention to quality of education concerns seems necessary in order to increase learning outcomes of students.

2.2.9. School infrastructures

Empirical studies show that development of education depends on large number of factors also including available school infrastructure resources such as the site, buildings, furniture and equipment affecting learning environment (Ayen and Adelabu, 2012). Favourable attitude towards school infrastructure leads to school attendance motivation that improves literacy rates of the locality (Roy, 2008). ASER rural India reports investigate the number of schools meeting the 2002 RTE norms. General trend is positive and the number of schools meeting RTE norms is slightly increasing over years. In 2013, 45.3% of schools met the PTR goal of 1:30. 92.8% of school have toilet facilities, nevertheless in 30.2% of schools these facilities are not useable. Girls toilets follows a similar provision, with 81.4% of schools having separate toilets for girls, but 27.5% of schools’ toilets are locked or not useable. 23% of schools does not have a library, and 64.2% has a playground.
Mid-day meal (MDM) was served in 87.2 percent of schools and increased by 2.6 percentage points since 2010. Drinking water is available in 73.8% of schools, while 11.1% of schools have water facilities, but no drinking water available. Drèze and Kingdon (1999) underline the importance of MDM and its positive effects on girls’ attainment. It has been argued that one of the main explanations relies on the reduction of private cost of schooling, driven by food provision.

The survey finds that one third of Indian primary schools are “small schools” with less than 60 students enrolled. This overview shows that there is a large number of schools with minimal infrastructures and few academic facilities. Govinda (2008) points out that around three out of four schools involve multi-grade teaching, with teachers simultaneously involved in teaching for students belonging to several grades. Glick and Sahn (2006) find that multi-grade teaching has a negative impact on students learning abilities.

2.2.10. Teacher Accountability and Para-Teachers
Teacher accountability represents one of the major concerns on education quality, considering classroom environment and effective teaching and learning. Indian Education Commission stresses, moreover, the importance of the teacher as one of the most important factors in enhancing education quality. Unfortunately, teacher absence rate appears to be very high. Kremer et al. (2003) made three unannounced visited to a national representative sample of government primary schools in India, with very discouraging results: 25% of teachers were absent from school and only one half of present teachers was actually engaged in teaching activities. The authors also find higher pay is not associated with lower absence. Despite more experienced teachers, head-teachers and more educated teachers are paid more, they are more frequently absent. Results provided by Kremer et al. (2005) are also confirmed by PROBE survey (1999) and ASER surveys. The government of India is trying to improving teacher quality on several aspects, setting new requirements, teacher training and promoting participation of local community. Concerning local community support, Kramer et al. (2005) find little evidence of community involvement on teacher absence. Concerning the improvement of teacher quality, para-teacher schemes rise many questions on government efforts.

Para teachers: contract teachers – or para-teachers – scheme “has evolved in different states in order to meet the constitutional obligation of free and compulsory education to
each and every kind of the country in the six to 14 years age group” (Pandey, 2006). In order to meet this goal, para-teacher assumption requires less or no professional qualification with respect to regular teachers. Moreover, para-teachers earn a lower wage even if it differs among states. In India, actually, para-teachers and regular teachers have the same kinds of duties, but different working conditions are applied. The main purpose of para-teacher scheme was to provide a solution to teacher shortage and/or teacher absenteeism. It is also a mean to create employment opportunities for rural local youth. Since 1950, the number of regular teachers has grown more than three times, up to 1,809,661 in 2002, but despite this increase, the number of regular qualified teachers in government schools was only 2,47. BIMARU states are those who presents the highest number of para-teachers, as reported by the All India School Education Survey. According to Pandey:

Large scale recruitment of para-teachers within the formal school system and an attitude of resignation towards pre-service programmes have become an integral part of state provisioning for elementary education, which can create serious problems of quality and equity in education, besides creating differential kinds of inequalities among teachers themselves. There is also a general sense of dissatisfaction among various stakeholders that second class options are being passed on to the poorer sections of the society, thereby widening the gap between the rich and well educated and the poor and poorly educated children. […] adopting this scheme to replace the regular teachers is detrimental for the quality of education and effectiveness of schools and needs to be avoided. (Pandey, 2006 p. 333)

Questions arise on para-teachers competence, performance and problems they many face. Dubey et al. (2009), conducted a survey in the major Indian state, surveying para-teachers, stakeholders and analysing single national policies for recruitment and deployment of teachers. The authors find that para-teachers are employed mostly in rural areas and work for a much lower remuneration, but have aspirations in becoming regular teachers. The majority of them – 60% – are females. Moreover, concerning teacher performances, para-teacher were rated at par with regular teachers. The remuneration of para-teachers varies considerably across states⁹.

The question of para-teachers is rising complex issues for the future of education. It involved many dynamics, which need to be taken in consideration. On one side, thank to para-teacher scheme it was possible to reduce pupil-teacher ratio with lower costs. On the other side, para-teachers represent a not-regularized working class with needs to enter in the education system as regular teachers – despite having no pre-service

⁹ See Dubey et al. (2009) for more informations.
training, some of them work for more than three years – and have no security or protection. Finally, para-teachers schemes are rising questions concerning equity, especially between rural and urban areas. The absence of educational training, can negatively affect educational outcomes. Most of the para-teachers working in rural areas already lived in the local communities, being deeply embedded in it; this, together with the hope to become regular teachers can positively affect educational outcomes due to higher teacher motivation and knowledge of the general context of the community.

2.2.11. Private schools in the Indian educational system

As explained in the introduction, the education sector runs over supply and demand side. Government-run schools appeared to be poorly resourced and high teacher absenteeism and teacher accountability appears as a particularly serious concern. The overall situation of public education favoured the rapid growth of private schools in India, especially in the urban areas. India presents a large variety of schools, with three types of private schools: (1) recognized private schools, which receive grant-in-aid from government; (2) schools receiving no or little funding but are recognized on the base of pre-established government rules and criteria; (3) unrecognized schools.

Schools belonging to the first group are generally called *aided schools*. The government directly provides teachers’ salary, who work under private management (Kingdon, 2008), with cost and qualification similar to the government school teachers.

Private recognized schools must follows state criteria such as teacher salary and infrastructures, however, some schools manage to slip by without fully complying with the regulations; private recognized schools appear to be more than the other types, and are often run by non-profit management (Desai *et al.* 2008) and are usually located in urban areas.

Private unrecognized schools usually covers rural areas and run with inadequate structures and only one teacher. Unrecognized schools are not necessarily of lower quality than recognized schools.

According to Kingdon (2007), despite data deficiencies, it is clear that there is a large fee-charging private schooling sector in India.

The ASER 2013 report (Pratham) on rural education confirms the recent trends measured for enrolment in private school, with a share of private school enrolment that increased from 19% in 2006 (ASER 2006 report) to 29% in 2013 – for children aged 6-14. Actually there are no reliable annual data for urban areas except for 2005, when the Indian Human Development Survey (IHDS) (2005) stated that the share of private
schools for urban area was at 58%. Considering the important increase for rural India, it is possible to argue that private school share increased since 2005 also concerning data across states. The last ASER survey also finds that there is a wide variation in private school enrolment across India. It was found that in Kerala and West Bengal almost two thirds of children were enrolled in private schools, while in states such as Bihar or Tripura, the enrolment rate for private schools is less than 10%.

It is important to notice that RTE act established that private schools were are obliged to reserve 25% of their seats to economically weaker situation (EWS) students, providing for the fee payment in order to reimburse private schools.

Desai et al. (2010) provide an overall analysis Indian education, considering learning outcomes, school type and social conditions of people aged 6-14. What emerges from Table 6 clearly tells that students showing same characteristics score significantly higher when studying in a private school rather than a public school. There is also a large gap in outcomes when divided by groups. Desai et al. provide in the same study an analysis of expenditure in education with data from IHDS, which reflect a high correlation between expenditure and final outcome: those investing more in education are those who presents higher learning outcomes from the test. Therefore, better performance could also reflect a different socio-economic status. Moreover, belief system of inequality may undermine motivation and reproduce inequality even through learning outcomes, as found in Hoff and Pandey, 2004 (more at chapter 2.3.4).

Table 6 Difference in Learning Outcomes, by School Type for Children Aged 8-11 Years (in per cent)

<table>
<thead>
<tr>
<th></th>
<th>Government Schools (Only Enrolled Children)</th>
<th>Private Schools (Only Enrolled Children)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Read</td>
<td>Subtract</td>
</tr>
<tr>
<td>All India</td>
<td>50</td>
<td>43</td>
</tr>
<tr>
<td>Forward Caste Hindu</td>
<td>65</td>
<td>55</td>
</tr>
<tr>
<td>OBC</td>
<td>53</td>
<td>45</td>
</tr>
<tr>
<td>Dalit</td>
<td>42</td>
<td>56</td>
</tr>
<tr>
<td>Advani</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td>Muslim</td>
<td>41</td>
<td>38</td>
</tr>
<tr>
<td>Other Religions</td>
<td>76</td>
<td>76</td>
</tr>
</tbody>
</table>

*Source: Desai et al. (2010: 93).*

Government school has to face the evidence that private schools, usually with less qualified teachers, with lower expenses, achieve better results, together with a greater accountability. Private schools run in a completely unregulated system. Question can arise on pedagogy adopted but, if so, much more questions arise on government school
Pradhan and Subramanian (2000) argue how also families below poverty line prefer to send their children to fee-paying private schools, indicating as also Sen suggests, that demand for quality education is actually growing and concerns every part of the society. Despite parental attitudes and school dynamics, many studies shows that in India girls and children from families with low socio-economic status are over-represented in government schools (Mehta, 2005; Kumar et al., 2005), raising concerning regarding education inequality and inequality of opportunities.

2.2.12. Low cost private schools
Provision of schools and enrolment can be seen under the perspective of the supply-demand side. Walford and Srivastava (2008) affirm that private schools arise when government schools are considered inadequate. The debate on the role of low-cost private schools for poor continues and Education for All Global Monitoring Group (2008) argue that low cost schools have to be considered as universal public good.

Low-cost – unaided – private schools in India are rapidly growing, largely because of parental perception of government failure in educating students in very poor areas, with the alternative of not enrolling in school. Low-fee schools charge as little as 80 rupees per month (circa US$ 1.50) and are usually located in urban slum areas (Baird, 2009). In Commonwealth Education Partnership (CEP) (2011) are described as affordable private schools those self-sustaining, private and unaided schools with tuition fees per month around 800 Rs. (circa US$ 17). Partnership 2001. Tooley (2001) argues that the growth of low-cost private schools and the increasing in enrolment rate for these schools relies on lack of infrastructural capacity for the government to provide overall education. Baird (2009) finds low statistical relationship of government supply side and private schools, arguing that private schools exist because parents demand them. Furthermore, Hyderabad (2007) meets Baird finding that instruction in English language is one of the main factor driving demand of private schools, also arguing that for disadvantaged people, low-cost private schools represent the only choice. CEP (2011) argues “that there is probably on main difference between private and public schools based on flexibility and accountability; government schools it was observed inability in hiring or assuming teachers on the accountability criteria, while private schools run on these two principles.”
2.3. Educational inequality

2.3.1. Introduction

Recent researches on longitudinal data concerning India confirm the persistence of several gaps in school participation and attainment relying on gender, caste, religion. These and other disparities such as the rural/urban disparity highly mark school outcomes and indicators.

Educational institutions are unequally distributed across India, with higher concentration of secondary education limiting the participation of rural people to education (Bunhia et al., 2012). In rural areas, students suffer the lack of adequate educational infrastructure, as well as the overall quality of education provided. This unequal distribution of school infrastructures and consequent quality differences of schooling influence variations in educational outcomes across the states. Dougherty and Herd (2008), find that despite the growth for school enrolment, about two thirds of children non-attending schools are in the five poorest state – which also have the highest number of children.

Educational inequality is characterized by skewed distribution of education results and by social welfare loss, caused by the underutilization of potential human capital (Thomas et al., 2001.). Ward (2007 p.130) argues: “insufficient resources, bureaucratic complacency, and pervasive social exclusion kept over half of children from completing a meaningful basic education”. According to Mehrotra (2006), despite more than 90% of population has access to primary schooling in rural areas, 10-15% of scheduled castes and tribes has no access to school.

Figure 8. Secondary school differential access for top and bottom income quintiles of population.

Source: World Bank, 2006
Figure 8 shows differentials in access to secondary education across Indian states, taking into consideration top and bottom income quintiles. Inequality is observed in the differential access. Those states with lowest results on other indicators of social development, such as BIMARU states, present higher inequality.

Wu et al. (2006) finds that inequality in educational attainment is accompanied by a gap in educational outcomes, when considering gender, caste and religion. These findings stress and confirm the high level of educational inequality in India.

Inequality in India is a particular accentuated phenomena especially for what concerns traditional and under-privileged social groups. According to Govinda (2008), despite the special provisions in the Constitution aim at meeting educational goals for groups such as Scheduled Castes (SC) and Scheduled Tribes (ST), the situation is not satisfactory. Sedwal and Kamat (2008), find that tribal girls in rural areas are the most disadvantaged groups, since only 51% of them are enrolled in schools, against 80% of girls’ enrolment in urban areas. Furthermore, considering inequality from a religious perspective, Muslim minority represents another particularly disadvantaged group, with a situation that appears to be even worse than SC and ST (GoI, 2006) and their particular fragility emerges even when considering other disadvantaged religious groups (Basand and Shariff, 2009).

2.3.2. Measuring inequality in education

The application of the Gini index to education help us in understanding levels of education across subgroups of population and over time, providing a complete picture of the education development of a country (Thomas et. al. 2001). Gini index is one of the most common measures of inequality. It satisfies the four fundamental principles of anonymity, independence, scale independence and transfer principle (Lichtfield, 1999). Gini coefficient represents the ratio between the area between Lorenz curve and the 45° line of perfect equality, the egalitarian line, to the total area under the equality line. The education Gini index \( G_E \) is based on educational achievement of people and is defined by Lopez et al. (1998) as:

\[
G_E = \left( \frac{1}{2\mu} \sum_{i=1}^{n} \sum_{j=1}^{n} p_i |y_i - y_j| p_j \right)
\]

where \( p_i \) and \( p_j \) are the proportions of the population, \( y_i \) and \( y_j \) represent years of schooling for people with educational level \( i \) and \( j \), respectively. \( \mu \) is the average year of schooling = \( \sum_{i=1}^{n} p_i y_i \), and \( n \) represents the number of educational levels.
The education Gini measures the ratio to the mean – average years of schooling – of half of the average schooling deviations between all possible pairs of people (Thomas et al., 2001). Like the poverty Gini index it ranges between 0 and 1, with 0 indicating perfect equality and 1 indicating the maximum level of inequality. The higher the Gini coefficient value, the higher the inequality. Changes in the middle area of the sample distribution are those that affect more the Gini coefficient. Equal weight is given to those at the bottom and those at the top of the distribution. This measure can be used to implement other indicators such as access, average levels and quality of education (Agrawal, 2013). In indicating Gini index limitations, Agrawal (2013) states that it is not easily decomposable nor additive across population sub-groups. The coefficient does not indicates how inequality is distributed. Different distributions could have the same Gini index. Moreover, despite Lorenz curves may have different shapes, in those cases where the curves for two sub-groups cross each other, Gini index could be the same for both distributions. Overall inequality can be expressed as the sum within-groups and between-groups (Lichtfield, 1999). Gini index is also decomposable for the following terms, but a third term is needed in order to identify and quantify interaction or overlaps between groups. Following Yitzhaki (1994), decomposition of Gini index into intra-group, inter-group and overlapping components, can be written as:

\[ G = \sum_{i=1}^{n} s_i G_i O_i + G_b \]  

(2)

where \( S_i \) represents the population shares over groups \( i \), \( G_i \) represents the Gini coefficient within groups \( i \), \( O_i \) is the overlapping index of group \( i \) with the population (Yitzhaki, 1994\(^{10}\)) and \( G_b \) represents the between-groups Gini. The overlapping index can be written as:

\[ O_i = \sum_j p_j O_{ji} = p_l + \sum_{j \neq 1} p_j O_{ji} \]  

(3)

\[ O_{ji} = \frac{\text{cov}_i(y,F_{ji}(y))}{\text{cov}_i(y,F_i(y))} \]  

(4)

where \( \text{cov}_i \) indicates the covariance according to the within the group \( i \) distribution. \( F_{ji} \)

\(^{10}\) For overlapping index properties see Yitzhaki (1994)
is a function assigning members of group $i$ the respective ranks in the group $j$ distribution and $F_j$ is a function that assigns to the members of group $i$ the respective rank in the distribution within the group\textsuperscript{11}.

Given these equations, Frick et. al. (2006) rewrites equation (2) as follows:

$$G = \left( \sum_{i=1}^{n} s_i G_i + \sum_{i=1}^{n} s_i G_i (O_i - 1) + G_{bp} + (G_B - G_{bp}) \right)$$ \hspace{1cm} (5)

where $G_{bp}$ represents an alternative between groups Gini as defined by Pyatt (1976) and $G_B \leq G_{bp}$. Equation (5) can be divided in two different components. The first one provides information of ANOVA intra-group and Pyatt between-group, by using Gini as measure of variability, instead of the variance. The second one provides useful additional information: overlapping effect on intra-group and between-group.

\textbf{2.3.3. Rural/Urban educational inequality}

Following the described methodology, T. Agrawal provides in his work “Educational Inequality in Rural and Urban Indian” (2013) an overview of educational inequality in India using data from provided by the National Sample Survey Organization (NSSO). NSSO conducted quinquennial large scale surveys providing information on educational attainments. NSSO Rounds taken in consideration were the 50th, 55th, 60th the 65th\textsuperscript{12}.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure9.png}
\caption{Education Lorenz Curve, India Over time}
\label{fig:lorenz}
\end{figure}

Source: Agrawal, 2013

\textsuperscript{11} For overlapping index by groups properties see (Frick \textit{et al.} 2006)

Figure 9 shows Education Lorenz curve for the periods taken in consideration. From 1993 there has always been an improvement in the distribution of educational attainment. The figure also shows that, in 2009, more than 30% of the total population over 15 had no schooling and 10% of population had 25% of the total cumulative schooling proportion. It has to be considered that in the sample the entire population is represented, including long-date illiterates. Gini coefficient provided for the most important states as shown in Figure 10 shows that there were improvement for every state.

![Figure 10. Changes in educational inequality](source: Agrawal, 2013)

Table 7. Gini index for education – India.

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>1999</th>
<th>2004</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.65</td>
<td>0.61</td>
<td>0.57</td>
<td>0.51</td>
</tr>
<tr>
<td>Rural</td>
<td>0.7</td>
<td>0.66</td>
<td>0.62</td>
<td>0.55</td>
</tr>
<tr>
<td>Urban</td>
<td>0.47</td>
<td>0.43</td>
<td>0.41</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Source: Agrawal, 2013

However, BIMARU states show the highest Gini for every period taken in consideration. By the way, figure 10 clearly shows a disparity in educational attainment across states. In 2009 Gini index for Kerala was 30%, 60% for Bihar and Rajasthan, and for UP Gini is up to 55%. Since 1993 there has been constant reduction for the Gini coefficient. For BIMARU, in particular, the decrease of inequality during the first period 1993-1999 was small, with a substantial inequality reduction during the 2004-2009 period. Considering all India inequality by sector, the Gini index is higher in rural sector.
than in the urban one. Rural sector always shows a rural Gini higher than 50%, like the majority of Indian states (Agrawal, 2013). Gini index for All India decreases constantly. Rural sector inequalities decreases by 4 percentage points during the first two intervals, with a little higher reduction in the last one. Overall urban inequality decreases by 10 percentage points. For inter- and intra-group inequality for sector, Agrawal studies show that intra-sector inequality contributes to overall inequality for 90 percentage point, with a very small value of intra-group inequality, which remains constant over time. Considering inter- and intra-group inequality for state, Agrawal finds that intra-state inequality contributes for 96% points to the overall inequality. The contributions of the components remains constant over time. Asadullah and Yalonetsky (2012) find, with a similar approach that applied for a research on inequality of opportunities over years, that in 2004 there was also a negative link between educational attainment and inequality of opportunity, and highlight the fact that increases in primary and secondary education, by 2004, were accompanied by reduction of inequality of opportunity across states. The reduction of inequality of opportunity was, however, uneven across states.

2.3.4. Inequality and belief systems

2.3.4.1. Indian Caste System

Stratification of society in India does not depend only on economic factors. Another important factor of stratification and discrimination comes from the Indian Caste system from forms of discriminations originating from religions. Caste stratification directly identifies with Hindu religion and is one of the most ancient forms of hierarchical organization of society. Indian caste system was constitutionally abolished with the constitution of 1950, but despite this the caste practice still keeps being considered especially in rural India villages. The term Jati –caste-, in Hindi, indicates different ranks of people with a common origin and defines their common occupations and abilities according to the group of origin. The hierarchical stratification is built upon 4 different classes, here presented in hierarchical order: Brahmins (priests), Kshatriyas (rulers and warriors), Vaishyas (traders) and Shudras (labourers). A fifth group is also considered: the untouchables, whose level was considered too low to be included in the caste system. Untouchables were oppressed both by Indian people and by British colonialists: the first ones believed untouchables deserved oppression due to religious concerning, while British colonialism denied them the right to possess lands, to go to temples and imposed limitations to occupations they could cover (Galanter, 1984).
2.3.4.2. Reservation
With the new Indian Constitutions in 1950, the caste system was abolished by law. In order to guarantee the presence in the institutions in the institution of under-represented communities and backward castes – who, due to past discrimination, were much more disadvantaged – a system called *reservation* was adopted. The new system aims in fact in guaranteeing seats in government and universities for castes and profiles groups and, especially: Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Castes (OBC). SC usually is the term, which indicates and identifies the old untouchables. SC and OBC identify other groups, which include other disadvantaged people, based on different criteria, such as education and social aspects. These three groups represent the 41% of the population according to the 2006 National Sample Survey. General Category (GC) includes all the categories and groups of the society, it means that seats are open to every groups, but by time it became common use to indicate as GC people belonging to upper categories.

Hoff and Pandey (2004) argue how the hierarchical structure of the society, both on the economic and on the cultural side, still displays forms of discrimination against low-caste people, in particular concerning costumes in rural India. They find, in fact, report forms of discrimination in the school system, showing evidences from their survey that SC and ST were less likely to receive rations of grain with respect to high-caste people and households.

Drèze and Kingdon (1999) argue how SC children show an “intrinsic disadvantage”, since there are less chances for them to go to school, suggesting a persistent bias against SC children. Dostie and Jayaraman (2006), instead, find no effect of religion and caste affiliation at village level on school enrolment. Village caste composition seems to have an effect on enrolment, showing how in a village with high number of high caste people, probability of enrolment for 11-14 years old increase.

Systems characterized by pervasive inequalities in the past – like India – continue to be characterized by high inequality even in present times (Engerman and Sokoloff, 1997). Moreover, culture may conserve inequality in such a way its individuals, internalizing personal aspirations and expectations, are influenced by belief systems of inequality (Rao and Walton, 2004). Hoff and Pandey (2004) test whether belief systems of inequality give rise to expectations and behaviours which tend to reproduce inequality in India, focusing on the Indian caste system through the analysis of performance in solving mazes. The authors find that, when the caste is not announced, there is no statistical significant caste difference in performance but, when caste is
publicly announced, a statistical significant gap in performance arises between castes. This finding can be interpreted as the result of a belief system in which a person can anticipate that will be judged prejudicially (Hoff and Pandey, 2004), undermining motivation and compromising final performance.

After independence, the educational system presented various forms on inequalities which the government tried to reduce. The central point of addressing education system was the reduction of disadvantages of SC and ST and their equalization with upper caste (Nambissan, 1996).

![Figure 11. Gender Parity Index in Enrolment.](image)

**Source:** DISE, 2010

<table>
<thead>
<tr>
<th>Level/Category</th>
<th>ALL</th>
<th>SC</th>
<th>ST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Total</td>
</tr>
<tr>
<td>I-IV</td>
<td>28.7</td>
<td>25.1</td>
<td>27.0</td>
</tr>
<tr>
<td>I-VIII</td>
<td>40.5</td>
<td>41.0</td>
<td>40.6</td>
</tr>
<tr>
<td>I-X</td>
<td>50.4</td>
<td>47.9</td>
<td>49.3</td>
</tr>
</tbody>
</table>

**Table 8. Drop-out rate by caste.**

*Source (Government of India, ministry of human resources and development, 2013)*
Chapter III

Household decisions and school dynamics

3.1. Attendance, Enrolment and School Participation Determinants

Participation school determinants in India and in other developing countries have often been identified by the literature in three major groups: socio-economic status, culture and school infrastructures.

It is largely common understanding that socio-economic status is one of the most important determinants when concerning school participation. Mingat (2007) argues how household characteristics, family income, wealth and parental education are particularly significant when concerning school attendance and enrolment both in developing and in developed countries. School characteristics play a similar role as shown by Huisman and Smits (2009) and by Vasconcellos (1997); good school infrastructures and school facilities positively influences the probabilities of the children to be enrolled in that school with a positive effect on attendance, when not considering strictly distance constraints. Cultural problems may play and intermediate role (Huisman et al. 2010) in determining school participation. Major cultural characteristics of Indian society had been analysed during this work. Caldwell (1982) in his classification puts India in the so-called classical patriarchy belt, where women are particularly weak and disadvantaged. Differences may arise between urban and rural India, with the latter, which tends to be more conservative. Together with women weak position, it is important to keep in mind the importance of the caste system in India. Despite it was eliminated by law in 1950, it can still be defined as a principle governing and occurring in every day social relation, especially in rural areas.

The more problematic issues when trying to detect and analyse determinants of school enrolment in rural India are (Dostie and Jayaraman, 2006): (1) endogenous social effects; (2) endogenous membership problems; (3) problems related to unobservable determinants. The authors find that land ownership is a good incentive for enrolment for both gender, with landlessness having a significant negative effect, and show how longer time to go to school and road access negatively affect, respectively, older girls and boys enrolment. The authors find important and significant effects of village contextual effects such as access road to the village.
Many authors find significant positive correlation between parents education and children enrolment and/or attainment (Drèze and Kingdon, Dostie and Jayaraman), considering positive influence of father level education on boys enrolment and attainment and vice versa for mother’s one and daughters. Kambhampati and Pal (2001) find how mothers’ education might be a determinant factor for girls’ enrolment. One dynamic that can occur in the household due to higher level of mother’s education arises from the increase of woman influence in the household, changing priorities on educating daughters (Smits and Gündüz-Hoşgör, 2006).

Father’s occupation seems to have an influence on children enrolment when considering if he is salaried employee or has its own work. Being employee rises concerning on children education within the household, rising awareness on their future with the result of a higher investment in education. Moreover, parents with their own work focus more on occupational transmission with negative influence on educational investments (Breen and Goldthorpe, 1997). Given these findings, it is possible to understand possible dynamics and differences occurring within farmers and dependent workers’ families and to determine how their incentive structures may differ; Bhalotra and Heady (2003) show how the opportunity cost of sending children to school may be too high because of the higher parental expectation on children working and helping for their own land and cultivations. On the mothers’ side, their work status may more influence positively household decisions, and their influence on household decision was found by Lakwo (2007) to be higher in case the mother has a high employment wage with respect to mothers not employed or with lower gain. As argued by Smits et al. (2003), the influence on family decision is correlated with the extent the member of the family brings value research to the household.

Drèze and Gazdar (1996) found how a patriarchal structure of the family creates disincentives for investing in girls’ education.

Drèze and Kingdon (1999) find that in India, attainment is positively influenced by teacher attendance, infrastructural quality and pupil teacher/ratio. It is also worth to notice that the authors find positive significant effect of parent-teacher cooperation and grade.

According to the literature, another factor influencing school attainment and enrolment, and more in general school participation is represented by school characteristics. Generally it might be argue that teachers, school distance and school facilities and material largely influence student participation.

Buchmann and Hannum (2001) find that school availability and quality in
developing countries particularly affect children school participation when considering especially disadvantaged groups and girls.

Looking at schools characteristics in poor and developing countries, Long (2006) finds evidences on higher positive effect on children achievement when compared to developed countries. Other research highlight school quality importance, finding that low school quality increases the probability of children’s drop-out (Bergmann, 1996).

Colclough et al. (2000) explore parental attitudes toward quality education, arguing that the understanding of possible benefits from school quality influences their willing to send their children to school when realizing school quality to be different. School distance can be seen as an opportunity cost, and Mingat (2007) argues that school distribution influences children attendance.

Kremer et al. (2005) focuses on different factors of school quality such as teacher absenteeism, non-qualified teachers, finding that they have a negative impact on students’ achievements. The presence of female teachers was found instead to have a positive impact on enrolment (Dee, 2005; Colclough et al., 2000).

MDM was found to highly and positively influence enrolment in government schools, especially in rural areas (Mehrotra, 2006; Drèze and Kingdon, 2001).

Positive program impact may result in a higher number of students enrolled, usually with negative consequence for school quality. Lomeli (2008) argues that school and education programs aimed at increase school participation should also work on school quality concerns.

Concerning UP expenses on education, Iyer (2009) analysis concludes arguing that there is more need to focus on quality of education, making more effective the use on public funds.

**Culture**

Indian culture system is strongly shaped by the presence of the caste system and by the concept of patriarchy. These two cultural aspects are still very strong and present in India, especially in rural areas. Indian patriarchy system defines specific roles and duties of the woman towards the family, placing power of decisions in the hands of the male members. It can be defined a different sphere of operation between men and women, with the formers providing income and working on the sphere of social relations and the latter working in the private and domestic sphere. The influence on patriarchy in shaping and influencing gender gap in education in developing countries has been shown and emphasized by several authors (Kambhampati and Rajan, 2008;
UNESCO, 2003). Shamshad (2007) argues how this specific gender roles might be a factor highly influencing gender gap in education. Colclough et al. (2000) find that probably due to these reasons, parents tend to invest more in boys’ education than in the girls’ one. Patriarchal influence in the Indian culture is still strong despite the modernization process, as argued by Moghadam (2004), who finds that patriarchy is still influencing legal and institutional settings of modern India.

Drèze and Kingdon (2000) demonstrated how positive parental attitude for girls’ education results with higher girls educational attainment.

For Uttar Pradesh Kingdon (1997) found significant omitted family background bias in analysing returns to education.

Kingdon (2001) examined intra-household allocation of educational attainment between boys and girls in Uttar Pradesh, finding that even after controlling for several discriminatory variables such as religion and caste, girls performance kept being lower than the males’ ones.

In 2005 Kingdon analysed household allocation of educational expenditure, finding parental background, wealth and school quality are, together with other variables such as level of education and opinions, are the most significant variables, resulting in a significant gap between boys and girls, reflecting cultural beliefs and higher opportunity cost for girls’ education.

Drèze and Kingdon (1999) find that the probability of girls’ enrolment highly increase when parents consider girls’ education to be important. On the other side, Miller (2007) finds fathers’ primary education to be statistically and positively significant in determining the importance that parents give to girls’ education, together with attitudes and parental opinion on the importance of girls’ education with respect to the marriage: highly importance to girls’ education is given when there are possibilities for the girl to be married to an educated boy. The same author found, in her econometric model, that the importance given to girls’ education decrease by 12.5 percentage points for the household to be Muslim.

**Gender Gap**

As Kingdon (2001) notice, women’s educational backwardness affects in a negative way society development also looking from an economical point of view (Chapter I). According to the literature, gender gap in educational achievements may be explained under many perspectives. Influences on girls’ attainment may arise from labour market discrimination, given the perception of parents that girls’ may gain less from the level of
education with respect to boys. Moreover, looking at family dynamics, it evidences from literature and from field observation suggests that parents treat differently girls from boys. Considering family incentives and cultural norms, it is common attitude to consider the girl to “belong” to the family of the husband after marriage. This may result in a higher weight given to the interests of the son rather than for the girls. Kingdon (2001) finds a significant growth in girls’ enrolment rates in the past decades, arguing however that different differential in enrolment is higher than differential in educational attainment between boys and girls. She also found negative effect of being Muslim and belonging to a lower caste on the probability of enrolment, even after controlling for parental education and wealth, which was found to be an important determinant for enrolment in her model increasing the probability of enrolment with a decreasing rate. Interestingly, she also found that a mother working in the labour market has a negative impact on the probability of girls to be enrolled. One interpretation may be that with a mother working in the labour market, more responsibilities concerning the house and the household work fall – disproportionally – on the girls or, alternatively, a working mother can be identified as a proxy of poverty with weights falling more on girls than boys.

Kingdon (1998) finds great wage discrimination against low castes and particularly concerning women. However, other possible explanations of parents’ differential treatment of sons and daughters in education are that (i) differential treatment partly reflects entrenched beliefs about the gender division of labour [Drèze and Sen 1995]; (ii) it reflects an asymmetry in parental incentives to educate girls and boys due to son preference; (iii) even if the economic returns to education were the same for boys and girls, parents may value only that part of the return to a child’s education that accrues to them personally (and the returns to a daughter’s education are often reaped by her in-laws); (iv) due to the higher costs (opportunity costs and/or direct costs) of educating girls. These contrasts in parental incentives have strong implications for public policy: parental motivation for male education is high. For female education, however, it is important to address the conservatism of social attitudes and parental inertia. It is also important to reduce wage and job sex-discrimination in the labour market and boost women’s economic returns to education in order to improve girls’ incentives to acquire schooling.

(Kingdon, 2001)

Concluding, this is how Drèze and Gazdar (1996) explain lower incentives to girls’ education in India:

“The gender division of labour, which relegates most adult women (including those with relatively good education) to domestic work, diminishes the perceived ‘returns’ of investment in female education. The prevailing norm of village exogamy and patri-local post-marital residence imply that these returns (and other benefits from education) flow...
primarily to a daughters’ future in-laws other than their parents. And marriage transactions may act as a discernible disincentive against female education, given that an educated daughter is expected to marry more educated man, often implying higher dowry payments. The remarkably backward state of female education in Uttar Pradesh fists in a tight web of mutually-reinforcing gender inequalities and patriarchal practices” (p.85).

3.2. Determinants of transition to secondary school

3.2.1. Introduction
The present paragraph attempts to analyse possible dynamics explaining high drop-out rates and low enrolment rates in secondary school. Reminding that poverty remains the biggest obstacle to education, the problem of poor participation to secondary education appears to be related also to rural/urban, caste, gender and other cultural and distance variables.

3.2.2. Transition to secondary school: literature review and major determinants
The literature on the argument is insufficient and sometimes lacks of adequate investigations and explanations. Not being able to get enrolled in secondary school is one of the critical zones – zone 4- shown in chapter II concerning different groups of people excluded from education for several reasons. Demand for schooling an especially for secondary education is growing and is concerning also poor people, like Drèze and Sen (2013) argue. On the supply side, government provisions of secondary schools seems not to be a priority – as it can be observed in Figure 4 – and investments on secondary education are lower than those on primary education.

As reported in chapter II, different kinds of school can be identified in the Indian panorama of education. Briefly, private schools charge different fees in order to meet different needs and government schools are free of charge. Drèze and Kingdon’s model (1999) previously illustrated also shows that school quality can play a role in determining educational attainment, and this finding is also supported by authors’ findings (2001), which show that quality of classroom has a positive impact on girls’ enrolment, while teachers’ absences was found to have a negative effect for boys, while classroom size had a negative effect for both boys and girls. Siddhu (2011) analysed, with both qualitative and quantitative methods, determinants of transitions to secondary schools for rural India, in a district in the western Uttar Pradesh – JP Nagar District – finding that the most significant factors in determining transition to secondary school
are additional cost and additional distance. The author additionally finds that the negative impact of these two factors is more detrimental for girls, with Muslim girls facing higher difficulties. Interestingly, he finds that the transition from a government primary to a private-aided school influences household expenditure of education rising it by 2.5 times, on average, affecting especially poorer families, which also tend to have more children. Dostie and Jayaraman (2006) find a significant effect of educational expenditure on enrolment, with the latter increasing for with educational expenditure but at a decreasing rate.

3.3. A simple model for household schooling decisions

3.3.1. Introduction
This chapter analyses Drèze and Kingon’s “School Participation in Rural India” (1999) model for the interpretation of household schooling decisions under a cost-benefit framework. Despite school quality plays a role in the model, the authors conclude their paper underlying that many measurement problems arise when trying to identify school quality and effectiveness. Dostie and Jayaraman (2006) when attempting to measure school quality for rural India, find that general performance appear very poor, underlining that this is due more to scarcity of school quality variables, rather than to low importance of school quality.

3.3.2. The model
The authors’ assumption for the model implies that all household faces the same prices for educational inputs including fees, textbook, dresses etc. The total expenditure (x) can be so treated as a composite commodity. The household will chose the value of x in order to maximize the following function:

\[ B(x; w, z) + U(Y - c - x; w) \]

where \( w \equiv \{w_h\} \) represents a vector for the household characteristics and \( z \equiv \{z_k\} \) is a vector for the school characteristics. Y is the income, while c is indicated as a fixed cost of schooling – opportunity cost. Moreover, in the model, U indicates the utility function based on consumption and B represents the perceived benefits of education. The authors assume that household objective function with respect to consumption and schooling is “separable”, indicating no loss of generality and separable additively. The two functions U and B are household invariant, while their variables c, x, Y, w and z depend on the household. The authors assume the function B(.) to be concave in x and increasing in z.
– school characteristics indicated also as school quality – and the function \( U(.) \) to be concave in \( Y \).

From equation (1) it comes that when the household chose not to enrol the child, we have

\[
U(Y; w)
\]

Then, the authors assume \( x^*(Y, w, z) \) to be the value solving the maximization problem, with \( V(Y, w, z) \) being the maximum value function. The assumption of the authors is that \( x^* \) has a strictly positive value, by the concerning that, in addition to fixed costs, it is always better and inevitable to spend at least a certain little amount of money on the child education. Following these assumptions, the authors find that the natural criterion for child enrolment is:

Enrol if \[ V(Y, w, z) - U(Y; w) > 0 \] (3)

and, when the child is enrolled, the first-order condition for maximizing function (1) is

\[ B_x = U_y \] (4)

By the simple conclusions of this model, it is possible to draw some conclusion especially concerning school quality. The authors argue that the model implies that enrolment is non-decreasing with respect to school quality, by differentiating \( V \) with respect to \( z_k \), and applying the envelop theorem:

\[
\frac{\partial V}{\partial z_k} \equiv B_k > 0
\] (5)

where \( B_k \) is the partial derivative of \( B \) with respect to \( z_k \). The authors show that combining equation (5) with equation (3) an increase in school quality may have positive or neutral effects on enrolment, but not negative. This means that households may have more inventive in enrolling the child and, at the same time, when the child is enrolled, families will not take the child away from school.

According to the authors, this results does not only apply to initial enrolment, but it also influences education expenditure, which can be assumed to be the continuation of schooling over time and can be shown also in the equation

\[
\frac{\partial x^*}{\partial z_k} \equiv -B_{zk}/(B_{xx} + U_{xx})
\] (6)

Where are considered second derivatives. Equation (6) shows that improvement in school quality rises household expenditure when both are complementary inputs for the
function B. To better illustrate this, the authors take as example parents who cares about having literate children but do not see education important for something more. For these household, an improvement in school quality may lead to a faster learning and literacy of the child, inducing parents to withdraw the child earlier. However, the authors conclude that private expenditure and school quality are more likely to be complementary rather than substitutes.

Considering income effects, applying the envelope theorem and deriving the left-side side of inequality in equation (3) with respect to Y the authors get

\[ U_y(Y - c - x^*; w) - U_y(Y; w) \]  

(7)

Given the assumption of \( U(.) \) to be a concave function, expression (7) is positive. This shows, so, that together with school quality, enrolment does not decrease with respect to income. This, basically, comes to the fact that higher income reduces education opportunity cost, and enhances possibilities to afford education. When differentiating (4) with respect to Y, the authors obtain a similar result for education expenditure:

\[ \frac{\partial x^*}{\partial Y} \equiv \frac{U_{yy}}{B_{xx} + U_{yy}} \]  

(8)

where the right-hand side is positive. The authors find, so, that according to the model enrolment and education expenditure are respectively not increasing and not decreasing with respect to \( c \) – schooling fixed cost. The authors conclude by coming to household characteristics with the derivative of \( x^* \) with respect to \( w_h \) written as

\[ \frac{\partial x^*}{\partial w_h} \equiv \frac{(U_{yh} - B_{xh})}{B_{xx} + U_{yy}} \]  

(9)

where authors remark the possibility of household characteristics that enhance the perceived marginal returns from education \( (B_{xh} > 0) \); characteristics such as personal interests in learning.

3.3.3. Conclusions of the model

Authors conclusions for household characteristics is that when one shows positive attitudes or linkages to learning and study, the household is more likely to invest more in education, unless these characteristics do not have an effect in raising marginal utility of income by a certain amount. This last hypothesis, the authors argue, it is more difficult to find.
Chapter IV
The Experimental Research
Part 1: School ‘Quality and Effectiveness’
in Rural India

4.1 Introduction
Uttar Pradesh (UP) is the most populous state of India, with a population of 199,581,477 people, of which 94,985,062 are females (Indian Census, 2011). The state of Uttar Pradesh is located in the northern India. Lucknow is the capital of the state, while other cities like Agra, Kanpur and Varanasi play an important role concerning UP’s religion and the economic spheres. Uttar Pradesh is one of the BIMARU states together with Bihar, Madhya Pradesh and Rajasthan. BIMARU states are those which shows lowest performances for many developing indicators including GDP growth, human development and education, lagging behind others states despite some encouraging positive recent trends.

The research was conducted in the rural villages of Singhpur and Ghurahoopur, in the Sarnath area. Being Sarnath one of the most holy cities for Buddhist religion, in the villages are represented several communities of Buddhists, together with Hindus and Muslim minorities. Most of the people are smallholders, together with other people running little economical activities. There is a high illiteracy rate, especially concerning women. In the area of Sarnath there is a high quantity of private schools, addressed to people with different economical situation.

4.2. Alice Project, Awakening Special Universal Education

4.2.1. Introduction
The Alice Project (AP) is a Non-Governmental-Association (NGO) officially recognized by the Indian government. It was registered in September 1994 in Varanasi.
(UP) as *Awakening Special Universal Education*. Its main goal is to realize researches on education according to AP methodology, working in disadvantaged rural areas: AP built three schools, respectively in Sarnath (UP), Bodh Gaya (Bihar) and in Arunachal Pradesh, counting together more than one thousand students. Together with the schools, AP was involved in different social project, building a hostel for women with disadvantaged situations and providing free help and medical assistance for the students of the school in need. In the three schools, moreover, hostels were built to host Chakma – refugee minority in Arunachal Pradesh – boys and girls and children in disadvantaged situations to give them the chance to study. More than one hundred Chakma students are residents in AP structures.

The school was visited three times by H.H. Dalai Lama, receiving his appreciation and blessing. Valentino Giacomin was ordered “Knight of the Order of the Star of Italian Solidarity” by the Italian president Giorgio Napolitano for his merits in the field of International cooperation and humanitarian commitment. The research was twice awarded by Benares Sanskrit University in 2005 and 2009 for its commitment in social activities and because

\[V. \text{ Giacomin’s experimental educational research, lasting two decades, successfully demonstrates the powerful therapeutic effects of this pedagogy, inspired by the cognitive deconstructive theory known in ancient time as Maya, on the wrong perception of reality. The Alice Project Universal Education Methodology integrates the knowledge of the traditional disciplines along with the wisdom of transpersonal psychology (beyond the self). V. Giacomin’s extensive research made in cooperation with his partner Luigina De Biasi – scientifically and practically proves that the new generations of the ‘global village who are engaged in Alice Education Methodology could certainly find a positive solution not only to their personal problems, but also to the dramatic crisis of the environment (global warming, pollution, drought, famine…) and social unrest through a more rational and realistic way of thinking. We consider the Alice Project Universal Education proposal a revolutionary educational method which in the short term can cure and prevent psychological distress and behavioural disorders of students and – in the long term – can help them to achieve personal and social existential happiness.}\]

4.2.2. Alice Project methodology

The AP methodology is based on philosophical concepts based on the concept of Unity and on the understanding that perceptions and the external world originates in the mind. AP teaching includes universal understandings which originates from several

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13 www.aliceproject.org
philosophies, incorporating fundamental teachings and notions from every religion. AP philosophy aims at the integration of all the religions and philosophical thoughts. Considering the point of view of every person as delimited by their own personal border – which restricts our inner feelings only toward our family, village etc.- which limits people understanding and capacity to reach real happiness, the AP aims at enlarge this inner border.

Some concepts taught in the Alice Project¹⁶:

- Laws of interdependence.
- Laws of cause and effect.
- Subjectivity of perceptions and dynamic of projections.
- Relativity of boundaries.
- Ever changing nature of our thoughts and feelings.

Another important aspect concerning Alice philosophy is the value of tradition. Opposing to modern flows of thinking and to the powerful bust-in of globalization, AP aims at restoring local traditions, mainly seen as the main channel through which universal truths can be understood and conveyed. This is why, since the beginning, the school inserted yoga classes into its curriculum of studies, together with the study of related traditional Indian disciplines during the past years.

4.2.3. AP teachers

The AP methodology is thought to every teacher working for the project. Another philosophy of the project is to hire as teachers people who previously studied in the school in order to guarantee a higher understanding and application of the methodology, together with creating a higher linkage of the teacher with the school and a higher linkage of the school with the village.

Training is held by Valentino Giacomin and Luigina de Biasi at least three times every year:

*We usually have three or more trainings every year, depending on how many time is available. Every teacher has to attend the training. The first one is held in the beginning of every scholastic year. Then, during winter vacations, teachers keep coming in the school for another training. Moreover, when Valentino or Luigina are in Sarnath for a long period, usually other trainings are held."* Sudakhar, 27, AP teacher and former AP student in Sarnath.

*The duty of a school is to start from the ground, to give motivation and to let the children to grow up. Teaching method plays a fundamental role, especially if you

¹⁶ http://www.aliceproject.org
compare to other schools’ teaching methods, which only focus on memory learning, not increasing skills and abilities [...] so that it is harder for them to guarantee quality of education. Alice school is more practical, we feel more practical. Children have to learn value and the concept of mindfulness, totality and unity. Here we stimulate children totality. Arun, AP yoga teacher in Sarnath.

“Valentino and Luigina also have been teaching us that teaching is more effective when we are able to make things as simple as possible for the children and when they are actively involved in the process. It is not something teachers usually think or do, taking everything they find in the books as given. Education in India is too much based on a mnemonic approach.” Mohan, 24, AP teacher.

4.2.4. A new educational paradigm: the Birth of the project

The project was born from the intuition and the efforts of 2 Italian teachers, Valentino Giacomini and Luigina de Biasi. The basic concept and main concerns of AP is the work of Unity, trying to go beyond divisions too often created by nationality, religions and traditions, looking forward to a pluralistic and multicultural society.

The AP methodology was first experimented in Italy, starting from 1983, in several classes of the Italian public school, bringing to light interesting perspectives on the schooling system and on a possibility of a multicultural approach to education. The main result obtained in Italy following PA methodology were (Giacomin, 2003):

- Significant increase in the attention capacity and duration.
- Significant increase in the concentration capacity.
- Significant increase in the introspection and self-consciousness capacity.
- High increase in the capacity of memorization and visualization.
- Higher self-control, tolerance and cooperation between students.
- Violence reduction in children’s behaviour.
- Higher attitudes towards resolution of personal and inter-personal conflicts.

Given these results, the willingness of Giacomini to keep developing the project and the research, together with the intuition that the AP methodology could be applied to cultures other from the Western one, led to the challenging decision to move the research in another country, in a different setting with different culture, India, dealing with different parental attitudes and generally unfavourable economic situation.

The first school was built in Sarnath in 1994, with initially only two classrooms and three teachers previously trained and selected over a larger group of 25 people. After 20 years AP school in Sarnath has 788 students, the school building covers an area of 26,112 square feet, with 22 classes from LKG to class XII, a central courtyard, playground and a garden.
4.3. School Factor Analysis

The effectiveness of schools is seen not to lie in the specific list of characteristics of discrete additive elements, but in the creation of a whole efficient working system, which includes its people, structure, relationships, ideologies, goals, intellectual substance, motivation and will.

Lightfoot (1983)

The disparity of resources among schools does not explain, systematically, schools’ difficulties […]. The effectiveness of a school […] lies in the quality of school life.

Robin et al., (1992)

4.3.1. Methodology

The main idea supporting this case study relies on the belief that changing in the educational system policies too often do not translate as changes at the classroom level (Heneveld and Craig, 1994). Research and policies should work more on how to improve situations at the classroom level. Classroom is seen as the main unit of change.

The methodology adopted to identify level of school-effectiveness factors is mainly based on a modified version of a conceptual framework developed by Heneveld and Craig (1994) in order to assist Madagascar policy-makers in bridging the gap between school practice and national policies. The original framework identified 16 school-effectiveness factors, which then are organized according to five main categories—supporting input, enabling conditions, school culture and climate, and the teaching/learning process. Focusing on the this framework and analysing literature review, I developed a list of school factors, identifying indicators for every one of them in order to be able to better conduct school visits. Together with their definitions, according to the methodology suggested by Heneveld and Craig, I developed a list of indicators for each one of them.

In the literature review analysis I have encountered many articles, papers and researches based on school visits independently from the main goal of the research. These visits used to last on average very few days. According to me, very short visits will never allow the researcher to catch important information and subtle, but important, details concerning dynamics belonging to the single classroom or to the single school. In order to better understand possible dynamics and to better investigate on qualitative school factors, the period of school visits lasted one month, with frequent visits to every single school.
School visits were spent with teachers and school staff and also with children and students. Unstructured interviews were conducted both with school staff and students usually concerning school problems, possible solutions, actors’ behaviour and the importance and the value of education, especially when in relation to the Indian culture. All the registers every school to proceed to the count of students and to have an information on absence rate, useful estimator to try to understand both school level and family choice dynamics. During the school visits, time was spent in the school observing general behaviour and teachers attitudes, taking note on the method of teaching – student-centred learning or teacher-centred learning (when teaching) – homework assessment and how teachers effectively spent time in the classroom (when in the classroom). Finally, time was spent with schools’ principals, interviewing them, but also trying to notice their involvement and their role for the school organization.

4.3.2. The conceptual framework

The main reason for the behind the chosen of this framework is the view of the single school or single classroom as the main unit of change. School is a complex social system embedded in a web of more complex social dynamics. According to Heneveld and Craig (1994) the model can be used by people with no sophisticated research skills.
to structure comprehensive information for policy decisions. The authors stress the
importance of the assessment of qualitative variable with the aim to inform more
quantitative analysis, concerning the perspective that both quantitative and qualitative
analysis have to be conducted to better address the results of the research. As argued by
Heneveld, School can play obviously an important contribution in effective learning, but
its influence is limited by family and socioeconomic variables. School seen as a social
system is defined by a finite population and many formal and informal dynamics which
occur between the actors, determined and influenced by school culture and climate:
“the behaviour which occurs within the organisation is determined by the interactions
of the organization’s expectations, informal norms, individual needs and motives and
organizational goals” (Heneveld and Craig, 1994). The framework aims at simplify
relations which occurs between this huge variety of factors within the school and the
contextual factors occurring outside the school, following the assumption that the
variety and the relations between these factors has a high degree of complexity and it
presents unique characteristics for every single school.

Heneveld and Craig identified 16 factors, then organized in 5 groups (FIG X).
Supporting inputs represent the basis of the factor in each school, in which enabling
conditions, school climate and teaching/learning process interact and influence student
outcomes. Contextual factors –institutional, cultural, political, and economic – are taken
as exogenous and are not deepened in Heneveld’s researches.

This research provided in II and III, however, provides brief and comprehensive
analysis of Indian contextual and cultural factors, together with cultural dynamics which
appear to have a greater impact on education outcomes according to the literature.

In conclusions, factor are seen by Heneveld and Craig as potential contributor to
school quality, not as a measure or an indicator of it, since factor interaction keeps
playing a fundamental role in shaping school outcomes and have to be considered as
important as the presence of the factor itself.

4.3.3. Choosing the schools

The research on factor analysis covers 5 different schools in the area of Sarnath and of
Singhpur village. The main criteria to select the school was their main student-target:
together with the AP school, 2 low fee private schools were chosen between those who
provided education at least until class X. Another criteria in choosing private school was
their number of students, which had to be between 500 and 800 students – one of the
schools slightly overcomes the limit – to better guarantee an adequate confrontation
with the AP, and suggestions from people of the village. Low fee private schools, as analysed in chapter II, represent the most probable alternative to free education provided by the government. To better address the factor analysis and the final conclusions of this research concerning also political implications, Singhpur government school and one government-aided school in Sarnath were included into the sample. The schools were visited during the whole month of August 2014 and during the first week of September 2014. To better address the research, data on absent rate were collected by taking four random observation from school registers. Data are available in Appendix A.

4.4. Schools description

4.4.1. Alice Project

Alice Project, Awakening Universal Education School is located in the village of Singhpur, Sarnath. The school infrastructures level is highly satisfactory. In the area there are frequent blackout problems, and the school is furnished by an autonomous electricity generator, activated in case of need. The school is also providing the installation of solar panels on the roof, but works are stuck at the moment due to organizational problems. The school has a courtyard animated by many trees and a central Stupa, in which, every morning, a general assembly is held: together with the national anthem songs, every day different songs from different religions are sung. Time for the general assembly is also dedicated to practicing mediation and recitation of mantra. Together with the Stupa – Buddhist monument – in the schools are presents many other religious symbols from other religion, including a room for practicing Hindu Puja (prayers, venerations). Together with the courtyard in the school is present a big playground. In the school there are 22 classrooms, plus 1 special classroom for teaching only English and one yoga room.

In the school there are 788 students from LKG to class XII. From class I to class XII the number of students equals 686, of which 283 are girls. There are 23 full time teachers, whose average wage is around 4,500 Rs./Month. Wage use to increase with years of experience and the most experienced teachers’ wage is around 7000 Rs./Month.

Since the school is recognized by the UP government, AP school follows the national program and school syllabus. School library contains both books on AP and books written by Giacomin with the aim to integrate government school books contents. These last books are available in the library in sufficient number for every classroom.
Classrooms from class I to VIII are equipped with computers in order to facilitate teaching/learning activities. In every classroom a camera was installed in order to avoid and to disincentive teachers to punish the students. Two smart-boards are installed in two classrooms and used principally for primary school students. There are three projectors available in the school in order to support teachers’ activities.

Teachers can be divided in two groups: (1) those who were trained by Giacomin and De Biasi in the beginning of the project 20 years ago, with high experience and still working in the school and (2) new teachers who previously studied in this school and so know the methodology or new teachers with Bachelor of Education (BED) who trained in AP school during their study.

Fees are paid by families according to their economic situation. Some students are helped by the School due to their highly disadvantaged situation and education for them is provided for free. There are other three fee levels: (1) 75 Rs./Month (2) 125 Rs./Month and (3) 225 Rs./Month. After checking for the school fees register, it can be told that approximately 50% of the students pay a fee of 225, and the other 50% is equally distributed across the other two fees range.

It is a school policy to maintain an “optimal” level of students per classroom:

*In case there are seats available we organize tests for the new students. However, we always try to keep in mind and to help poor people. Not all those who ask are then enrolled due to classroom and teachers availability and due to structure concerning.*

AP school Principal

During the visits, teachers were found in the classroom teaching in a participatory way – student-centred learning – and in primary school classrooms, teachers were adopting the experimental teaching methodology developed by Giacomin and De Biasi. Teachers were frequently found assigning or correcting homework. Only during the first week of visits one teacher was absent during to health problems. In those cases, the principal or substitute untrained teachers replaced the missing teacher. After 2 hours of lessons, there is a 10 minutes break for meditation. General positive climate is observable during the interval and during the break. During my permanence, the school took the initiative to test 750 students who were asked about bulling. Results are illustrated in the Table 9.
Table 9. Bullying test in AP school
(Results – percentages – for the bullying test in AP primary and secondary schools).
Source: Alice Project, 2014

<table>
<thead>
<tr>
<th>Questions</th>
<th>Primary School</th>
<th>Secondary School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there any problem in your class?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>3%</td>
<td>97.00%</td>
</tr>
<tr>
<td>Is there any case of teasing?</td>
<td>3.50%</td>
<td>96.50%</td>
</tr>
<tr>
<td>Are your classmates happy with all the teachers?</td>
<td>98.90%</td>
<td>1.10%</td>
</tr>
<tr>
<td>Do you feel sometimes afraid in the school?</td>
<td>0%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Did you see some students of your class unhappy because teasing?</td>
<td>3.50%</td>
<td>96.50%</td>
</tr>
<tr>
<td>Did you see some students of other classes unhappy because of teasing?</td>
<td>4.50%</td>
<td>95.50%</td>
</tr>
</tbody>
</table>

Note: Some of the students didn’t understand the questions and answered incorrectly.

The suggestion box, placed in the school courtyard, was effectively used. In the beginning of the new scholastic year, school gates closed ad 7:00 a.m., but many students (between 5 or 15 everyday) where left outside. This problem emerged clearly from the suggestion box and the beginning of the general assembly was postponed one hour late.

On average the school presented a good positive climate with positive teacher attitudes registered. The principal is highly involved in schools activities and the presence of Giacomin represents the ideal of effective leadership, as noted by Davis (2001, p.68): “Valentino spends the majority of his time to follow the teachers, the students and every other aspect of the school. He is a teacher, an administrator, the responsible for health care assistance and a father for all of his students. Throughout meetings and lessons, he spends most of his time in developing and implementing the AP program and writing new books on ‘moral tales’. His total dedication, during the whole year, to the school and his love for his students is the main glue which keep together the Alice Project Universal Education.”

4.4.2. Private 1
Private 1 school is a low fee private school in the Ghurahoopur village area, on a side road from one of the main roads of Sarnath. It covers classes from LKG to class VIII, in the same school is provided secondary and upper secondary education only for girls. The overall situation of the building is satisfying. The schools suffers from the frequents
black-outs in the area and it is worth to notice that is the only school in the sample not linked to any kind of organization. In the school there are 14 classroom (2 classroom are for LKG and UKG, not taken into account) and the total number of students is 838, 547 of them are girls. 70 children are sponsored by foreigner privates who pay 5000 Rs./Year to get them, so, free education. School staff is composed by 14 teacher and 1 principal. Four teachers accomplished BED training, 2 of them accomplished PG training and 8 of them are untrained teachers. The average teachers’ wage is around 4000 Rs./month, and it is supposed to rise with higher experience. The school presents separate toilets for boys and girls, even if their number, in relation to the overall number of students, is not satisfying. In addition to this, no drinking water is available in the building. The school is extended on a restricted area and there is no garden or playground. There is no other room in addition to the classrooms, which are extremely dark and have no fan or any cooler system.

*The main problem in the school is that we have few classroom for many children.*

Private 1 school teacher

School fees are 50 Rs/month until class V, 80 Rs./month from class VI to VIII and 120 Rs./month for secondary education. According to the interviews, the school tries to provide free books for the poorest children, and offers free education to one students when he comes from a large family with more than 4 children. Despite during every visit the teachers were always involved in teaching activities, from the interviews emerges a very particular picture. I interviewed 15 students or ex-students of the school, who told me the same stories: school corporal punishment is very frequent many interviewed underlined the lack of care and attention of the teachers, who don’t react when episodes of bulling occur in the classroom. It happened that students, for different reasons – being scared of the teachers or, escaped from the school by the window without any problem. During one of my visits I assisted to physical punishment of the students, reporting it to the teacher in charge to substitute the principal. In fact, the principal was never found present in the school, despite living in the same building. The noticed problems concerning the environment and the atmosphere can easily be linked to the absence of an effective leadership and to the high rate of untrained and unexperienced teachers in the school, together with a high number of students in the not extend school area, with an average of 77 pupil per classroom concerning primary education and 55 students/classroom for secondary education.
4.4.3. Private 2

Private 2 school is situated in the central area of Sarnath, and it is run under the administration of the Mahabohdi society. The school structure was lacking of basic maintenance: despite there were the presence of separate toilettes for boys and girls, they were out of service because of the lack of water in the whole building. In one of the bathroom the ceiling fell down and the situation was never restored. The walls were lacking of maintenance and were slowly and constantly losing pieces of plasters and dust. The roof was damaged and there was no light in the classrooms, which appear to be very dark. The school, like the others, suffer of continuous blackouts in the area. The principal was very concerned about the situation, and showed me a list of problems in the school she sent to the management. Problems were also concerning the utilization of the school bus, very old and in bad conditions, which was not enough for all the students who were requesting the service, so that after the school they had to wait more than one hour for the bus to complete the first route. Moreover, in the school there is no playground. There is a computer room, but computer are abandoned: difficult to use them, due to the very frequent blackouts in the area. Other staff members were also complaining about the school situation and the absence of a Buddha statue, which they consider very important for the school environment. Other complaining from the principal were the lack of enough classrooms for the students and the lack of teachers:

We have very little resources for the school. The management of the society which we represent is not helping us and they seem not concerned about the school problems. The only money the school has to pay the salary and to take care of the school come from the fees.

Private 2 principal

I also had the chance to interview school manager concerning the school and its problem. Despite he admitted he visit the school, he didn’t appear aware about the school problems and, when asked about the dark classroom he said:

Sunshine is enough.

Private 2 manager

In the school there are 11 classrooms and 1 hall, from LKG to class X. Pre-primary education is not included in the research, and the overall classrooms for primary and secondary education are 8, with 1 big hall shared by two classes. The school offers

http://en.wikipedia.org/wiki/Maha_Bodhi_Society
http://www.mahabodhisociety.com/
secondary education only for girls. The pupil/classroom ratio is largely minor than 50. During the visits, 25% of the teachers were absent or not involved in teacher activity. Their wage range is between 3000 and 5000 Rs./month. 8 teachers completed BED training, while other 8 teachers were not trained. Despite the problems, the school principal was participant and actively involved into school dynamics. Her figure is central for the school organization, and her effort seems to be a very influential factor in positively addressing the school. Teachers’ attitude was considered, in general, positive. This is due to the principal participation and it emerged from the interviews of the students, who didn’t show any concerning regarding teachers’ negative attitude, and complained mostly on the school building and its facilities.

Two weeks after the first visit, in the school were started working to renovate the building, the bathrooms and to find water next to the facilities. On the last visit, the school situation was much better, but it was not taken in consideration given the relatively small time the change occurred.

_A school for the poorer:_ in a separate building it was situated a primary school which covers from LKG to class 5. In the building there are 4 rooms for 7 classes. Randomly, 3 classes have their lessons outside the building or, eventually, share the same room. The classrooms are dark and lack of electricity. There were no toilets, but water is available close to the building. This no-fees school was not technically included in the sample, despite it is worth to mention it. There are 7 teachers who were found few times to be involved in teaching activities and some of them were absent during the visits. This is why it was easy to see elder students taking class to more little children (picture X).
4.4.4. Government Aided School

The government aide school is situated in the city of Sarnath and it has to be considered – as it is considered in the villages – the school where all the students from primary government school proceed to their secondary education. The school covers classes from class VI to XII. Classes from VI to VIII are only for boys and works as government school, given the application of government programs to education such as free education, MDM scheme and free books. There are, overall, 28 teachers, according to the school. Only 4 are women. Teachers can be divided in two groups: 20 are government teachers, receiving salary directly from the government. Government salary is very high when compared to private school teacher salary: it ranges between 30.000 and 50.000 Rs./month according to their experience. The second group is composed by “lecturers”, untrained teachers whose wage is 4.000 Rs./month on average. Teachers’ absence percentage was not calculated considering the total amount of teachers, but the total amount of teachers in the classrooms, given the difficulties in finding and being sure of the presence of all the teachers. 35% of the teachers was found absent in the classroom or not involved in teaching activities. In the school there are 16 classrooms, a playground, 1 library, 2 laboratories of sciences and biology and 1 computer room with 10 computers working. Toilets and facilities situations is not positive: 8 open latrines and 2 closed bathrooms for more than 1 thousand students. In the school there are 1.420 students, of whom 215 are girls, with an average students per classroom ratio of 89. Two classrooms were designated only to teaching Pali, the language of Buddha, mainly to monks and few interested students. So, it might be easily argued that the real ratio is 100 students/classroom. Given this high ratio, students-centred learning is impossible. Moreover, while taking part to and observing classes, it emerged high disorder and indiscipline, with teachers unable to control the classroom. The total amount of classes from VI to XII is 22, this means that many classrooms were put together. Moreover, during the visits, an imprecise amount of students - from 150 to 200 - was found without any control in the open-air and in the playground. When asked, 80% of them answered that classrooms were full, while 20% of them was outside due to syllabus and programs issues. Also given to this situation and to the absence of any form of control, bullying emerged to a very serious issue for the school: all the students confirmed the high level of bullying in the school and the absence of any school control. In case of very dangerous situations, some students call autonomously the police, and I personally assisted to this. From the interviews it also emerged that the principal and the teachers use to beat and physically punish the students, but it also emerged that in some cases it were the students to beat the teachers, despite it was very
difficult to deepen this argument. The principal involvement in the school dynamics was very low or absent. He was not always present, and when present his only activity was merely to sign papers in front of the entrance. Despite his presence on the entrance, students go out and come to school at every time, without nothing to happen. But when taking interviews of the students, the principal or other teachers were getting close, everybody escaped. The situation was well synthetized by the first boy I met and interviewed in the school. When asked his opinion about the schools he answered:

*I don’t like this school. There is no rule, you should see.*

Anan, class IX

I took interviews to X students, and then showed a list of the school problems to each one of them asking if the parents knew the situation and if wanted to change school. Some parents know the situations in the schools, but they don’t take any action, and the main reasons the students justified their enrolment in that school was that there was “no option”.

4.4.5. Government School

The government school of Singhpur was chosen due to its proximity to the other schools. The school covers from class I to class VIII, with 311 total students enrolled. Of these, 156 are girls. The school building and infrastructure appear very low, with no fan, no electricity and only one pump for waters. 4 latrines were built separately from the other buildings. Direction and administration for primary and upper primary education are organized separately. In primary school there are 7 teachers, while in secondary school there are 6 teacher, 2 of them are para-teachers since more than 8 years, so they were considered trained teacher assuming they gained experience by time. In the school there are 8 classroom, 1 for each class. The school lacks of basics furniture and there are carpets instead of tables and chairs for the children. The school follows government program and free education, free textbooks and MDM scheme are provided to every students. During the visits 53% of the teacher were not in their classroom, despite maybe being in the building, or were not engaged in teaching activity.

*Page 6:* this example may be able to explain a part of the poor situation in the government schools. During one of my first visits I checked class VI with its English teacher. The teacher was not able to speak English, but I noticed that children books were open on page 7, where a tale was written. One month later, during another visit I had the chance to check again their open English books, always open on the same pages, and when asked the students if they were still at page 7, they answered that the book was open on page 6: the contents.
It is worth to mention that some of the government teachers put high efforts on their job and also helped me for my research.

According to the government rule, the school is supported by a village education committee (VEC) – composed by 7 parents, 1 teacher and the principal – and by one School Management Committee – with 13 parents involved – but from the interviews emerged that despite some teachers’ effort, the committee are not working due to the absence of the parents.

*The main problem is not the teachers nor the children, it is the lack of awareness of the parents.*

Govt. School teacher.

When asked about the MDM scheme and its effect teacher confirmed that the attendance rate raised during the last years, but they also admitted that in some cases food is given also to not enrolled poor children, and when this happens those who come are registered as attending the school instead of others enrolled, but not present. As the teachers said, there are 5-15 not-enrolled children every time. In the school there is only one pump from which to take water. This imply a big loss of time during MDM: the time spent for food distribution is of easy understanding, while many time is lost in order to permit the students to wash their dishes, considering that other forms of organization are not actually possible within the school. All the trained teachers in the govt. school completed the BED program, and part of the training concerns teaching activities in poor areas and poor condition. Teachers in the government school also manage the bureaucratic area of the school. When asked about a possible negative impact of these deeds on their teaching activities, they answered positively. It is also worth to notice that despite govt. gives the student free dress and textbooks, some of the children lack of basic school materials.

*If the child does not have a pen, what can the teacher do?*

It is not possible to clearly affirm, however, that lack of basic school materials is linked to an absolute poverty situation, but it is worth to notice that it may also be linked to insufficient positive parental attitudes toward education.

One of the biggest problems encountered in the government school, and then confirmed in the other settings, was the RTE implementation, in particular in its so called “no-fail” rule: children can’t fail the school until class VIII and, moreover, when enrolling in school, they are assigned to each class not according to their knowledge level, but to their age. This led, according to the teachers, to a big discrepancy of effective learning within the classroom with the subsequent impossibility of a teacher to
manage so many different needs. According to the teachers, this incentivizes both students and parents not to take participation in the school and, when it happens, they don’t do it in a satisfactory and in a fruitful way. The main example is that, after weeks spending teaching an argument, new children or long-date absent children will get to school, making impossible for the teachers to manage the situation, which occurs all the time. Despite many things can be argued against government school, there is no doubt that this problem may cause big dysfunctions, since this is one of the main problems also according to other schools and teachers I visited.

4.5. Output Individuation and Evaluation

4.5.1. First Attempt: examination results

Heneveld’s framework includes outputs such as participation, academic achievement, social skills and economic success. Given limited resources and limited amount of time, the individuation of a first variable which could identify differences in school and classroom outputs were the results of the governmental examination. I proceeded in getting all the information concerning the examinations result for class X and XII. Once the data were all collected, it became evident that a comparison between final examination results was absolutely impossible, given a high, unexplained and unjustified discrepancy between the boys and girls’ results. Government examination results run from 0 to 500 points, and are then assigned to different groups according to pre-determined thresholds. The groups are, respectively: (1) fail, (2) third division, (3) second division, (4) first division and (5) first division with honours (first honours). Data concerning class XII were collected for the Alice Project School, Private 1 and for the government-aided school. The structure of final examination implies that exams are taken outside the schools by an external commission. Together with the academic results, information on classrooms’ composition were also collected. It emerged that 61% of girls obtained first honours, while 37% obtained first division level. Concerning about discrepancy and transparency of the examination arises when observing boys’ results. Only boys got first division and second division for the Alice Project, while nobody falls in lower classes. For government aided school, very similar results were found. Concerning Private 1 school, only with girls, 41% got First Honours, while 56% got First division, on a sample of 39 girls in class XII. The results were suspicious and form the interviews it emerged that girls were usually helped during the external examination. Given that the data I collected presented clearly bias, I had to choose another option. Data are available in Appendix B (Table B5).
4.5.2. Test on effective learning

My following choice to understand possible school outcomes focused on effective learning as measured on the ASER test. 291 children (126 girls) in the five schools, in class VI and in class VIII very surveyed one by one in order to better understand their effective learning and to evaluate if their mistakes were due to distraction or other factors. The test was composed by three main exercises: (A) number recognition, (B) subtraction – 2 digits minus 2 digits – and (C) division – 3 digits on 1 digit. Division, the last and the most difficult exercise is included in the program of class IV. The children were first asked to solve exercise (B). If they were able to solve it, they were asked to solve then the exercise (C), otherwise they were asked to solve the exercise (A) of number recognition.

This allowed me to individuate four main levels of effective learning:

1. The child cannot recognize and/or understand the meaning of a number
2. The child recognize and/or understand the meaning of numbers
3. The child can solve an subtraction
4. The child can solve a simple division

This four levels represent the maximum results of the children. E. g., a child achieving Level 3 means that the child was able to solve the subtraction, but then failed to solve the division.

Despite ASER adopts fixed rules on the exercises for the inclusion of each child in each level, the test was conducted without any constraints. E. g. some children had to solve more problems than others due my uncertainty in determining their level of effective learning. The results of the test are illustrated in Appendix B.

![Picture 2. The Math Test.](image)
4.6. Dataset and Model

In order to develop a model with the aim of understanding schools and classrooms factors I identified several factors to be expressed as qualitative dummy variables in a model with the level of effective learning as dependent variable. A total of 30 variables was created. Due to problems of collinearity, some of them could not to be included in the model. The way I adopted to identify the variables to use in the model is based on several attempts and many models built using Stata, with consequent analysis of standard errors, analysis of the components, and of all the created regression considering their power of explanation. Two models were then built, using the following variables:

1. alice_tr: dummy variable assuming value 1 when indicating the presence in the school of teachers trained according to the Alice Methodology, 0 otherwise.
2. class_vi: dummy variable assuming value 1 when indicating that the student is attending class VI, 0 if the student is attending class VIII.
3. eff_lead: dummy variable assuming value 1 when the principal and/or other management staff were observed to be directly involved in the school process, 0 otherwise.
4. eff_supp: dummy variable assuming value 1 when indicting effective economical support from an organization/institution, 0 otherwise.

5. fam_supp: dummy variable assuming value 1 when indicating tries to involve parents with positive results, 0 otherwise.

6. female: dummy variable equal to 1 if the student is female, 0 otherwise.

7. furn_oth: dummy variable assuming value 1 when indicting a satisfying level of furniture in the classrooms together with the presence of special laboratories, libraries and presence of technological devices in support of teaching activites, 0 otherwise, meaning an unsatisfying level of furniture or absence of any support to teaching activities.

8. girl_sec: interaction variable between second_female and female assuming level 1 when a girl is attending a school offering secondary education only for girls, 0 otherwise.

9. LV: variable assuming value from 1 to 4, indicating the respective level of effective learning on a scale where 1 indicates the lowest level and 4 the highest one.

10. pta: dummy variable assuming value 1 when indicating a Positive Teacher Attitude (PTA), 0 otherwise.

11. Second_female: dummy variable assuming value 1 when the school offers secondary education only for girls, 0 otherwise.

The way the variables were identified is strictly qualitative and a qualitative descriptions of the schools was previously proposed in this chapter.

Table 10 shows the main variables’ information with standard deviation adjusted for dichotomy variables.

Two different models were built by using Stata. The two models are two Ordered probit regressions with an ordinal dependent variable (LV) on the others independent variables described above. An ordinal variable, such as LV, is a variable which assumes categorical and ordered values, having its range from 1 (indicating the minimum, poorest result) and 4 (indicating a good, the best result).
Table 10. Variables description.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV</td>
<td>291</td>
<td>2.989</td>
<td>1.210</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>class_v1</td>
<td>291</td>
<td>0.454</td>
<td>0.498</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>eff_lead</td>
<td>291</td>
<td>0.656</td>
<td>0.475</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>eff_supp</td>
<td>291</td>
<td>0.630</td>
<td>0.483</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>alice_tr</td>
<td>291</td>
<td>0.285</td>
<td>0.452</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>fam_supp</td>
<td>291</td>
<td>0.419</td>
<td>0.493</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>female</td>
<td>291</td>
<td>0.433</td>
<td>0.495</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>furn_oth</td>
<td>291</td>
<td>0.464</td>
<td>0.499</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>girl_sec</td>
<td>291</td>
<td>0.216</td>
<td>0.412</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>pta</td>
<td>291</td>
<td>0.134</td>
<td>0.341</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>second_fem</td>
<td>291</td>
<td>0.371</td>
<td>0.483</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

In ordered probit, an underlying score is estimated as a linear function of the independent variables and a set of cutpoints. The probability of observing outcome $i$ corresponds to the probability that the estimated linear function, plus random error, is within the range of the cutpoints estimated for the outcome:

$$Pr(\text{outcome}_j = i) = Pr( i-1 < 1x1_j + 2x2_j + \cdots + kxk_j + u_j \leq i)$$

$u_j$ is assumed to be normally distributed. In either case, we estimate the coefficients $1, 2, \ldots, k$ together with the cutpoints $1, 2, \ldots, l$, where $l$ is the number of possible outcomes.

0 is taken as $-\infty$, and $l$ is taken as $+\infty$. All of this is a direct generalization of the ordinary two-outcome probit model.\(^\text{18}\)

4.7. Results

Table 11 reports the result of the two Ordered regression models. In the intention of the author the two models represent two different areas of school factors. Equation (1) aims at analysing school factor mostly related to school management and organization, while equation (2) aims at deepening relations concerning more “internal” variables such as teaching attitudes and methodology.

\(^{18}\) As from: http://www.stata.com/manuals13/roprobit.pdf
Due to the sample composition and both to theory and model assumption it is good to briefly discuss about the limit of the model in order to make its interpretation easier.

Concerning the theory and the conceptual framework of school quality the model can’t take in consideration contextual variables, which will be however analysed in the following chapter and other variables concerning school dynamics. Some variables in fact could not be used in the model due to collinearity problems. Problems of collinearity are probably due to the little school sample taken in consideration.

Table 11.

Ordered Probit Regression on Effective Learning (LV)

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>eff_supp</td>
<td>-0.129</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.331)</td>
<td></td>
</tr>
<tr>
<td>fam_supp</td>
<td>0.153</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.234)</td>
<td></td>
</tr>
<tr>
<td>furn_oth</td>
<td>0.490**</td>
<td>0.274</td>
</tr>
<tr>
<td></td>
<td>(0.241)</td>
<td>(0.252)</td>
</tr>
<tr>
<td>eff_lead</td>
<td>0.785**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.318)</td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>-0.251</td>
<td>-0.695***</td>
</tr>
<tr>
<td></td>
<td>(0.156)</td>
<td>(0.215)</td>
</tr>
<tr>
<td>second_fem</td>
<td></td>
<td>0.427</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.269)</td>
</tr>
<tr>
<td>girl_sec</td>
<td></td>
<td>0.953***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.312)</td>
</tr>
<tr>
<td>alice_tr</td>
<td></td>
<td>1.106***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.339)</td>
</tr>
<tr>
<td>pta</td>
<td></td>
<td>0.089</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.235)</td>
</tr>
<tr>
<td>class_vi</td>
<td>-0.274*</td>
<td>-0.240*</td>
</tr>
<tr>
<td></td>
<td>(0.139)</td>
<td>(0.140)</td>
</tr>
<tr>
<td>N</td>
<td>291</td>
<td>291</td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.0710</td>
<td>0.0845</td>
</tr>
<tr>
<td>2 test (p-value)</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>/cut1</td>
<td>-0.348</td>
<td>-0.447</td>
</tr>
<tr>
<td>/cut2</td>
<td>-0.080</td>
<td>-0.175</td>
</tr>
<tr>
<td>/cut3</td>
<td>0.507</td>
<td>0.425</td>
</tr>
</tbody>
</table>

*p<0.10, **p<0.05, ***p<0.01

Note: in the parenthesis the respective standard error.
Unfortunately, time and resources constraint appeared to be an obstacle to the research, but I hope I was able to overcome this problems. The way collinearity problems were managed is described before, but it is worth to remember that some variables still may have a high explanatory power. Some variables such as eff_lead, eff_supp and pta were those who actually seemed most involved in collinearity problems due to the presence of other variables. Not only these variable were finally chose after several attempts to determine the best-fit model, but my finally decisions find confirmations by the literature on the argument and by previous researches and findings by Heneveld (1990;1994), which match with the presented models.

The expected coefficient of eff_supp in model 1 was positive, but in the model the coefficient is negative. This may be interpreted as an ineffective allocation of resources. Fam_supp is slightly positive, while eff_lead and furn_oth seem to highly explain differences in effective learning. This result totally fits with the literature of the argument. The model find that there is a non-significant gender gap, indicating that girls have a level of expected learning with respect to boys. Class_vi variable aims at identifying differences between the two classes included in the sample: class VI and, class VIII. Despite class_vi will have a low performance with respect to the boys, the expected coefficient value was even lower. This show that despite the difference between classes is significant, the gap is very narrow when considering time spent in school, rising concerns on quality of teaching and teaching methodology.

Model 2 independent variables look more towards internal differences and dynamics of the single school. The variable fun_oth is still positive. Female coefficient negatively grows and becomes highly significant due to the presence of the variable second_fem and their interaction variable, girl_sec. The gender gap becomes persistent, but girl_sec and second_fem coefficients show that in a school which offers secondary education only for girls, they can get even higher results than male. This can be justified by higher family interest toward girls, by different teachers’ attitude towards girls and by different and favourable environmental effects. Government schools are the worst performing schools: second_fem shows that a boy in a school with secondary education only for girls (2 in the sample) performs better than the other schools. The coefficient of the variable alice_tr indicates whether the Alice methodology affects children’s effective learning. Its coefficient is the highest one and it significant at the 1%. It has to be considered, however, the influence of the gender gap: AP girls’ learning level will be similar to the one of boys in female secondary education schools. Positive teacher attitudes seems ineffective and non-significant. Class VI is, as expected, worst
performing than class VIII. However, both of the models show that that other variables concerning teachers and management have higher effect on effective learning.

4.8. Conclusions

The schools taken in the example, the test taken and the results of the model give us a little overview of the school system in India. Government and government aided schools are the worst-performing schools despite aid from the government. The model confirms that the effective support from the government is largely ineffective. Private schools confirm their role as filling the gap between the demand of school quality and the poor quality supply provided by the government. Despite difficulties, bad infrastructures and teachers’ absence, private schools keep performing better than government school. Effective leadership is one of the most important determinants to guarantee an increase in effective learning and, more in general terms, school effectiveness. It emerges from the interviews and from the observation that government schools lack of effective management, and government’s efforts to control and organize schools are totally ineffective. Moreover, the same teachers affirm they feel in a position which doesn’t allow them to pursue action toward a better school organization. Private school, then, run following different perspectives and interests. It also might be argued (it will be deepened in the following chapter) that parental attitudes of those sending their children in private schools, go more toward the direction of better education.

Schools providing secondary schools only for girls actually are found to have girls performing better than boys. The structure of the schools may modify or influence the structure of incentive of school staff, children and parents. Teachers may pay more attention to girls’ learning, given the specific aim of the school, and parents, sending their daughters to a school only for girls, may bet and give more value to girls’ education. However, more in general, evidences are found on the persistency of gender gap. The Alice method, as from the model, is highly effective in addressing school effectiveness, but a persistent gender gap remains.

Bullying is one of the main problem in the schools. The test presented in the Alice Project schools finds very low levels of bullying, addressing a deep reflection on the argument. The method and the school environment address children toward a positive behaviour with reciprocal respect for each other. A satisfying level of school furniture and devices in support of education positively influence effective learning by supporting teachers in their daily activities. The level of infrastructure in in part explained by this
variable. The model could not include the variable of class dimension. However, in the several testing attempts, the variable coefficient was slightly negative and not significant. Differences between class VI and class VIII is alarming, especially taking in consideration that the most difficult exercise, the level 4 as identified in the test, is a class IV program. This brings to the conclusion that teaching activities in primary school must be clearly addressed and managed, since gaps in learning will hardly be filled by going to a higher class. From this perspective, it is necessary to rise concerning on the no-fail norm and the rule which allows only age and not effective knowledge to be used as standard to be admitted to primary school classes.
Chapter V
The Experimental Research - Part II: Parental Attitudes towards Education in Rural India

5.1. Introduction

The framework developed by Heneveld and Craig used in the past chapter in order to identify school factors influencing achievement and other potential outcomes considers contextual factors such as culture, economy and politics as exogenous. The aim of this section of the research is trying to individuate possible family dynamics influencing not only children’s school outcomes, but also enrolment and attendance. It is without any doubt, in fact, that family plays an important role in shaping children attitudes and capabilities. The main hypothesis leading this study is that demand of school is high (Panchamukhi and Mehrotra, 2005; Drèze and Sen, 2013) Moreover, household’s school decisions are highly shaped by the social system and contextual factors; at the same time collective households’ decisions have the power to influence, through a very slow process, the social system. Given all the results and the data concerning India school system and the sample of this research, the following step consists in analysing parental decisions, household dynamics and perceptions toward schooling. What is the school factor the household value the most? How much of the gender gap can be explained by looking at household dynamics? Do parents value children happiness in the school? Is it possible to argue that school and household reciprocally shape each other behaviour? Is it possible to assess how and whether household decisions shape students’ outcomes?

In order to investigate these household dynamics I applied the Q methodology, which is a socio-psychology method aimed at understanding individual subjectivity, opinion, beliefs and attitudes (Brown, 1993). As far as the author knows, this is the first time the methodology is adopted with these purposes. In the end I will discuss the results and possible implication concerning the complex relation between household and school in rural India.
5.2. Sample description and methodology

5.2.1. Sample description
I randomly sampled 40 people, both men and women, residents in the villages of Singhpur and Ghurahoopur, both the villages located close to the city of Sarnath. The two villages cover adjacent areas and the population of both villages is prevalently composed by smallholders and workers running little economical activities with little economical resources. In both villages there is a high rate of illiteracy prevalently concerning females, as it results from the sample. Despite Sarnath is now addressing its economy on tourism, the two villages are not affected by these economic changes, with almost nobody being involved in this kind of activities.

The only requisite to be interviewed was the presence of a child in the household enrolled in primary or secondary school.

5.2.2. Q methodology and data collection
Q methodology was firstly conceived by Stephenson (1935) in order to assess psychological research. It was later used in other sciences including policy, economics, education and medicine (van Exel and de Graaf, 2005;). The Q methodology study consists in presenting to the interviewed a sample of statement on the chosen topic, the Q set. People are then asked to order according to their preference and agreement all the statements, following a constraint scheme which helps to organize the preferences following a quasi-normal distribution. To the 40 people composing the sample was asked to play the game with 19 statements on a 5 step scale (Table 12). According to the given distribution, to each scheme is assigned a factor score which will be fundamental during the process of factor analysis. The process of ordering the given statement is generally called Q sorting. The subjectivity emerges during the Q sorting, since by them the respondents show their subjective point of view and their personal profile (Brouwer, 1999). The individual factors are then subject of factor analysis. The Q factor analysis then gives information concerning similar and dissimilar points of view for every single subject in the sample (Brown, 1993). Several authors (van Exel and de Graff, 2005) suggest the use of a structured interview to better integrate the Q methodology results.

Due to logistic reasons and personal attitudes of the author, after the Q sorting it was adopted an unstructured interview. The Q methodology was adopted by presenting individually a game board and cards. Due to illiteracy or to respondent difficulties in managing the game, usually the game was conducted orally. Due to limited time and resources available for the research, low time at disposition to get the interviews, a
number of 19 statements was chosen. Usually many authors suggest a sorts deck ranging between 30 and 100 statements, and in the most of the literature review on the argument the statements decks were usually around 50.

Table 12. the adopted Q sort diagram with a forced-choice condition of instruction and relative scores.

<table>
<thead>
<tr>
<th>Most Disagree</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
</table>

Statements were chosen after spending one month visiting the schools, conducting unstructured interviews to teachers, students and students’ parents. This investigation activities gave the author a better idea on which statements to focus. In the beginning 40 statements were selected, then reduced to 19 thank to the collaboration and cooperation of AP school staff and local residents. The 19 statements aims at identifying key factors in household decisions and cover 4 main arguments such as distance, teachers accountability, school general situation and household main dynamics. It is not required by the Q methodology perfect independence between the statements. The statements were firstly written in English, and then translated in Hindi, writing also suggestions and indications to allow the respondent to better understand every single question. The overall operations and calculations were executed through the program PQmethod. After collecting the statements and the Q sorts, a cross-correlation matrix was factored using Principal Component Analysis. The next step was to proceed to Varmix rotation of the factors, and then the most significant factors were manually flagged. The last step was the analysis of the data and of the most significant identified factors. I identified four min groups by adopting three different criteria: (1) a minimum 4 sorts had to be significantly loaded for each factor, (2) the eigenvalue had to be greater than 1, (3) a minimum of five distinguished statements was chosen to guarantee a better interpretability for each factor resulting from the Q study. Despite the limited size of the
sample suggest to be cautious in proceeding to any generalization of the results, according to Brown (1980) the factors identified have statistical validity, concerning the fact that factors are independents.

Picture 4. A woman accomplishing the Q test.

5.3. Results

The analysis through the Q methodology allowed the identification of 4 main factors embracing 36 people on the 40 of the total sample, accounting for the 58% of the total variance. 4 sorts were dropped, not being represented in no one of the identified factors. Table 13 shows the results of the Q study, showing all the 19 statements and their respective factor scores, including their significance level and data concerning the explained variance, the eigenvalue and the number of respondents associated to each factors.

Child labour does not emerge in this factor, with children not really helping the family in the working-life.
5.3.1. Factor 1 analysis and interpretation

Factor 1 in Table 13 represents the point of view of parents recognizing the importance of school and education (S9), with a certain degree of school participation and interest in it (S7) (S10). Despite difficulties in afford material expenses (S14) the school chosen for their children education was the one with the highest reputation they could afford (S17). These parents do not think that school really understand families’ needs (S11): from the interviews following the tests it emerged that every parent considers that the fees to pay become too high when in the family there are more than 4 or 5 children. S11 has to be understood in monetary terms and in correlation with S14. School quality is
not considered particularly increasing with school fees (S14), and it is considered to depend on only on teachers’ abilities and attitudes (S6). Parents appear to be against physical punishment (S3) and they are not reported about bullying or teachers’ beating. The last two statements have a role also in determining the way parents trust teachers’ behaviour and accountability (S5). Given that the school chosen is one of the closest (S1), school distance does not influence school participation (S1).

The composition of the sample defining Factor 1 shows the point of views of parents sending their children in the Alice Project School. On 13 people in the sample composition, 9 are sending their children in the AP school, 1 in the govt. school and 2 are sending their children in another private school not included in the previous step of the researches. According to the parents children are happy to go to school (S8) and they find agreement on the inclusion of practices towards mind and spirituality in the school program and syllabus. There is high disagree toward gender disparities and girls should receive the same education of boys (S18). S17, concerning the way time is spent by the children – if working or studying – has to be understood more in terms of time spent for working and helping the family, rather than studying.

5.3.2. Factor 2 analysis and interpretation
Factor 2 represents the point of view of people with higher interest in being involved in the school organization (S10), given the recognition that school quality depends on several other factors (S6) and the consequent recognition that school needs improvements to actually improve children’s future life (S9). Despite difficulties in affording school material expenses (S14) the family chooses the school with the highest reputation it can afford (17) without any regards to school fees (S13) and distance (S1). Trust in teacher’s accountability (S5) arise from school and parental positive attitudes and relations (S7) and from concerns arising from no reports of bullying and teachers beating (S4). Parents perceive in a positive way school organization in relation to family and children’s needs (S11). Concerning school distance, despite a very low influence of school distance in determining school choice (S1), the parents do not believe school distance influences children’s participation (S2), arguing that independently from how far it is, a low level of school participation depends only on family’s attitudes. Overall the parents are satisfied their school choice and their children’s positive attitudes and behaviour (8). Also from this factor it emerges that according to parents both boys and girls deserve the same kind of education (S18) and it is worth to notice the positive score of the equal participation of fathers and mothers in household decisions (S19).
5.3.3. Factor 3 analysis and interpretation

Factor 3 represents the point of view of parents with no faith in school. The interviewed household do not believe that school will help their children to have a better future – as they value it – (S9) and rise concerns on teachers’ accountability (S5) and on negative school environment (S4) not supporting enough their children’ growth (S8). Together with this, parents do not believe in physical punishment as a positive example of teaching behaviour (S3). Parents feel their participation and suggestion concerning school activities will sort no effect (S7) and also for this reason, together with a wider situation of general mistrust, implies their no willingness to being more involved in school dynamics (S10). The perception that school quality depends only on teachers’ ability (S6) only keeps reducing parental interest toward school. It comes that the perception that school does not understand families’ real needs (S11), and the general low trust over the institution, implies that the families do not value school reputation when deciding in which school to enrol their children (17). The option they value is the government school. In fact, being everything for free, the respondents agree that it is not difficult to afford school material expenses (S14). The school was chosen by giving value mainly to lower distance (S1). Parents again believe that school distance, on a more wide and general meaning, does not influence children’ participation to school (S2). School quality is not perceived as increasing with school fees (S13). Other villagers’ actions influence parental decisions (S15): from this perspective, the wide bad reputation of government schools may increase parental mistrust and lack of interest toward school and their children education. The low level of trust in the school institution does not imply the children activities totally shift over child labor (S16). From the interviews it emerges the feeling that both boys and girls deserve the same level of education (S18) and that both father and mother participate in the household decisions (S19).

5.3.4. Factor 4 analysis and interpretation

Factor 4 represents the point of view of parents who have basically no or little interest in school (S9; S10; S5; S6). Their school choice is highly driven more by concerns on school proximity (S1) rather than concerns on school reputation (S17). These parents feel their opinion will have no value for school organization (S7). Moreover, they don’t believe school to meet the real needs of the family (S9). They find difficult to afford school material expenses (S14), but they are overall satisfied of the level of education (S8). They do not agree on physical punishment (S3) and do not know about bullying or
teachers’ beating in the school (S4). Boys and girls are conceived as having different interests and duties towards the families, with the consequence that boys should get more education than girls (18). Moreover, child labor emerges from the interviews as being the activity the children carry out the most (S16), with respect to other activities – with particular regard to schooling activities. This happens despite both father and mother participate in household decisions (S19). Moreover, parents do not feel influenced by other villagers’ activities (S15). This aspect may be have different interpretations: it may be argued that the fact that the general trend is not to employ children for child labor, or that when addressing children to work it is not perceived useful to spend and invest a little in education. The table shows that parents do not think that higher fees necessary mean higher school quality (S13) and that they believe school should also work on mind and spirituality (S12).

Table 14. Sample and factor’s characteristics

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>13</td>
<td>11</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>% Sample</td>
<td>32,50%</td>
<td>27,50%</td>
<td>15,00%</td>
<td>10,00%</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>% Illiteracy - Male</td>
<td>16,67%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
</tr>
<tr>
<td>% Illiteracy - Female</td>
<td>71,43%</td>
<td>75,00%</td>
<td>50,00%</td>
<td>100,00%</td>
</tr>
<tr>
<td>Tot Illiteracy Rate</td>
<td>46,15%</td>
<td>27,27%</td>
<td>16,67%</td>
<td>50,00%</td>
</tr>
</tbody>
</table>

5.4. Conclusion

This study allows us to individuate four main groups of parents whose decisions and perceptions determine children’s school activities and outputs. It allows us an observation of the principal factors on which it would be possible to work in order to create a better incentives structure to better address school quality, possibly increasing participation and focusing on the most important school quality indicators and
outcomes. For all of the factors and their respective groups, school distance negatively influence parental decisions on school, with parents always choosing one of the closest school. Many schools are present in the area, and the choice to send children to the closest school must be carefully interpreted. It is also worth to notice how school distance is not perceived as negatively affecting students’ participation (S2): from the interviews it emerged that all the parents understood the question in general terms, arguing that even when a school can be considered distant it doesn’t affect children involvement and performances. All parents agree that teachers don’t have the authority to physically punish the students, the problem may be in how informed they are about what happens in the schools. From the interviews and the observations of the schools it emerged a wide use of physical punishment among many schools, and a generalized knowledge of this fact by the village people. Parents sending school to private schools have faith in teachers’ accountability, while this does not happen for parents whose children are enrolled in government schools.

The highest percentage of the sample represented by factor 3 send their children to government/government aided school: there is a high level of diffidence and mistrust toward the institution. Their opinion is that school will not help the children. If it is true that a low quality school could somehow reduce parents’ confidence toward school, it is also true that a low motivation and a low support from the family may not help the school to increase quality of education. It is not possible with this research, to establish borders to better define the role of families and school and their interaction. This research aims at being a first little step in addressing future researches on this argument.

Perception on what defines quality of education is not homogeneous: F1\(^{19}\) represents the point of view of parents who totally rely on school with the belief teachers is the most important factor in determining quality of education. F2 lights on parents who recognize the importance of other factors, determining also their willingness to being more involved in school dynamics. F3 and F4 highlight little interest toward the school with slightly different perceptions on the weight and the importance of school factors.

Those investing more on education (F1; F2) (can be individuated by an analysis of S14 and S17) are also those who have higher expectations and trust on teachers. Children perceived happiness may be one of the best means to get to understand the

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\(^{19}\) F1, F2, F3 and F4 refers respectively to Factor 1, Factor 2, Factor 3 and Factor 4 identified by the Q study.
level of satisfaction concerning the school: higher investments and higher attention paid in choosing the school show that children happiness and their positive development is one of the main output parents can value. Parents who wish to be more involved in school organization (F3) are also those who recognize that quality of education relies on many factors – including parental support - and not only on teachers’ ability. In F3 parents feel that school does not understand families and children’s needs. This aspect can be deepen on two main aspects: (1) government schools’ low organization is negatively perceived by parents, who lose trust in school (trust in school could be already low) and (2) government aided secondary education is the only option for parents with willingness or no other chance rather than to invest limited resources on education: despite a low fee, it does not offer any other incentive to address a positive feedback from parents. To address a school curriculum toward mind and spirituality is generally perceived as a positive improvement by the parents, looking for something more which could help both children and family during schooling activities, but also in other aspects of life. To bring back old and lost traditions could be a favourable and useful action in addressing new and positive village dynamics in the long term. What emerges from the influence of the village on family decisions appears to be ambiguous: in fact, two factor which identifies two parental behaviours which (F1, F4) highly differ concerning family dynamics characteristics, do not feel influenced by village dynamics. It is arguable that their decisions are taken within the family and rely in many other factors such as family culture, education, economics and political – in general contextual factor shape a closed family sphere following complex and intricate relations which can be better understood by qualitative researches more addressed in deepen family dynamics.

Most of the families perceive boys and girls as deserving the same kind and level of education, but a substantial gender gap still remains, as shown in the previous chapters. Despite these positive parental attitudes, cultural setting, school dynamics and other contextual factors outside the family context highly appear to be influencing girls’ outputs and behaviour. Each factor show the positive trend of father and mother equally participate in household’s decisions. This study goes in the direction of confirming the recent positive trends concerning gender parity.

High levels of absenteeism and general not satisfying results from school only find a little partial justification when looking merely at the sentence addressing issues on child labour, suggesting that parents’ low economical resources, low interest towards their children’s education, school quality factors to be the most influential variables.
S16 was general question, like the majority of the other, to better address the research and the investigation of parental perceptions. Parents understood S16 more in terms regarding child work rather than children’s studying. F4 is the only factor which identifies parents whose children help and work for the families, to the detriment of school participation. For the other groups, children do not work for their families, or their help is considered however, meaningless. Parents with children of different age are included in the sample. Similar researches could be addressed to understand dynamics of a more specific target.
In this section I will briefly summarize the contents of the research and its main argument on quality of education and education quality in India. Then I will briefly summarize the situation emerging from the experimental research and highlight policy implications and identify a possible path for program implementation.

6.1. Quantity vs Quality of education in India

6.1.1. Indian school system
The first chapter of this research aimed at showing a literature on an argument which is recently rising interest, trying to clarify that school quality relies on many aspects and dynamics. The concept of school quality is highly interdependent and interconnected with many aspects of the political, social and cultural life. Recent trends are going in the direction of addressing educational policies toward the single school/class dimension. Under a quality of education perspective, broad-spectrum policies, especially in a State as big as India, may result ineffective or, even, a negative impact.

The challenge India is facing concerning the educational sector is wide and covers policy, redistributive, efficiency, cultural and several other aspects. Since the early 90’s Indian policy was aimed at expanding access to education through the adoption of several programs and goals declarations (DPEP, SSA, RTE, MDM, Universal Elementary Education etc.). The general trends of the mainstream indicators – enrolment, literacy, gender gap, out of school, drop-out - suggest that relative progress had been made. Remarkable progresses have been made in the economically backward states of BIMARU. The rural-urban divide has been narrowed in recent years. Despite this progress, numbers are still discouraging: inequality of education across states is still high, all the persistent gaps (gender, between castes, rural/urban) persists both on quantitative indicators and effective learning indicators. Government schools are those presenting the worst performance with respect to other private schools. Drop-out rates, both in rural and urban areas are still highly alarming. The positive trends of school enrolment, were not proceeding together with increases of teacher supply and adequacy of infrastructures. The number of schools with only 1 teachers, of multi-grade schools
and of para-teachers is still a reality to deal with. The slow growth of teachers supply results in a higher pupil-teacher ratio. Moreover, teachers’ absenteeism has been seen as one of the main problems of Indian school systems. And these are the same teachers whose salary is even 10 times the salary of a teacher in private schools in rural India. It follows that investments in training for teachers are not matching the desired effect, being not the only solution in addressing school quality.

Looking at the data, quality of education in India still remains very low. The central government and the States’ governments policy is clearly address to a quantitative increase of the educational sector. The low encouraging result of deep-outs, out of schools and learning levels require a different approach to educational policies and practices. If an increase in enrolment does not translate in a satisfying increase in effective learning, equality and positive teachers’ attitudes, it is largely ineffective.

Private schools’ growth in India seems due to largely fill the gap between demand of quality of education and government supply. This phenomena could be a great resource for the educational sector in India if addressed properly but, as the government, it lack of basic forms of control despite the very severe norms they have to respect in order to be recognized.

6.1.2. On secondary education
If it is true that most of the population has a primary school in the area of 1 Km, it is also true that it is now emerging the lack of secondary institutions. As found by Cigno et al. (2001), rising the provision of secondary schools would raise the probability of full-time school attendance; by reducing the cost of access to secondary education, the returns to investing in primary education will increase. Secondary education can also be seen, according to Cigno (2002), as a proxy for the return of education. Moreover, in developing countries, access to secondary education is one of the main gateway in fostering the pursuing of a career.

6.2. Policy implication
The goal of this research was to understand and identify the major determinants of school quality and effectiveness, together with parental attitudes, in rural India. The adopted methodology included qualitative and quantitative aspects. Together with the methodology introduced before, many time was spent to address unstructured interview with the local people around Sarnath.
6.2.1. Teachers accountability, leadership and community involvement

In conclusion, concerning government school, the role and the figure of teachers is quite controversial. Government teachers rely on a strong and influential political power. Political pressures had a role in rising teachers’ salaries (Mehrotra, 2006) and to address political norms in protection of government teachers. The relations between government schools and parents is a vicious cycle in which teachers not appropriate behaviour create mistrust from parents, which negatively affects the school again. This and other researches found that one of the main factors of school quality is effective leadership or, however, a form of appropriate control, which is actually missing. Forms of control can be represented by a special government figure, which already exists with no or little results, having technical support and competencies to manage schools. In other words, school managing should include the adoption of minimum school standards teachers have to be able to guarantee. The removal of the RTE rules concerning the admission standard based on age and not on learning and knowledge are the first and obliged step. Higher and more effective control is needed at a school level. Village communities, however, are not working properly. Parental support still remains one of the biggest school resources. The government can intervene in order to modify the structure of parental incentives, making parental support more effective. Reassuming, concerning teachers’ accountability in primary school, these are some of the most important steps:

- Higher decentralization of the sector of education
- Institution of a Schools Manager, responsible for a determined and relatively small area.
- Removing the actual primary schools standards of admission.
- Introduction of minimum standards levels of achievements the teachers are responsible for.
- Modifying parental incentives structures, addressing it towards an increasing involvement in school organization and school control.

Difficulties in pursuing this goals may arise from problems in budget allocation, management of very remote areas and problems in addressing a new structure of incentives for the parents. However, there is a very high demand for education and quality of education. It is important to find the main channels to better address parents’ participation.
6.2.2. Private sector regulation

The importance of private schools is clearly shown by the growth in private school enrolment rate and share. This study finds evidence of the widely unregulated system in which private schools are operating, despite very severe standards are necessary in order to get recognition. Agrawala (2000) finds that both unrecognized and recognized private schools are generally totally unregulated. Mehrotra et al. (2005) find adverse equity effects on the taking over by the state of private schools. This study finds evidence that private schools with the same student target may better address children learning due the effective leadership effects and school setting and targets – such as secondary school for female – shaping and attracting parents’ priorities. The regulation of the private sector may pursue different path: (1) a national policy aimed at regulating the private sector and monitoring it through data collection, (2) transformation of private unaided schools with highest results in private-aided school following other criteria such as location, school target and school dimension, going toward the direction of providing free or low-cost education in the most disadvantaged areas.

Going back to present regulation, it emerges that government-aided schools are not subject to any performance criteria. The government-aided school taken in consideration in this research actually presents very low standards and performance. It is overcrowd, with low performance results and serious problems concerning order, discipline and school management. Government-aided schools are subsidized with no concerning on school performance. The system would benefit by an action taken by the government in order to provide precise minimum performance criteria to be respected.

Other recent studies, such as for example Mehrotra (2006) gets to very similar conclusion on this argument.

6.2.3. Quality of Education - “Something more”

Chapter 1.3.2 in this work starts in the following way:

Quality in education covers many aspects, indeed it is not easy to define. Hawes & Stephens (1990) important text on basic education in low developing countries proposes that quality can be interpreted as having three strands:

- Efficiency in meeting set goals
- Relevance to human and environmental needs and conditions
- “Something more” in relation to new ideas, creativity and pursuit of excellence

Hawes and Stephens, according to the author, catch the real meaning of quality of education. Despite all of the three points are relevant, I will focus, in this conclusion,
mostly on what something more is or could be. The first hypothesis and observations rise from the belief that the role of the school is to give not only knowledge to the students, but it should also try to work on giving the students all the other necessary instruments necessary to undertake the path of life. With its innovative teaching method and its philosophical foundation the Alice Project is trying to pursue the goal of enriching education with that something more. The study finds the AP methodology to be positively significant in addressing students’ outputs. Moreover, bullying and violent behaviour are surprisingly low in the AP school, especially concerning the setting and the environment the school is located. The inter-religious approach adopted, moreover, is particularly efficient in addressing toward respect and the understanding of the relativity of the points of view, reminding the concept of unity. All the children interviewed confirmed my first impressions and those which are the main principle of the project: they felt enthusiastic in practicing yoga, they appreciate teaching methods and school climate. The research found that a high percentage of the interview is favourable to the introduction of a program more focused on mind, spirituality and perception. The implication of this does not have to be underestimated: in India this would result also in an attempt to restore ancient and historical traditions such as yoga, Ayurveda medicine and old practices which may have also a positive effect especially in little villages in rural India, restoring old traditions, conventions and values.

The limit of this research is the impossibility to go deeper with the study and the effects of the methodology. However, several other studies have been conducted on the project under a pedagogical perspective, showing surprising positive results20.

6.2.4. Future perspectives for research

This research shows many different future path concerning different approaches, goals and methodology. From an economical perspective, future investigations and researches can focus on school cost-effectiveness analysis, parental utilities and educational expenditure policies. In particular, models of household utilities and its return to education can be addressed towards the effects of school quality, with a deep and specified description of what school quality is. From a pedagogical point of view, future researches can work on possible ways to better address teaching activities, both in government and private schools, in difficult conditions and environment which may

20 www.aliceproject.org
often be encountered in rural India. In the end, from an anthropological point of view, investigations on the cultural setting of the society, looking backward to the colonial period and, at the same time, forward, analysing perception and perspective on new and future challenges, may be helpful in understanding family decisions and in analysing the main reasons of a recently declining, but still highly persistent, gender gap.
## Appendix A.

Schools Sample Absence Rate

<table>
<thead>
<tr>
<th>ALICE PROJECT</th>
<th>Tot</th>
<th>Boys</th>
<th>Girls</th>
<th>Abs obs 1</th>
<th>Abs obs 2</th>
<th>Abs obs 3</th>
<th>Abs obs 4</th>
<th>Abs Rate</th>
</tr>
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<tbody>
<tr>
<td>I</td>
<td>41</td>
<td>23</td>
<td>18</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>17.07%</td>
</tr>
<tr>
<td>II A</td>
<td>26</td>
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<td>3</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>10.58%</td>
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<tr>
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<td>8</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>10.19%</td>
</tr>
<tr>
<td>III</td>
<td>50</td>
<td>31</td>
<td>19</td>
<td>5</td>
<td>6</td>
<td>12</td>
<td>5</td>
<td>14.00%</td>
</tr>
<tr>
<td>IV</td>
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<td>28</td>
<td>20</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>6.77%</td>
</tr>
<tr>
<td>V A</td>
<td>38</td>
<td>24</td>
<td>14</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>11</td>
<td>19.74%</td>
</tr>
<tr>
<td>V B</td>
<td>39</td>
<td>16</td>
<td>23</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>12.18%</td>
</tr>
<tr>
<td><strong>Total Primary</strong></td>
<td><strong>269</strong></td>
<td><strong>154</strong></td>
<td><strong>115</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>13.01%</strong></td>
</tr>
<tr>
<td>VI</td>
<td>43</td>
<td>24</td>
<td>19</td>
<td>6</td>
<td>4</td>
<td>11</td>
<td>6</td>
<td>15.70%</td>
</tr>
<tr>
<td>VII</td>
<td>50</td>
<td>33</td>
<td>17</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>18.50%</td>
</tr>
<tr>
<td>VIII A</td>
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<td>22</td>
<td>18</td>
<td>6</td>
<td>15</td>
<td>4</td>
<td>6</td>
<td>19.38%</td>
</tr>
<tr>
<td>VIII B</td>
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<td>3</td>
<td>8</td>
<td>9</td>
<td>8</td>
<td>16.28%</td>
</tr>
<tr>
<td><strong>Total Upper Primary</strong></td>
<td><strong>176</strong></td>
<td><strong>105</strong></td>
<td><strong>71</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>17.47%</strong></td>
</tr>
<tr>
<td>IX A</td>
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<td>22</td>
<td>20</td>
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<td>5</td>
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</tr>
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<td>15</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>7</td>
<td>17.50%</td>
</tr>
<tr>
<td><strong>Total Secondary</strong></td>
<td><strong>168</strong></td>
<td><strong>92</strong></td>
<td><strong>76</strong></td>
<td></td>
<td></td>
<td></td>
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<td><strong>11.61%</strong></td>
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<td>35</td>
<td>28</td>
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<tr>
<td>XII Sec A-B</td>
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<td>24</td>
<td>14</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>15.79%</td>
</tr>
<tr>
<td><strong>Total Upper-Secondary</strong></td>
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<td><strong>52</strong></td>
<td><strong>21</strong></td>
<td></td>
<td></td>
<td></td>
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<td><strong>15.41%</strong></td>
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</table>

**Total**

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<tr>
<th></th>
<th>686</th>
<th>403</th>
<th>283</th>
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<th>114</th>
<th>117</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Total including LKG and UKG</strong></td>
<td><strong>788</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table A2. Girls Statistics

| % Girls Primary | 42.75% |
| % Girls Upper Primary | 40.34% |
| % Girls Secondary | 45.24% |
| % Girls Upper Secondary | 28.77% |
| % Girls | 41.25% |

* 14.54% < AbsRate < 14.91%
Table A3. Private 1 School Absence Rate

<table>
<thead>
<tr>
<th>PRIVATE 1 SCHOOL</th>
<th>Tot</th>
<th>Boys</th>
<th>Girls</th>
<th>abs obs 1</th>
<th>abs obs 2</th>
<th>abs obs 3</th>
<th>abs obs 4</th>
<th>Abs. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>70</td>
<td>40</td>
<td>30</td>
<td>15</td>
<td>11</td>
<td>8</td>
<td>23</td>
<td>20.36%</td>
</tr>
<tr>
<td>II</td>
<td>62</td>
<td>38</td>
<td>24</td>
<td>10</td>
<td>9</td>
<td>17</td>
<td>11</td>
<td>18.95%</td>
</tr>
<tr>
<td>III</td>
<td>70</td>
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<td>30</td>
<td>5</td>
<td>11</td>
<td>9</td>
<td>6</td>
<td>11.07%</td>
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</tr>
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<td>27</td>
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<td>36</td>
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<tr>
<td>TOTAL I - XII</td>
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<td>124</td>
<td>145</td>
<td>158</td>
<td>17.15%</td>
</tr>
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Table A4. Private 1 Girls' statistics

| %Girls Primary | 44.48% |
| %Girls Upper Primary | 64.71% |
| %Girls I-VIII | 52.84% |
### Table A5: Private 2 School Absence Rate

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<th>Girls</th>
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<td>7</td>
<td>9</td>
<td>37.50%</td>
</tr>
<tr>
<td>V</td>
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<td>16</td>
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<td>5</td>
<td>9</td>
<td>3</td>
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<td>9</td>
<td>8</td>
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<td>20</td>
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<td>2</td>
<td>3</td>
<td>5</td>
<td>1*</td>
<td>12.50%</td>
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<td>59</td>
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<td>103</td>
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<td>38</td>
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<td>Total Including LKG and UKG</td>
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### Table A6: Girls Statistics

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<th>% Girls I-VIII</th>
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*Class I: 26 students - 8 girls
Class III free: 22 students
Class VI: 17 students
# Table A7. Government-aided school absence Rate

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<th>Girls</th>
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<th>abs obs 3</th>
<th>abs obs 4</th>
<th>Abs Rate</th>
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<td>18</td>
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<td>76</td>
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</tr>
<tr>
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<tr>
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# Table A8. Girls Statistics

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<td>% Girls in Upper Sec</td>
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# Table A9. Government school Absence Rate

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<td>7</td>
<td>7</td>
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<td>23</td>
<td>18</td>
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<td>16</td>
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# Table A10. Girls Statistics

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<tr>
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Appendix B.
Test Results

Table B1. Test results levels for each school.

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<td>Lv.3</td>
<td>Lv.4</td>
<td>Lv.1</td>
<td>Lv.2</td>
<td>Lv.3</td>
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<td>78,26%</td>
<td>15,79%</td>
<td>0,00%</td>
<td>31,58%</td>
<td>52,63%</td>
<td>71,44%</td>
<td>2,38%</td>
<td>23,81%</td>
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<td>Lv.3</td>
<td>Lv.4</td>
<td>Lv.1</td>
<td>Lv.2</td>
<td>Lv.3</td>
<td>Lv.4</td>
<td>Lv.1</td>
<td>Lv.2</td>
<td>Lv.3</td>
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<td>Lv.4</td>
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<td>Private2</td>
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N = 291

### Table B3. Girls' test results summary.

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Table B5. UP Board examination results (Class XII).

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Appendix C.

Q Methodology sample

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Table C1. Factor 1 Sample Composition

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Table C3. Factor 3 Sample Composition

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Table C4. Factor 4 Sample Composition

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21 OP: Other Private School / - GA: Government Aided
Sons not in school age are however included in the table.
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