MacArthur Foundation Grant No. 11-99655-00-INP

Middle Schools in India: Access and Quality

Baseline Report

ASER Centre, New Delhi

Pratham, Maharashtra and Bihar

Table of Contents

List of Tables

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

List of Figures

Chapter 2

Chapter 3

Chapter 1: Introduction

Background & objectives of the study

What are the factors that allow some children to attend school regularly and perform well while others struggle to stay afloat? What differences are there between siblings where one successfully continues their education after primary level and the other drops out? What accounts for decisions made by parents with regards to school choice and expenditure? Do children have specific aspirations related to salary and career in mind at the middle school stage and what prompts these aspirations?

On the brink of adulthood, adolescence is a distinct period marked by issues of personal identity coupled with expectations from the society. It is also a crucial period where important decisions related to education, career and life begin taking shape.

But is our educational policy equipped to cope with the realities of adolescent children and their context? For over a decade, the primary thrust of education policy in India has been on achieving universal access and retention at the elementary level. According to the Annual Status of Education Report (ASER 2013), the percentage of in-school children in the age group of 6-14 is over 96%. Further, under the Right of Children to Free and Compulsory Education Act, 2009 (RTE), all children in this age group are now guaranteed education until Standard 8 class.

However, this evokes two important questions:

First; what is the quality of elementary education in India? And;

Second; are the achievements related to access and retention made at the elementary level carried forward to the next level i.e. post-primary[1] level?

[1] There are 5 school categories according to DISE i.e. Primary schools (Std 1-4/5), Primary with Upper Primary schools (Std 1-7/8), Primary with Upper Primary, Secondary and Higher Secondary (Std 1-12)

Available evidence on learning outcomes indicates that while school enrollment has expanded and retention has been ensured at the elementary level, learning levels remain poor. According to ASER 2013, the proportion of children in rural India in Std 5 who can read a Std 2 level text is 47% and 25.6% can solve a 3-digit by 1-digit division problem. In other words, half our children entering middle schools cannot read a Std 2 level text and only one out of four children can solve an arithmetic problem usually taught in Std 3-4. Other data on learning achievement, from Education Initiatives (EI) or Government of India's own assessments (using different methodologies and indicators) also demonstrate that learning outcomes at the primary stage are far from satisfactory.[2]

Moving on to provisioning and retention at the secondary level we see that according to available government statistics on schools in the country, provisioning of post primary education seems to be grossly inadequate. As per DISE[3], at the all India level in 2012-2013, 83% schools in the country offered schooling in Std 1-5 and above, 40% schools offered schooling in Std 6-8 and above only 11% and 6% offered schooling in Std 9-10 and Std 11-12 respectively. According to the pilot study conducted in 2012 in 3 blocks (Sursa – Hardoi, Uttar Pradesh, Rajgir – Nalanda, Bihar and Satara – Satara, Maharashtra) we found that educational provisioning decreases at higher levels of schooling and it is increasingly reliant on the private sector at higher levels of schooling especially in the case of Satara and Sursa. Low provisioning has serious implications on issues of equity, particularly on how children from disadvantaged households access secondary education. According to the 64th Round of NSS (2007-2008), 33% of rural households did not have any secondary school within a distance of 3 km and there was also likely to be greater disparity in access for the poorest households in the country.[4]

[2] Municipal School Benchmarking Study 2007, Educational Initiatives, available at: http://www.ei-india.com/wp-content/uploads/EI_WP_Series_6_-_Municipal_School_Benchmarking_Study.pdf. SSA also has data on learning levels of students available at: http://ssa.nic.in/page_portletlinks?foldername=quality-of-education.

[3] DISE Analytical Tables (Elementary) 2012-2013, Table 1.1, available at http://dise.in/Downloads/Publications/Documents/Analytical%20Table-12-13.pdf

[4] NSS 64th Round, Education in India: 2007-08 Participation and Expenditure, available at http://www.educationforallinindia.com/participation_and_expenditure_nsso_education.pdf, accessed on 18th July 2014

The fact, that a considerable proportion of children may be entering secondary school without the expected competency levels and there is low provisioning of schools offering post primary education, warrants a need to understand the current situation related to transition and school choice, highlight challenges and suggest measures for planning to ensure the successful transition and retention of children into secondary education and learn well.

District selection

The two states, Bihar and Maharashtra and the two districts, Nalanda in Bihar and Satara in Maharashtra were purposively chosen for the study based on their socio-economic characteristics. Maharashtra is industrially more advanced and has better human development indices compared to Bihar. It is one of the richest states in the country, while Bihar has the highest poverty rates. Also, over 68 years many educational trusts have provided educational services in Maharashtra. On the other hand, it is only recently, that the government has started focusing on education in Bihar. Since, this was a pilot study; we wanted to generate as much variation as possible in the data so as to be able to get a more realistic picture of the issues and challenges in the area of middle-school education. The study also focuses on adolescents and their aspirations, which are undoubtedly shaped by the environment they live in. Therefore, selection of two very distinct states would result in a far richer dataset. Finally, the two districts were chosen for logistical convenience in consultation with Pratham's state teams.

Sample design of the study

Given the objective of the study, a representative sample of middle-school children was required in the two districts. Further, since the focus was on individual classes, transition to secondary school and challenges (if any) faced by girls, representative samples of girls/boys in grades 6, 7 and 8 were needed. This meant that there were 6 target groups of in-school children. An additional objective was to examine reasons for dropout. This resulted in an additional two groups of interest – out of school girls and boys in the age group of 11-16 years.

The study follows a two stage sample design to get a representative sample of children by gender in grades 6, 7 and 8. In the first stage, 60 villages were sampled from the Census village list[5] using PPS (Probability Proportional to Size).[6] In the second stage, a house-listing was done in the sampled villages to create the frame for the target population and 10 children were sampled from this frame for each of the 6 groups. This implied a target sample size of 600 in each of the 6 groups of interest. As stated above, two additional groups of children in the age group of 11-16 were selected to get a representative sample of out of school children.[7]

As opposed to the initial sampling strategy[8], house-listing of sampled villages revealed that often there were not even 10 children in each of the target population/groups in the village. This was especially true in Satara. Therefore, the original sample of villages had to be augmented for house-listing with additional villages in Satara.

Apart from the 60 villages sampled, an additional 20 villages had to be sampled in Satara. Of these 20 additional villages, we purposively chose 14 villages for the next round of house-listing, since from the earlier exercise it was known that villages with smaller household size and population in the census list had fewer children. Of the 14, permission was not given to survey in 3 villages. Therefore, house listing was done in 11 additional villages in Satara.

To reduce, further escalation of survey cost, it was decided to survey only those villages where there were 40 children or more. Out of the total 71 villages house listed we found 60 that satisfied this criterion.

After the house listing exercise, the villages were put into two categories:

[5] The 2011 Census list was not available in the public domain at the time of sampling.
[6] Since villages are of different sizes, PPS in the first stage ensures equal probability of selection of the final units.
[7] Refer to Appendix 1 for details about the houselisting process.
[8] There were 8 target groups of interest and the original sampling strategy was to sample 10 children from each village from the target population/groups, resulting in a sample of 600 (per target group population) children in the district.

a.) **Villages that have 10[9] or less than 10 children in each target group:** Here all children in the house-listing were surveyed. They were referred to as **Census** villages/target group population. In these villages a list of all children in the 8 target groups was generated.

b.) Villages that had more than 10 children in each target group: Here 10 children were sampled from each target group. These were referred to as **Sample** villages. In these villages a list of 10 children were sampled in the 8 target groups.

Description of survey instruments

The objective during the baseline was to collect detailed information about the The objective during the baseline was to collect detailed information about the household, schooling experiences, mobility, social network, aspirations and if applicable, work experiences of the sampled child from her as well her parent through three types of survey instruments[10] i.e. currently enrolled, dropped out and never enrolled - we have 3 sets of questionnaires for each of these kinds of children in baseline:

1. Household roster and Questionnaire for currently enrolled parent and child.
2. Household roster and Questionnaire for drop out parent and child.
3. Household roster and Questionnaire for never enrolled parent and child.

These questionnaires were developed over the course of 18 months and nine rounds of piloting. The main aim of the pilot was to modify questions based on field inputs. The questions were, therefore, often significantly modified with the aim of ensuring that they were capturing the information that we wanted. Furthermore, the

[9] At this stage it was also decided that if, during the baseline survey, there was a mismatch between the houselisting data/tracking sheets and the children actually found in the sampled households, such children would be dropped from the sample. We also wanted to account for incorrect information collected during the houselisting exercise. This was especially true for Nalanda. This could be either because the surveyors collected incorrect information or the households provided incorrect/additional information. Therefore, the sample was augmented from 10 to 12.
[10] See Appendix 2 for a detailed framework of survey instruments.

objective of the questionnaire was to collect in depth information about the sampled child, her education experience and learning.

Description of assessment tools

The objective of the assessment was to assess all sampled children in Grade 6-8 in Language (Hindi in Bihar and Marathi in Maharashtra), Math, English and Science. The focus of the assessment design was two-fold: First; To understand whether children have expected, i.e. grade appropriate learning levels and; Second; To understand the actual learning level of children (if they are not at grade level). Therefore the tool was designed to cover the important competencies of all grades leading to middle school. For instance, in Math there are items that assess the children's ability to solve a subtraction problem (which is a grade 2 level competency) to algebra (which a grade 6 level competency). Both these competencies are important skills leading to middle school. All items went through 4 rounds of piloting in Bihar and Maharashtra. The testing tool was revised after each round of piloting according to the qualitative and quantitative feedback from the pilots. Each round of piloting was done with approximately 100 children[11].

[11] Refer to Appendix 3 for a detailed framework of assessments used in the study.

Chapter 2: Sample Description

We surveyed 60 villages each in Nalanda and Satara with a total of 2,919 and 2,473 households in each of the districts respectively[12]. Our target population was 10 for boys and girls separately in each of the following sub- categories of population - Class 6, Class 7, Class 8 and out-of- school (could be either drop out and never enrolled) children in *each* village. Thus, the total target population was 80*120 or 9600.

However, we were not able to meet our target. The total sample is 6197[13], which means a deficit of 3403 children. The primary reasons for this deficit are two- fold. One, very few children are out-of- school, especially in Satara. Only 38 out of 2858 (1.3%) are drop outs, and only one sampled child has never been enrolled in school. Nalanda records a slightly higher, but still smaller than what we had as our target, percentage of children as out-of-school- only 338 (10.1%) were drop outs, and only 66 (2.0%) had never been enrolled in school. The second reason for the deficit is children[14] in Nalanda who we were not able to survey because they had migrated outside the village.

Table 2.1: Sample description by villages, households and enrolment status

Sample Description	Currently Enrolled						Out-of-school		Total	
	Class 6		Class 7		Class 8					
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Nalanda	461	479	501	542	468	481	136	268	1,566	1,770
Satara	484	417	483	458	505	472	12	27	1,484	1,374
Total	945	896	984	1000	973	953	148	295	3,050	3,144

[12] Sampling has been discussed in detail in Chapter 1.

[13] Data on enrolled class is not available for three children and hence the table 2.1 indicates sample size as 6194.

[14] High instances of migration in Bihar have been documented by a number of studies. At the time of household survey we asked the surveyors to collect information on children who we were not able to track. This information was collected either from the household of the particular sampled child or from the neighbors in case of the entire family moved out between house listing and the household survey. While we do not have yet a percentage that we can report, eyeballing the tracking sheets showed *several* instances of our sampled children moving out to work in nearby brick kilns or moving out of Bihar to work (either alone or with their entire families).

Economic class

Sampled households were asked whether they possessed a list of 12 consumer durable items such as mobile phone, pressure cooker, electric fan, radio, clock/ watch, etc.[15] If the household possessed 6 or more of these assets, they were further asked if they owned any of the following four items- computer, washing machine, refrigerator and cooler. We constructed a household consumer durable index as a proxy measure of its economic status using the first list of 12 consumer durable items. As one might expect the consumer durable index varies from 0 to 12.

Overall, the index correlates well with the other measure of household wealth, viz. type of house- *pucca*, semi- *pucca* and *kutcha*[16]. In Nalanda, about 18 percent of the households have *kutcha* households, another 33 percent have semi- *pucca* households and 48 percent have *pucca* households. The distribution for Satara is as follows: 16 percent of *kutcha* households, 64 percent of semi- *pucca* households and 20 percent have *pucca* households. *Kutcha* households are most likely to be in the "bottom 25 percent" of the consumer durable index (48.32 percent), semi- *pucca* in the "middle 50 percent" (50.81 percent) and *pucca* in the "top 25 percent" (58.14 percent).

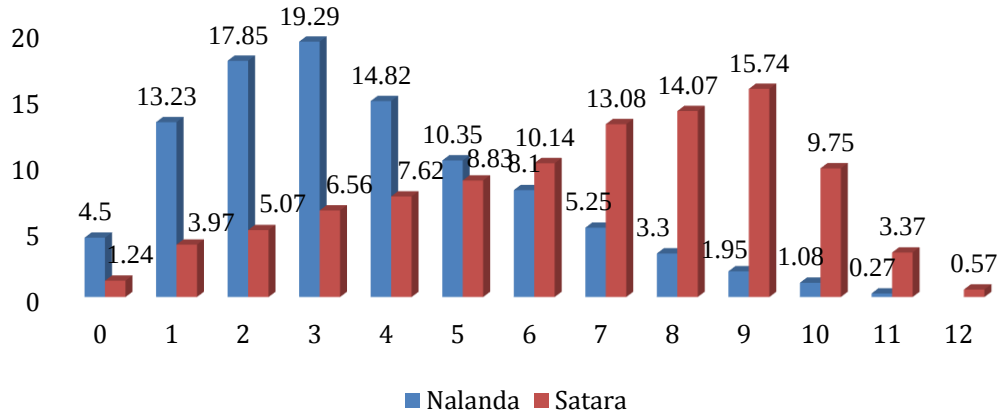
The two districts have markedly different levels of household wealth (refer to Figure 2.1), as proxied by the consumer durable index. Satara is clearly richer than Nalanda. As compared with Satara, a fair proportion of households in Nalanda (about 17.7 percent) have no or just 1 consumer durable asset. The comparable percentage for Satara is around 5 percent. Bulk of the households in Nalanda (about 50 percent) own between 2 to 4 consumer durable items. The corresponding for Satara is 5- 8 items. Sampled households who are at the upper end of the distribution (top 25

[15] The full list of items are- mobile phone, pressure cooker, electric fan, radio, clock/ watch, table, bed, phone (landline), sewing machine, mixer/ grinder, television and chair.

[16] A *pucca* house is one which has walls made of burnt bricks, stones (packed with lime or cement), cement, concrete, timber, etc. and roof made of following materials tiles, GCI (galvanized corrugated iron) sheets, asbestos, RBC (reinforced brick concrete), RCC (reinforced cement concrete) and timber, etc. A *kutcha* house is one which has walls and/ or roofs made of material other than those mentioned above such as un-burnt bricks, mud, grass, reeds, thatch, loosely packed stones, etc. A semi- *pucca* house has fixed walls made up of *pucca* material but roof is made of the material other that those used for *pucca* house.

percent) and hence, can be considered "wealthiest" own 5- 11 household assets, while it is 9- 12 in Satara.

Fig. 2.1: Sample description, by consumer durable index



In the subsequent discussion, we have divided the households into three categories based on their position in the frequency distribution of consumer durable index- those households who are in the first 25 percent of the distribution have been categorised as "Bottom 25 percent", those who are in the next 50 percent of the distribution have been categorized as "Middle 50 percent", remaining 25 percent of the households are categorized as "Top 25 percent"

Religion and Caste group

The majority religion in both districts is Hinduism- 96.5% of the sampled children in Nalanda and 89.8% in Satara belong to Hindu households. The second largest religious group is Muslims in Nalanda, but in Satara about 5 percent of households are Muslim and Buddhist respectively. The other category includes minority religions. These are Christianity and Sikhism in Nalanda, and Christianity, Sikhism, Jainism and those who professed following tribal religious practices.

Table 2.2: Distribution of children, by religion and reservation group (caste)[17]

Religion and caste group	Religion				Caste					
	Hindu	Muslim	Buddhist	Others	General	SC[18]	OBC[19]	EBC[20]	ST	Other
Nalanda	96.5	3.4	0.0	0.09	8.33	13.15	24.31	20.73	0.99	31.98
Satara	89.8	4.5	5.2	0.43	49.73	11.26	21.35	-NA-	2.27	15.20

We asked all households to identify reservation group to which they belong rather than restricting the question to only Hindu households. This allows even other religious groups to identify if they belong to any reservation group (caste). Proportion of "general" caste population is low in Nalanda, but close to 50 percent of the sampled households in Satara identified themselves as general caste. The proportion of Scheduled Caste population is about the similar in both the districts. "Other Backward Castes" are about a quarter in Nalanda and a fifth of total sampled children in Satara. Some castes are classified as EBC or Extremely Backward Caste in Bihar. In our sample, the proportion of such households is substantial at around 20 percent. A very small proportion of households are Scheduled Tribes- less than 1 percent in Nalanda and around 2 percent in Satara.

Mother's education

As Figure 2.2 illustrates, mothers in Nalanda have lower levels of education than their counterpart in Satara. The mode for Nalanda is illiterate (0 years of education), while for Satara it is secondary education (that is, either grades 9 or 10). Very few women in either districts have senior secondary (that is, grades 11 or 12) or

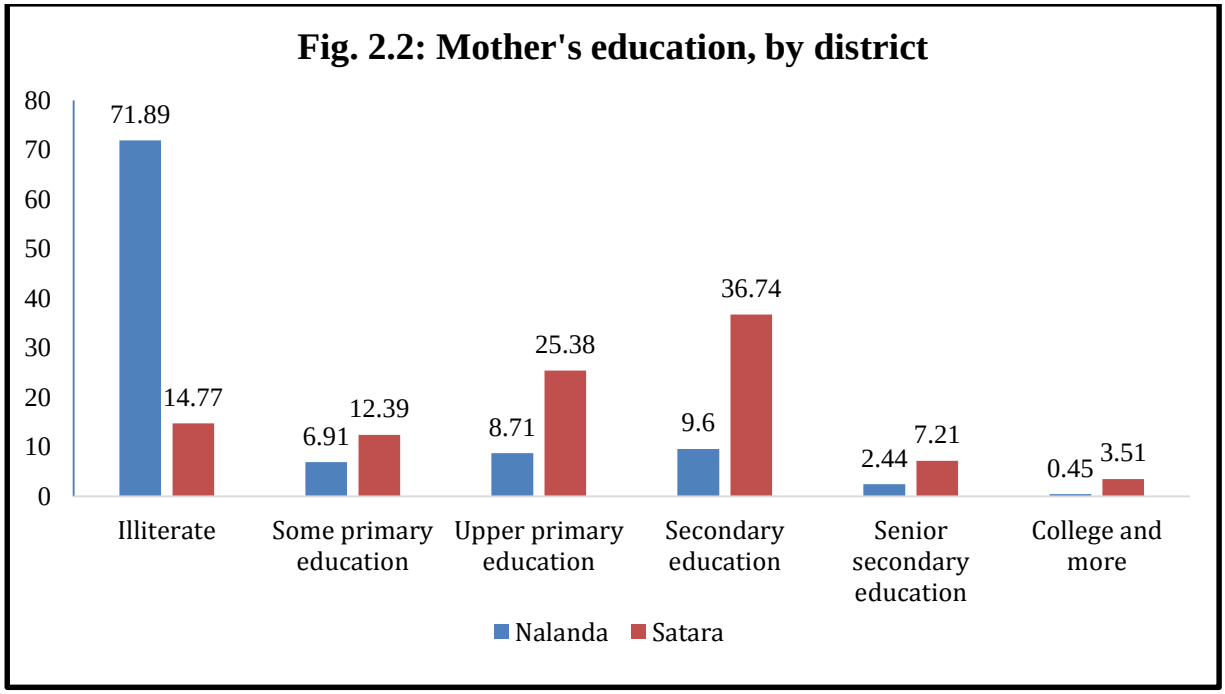
[17] The row totals do not add up to 100 in both the districts as a small proportion of households reported that they "don't know" their castes. In case of Satara, a substantial percent of households (14.21) reported themselves as EBC (a category which is not applicable in Maharashtra). Once we "clean" the caste data by matching the stated caste name with the reservation list for that particular state, we hope this percentage will reduce substantially. The table combines EBC with the "other" category in Maharashtra.

[18] Scheduled Castes

[19] Other Backward Castes

[20] Extremely Backward Castes- few castes are identified as extremely backward castes only in Bihar and not in Maharashtra.

college and above education. The other categories are some primary education (between grades 1 to 5) and upper primary education (between grades 6 to 8).



Availability of reading materials

Households were also asked about the availability of reading materials. Particularly, households were asked if they possessed any of the following reading materials: newspapers, magazines, any other text book other than school text book and newspaper. In Nalanda, slightly more than a quarter of children live in households with some reading materials (27.36 percent) while in Satara this proportion is around 55 percent. Among households who possess reading materials, majority has only one reading material and very few have all four reading materials (about half a percentage in Nalanda and 5 percentage in Satara).

In summary then, sampled children in Satara seem to be more economically and socially privileged than their counterparts in Nalanda. In subsequent sections, we will see to what extent these factors correlate with their learning outcomes and schooling experiences.

Table 2.3: Availability of reading materials in sampled children's household

	Nalanda	Satara
0 reading material	72.64	44.67
1 reading material	18.18	27.79
2 reading material	6.03	14.53
3 reading material	2.61	7.9
4 reading material	0.54	5.1

School management type

Table 2.4: Sample description, by school management type

Sample description by management type	Nalanda			Satara		
	All	Boys	Girls	All	Boys	Girls
Government	92.43	88.75	95.93	25.43	23.97	27.09
Private	7.57	11.25	4.07	74.26	75.74	72.59
Total	100	100	100	99.69[21]	99.71	99.68

Much fewer children are in private schools in Nalanda as compared to Satara. Private school in Satara includes both government aided and unaided schools. So, in terms of proportion of children going to private unaided schools, both the districts may have similar proportions. Unfortunately, since the data on management was self-reported by parents, we are not able to disaggregate private schooling into aided and unaided and we propose to explore this further in the subsequent rounds of data collection[22].

[21] The total does not add up to 100 since in a few cases parents did not know the management type of schools.

[22] Primary education in Maharashtra is provided by the state government with support from local authorities. These schools are called Zilla Parishad schools. Majority of secondary schools (upper primary and above) are run by private societies and trusts that may or may not receive aid/grants from the government.

Gender discrimination in educational investment manifests itself in terms of higher enrolment of boys as compared to girls in private schools. In Nalanda, gender gap is clearly evident in terms of the higher enrolment of girls in government schools and higher enrolment of boys in private schools (a 7 percentage point difference). The distribution of enrolment by management type indicates a gender gap in Satara too, but of a lesser magnitude of around 3 percentage points for government schools. Since private comprises both of aided and unaided schools, it remains to be seen if the gender gap changes when we focus on private unaided schools only.

Parental perspectives on school choice related decisions

Reasons behind the choice of current school

Parents were asked reasons behind the choice of current school for the sampled child. *A priori* we hypothesize the reasons to vary by district, management type and gender. This was a multiple choice question meaning that we recorded all the reasons that parents gave in response to the question[23].

The most common reasons for choosing a school in Satara appear to be distance, teaching quality, relevant classes in the school and infrastructure. In Nalanda, on the other hand, parents have reported a number of other reasons as well including lower fees, English as a subject or medium of instruction and better discipline.

It is not clear if this differential pattern reflects in some way the nature of schools in these districts and/or differences in household characteristics. For example, given that most children go to government schools in Nalanda even when there are private schools, is it the case that parents are actively choosing government over private schools because of lower fees? Second, it is possible that teaching of English as a medium of instruction is common among schools in Satara. So, perhaps it is less of a factor in choice of school than in Nalanda. Likewise, parents in Nalanda are more likely to report sending children to school because siblings or children from the

[23] About 26 percent parents reported 1 reason, another 29 reported 2 reasons and 17 percent parents reported 3 reasons behind the choice of current school. In all this covers 72 percent of the distribution.

neighborhood attend the same school (60 percent versus 9 percent). This could reflect the overall fewer schools in Bihar than Maharashtra or parents in Nalanda are generally less educated and are influenced in their choice of school by whether any other sibling or child in the neighborhood goes to the school.

Table 2.5: Reasons behind current school choice, by district, gender and school type

	District		**Gender**		**School type**	
	Nalanda	Satara	Boys	Girls	Government	Private
Close to the home	76.48	70.67	71.41	75.92	86.84	66.73
Charges lower fees	69.5	4.5	35.41	39.91	63.85	4.98
Better teaching	35.31	31.28	34.38	32.26	31.48	41.97
Teaches English	28.43	8.58	19.98	17.34	21.59	17.73
Only school with relevant classes	24.34	15.39	19.81	20.11	23.34	18.24
Better discipline	30.5	6.35	19.29	18.01	24	13.96
Siblings, etc in same school	59.51	9.15	32.83	36.86	53.88	12.24
Better facilities	26.14	25.11	26.63	24.64	24.94	31.22
Subjects of special interests	7.63	0.99	4.79	3.97	4.4	5.12
Only girls' school	7.36	1.21	-	8.04	6.86	1.26

There appears to be some though not strong gender wise differentials in reasons for choice of current school. “Close to home” and “Siblings or children from the same neighborhood in the same school” are more likely to be reported as a reason for choosing current school when the sampled child is a girl though very few reported choosing a school because it is a girls’ only school. Lower incentive to invest in girls’ education is perhaps reflected in the fact that more parents reported choosing the current school because of lower fees when the sampled child is a girl than when it is a

boy (a 4.5 percentage point difference). English is more likely to be an important reason for boys than girls (about 3 percentage point difference). Other reasons pertaining to quality of education as better teaching (34 percent versus 32 percent), relevant classes (around 20 percent), better discipline (around 19 percent) and better facilities (27 percent versus 25 percent) are as likely to be reported for boys as girls.

If the current school is a government one, it is likely to have been chosen because it is close to home and/ or because fees are lower. Siblings of the sampled child or children of the neighborhood attending the school is also an important reason if it's a government school. In contrast, most commonly reported reason for choice of private school relates to better teaching (a 10 percentage points difference with government schools).

Private schools are preferred too for their better infrastructure (a 6 percentage point difference). However, contrary to what is hypothesized, there does not seem to be a preference for private school because English is taught (indeed, government schools seem to have a slight edge in this respect). But this lack of preference may also be influenced by the fact that government schools may have already incorporated English as a subject in their curriculum. On most other features relating to school quality, more parents have reported it as a reason behind their choice if the current school is government than private (such as relevant classes and better discipline) or there appears no difference between government and private schools (such as subjects of special interest).

Switch from private to government and government to private schools

If a sampled child is currently in a government school, the likelihood that (s)he was in a private school is highest for Nalanda in Bihar. For instance, 14.6 percent of boys studying in a government school in Nalanda said that they were at some point enrolled in a private school. This number is 1.2 percent for Satara. Yet again, gender disparities are highlighted by the large percentage point gap in the ever enrolled percentages between boys and girls (Table 2.6 below). Another trend that strikes out particularly among boys in Nalanda is that children seem to be switching from private to government schools with progression of grades from 6 to 8.

Likewise, if a sampled child is currently in a private school, the likelihood is high that she was in a government school at some point; though we the trend may not be robust because of small cell sizes. In Satara, at least part of this trend is driven by the nature of schooling in Maharashtra. There are fewer post- primary (Class 5 and above) and post- upper primary (Class 7 and above), government schools, and therefore, it is likely that a sampled child currently in a private school was enrolled in a government school at some point in her schooling career.

Table 2.6: Ever changed management type of school from government to private and private to government?

	Nalanda		Satara	
	Boys	Girls	Boys	Girls
	Ever studied in private school, if current management type is government?			
Class 6	10.43 (374)	8.90 (427)	0.67 (150)	1.20 (166)
Class 7	13.77 (414)	8.28 (483)	0.66 (151)	2.03 (148)
Class 8	19.29 (394)	7.62 (433)	6.67 (30)	5.00 (20)
	Ever studied in government school, if current management type is private?			
Class 6	72.31 (65)	71.43 (21)	81.58 (304)	90.00 (220)
Class 7	74.00 (50)	76.47 (17)	80.33 (305)	85.24 (271)
Class 8	68.57 (35)	68.42 (19)	88.56 (437)	90.10 (404)

Note: Figures in parentheses gives the total N for each cell.

Reasons behind changing management type- government to private and private to government

If a child had changed schools, a follow up question about reasons for doing so was asked. Here again, parents could report multiple reasons as to why they switched from one management type to another.

Estimates for Satara are not presented since only 10 sampled children reported transitioning from private to government school there. Sampled children in Nalanda (N= 284) are most likely to move from a private to government school on account of expensive education, but a quarter of children also reported transitioning to a government school because they had completed the highest level of education in private school in which they were studying. Distance remains an important factor too as it is reported by a fifth of the sampled children, followed by difficulties faced by the sampled child in his or her studies in private school.

Table 2.7: Reasons for changing from private to government school for Nalanda

	Nalanda
School related reasons	
School quality related reasons (either a poor quality private school or better quality government school)	9.15
Completed highest level of education	26.06
Lack of basic infrastructure in private school	6.69
Teachers regularly absent in private school	5.28
Teachers punish children in private school	3.17
Poor discipline in private school	4.58
Long distance to school	19.37
Better facilities in government school	9.15
Subjects of special interest in government school	5.28
Sampled child/ household related reasons	
Studies related problems faced by the sampled child in the private school	11.62
Harassment by other children	0.35
Could not afford private education	61.62

Table 2.8: Reasons for changing from government to private school, by district

	Nalanda (N=149)	Satara (N=1673)
School related reasons		
English is a subject or medium of instruction	75.84	8.55
School quality related reasons (either a poor quality government school or better quality private school)	82.55	4.66
Completed highest level of education	4.70	84.40
Lack of basic infrastructure in government school	36.91	3.23
Teachers regularly absent in government school	56.38	0.42
Teachers punish children in government school	4.70	0.24
Poor discipline in government school	45.64	2.33
Long distance to school	0.67	1.02
Better facilities in private school	75.84	14.11
Subjects of special interest in private school	50.34	0.96
Sampled child/ household related reasons		
Studies related problems faced by the sampled child in the government school	23.49	0.18
Harassment by other children	2.01	0.12

For sampled children currently in a private school but ever studied in a government school in Nalanda (N= 149), the most commonly reported reasons for the switch relates to school- be it poor quality of government school and/or better private school quality (83 percent), English being taught or used as a medium of instruction in the private school (76 percent), better facilities in private school (76 percent) teacher absenteeism in government school (57 percent), poor discipline in government school (46 percent) and subjects related to special interest in private school (50 percent). Another quarter of children also changed school from government to private because they faced problems related to their studies in government school.

In short, the move from government to private school in Nalanda was motivated by the better quality of the private school. In contrast and related to the schooling structure in Satara (N= 1, 673), sampled children switched to a private school primarily because they had completed the highest level of education in the government school (84 percent compared to only 5 percent in Nalanda).

Conclusion

This chapter presented a brief sample description in terms of key characteristics- economic class as proxied by ownership of consumer durables, religion and caste, mother's education and availability of reading materials. In subsequent chapters (Chapter 3 and Chapter 4), we will correlate each of these variables with learning outcomes.

This chapter also presents a discussion on school management type- the distribution of sampled children in terms of current school management by district and gender, parental perspectives on school choice and the reasons behind switching from government to private schools and vice versa. In the case of Satara, a further distinction needs to be made between private aided and private unaided schools to allow us to better understand school choice in the district. In Nalanda, preliminary cross tabs indicate a preference for sending boys rather than girls to private schools and enrolment in private schools, given the availability of low fees government schools and the perceived better "quality" of private schools, is possibly a "choice" issue linked to household SES characteristics.

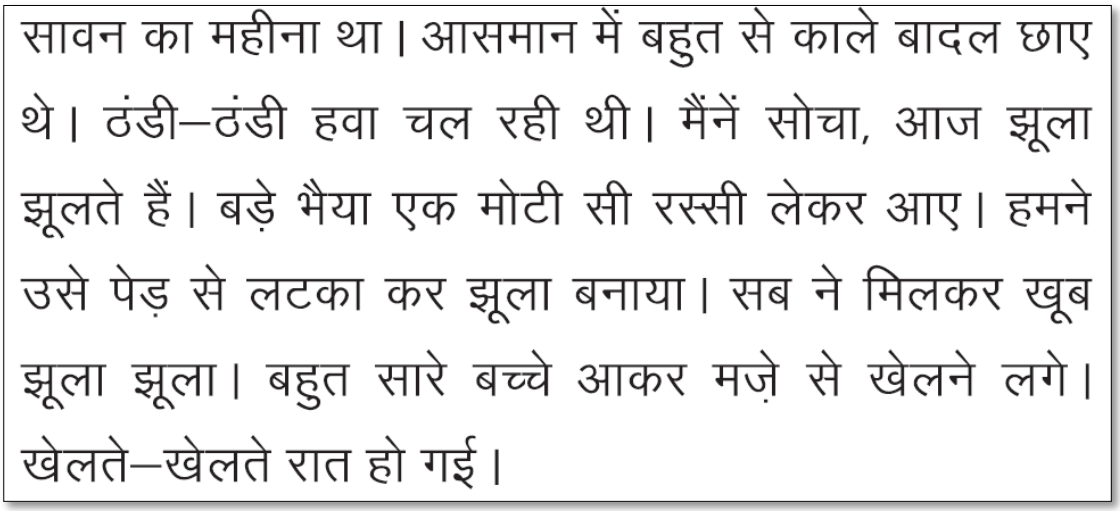
Chapter 3: Learning Outcomes among Enrolled Children

Structure of middle school learning level assessments

In this survey, sampled children were assessed on competencies pertaining to Grade 4 to Grade 7 in four subjects- language (which is Hindi or Marathi depending on the district), math, science and English. These assessments were preceded by a floor test in local language and math that was administered to *all* sampled children. The floor tests were closely mapped to the ASER tools used to assess basic reading and arithmetic across India in the Annual Status of Education. Children who passed the floor test in language were further tested on language, science and English and children who passed the floor test in math were further tested on math. Children who passed all the tests were assessed in *all* subjects.

The floor test in language consists of 5 levels- beginner, letters, words and paragraph. Children were marked at their highest level at which they could read comfortably. Thus, children were categorized as "beginner (or not able to read)", "(able to read only) letters, (able to read only) words, (able to read only) paragraph, "able to read story haltingly" and "able to read story fluently". Below is a picture of the story in Hindi that the sampled children read as part of their assessments:

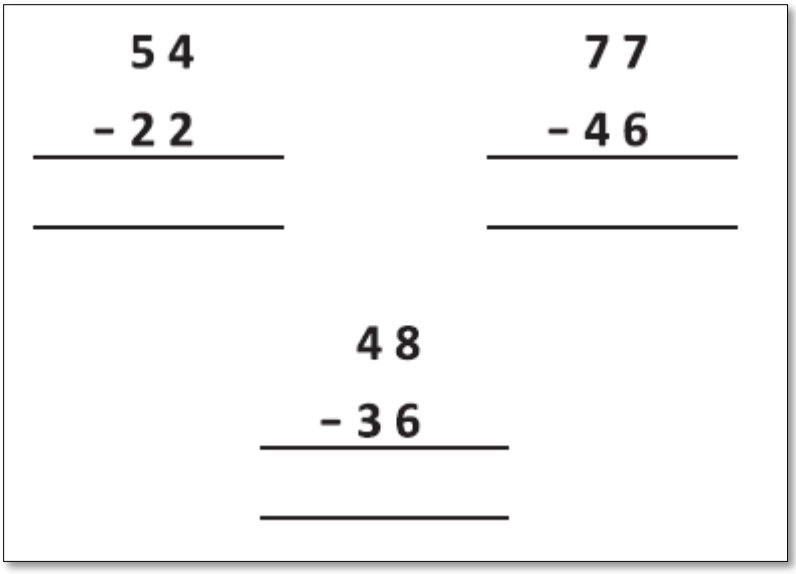
Sample 1- Story


सावन का महीना था। आसमान में बहुत से काले बादल छाए थे। ठंडी–ठंडी हवा चल रही थी। मैंनें सोचा, आज झूला झूलते हैं। बड़े भैया एक मोटी सी रस्सी लेकर आए। हमने उसे पेड़ से लटका कर झूला बनाया। सब ने मिलकर खूब झूला झूला। बहुत सारे बच्चे आकर मज़े से खेलने लगे। खेलते–खेलते रात हो गई।

This basic test was used as a screener and only children who were able to read a story, haltingly or fluently, were further tested on basic comprehension of the story. These children also qualified for further test in language (Hindi in Bihar and Marathi in Maharashtra), science and English.

Likewise, children were also given a floor test in math that consisted of single-digit number recognition from 1 through 9, double-digit number recognition from 11 through 99 and two digit subtractions without borrowing. Thus, children were categorized as "nothing or (does not know any math)", "able to recognize numbers 1 through 9", "able to recognize numbers 11 through 99" and finally, "able to correctly solve subtraction problems". Children who were able to solve subtraction problems qualified for assessment in math. Below is a picture of the subtraction problems that sampled children were asked to solve:

Sample 2- Subtraction problems



Performance in floor tests in language and math

Language

Figure 3.1 illustrates the distribution of language proficiency by class enrolled for all enrolled children in the sample (N= 5754[24]). In Nalanda, language proficiency improves substantially with class. Percent of children at story level is 73 percent in Class 6, 81 percent in Class 7 and 88 percent in Class 8. In Satara, children are already proficient at the story level by Class 6 and there is virtually no change in the proportion of children who can read at the story level (90 percent in Class 6 and Class 7 and around 92 percent in Class 8). We found that children who could read a story comprehended it as well.

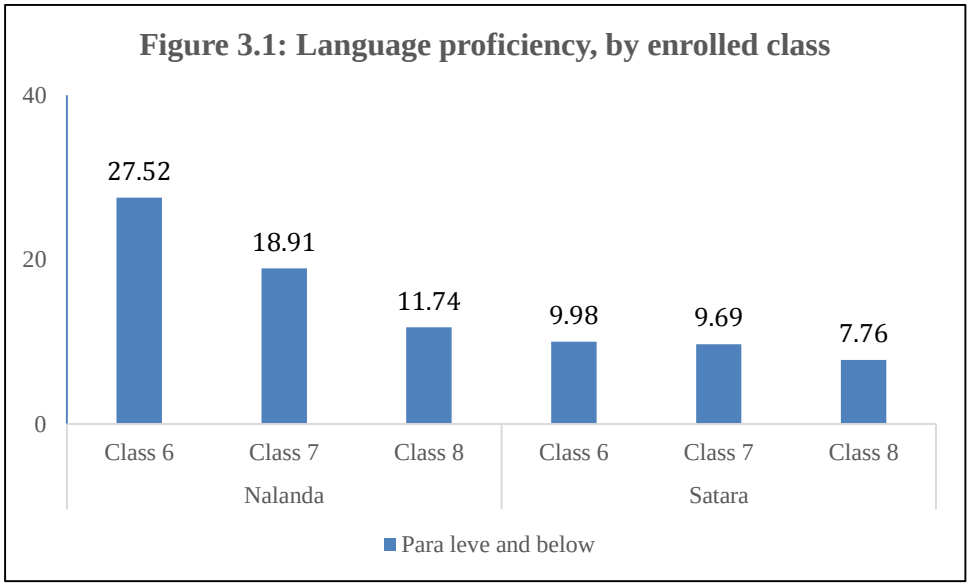


Figure 3.2 illustrates language proficiency by gender in each of the study districts. In Nalanda, more girls are at para level and below than boys (23 and 15 percent respectively). In Satara, the gender difference is the other way round- slightly more boys than girls are at para level and below (11 and 7 percent respectively).

Finally, Fig. 3.3 gives language proficiency by school management type, in Nalanda a higher percent of children who at para level or below are in government

[24] The sample comprises of 5754 currently enrolled children. However, data on enrolled class is not available for 3 children.

schools (21 percent)- the comparative percent for private schools is around 2 percent. In Satara, around 10 percent of sampled children who are in government schools are at para level or below comparable to 8 percent in Satara. However, this distribution is based on management type as reported by parents in Satara, the distribution may change once we account for the fact that many schools reported as private may actually be government aided.

Fig 3.2 Language proficience, by gender and district

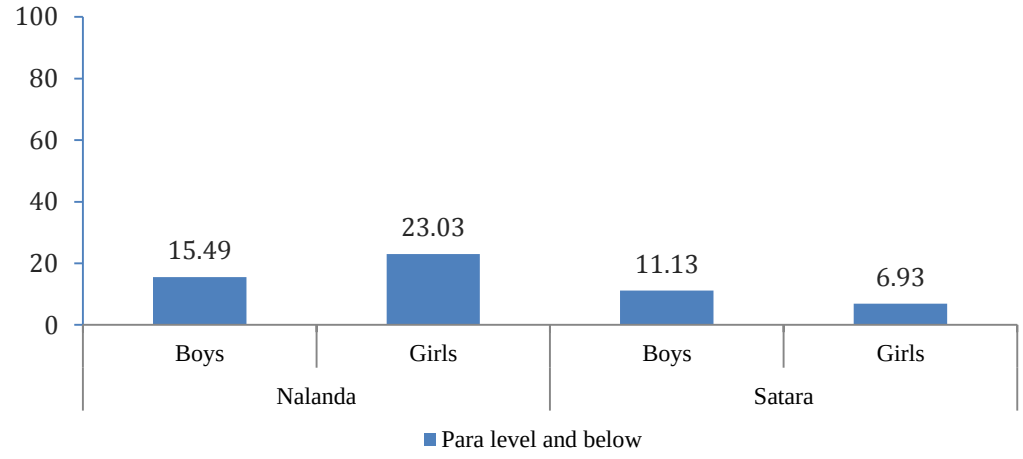
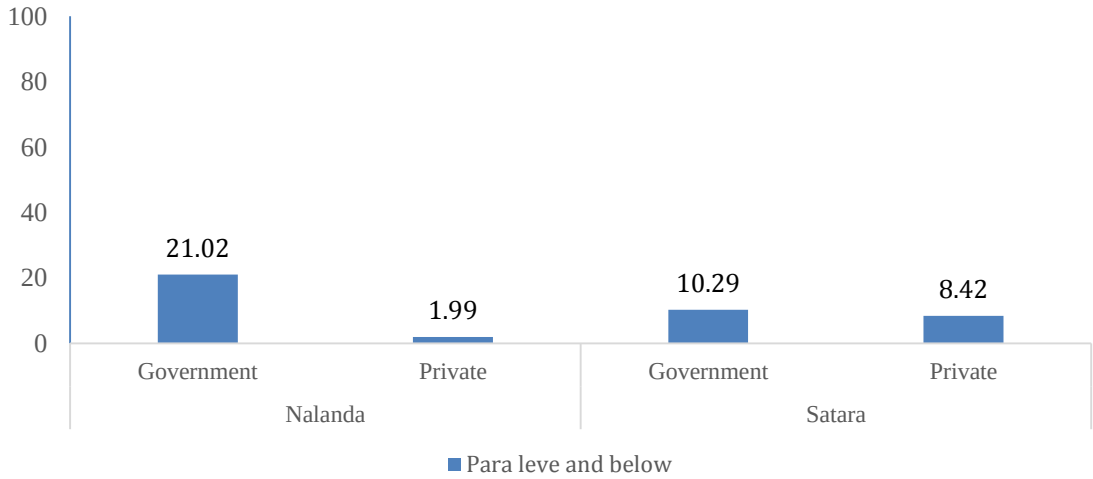


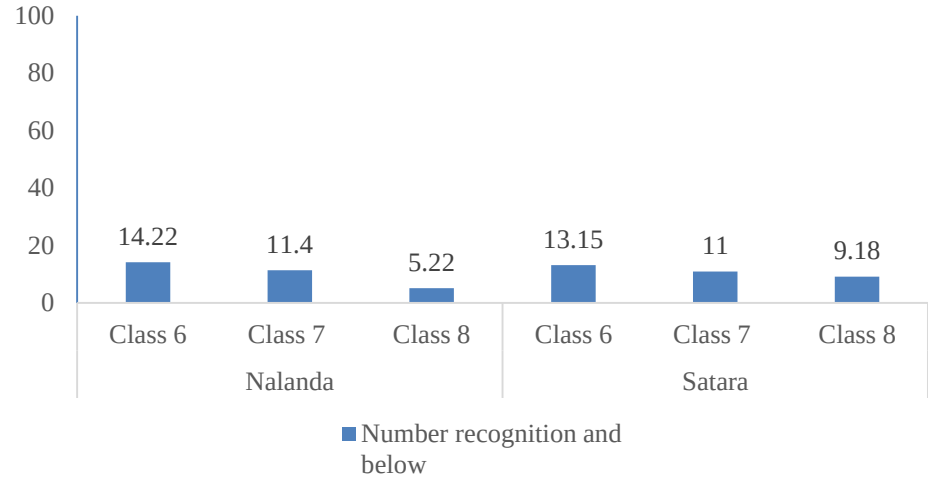
Fig. 3.3: Language proficiency, by school management type



Math

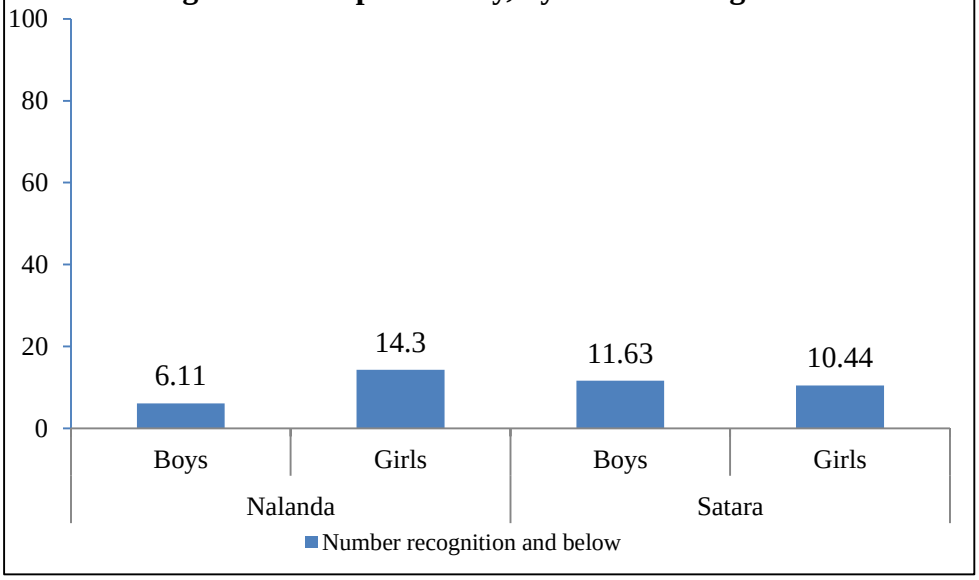
In terms of basic proficiency in math too, the gradation appears to be sharper for Nalanda than Satara. About 86 percent of sampled children in Class 6 in Nalanda can solve subtraction problems. This percentage increases only marginally at Class 7- around 88 percent and is 95 percent in Class 8. The corresponding percentages for Satara are 87, 89 and 91 percent.

Fig. 3.4: Math proficieny, by enrolled class



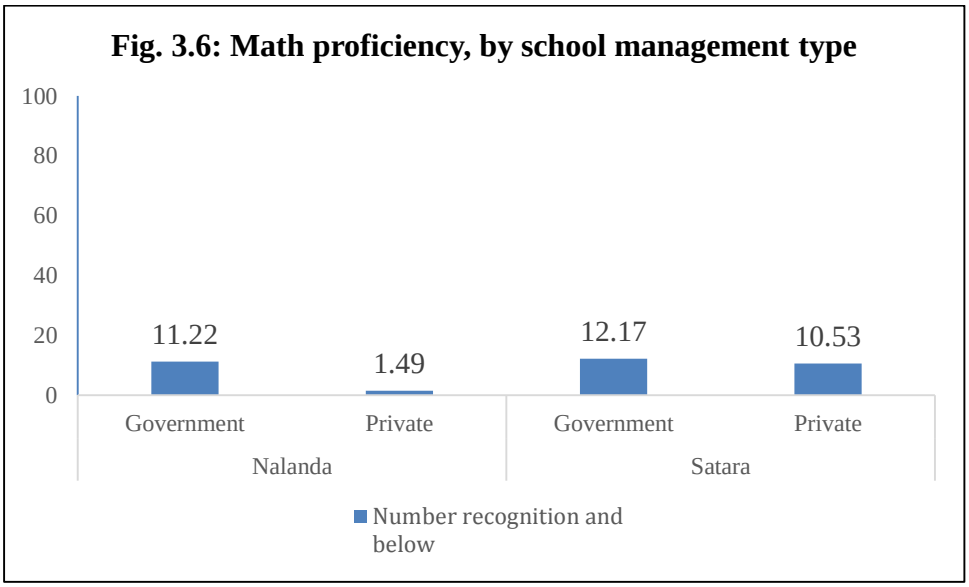
Note that in both Nalanda and Satara, there are children in upper primary classes who cannot read a simple paragraph in their local language and/ or solve simple subtraction problems. Further, the likelihood of gaining that proficiency is not high once a child is at Class 6.

Fig. 3.5: Math proficiency, by district and gender



Just as with language proficiency, there appears a gender gap in the expected direction in basic math proficiency in Nalanda. Figure 3.5 highlights that a substantially higher proportion of girls are less proficient in math than boys in Nalanda. About 14.3 percent of girls cannot do basic two- digits subtraction without borrowing as compared to about 6 percent of boys. In Satara, the difference is much narrower at 12 and 10 percent respectively.

Fig. 3.6: Math proficiency, by school management type



We conclude the discussion on math proficiency with a look at distribution in proficiency by school management type. Fig. 3.6 reiterates what we observed in terms

of language proficiency by school management type. In Nalanda, sampled children in private schools clearly outperform children in government schools. In Satara, though the distribution of children at number recognition or below is about the same in government and private schools, it may change once private schools are reclassified based on whether they are government aided or not. Overall children seem to be more proficient in math than language.

Details of sample eligible for higher level pen and paper assessments

Table 3.1: Distribution of children by floor tests they qualified and grade level tests that they were administered, by district

Qualified floor tests in	Paper and pen test administered in	Percent who qualified in	
		Nalanda	Satara
Only language	Language, Science, English	0.93	4.16
Only math	Math	13.78	2.89
Both language and math	Language, Science, English, Math	75.64	85.79
None	NA	9.65	7.16

Table 3.1 provides a schemata of which pen and paper test was administered in which subject based on which floor test the sampled child qualified. Those sampled children who qualified both language and math floor tests were administered paper and pen tests in all subjects- language, English, science and math. Majority of children in both districts (76 percent in Nalanda and 86 percent in Satara) qualified the floor tests in both language and math. If a sampled child cleared only the language floor tests, she was administered floor tests in language, English and science. In this scenario, she was not administered the pen and paper test in math. Around 1 percent of sampled children in Nalanda qualified only the floor test in language, while this percent is around 4 in Satara. On the other hand, if a sampled child qualified the floor tests *only* in math, she was administered paper and pen test only in math. About 10

and 7 percent of sampled children in both Nalanda and Satara respectively did not qualify any of the tests.

The difference in terms of percentages of currently enrolled children who qualified both language and math test between Nalanda and Satara is modest (around 10 percentage points), but there is rather a surprising difference between the two districts in terms of percentage of children who have qualified only one of the two floor tests. A higher proportion of children in Nalanda than Satara qualified for math test and vice versa for language. It is not clear as to what accounts for this trend, but is consistent with trends observed from yearly ASER data[25], which indicates that math proficiency in Maharashtra has declined over time.

Table 3.2: Distribution of children by enrolled class and floor tests they qualified

Qualified floor tests in	Class 6	Class 7	Class 8
Nalanda			
Only language	1.08	1.26	0.43
Only math	18.49	12.69	10.33
Both language and math	67.1	75.39	84.35
None	13.33	10.66	4.9
Satara			
Only language	4.98	3.99	3.56
Only math	3.06	3.23	2.41
Both language and math	83.69	85.67	87.84
None	8.27	7.11	6.18

We have already noticed that language and math proficiency improve with enrolled class. It, therefore, comes as a little surprise that the percent of children who qualify both tests increase with enrolled class in both the districts (Table 3.2). The percentage of children who did not qualify any of the tests reduces by a third to 5 percent in

[25] In 2010, percent of children in grades 1 to 8 who could do division was 38 percent in Bihar. The corresponding percent for Maharashtra was 31. In 2013, the percentages for the two states are respectively 27 and 23.

Nalanda. In Satara, the reduction is quite modest of slightly about 2 percentage points. In either district, these trends confirm our earlier observation of quite a few children in upper primary classes who do not have basic proficiency in language and math.

Table 3.3: Distribution of children by floor tests they qualified and grade level tests that they were administered, by district

Qualified floor tests in	Boys	Girls
Nalanda		
Only language	0.85	1.01
Only math	14.76	12.85
Both language and math	78.74	72.68
None	5.65	13.46
Satara		
Only language	3.62	4.75
Only math	4.03	1.66
Both language and math	84.21	87.49
None	8.14	6.1

The gender gap in basic language and proficiency that we observed in Nalanda is reflected in that fewer girls than boys have qualified both the language and math floor tests (Table 3.3) - a difference of around 6 percentage points. The gender difference is smallest with respect to children who have qualified “onl y math”. In Satara, consistent with what we know in terms of performance in screening tests, girls have outperformed boys.

Table 3.4 below gives details of total sampled children who should have taken the test, total children who cleared the floor tests in language and math and hence, were eligible for the pen and paper tests, and number who actually appeared for the tests. Not all children eligible for a particular test appeared for it; there are 2 main

reasons: first, paper pen tests were voluntary and not all children turned up for the tests in spite of the best efforts of field investigators. Tests were usually administered on a weekend and as a result a few children were not in the village when they were administered. Second, the order of the tests matters too. For example, language tests were typically administered first on the first of two- days of tests. Children often left after giving the language tests and did not stay back for the subsequent English test.

Table 3.4: Final sample in terms of number eligible and number appeared in each of the grade level assessments, by subject

	Total children who should have taken the test	Total children who have appeared for the floor test	Total who qualified the floor tests	Total who appeared
	Language, By district			
Nalanda	2,934	2,899	2,222	2,026
Satara	2,820	2,766	2,488	2,114
	Language, By class			
Class 6	1,841	1,812	1,417	1,283
Class 7	1,984	1,960	1,623	1,424
Class 8	1,926	1,891	1,668	1,432
	English, By district			
Nalanda	2,934	2,899	2,222	1,998
Satara	2,820	2,766	2,488	2,069
	English, By class			
Class 6	1,841	1,812	1,417	1,247
Class 7	1,984	1,960	1,623	1,407
Class 8	1,926	1,891	1,668	1,412
	Maths, By district			
Nalanda	2,934	2,893	2,595	2,371
Satara	2,820	2,758	2,453	2,227
	Maths, By class			
Class 6	1,841	1,810	1,562	1,454
Class 7	1,984	1,953	1,734	1,580
Class 8	1,926	1,886	1,750	1,563
	Science, By district			
Nalanda	2,934	2,899	2,222	1,993
Satara	2,820	2,766	2,488	2,139
	Science, By class			
Class 6	1,841	1,812	1,417	1,275
Class 7	1,984	1,960	1,623	1,427
Class 8	1,926	1,891	1,668	1,429

Performance in higher level pen and paper assessments

Language

The language assessment aimed at understanding how much the children know. Hence it was important to not only map the children's learning outcomes to their current grade level competencies, but also to the previous grades' competencies. The language assessment focused on the following competencies:

a) Reading comprehension: First, a reading comprehension of a fictional text, second a semi fictional text. Both these texts corresponded to chapters commonly found in grade 4 level. The former was a narrative text and the latter was information but in the form of a story (hence making it slightly more difficult). Both these texts had questions based on them. The questions for the first text ranged from direct retrieval to reflecting and evaluating and within each from easy to difficult. The second one had questions directed at the cognitive domain of direct fact retrieval and interpretation and within each there were easy and intermediate difficulty level questions.

b) Creative writing: Writing was assessed through a task, which had the first two lines of a story and had to be completed by the child[26].

c) Vocabulary: Vocabulary of grades 3, 4 and 5 was assessed. Within vocabulary, receptive vocabulary was assessed through a task based on matching idioms to their correct meanings and expressive through asking the child to write antonyms of some words.

d) Grammar and spelling: Grammar was assessed by tasks on punctuation, conjunction and spellings related tasks.

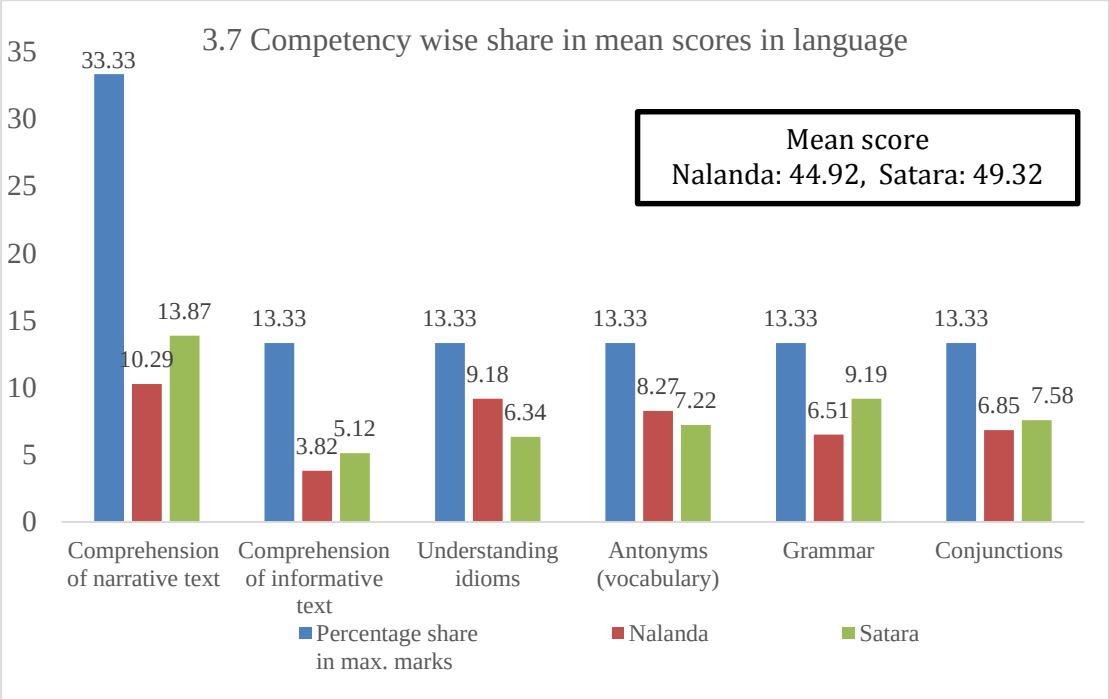
Tasks based on the above competencies had sub-tasks that were based on different grade levels. In this report, we have discussed overall distribution of total scores and sampled children's performance in various competencies.

[26] This portion of the language assessment has not yet been graded.

Table 3.5: Summary distribution of language scores, by district and enrolled class

	N	First quartile	Second quartile	Third quartile	Maximum score	Mean
		Score	score	score		Score
Nalanda						
Class 6	584	23.33	36.67	53.33	96.67	38.97
Class 7	728	30.00	43.33	60.00	100.00	44.94
Class 8	713	33.33	50.00	63.33	96.67	48.37
Satara						
Class 6	699	30.00	43.33	60.00	93.33	44.21
Class 7	696	33.33	53.33	66.67	93.33	50.17
Class 8	719	36.66	53.33	70.00	96.67	53.41
Overall						
Class 6	1283	26.67	40.00	56.66	96.67	41.82
Class 7	1424	33.33	46.67	63.33	100.00	47.50
Class 8	1432	33.33	53.33	66.67	96.67	50.90

Mean language scores are higher in Satara than Nalanda. Barring Class 6 in Nalanda and Satara, the median score is around 50 percent suggesting that 50 percent of the sampled children, who were eligible and appeared for the test, scored 50 percent or below in the language test. Compared to scores in other subjects (see below), sampled children appear to have done well in language tests with higher overall means. As expected mean scores increase with enrolled class- the largest jump is between Class 6 and Class 7, a difference of around 6 points in both the districts.



While Table 3.5 gives the overall distribution of scores, Fig. 3.7 decomposes the scores in terms of competency categories for all classes by districts, which in the case of language assessments were comprehension of narrative text, comprehension of informative text, understanding of idioms, vocabulary, grammar and conjunctions. The blue bar in the figure gives the percentage share of each competency category if total score is equal to 100, while the burgundy and green bars respectively provide the share of each competency categories in percentage mean scores for the respective districts- Nalanda (44.92) and Satara (49.32). So, for example, while the percentage share of comprehension of narrative text is 33.33 percent if the total score is 100, its share in mean percentage scores in Nalanda and Satara is 10 and 14 percent respectively. Likewise, while the share of comprehension of informative text in overall scores is 13 percent, its share in mean percentage scores is about 4 and 5 for Nalanda and Satara respectively. Thus, Figure 3.7 indicates that children have done well in competency categories as understanding of idioms, vocabulary, grammar and conjunctions, but not so well in categories that required comprehension whether narrative or informative text.

English

The English assessments were aimed at testing children in their second language capabilities. English is generally introduced slightly late in the school years,

therefore the design of items were different than other subject assessments. The aim for having new item design and elementary competencies was to provide ample opportunities to children to showcase their abilities in second language acquisition. The English language assessments focused on the following competencies:

a) Alphabet and Word: Knowledge of alphabets and easy words were assessed through dictation task.

b) Reading comprehension: A narrative text with graphic stimulus was given was included to test their comprehension skills. This text corresponded to grade 2-3 level. The items based on this text aligned to cognitive levels- retrieve, interpret and assess and integrate.

c) Vocabulary: The receptive vocabulary was tested by comprehending meaning of a word from the text.

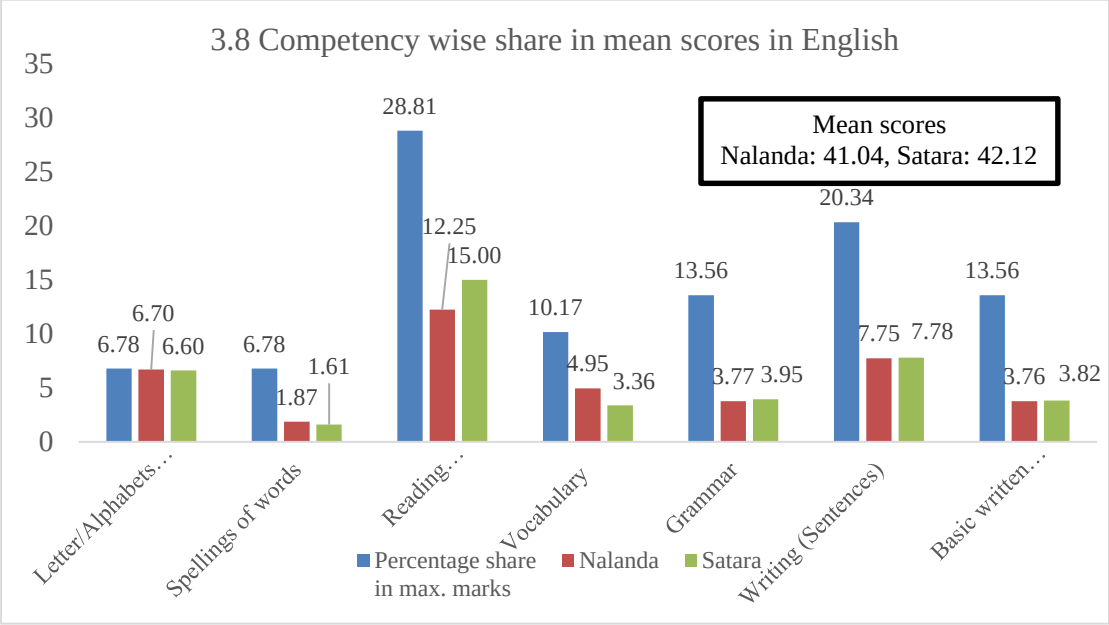
d) Writing and Grammar: Sentence construction with correct grammar was tested by a task which involved writing sentences describing a picture.

Table 3.6: Summary distribution of English scores, by district and enrolled class

	N	First quartile	Second quartile	Third quartile score	Maximum score	Mean score
		Score	Score			
Nalanda						
Class 6	570	22.03	33.90	47.46	91.53	36.63
Class 7	719	25.42	38.98	54.24	93.22	40.92
Class 8	708	27.12	42.37	59.32	94.92	43.82
Satara						
Class 6	677	22.03	33.89	49.15	94.92	36.90
Class 7	688	28.81	42.37	55.93	96.61	43.55
Class 8	704	30.51	44.07	61.02	96.61	45.74
Overall						
Class 6	1247	22.03	33.89	49.15	94.92	36.77
Class 7	1407	27.12	40.68	55.93	96.61	42.20
Class 8	1412	28.81	44.07	60.17	96.61	44.77

Uniquely for English, both the districts have overall similar distribution of scores in terms of first quartile score, mean and median score for Class 6. Maximum scores are, however, higher in Satara. For Class 7 and Class 8 mean and median score in Satara is greater than Nalanda; though scores on average are low as mean is not 50 percent for any of the classes. As observed with other subjects, scores in English assessment test increase with class, particularly between Class 6 and Class 7.

Figure 3.8 below replicates for English what Figure 3.7 does for language. The competency categories in English are knowledge of letter/ alphabets, spellings, reading comprehension of narrative text, vocabulary, grammar, writing sentences and basic written conversation ability. Sampled children in both the districts have done well in knowledge of letters/ alphabets. The percentage share of this competency category if maximum marks is 100 is 6.78 percent. Its percentage share in mean scores are 6.70 and 6.60 percent respectively. With respect to all other competency categories, sampled children have not scored well.



Science

The science assessment was aimed at assessing formal science knowledge aligned to the curriculum and scientific thinking. Consistent themes and topics in science curriculum that occur across all grades were selected for the assessments. The

rationale for having all items in the test as multiple choice items and performance task was that majority of children have limited writing skills and abilities. Also, performance task were aimed at assessing scientific abilities like observation, inference and integration. The topics and themes chosen for assessments were:

- Plants, animals and the living word
- Food
- Water
- Natural resources and phenomenon

Science content knowledge on the selected themes of grades 4,5, 6 and 7 were assessed. Each topic or theme had equal number of items aligned to the various cognitive skills. Following are the cognitive domains on which the assessment items aligned.

Level 1 – Knowing	Level 2- Applying	Level 3- Reasoning
Recall/Recognize	Compare/Contrast/Classify	Analyze
Define	Use Models	Integrate/Synthesize
Describe	Relate	Hypothesize/Predict
Illustrate with Examples	Interpret	Design
	Information	Draw
	Find Solutions	Conclusions
	Explain	

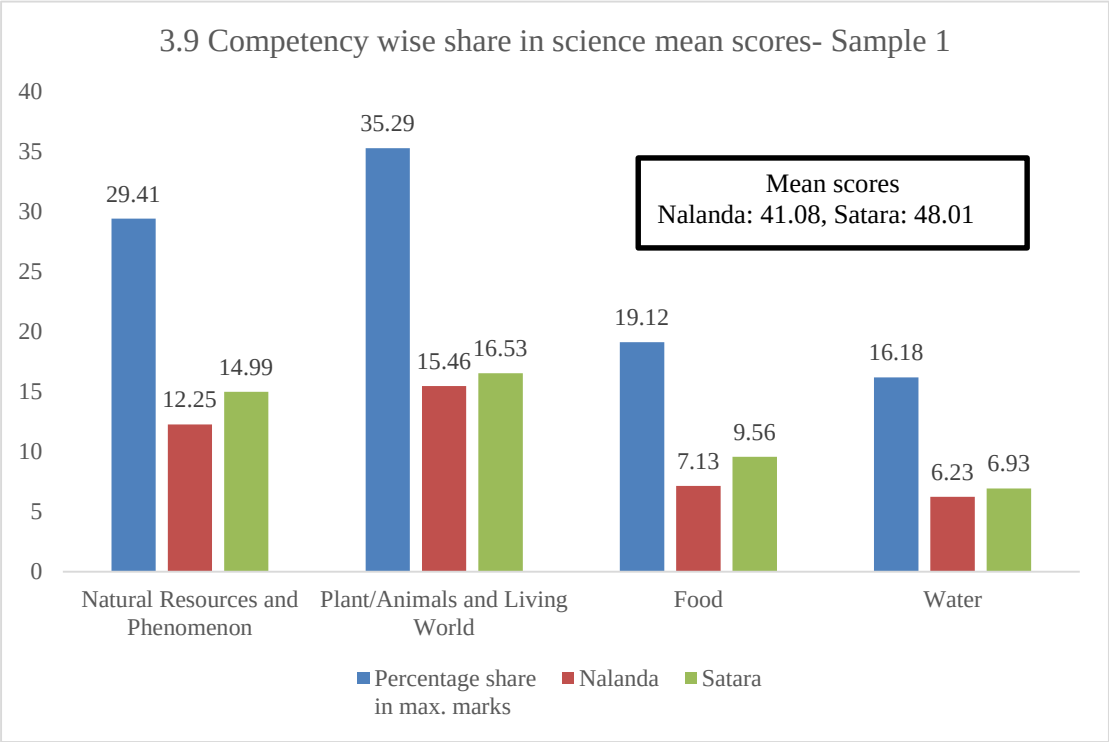
Science scores increases with class, but are largely low with the median not even 50 percent, with the exception of Class 8 in Satara. Here Satara has an advantage over Nalanda, with scores in Class 8 in Nalanda being similar to those in Class 6 of Satara (Table 3.7).

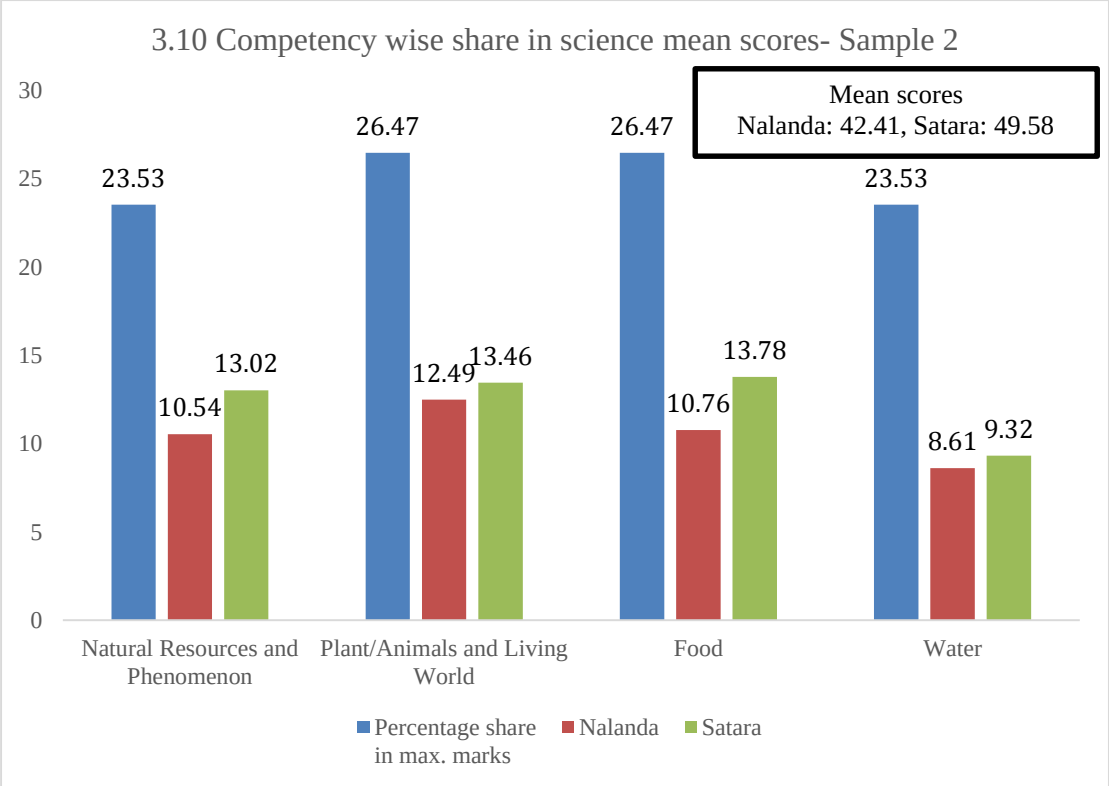
Two samples were administered in science in which competency categories are natural resources and phenomenon, plant/ animals and living world, food and water. Consistent with higher overall mean scores in Satara, sampled children have higher scores in each of the competency categories as compared to Nalanda. That said with overall low scores for all classes, the graphs illustrate that there are no

competency categories in which sampled children did particularly well (Fig. 3.9 and Fig. 3.10).

Table 3.7: Summary distribution of science scores, by district and enrolled class

	N	First quartile	Second quartile	Third quartile score	Maximum score	Mean score
		Score	Score			
Nalanda						
Class 6	570	27.94	35.29	45.59	75.00	37.50
Class 7	716	32.35	40.44	51.47	82.35	42.02
Class 8	706	33.82	42.65	55.88	86.76	44.87
Satara						
Class 6	705	33.82	42.65	52.94	83.82	43.85
Class 7	711	38.23	48.53	58.82	85.29	49.04
Class 8	723	42.65	52.94	64.71	91.18	53.27
Overall						
Class 6	1275	30.88	39.71	50.00	83.82	41.01
Class 7	1427	33.82	44.12	55.88	85.29	45.52
Class 8	1429	36.76	48.53	60.29	91.18	49.12





Math

The math assessment was aimed at knowing the math abilities acquired by the children. The competencies selected were from grades 3,4,5,6 and 7. The assessment

form consisted items of varied types inclusive of fill in the blanks, short response and constructed response. The cognitive domains of items were- knowing, applying and reasoning. The math assessment focused on the following competencies:

a) Number sense: Items in this competency included tasks of number comprehension, comparison, operations and place value and conversion from one form to another (decimal to fractions etc.). The items aligned to grades 4,5,6 and 7.

b) LCM, Ratio and Proportion: The items in this competency included computing and solving word problems.

c) Geometry: The items in this competency included identification, comparison and computations based on properties of angles and triangles.

d) Mensuration and Measurement: The items in this competency included conversion and solving word problems.

e) Algebra: The items in this competency included formulating equations and solving word problem.

Table 3.8: Summary distribution of math scores, by district and enrolled class

	N	First quartile score	Second quartile score	Third quartile score	Maximum score	Mean score
Nalanda						
Class 6	726	21.54	38.46	52.31	98.46	38.40
Class 7	833	27.69	44.62	60.00	96.92	44.25
Class 8	811	32.31	49.23	66.15	100.00	48.75
Satara						
Class 6	728	23.08	33.08	47.69	92.31	35.68
Class 7	747	26.15	38.46	52.31	95.38	40.43
Class 8	752	26.15	41.54	56.92	93.85	42.22
Overall						
Class 6	1454	21.54	35.38	50.77	98.46	37.00
Class 7	1580	26.15	41.54	55.38	96.92	42.44
Class 8	1563	29.23	44.62	61.54	100.00	45.61

Since the median is close to the mean for all classes in Nalanda, we can conclude that the distribution is approximately normal. On the other hand, in Satara, the median is less than mean across all classes and for both districts; we can conclude that the distribution is positively skewed.

In contrast to language, math scores are higher in Nalanda as compared to Satara. This advantage is maintained across classes. Overall the preponderance of low scores is indicated by the fact that median barely touches 50 percent.

Table 3.9: Competency wise share in math mean scores

	Percentage share in max. marks	Nalanda	Satara
Understanding numbers/ numbers sense	10.77	6.88	7.43
Basic mathematical operations	10.77	5.05	4.12
Word Problems	4.62	2.09	2.07
LCM	1.54	0.94	0.18
Number pattern recognition	4.62	2.60	2.46
Number System	15.38	6.51	6.15
Mathematical Operations	9.23	4.09	2.71
Geometry	18.46	8.53	8.60
Measurement	4.62	3.28	2.49
Mensuration	4.62	1.10	0.65
Ratio	7.69	1.76	1.12
Algebra	7.69	1.87	1.51
Total scores	100	44.71	39.49

Table 3.9 provides decomposition of scores by competency categories in math, which includes basic competencies as understanding numbers or number sense, ability to do basic mathematical operations to advanced math skills as solving algebra problems. One would assume proficiency in basic mathematics is essential in order to perform higher order mathematical operations. There is no competency category in which sampled children seem to have done particularly well. That said, children seem

to have scored slightly better in understanding numbers/ number sense, basic mathematical operations, number patter recognition, number system and measurement than ratio, mensuration or algebra. Furthermore, either the competency wise scores for Nalanda and Satara are at par with each other or Nalanda is slightly ahead than Satara.

Overall children seem to have performed the best in language (both in Hindi/ Marathi and English), followed by science and have scored somewhat similar in math and English. Scores improve with enrolled class, though they remain low and children are far behind grade competency.

A general point needs to be made here about assessment tests administered to children. In the floor tests that were given to children, in both the districts more children qualified *only* the math test vis-à-vis *only* language test. This suggests that the math screener test, which was placed at subtraction without carry overs, was probably at a relatively low level. Had we put the screener at higher level, for instance, at division with remainders, there is a possibility that we may have had higher math scores in grade level assessment tests. Second, language test in Hindi/Marathi and English incorporates mostly comprehension questions and a few questions that tested comprehension, grammar and their writing. We already noted a high correlation between reading ability and comprehension. Perhaps more useful would be to disaggregate the scores in terms of scores in *only* comprehension questions versus scores questions that tested comprehension, grammar and writing.

Gender gap in mean scores in grade levels assessments

In Nalada, sampled girls are consistently performing poorly as compared to boys for all subjects and across all classes and in most instances, this difference is statistically significant- the differences appear largest with respect to math scores (Table 3.10). In Satara, on the other hand, girls outperform boys or their performance is at par with boys.

Table 3.10: Mean scores in grade level assessments by district, enrolled class and gender

	Class 6		Class 7		Class 8	
	Boys	Girls	Boys	Girls	Boys	Girls
Language						
Nalanda	40.59	37.28**	45.66	44.25	51.49	45.45***
Satara	42.96	45.60	47.15	53.18	50.54	56.35
English						
Nalanda	38.97	34.14***	42.81	39.10***	46.86	40.91***
Satara	36.66	37.15	42.06	45.02	43.02	48.47
Science						
Nalanda	39.55	35.32***	43.74	40.36***	47.34	42.50***
Satara	44.69	42.95*	49.08	49.00	53.21	53.34
Math						
Nalanda	43.57	33.04***	47.55	40.96***	54.41	43.27***
Satara	35.41	36.00	39.73	41.13	42.56	41.87

**** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; one- tailed test, mean score (Male) > mean score (Female)

Difference in mean scores in grade levels assessments by school management type

Children in private schools do better as compared to those in government schools in Nalanda (Table 3.11). The differences in mean scores are statistically significant too for all classes and across all subjects. Table 3.11 also indicates that there is no particular narrowing down of the difference in mean scores by management type with increases in enrolled class. Of all the subjects, the difference appears largest for math scores.

There is comparatively little difference between mean scores by management type in Satara and this difference is not statistically significant. However, since management type is self- reported by parents, and in Satara private schools includes both aided and unaided schools, it is not clear to what extent the difference in mean

scores by school management type would have widened, if government schools *also* included private aided schools and private schools included *only* private unaided schools.

Table 3.11: Mean scores in grade level assessments by district, enrolled class and school management type

	Class 6		Class 7		Class 8	
	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.
Language						
Nalanda	36.83 (513)	54.73*** (69)	43.64 (670)	60.47*** (57)	47.57 (674)	64.44*** (36)
Satara	44.48 (254)	44.05 (444)	53.65 (231)	48.46 (462)	52.66 (45)	53.41 (673)
English						
Nalanda	33.82 (499)	56.87*** (69)	39.40 (661)	58.85*** (57)	43.06 (668)	58.54*** (37)
Satara	35.79 (260)	37.62 (416)	44.76 (227)	42.99 (457)	42.91 (47)	45.89 (655)
Science						
Nalanda	35.95 (498)	48.59*** (70)	41.22 (659)	51.63*** (56)	44.25 (666)	56.52*** (37)
Satara	43.04 (270)	44.34 (434)	50.87 (236)	48.1 (471)	51.97 (47)	53.35 (674)
Math						
Nalanda	36.4869 (649)	54.72*** (74)	42.86 (773)	62.76*** (59)	47.98 (768)	64.79*** (40)
Satara	37.23 (270)	34.76 (457)	44.24 (255)	38.33 (488)	41.47 (46)	42.28 (704)

**** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; one- tailed test, mean score (Government) < mean score (Private)

Difference in mean scores in grade levels assessments by economic affluence

Differences in scores by economic affluence exist in both the districts (Table 3.12). Though difference in scores are generally higher in Nalanda than Satara across each of the economic class and for all the subjects (barring math), we find that for some subjects (English and math) the distance in mean scores between top 25 and bottom 25 percent is greater for Satara than Nalanda.

Table 3.12: Mean scores in grade level assessments by district and economic affluence\

	Bottom 25 percent	Middle 50 percent	Top 25 percent
Language			
Nalanda	39.79	41.12	50.75***
Satara	44.54	47.9	54.71***
English			
Nalanda	34.99	37.93	46.54***
Satara	34.67	40.7	49.45***
Science			
Nalanda	38.24	39.8294	45.57***
Satara	44.64	48.1069	52.53***
Math			
Nalanda	38.39	42.48	48.52***
Satara	33.6	38.4	45.09***

**** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; one- tailed test, mean score (Bottom 25 percent) < mean score (Top 25 percent)

Difference in mean scores in grade levels assessments by caste

We know that barring math, Satara performs better than Nalanda in grade level assessments. It is, therefore, particularly striking to see similar mean scores of general caste population in both the districts, particularly in math. Nalanda also stands out in terms of little difference in mean scores across caste groups for math and science- indeed, in these cases; sampled children from OBC households outshine children from all other caste groups. Overall, uncontrolled mean differences indicate sampled children from SC households have the lowest mean scores and the difference in mean scores between general and SC children is statistically significant, except for math in Nalanda. It remains to be seen to what extent these differences go away in a regression framework, wherein we control for other household and school factors.

Table 3.13: Mean scores in grade level assessments by district and caste

	General Caste	Scheduled Caste	Scheduled Tribe	OBC[1]	EBC[2]	Others
Language						
Nalanda	47	42.04**	38.89	47.92	42.69**	43.24**
Satara	51.16	43.87***	46.74	50.89	-NA-	45.17***
English						
Nalanda	43.4	38.55***	39.13	43.77	38.81***	39.62*
Satara	45.02	36.27***	40.51	41.94***	-NA-	35.96***
Science						
Nalanda	42.4	40.03*	44.88	45.16***	40.74	39.88**
Satara	50.03	44.9***	48.07	49.9	-NA-	45.33***
Math						
Nalanda	41.98	40.27	42.76	49.39***	42.56	42.75
Satara	41.82	33.72***	34.98**	40.62	-NA-	34.41***

**** p < 0.01, ** p < 0.05, * p < 0.10; one- tailed test, mean score (General) > mean score (SC)

Conclusion

Chapter 3 presented a preliminary overview of our main variable of interest- viz., sampled children's scores in various assessments that were administered to them. Even though both the districts are different in terms of profile of socio- economic development (Chapter 1) as well as background characteristics of sampled children

(Chapter 2), the districts do not diverge substantially as far as learning outcomes are concerned.

While we have presented the overall distribution of scores, we have also unpacked the mean scores in terms of competency categories. The latter decomposition of scores is potentially useful to policy makers as it allows clear identification of areas of intervention That said, further in-depth analysis is now in progress such as how do scores by competency categories vary with enrolled class, school management type and quartiles (the latter will allow us to identify what exactly sampled children in first quartile are able to do). Another analysis that is yet to be done is breakdown of scores by difficulty level of questions and grade level with which the questions corresponded.

Chapter 3 also correlated learning outcomes with several individual and household SES characteristics of sampled child as gender, caste and class and school management type. While in Nalanda gender differences are in the expected direction, this does not seem to be the case for Satara. Learning outcomes by school management type are as per expected direction. Uncontrolled differences in learning outcomes by class (as proxied by ownership of assets) seem to be greater than by caste background. The latter need to be explored further as it has potential implications in terms of role of caste vis-à-vis class.

In Chapter 4, we continue with the exercise and see how mother's education, availability of reading materials, paid private tuition and supplemental help received by the sampled child at home is associated with learning outcomes. Future analysis entails placing individual, household and school characteristics in a regression framework to as to be able to assess the comparative role of each of the factors with sampled child's observed scores.

Chapter 4: Other Correlates of Learning Outcomes

In this chapter, we look at other possible household correlates of learning outcomes- particularly, mother's education and availability of reading materials. We expect a positive relationship between learning outcomes and mother's education and availability of reading materials.

Additionally, we take a look at paid private tutoring and its correlation with learning outcomes. The rationale stems from ASER reports, which indicate private tuitions have over the years emerged as an important source of supplementary support for students. Trends between 2009 and 2013 indicate that the all India percentage for children in grades 6 to 8 taking tuition has been stable at around 20 percent for government school children and about 6 percent for private school children. The corresponding percentages for Bihar is a whopping 57 percentage or so for children in government school and around 2.5 percent for private schools. In Maharashtra, around 6.3 percent of children studying in government schools in standard 6 to 8 were taking private tuition, which is 2 percentage points lower than the corresponding percent for 2010. Likewise for private schools too, there is a 1 percentage point decline in students taking private tuition from 14 to 13 percent.

Questionnaires for the currently enrolled sampled children, therefore, include detailed information about the sampled child's tuition experience including the subjects for which they get supplemental help; and how many tuition classes they attend (the two may *not* necessarily the same). For each of the private tuition class that a child attends, questions were asked pertaining to its quality- viz., how many students attend the sampled child's tuition class, where does she go to attend it (inside or outside the village), how many days in a week and details about the tuition teacher (whether she is a school teacher of the sampled child or any other teacher or any other person from the village). Our hypothesis is that supplemental help in the form of private tuition improves learning outcomes- but it may not necessarily be the case that average scores for children with supplemental help score better than children without supplemental help. The reason is the children may choose to take private tuition because they are "weak" in a particular subject or subjects and private tuition may

only be helping them to bridge the difference with students who are doing well in the concerned subject(s) and are *not* currently taking private tuitions.

Out-of-school support *also* includes household support. This could be in the form of household members (not confined to parents alone) enquiring about learning activity in the sampled child's school and second, helping children directly when faced with difficulties in studies. Sampled children were, therefore, asked if household members *ever ask* them about "what they learnt in school" and if they ask any one in their household for support when faced with difficulty in their studies. We expect sampled children who do not receive any kind of supplemental help are hypothesized to be the worst off in terms their scores in assessed subjects, followed by children who receive help from the household. Children receiving supplemental help in the form of private tuitions are expected to have the highest average scores in assessed subjects.

Mother's education

Mother's education is an important predictor of a number of child related outcomes, but most importantly for us, it is positively correlated with learning outcomes.

In the study districts, the relationship between mother's education and mean assessment scores is as hypothesized; children's assessment scores are on average higher for educated mother's vis-à-vis mothers who are less educated and this difference is statistically significant.

Table 4.1: Mean scores in assessed subjects, by mother's education

	Illiterate	Some primary education	Some upper primary education	More than upper primary education
Language				
Nalanda	40.80	45.26	48.92	53.51***
Satara	40.00	45.28	45.06	54.67***
English				
Nalanda	37.55	41.60	43.24	49.99***
Satara	31.84	36.38	39.30	47.65***
Science				
Nalanda	40.07	42.11	42.83	46.911***
Satara	43.26	45.38	47.12	51.90***
Math				
Nalanda	41.13	44.54	46.96	53.75***
Satara	30.21	35.09	36.33	44.67***

**** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; one- tailed test, mean score (more than upper primary) > mean score (illiterate)

While this needs to be probed further; one would have expected that overall better socio-economic profile of households in Satara would have muted the impact of mother's education on a child's learning level. At the same time, the overall better profile of mother's education in Satara may account for its critical role in a child's learning level. Either ways, the above table indicates that mother's education is an important variable in a child's learning level in both the districts.

Availability of reading materials

Availability of reading materials in the household proxies for home learning environment and is hypothesized to have a positive association with learning outcomes. Table 4.2 provides support to the hypothesis. Even though availability of reading materials is a fairly crude indicator of the home learning environment, it is clearly capturing something that is positively correlated with learning outcomes.

With the exception of math, in Satara, the differences in average scores between household with and without reading materials are higher than in Nalanda, where comparatively fewer households have reading materials in the first place. It is possible that this variable in Satara is *also* picking up the effect of other household characteristics such as economic class, since it is the richer households that can afford such materials in the first place.

Table 4.2: Mean scores in assessed subjects, by availability of reading materials

	No reading materials	Some reading materials
Language		
Nalanda	42.86	47.77***
Satara	45.38	52.18***
English		
Nalanda	38.81	44.59***
Satara	37.90	45.21***
Science		
Nalanda	40.61	44.06***
Satara	46.22	50.59***
Math		
Nalanda	42.56	47.28***
Satara	35.71	42.3***

**** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; one- tailed test, mean score (some reading materials) > mean score (no reading materials)

Paid private tuition

In conformity with ASER trends, we find that 64 percent of sampled children reported taking private tuition in Nalanda while the corresponding percent is 14 in Satara. In addition, around 16 percent of sampled children not currently taking private tuition reported that they will do so before their exams. Private tuition is a major portion of household expenditure on education in Nalanda but not in Satara (see Chapter 6). In other words, another point of distinction between the two districts is

that while the household provides much of the supplemental help outside of school in Satara (see the section below), it is private tuition that performs this role in Nalanda. One could hypothesize that the latter is on account of lower educational levels of parents in Nalanda- since Satara households are on average wealthier than Nalanda, this cannot be explained in terms of a budget constraint.

Given the small percentage of children taking private tuition in Satara, the subsequent discussion is restricted to Nalanda.

Grade wise, the percentage of children taking private tuition is around 61- 65 percent between standards 6 to 8. Most sampled children (62 percent) go for a single private tuition *only*; about 1 percent attend multiple private tuitions. Children even when they attend a single private tuition usually attend it for more than one subject and *not* for a single subject alone[27]. In terms of distribution of tuitions by number of subjects, we find that 12 percent of sampled children took tuition in one subject only, another 24 percent in 2 subjects, 29 percent in 3 subjects, 15 percent and 20 percent in 4 and 5 subjects respectively. Combination of subject wise, about 20 percent took tuitions in all subjects while about 11 percent took tuition in all subjects barring social science. The other popular combinations of subjects are English and Math (16 percent), English, Hindi and Math (14 percent) and English, Math and Science (12 percent).

Around 74 percent children reported attending tuition 6 days a week and close to a quarter all 7 days a week. The average number of children in a tuition class is about 27 children, though around 2 percent of children taking tuitions did mention numbers exceeding 100. About 66 percent of sampled children attend private tuition inside the village, rest outside the village.

The tutor is usually a person from the village (59 percent), while about a fifth are school teachers other than the sampled child's own teacher, 15 percent are in the miscellaneous "other" category, usually a person from another village and about 4 percent are the sampled child's own teacher. Table 4.3 below compares mean scores by whether the sampled child took private tutoring or not.

[27] Of all sampled children taking private tuitions in Nalanda, only 11 percent took private tuitions in Math only and less than 1 percent each in English, Hindi and Science.

Table 4.3: Mean scores in assessed subjects, by district and paid private tutoring

	N	No paid private tutoring in the relevant subject	Paid private tutoring in the relevant subject
Language			
Nalanda	2026	44.28	44.77***
Satara	Not enough cell size		
English			
Nalanda	1998	38.12	42.82***
Satara	2069	41.27	49.95***
Science			
Nalanda	1993	40.10	44.37***
Satara	2139	48.32	54.52***
Math			
Nalanda	2371	38.53	46.93***
Satara	2227	38.70	44.73***

**** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; one- tailed test, mean score (paid private tutoring) > mean score (no paid private tutoring)

Other than language, private tutoring makes a difference in terms of mean scores in all other subjects in both the districts. In case English in Satara, the difference in mean scores between children with and without private tuition is as much as 10 percentage points. It is instructive to note that even with the additional help of private tutoring there remains a difference in average scores in Nalanda and Satara (highest in case of science and with the exception of math).

Table 4.4: Mean scores in assessed subjects, by grade and paid private tutoring

	N	No paid private tutoring in the relevant subject	Paid private tutoring in the relevant subject
Language			
Class 6	1283	42.48	38.77
Class 7	1424	48.14	44.77
Class 8	1432	50.94	50.70
English			
Class 6	1247	35.84	38.95***
Class 7	1407	41.16	44.34***
Class 8	1412	43.41	47.54***
Science			
Class 6	1275	40.60	42.84***
Class 7	1427	45.47	45.68
Class 8	1429	49.32	48.50
Math			
Class 6	1454	35.28	39.94***
Class 7	1580	39.41	46.76***
Class 8	1563	41.17	52.15***

**** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; one- tailed test, mean score (paid private tutoring) > mean score (no paid private tutoring)

Table 4.4 presents grade wise mean scores in each of the assessed subjects by whether the child takes paid tutoring or not. With the exception of language and science (Class 7 and Class 8), break down of scores by grades (Table 4.4) indicates that private tutoring gives an edge to the sampled child in terms of mean scores.

Other forms of home support

In addition to paid private tutoring, additional out- of- school support for sampled children could be from other members of the household. Sampled children were, therefore, asked if anyone in the household asks them what they are learning in

school and which member does so. Second, they were asked from whom within the household they seek help when faced with difficulties in their studies.

Ever asked about learning environment in school

As per Table 4.5, parental involvement in terms of asking the sampled household what she is learning in school varies by districts, management type of current school, caste and class. Parents of sampled children in Satara (81 percent) or currently studying in a private school (80 percent) or belonging to "general" castes (82 percent) or top 25 percent of the economic group (75 percent) were more likely to enquire about his or her learning activities. The corresponding percentages are 54 for Nalanda, 59 for government school children, about 66 percent for other non- general castes and 63 percent for other economic classes. One reason for the lower portion in Nalanda is that a higher proportion of children in Nalanda than Satara are taking private tuition, so in a sense parents have already made the decision that their children need help. On the other hand, children who go to private school or belong to "higher" castes or relatively more affluent families have more educated parents who value education more and it is not surprising to find parental involvement higher for these children. Parents were more likely to ask girls about their learning activities than boys, though the difference is not large.

Table 4.5: Percentage of sampled children reporting being asked "what they learnt in school" by family members, by various characteristics

District: Nalanda	
Overall	53.68
Boys	51.28
Girls	55.94
District: Satara	
Overall	80.96
Boys	79.96
Girls	82.02
Management type	
Government	58.58
Private	79.79
Caste	
General	82.00
Scheduled Caste	66.18
OBC	66.49
Extremely Backward Caste	53.98
Class	
Bottom 25 percent	63.35
Middle 50 percent	63.62
Top 25 percent	74.55

Table 4.5 further disaggregates help at home at home in terms of who provides it- whether it is the father or mother or brother/ sister or grandparents or uncle/ aunt or cousin brother/ sister or any other relative. In accordance with the overall profile of

the two districts in terms of mother's literacy, i.e. higher literacy levels in Satara, we find a distinct pattern in terms of home support. In Nalanda, father and siblings of the sampled child are most likely to enquire about learning in school. Only about 37 percent of the sampled children reported their mother asking them about learning in school. In Satara, in contrast, mothers were most likely to ask about sampled child's learning in school, followed by father and siblings.

Table 4.6: Percentage distribution of who asks in the household about learning in the sampled child's school, by district

	Nalanda	Satara
Father	56.68	49.53
Mother	36.28	64.38
Brother/ Sister	40.91	13.35
Grandparents	8.43	4.13
Uncle/ Aunt	9.72	6.63
Cousin brother/ sister	3.11	1.39
Other relatives	1.79	0.81

Home support when faced with difficulty in studies

More children in Satara (74 percent) than Nalanda (51 percent) reported seeking home support because of problems faced in their studies. Just as we observed in Table 4.1, mothers were more likely to provide support in Satara than in Nalanda. Instead, siblings are a major source of support for sampled children in Nalanda. In addition, about 2 and 3 percent of sampled children in Nalanda and Satara respectively reported receiving help from neighbors.

Table 4.7 below presents mean scores by four broad categories- the child receives supplemental help in the form of private tuition, the child does not receive

private tuition but parents or other members of the household ask about learning activities in school, third; child does not have any one in the household to ask for help when faced with difficulties in studies but household members do enquire about learning activities in school and finally, the child does not receive supplemental help in any form.

Table 4.7: Mean scores in assessed subjects, by kind of supplemental help received by the sampled child

	No home support of any kind	Household members enquire about learning activities in school, but no supplemental help	No private tutoring, but household members provide help when needed	Paid private tutoring in the relevant subject
Language				
Nalanda	42.12 (397)	43.66 (212)	45.98 (701)	44.77 (688)
Satara	47.21 (164)	48.91 (328)	49.80 (1544)	Not enough cell size
English				
Nalanda	36 (288)	39.99 (137)	39.23 (448)	42.82 (1103)
Satara	37.58 (143)	41.78 (304)	41.63 (1377)	49.95 (202)
Science				
Nalanda	39.01 (376)	40.09 (196)	40.78 (627)	44.37 (768)
Satara	46.01 (158)	47.56 (322)	48.78 (1462)	54.52 (154)
Math				
Nalanda	36.55 (259)	40.33 (117)	39.18 (426)	46.93 (1545)
Satara	35.05 (154)	38.66 (317)	39 (1422)	44.73 (289)

Further disaggregation of average scores by supplemental help indicates that *overall* scores do increase even if it is marginal when children receive some form of home support. It is rather instructive to note that in case of math the disaggregation presented above indicates similar average scores in both districts. There are *modest* gains with home support in language and science scores. In case of language, this may be explained by the fact that since the subject tested here is usually the home language and parents are quite capable of providing support to children. In contrast, private tutoring seem to make the most difference with respect to English and science scores. This isn't surprising because household members may not have the expertise to provide the support they need in these subjects.

Conclusion

First and foremost, the "true" effect of each of the variables discussed here- mother's education, availability of reading materials, private tutoring and home support- on assessment scores can *only* be examined in a regression framework which also includes other background characteristics discussed in Chapter 3 as gender, caste and class, current grade of the student as well as school management type. This will explain, for instance, to what extent mother's education has an independent effect on the child's learning level. Similarly, it will help understand why do the observed district difference between children who take and do not take private tutoring disappears when the disaggregation is instead in terms of grades.

Since village characteristics too play an important role in learning outcomes (Wadhwa 2008), they too need to be taken into account in the modelling exercise. Furthermore, the regression exercise will examine whether there are differences by subjects in terms of the effect each of the variable discussed here as in terms of scores. For instance, we have already noted that household support at upper primary grades for science and English may be limited because parents and other household members lack the requisite qualifications.

We have presented here total scores in each of the assessed subjects, it remains to be seen how the results vary when they are further disaggregated in terms of competency categories as we have done in Chapter 3. For example, we have noted that private tutoring makes a difference in average scores at the district level, but we do not yet know if private tutoring increases uniformly scores in all competency

categories or if there are some competency categories which are most benefitted from private tutoring.

The data presented here indicates that different household members provide support to the child. What are its implications? Does seeking help from a sibling rather than an adult disadvantages the child in anyway?

With the above caveats, the chapter highlights the role of household factors and home environment in shaping a child's learning environment. Furthermore, it highlights that the impact of these factors are not uniform across different subjects or even across different grades. From the perspective of policy makers, while mother's education and reading materials may not directly be policy amenable, parents and other household members can be encouraged to take an active interest in their child's education as a way to improve their learning levels.

Chapter 5: Schooling Experiences of the Sampled Child

In addition to correlates of learning outcomes, the survey also sought to capture the sampled child's schooling experiences. Towards this end, sampled children were asked a series of questions related to their last day of school preceding the survey, including their commute to school, experiences in school and perceived difficulty with different subjects taught at the upper primary level. The chapter is structured as follows: we start with a brief description of everyday commute to school, and we then focus on experiences on last day of school in which ask whether the child was absent from school and the reasons for absenteeism and finally, the child's learning experiences from his or her perspective in terms of teaching activity in the school and perceived difficulty in understanding the content of the various subjects.

Commute to school

As indicated in the section on school choice, distance to school is an important factor in the choice of current school of the sampled child from parental perspective, especially for adolescent girls. It, therefore, comes as no surprise that for about 51 percent of the children the commute time to school is within 10 minutes while another 41 percent reach school between 11 and 30 minutes. Only about 1 percent of sampled children take more than 60 minutes to reach school.

However, commuting to school is not always easy- about 20 percent of sampled children in Nalanda and another 6 percent in Satara reported facing problems in reaching schools on account of irregular transportation, flooded roads or lack of roads. Another 10 percent of sampled children in Nalanda and 8 percent in Satara reported roads to school as desolate (there is no striking gender difference). While rare, a few children (about 1 percent) also reported being bullied, teased or harassed on their way to school.

Experiences on last day of school

Absenteeism on the last day of school preceding the survey

While enrolment is near universal in the studied districts, absenteeism is high. Children were asked if they went to school on the last day preceding the survey. In Nalanda, about 17 percent of children self- reported as not going to school on the previous day; the percentage is much smaller for Satara at 5 percent. Simple tabulations also indicate that in both the districts, girls and boys have similar absenteeism rate (see Table 5.1).

Since Satara did not have enough observations for a detailed analysis of the reasons behind absenteeism, we restrict the analysis below to Nalanda.

Table 5.1: Reasons for absenteeism among sampled children in Nalanda, by gender

	Boys	**Girls**	**Total**
Illness in the family	6.57	5.58	6.07
Engaged in some income generating activity (including own agriculture)	5.16	2.33	3.74
Household work	48.36	52.09	50.23
Because was with friends, was watching TV, etc.	9.86	2.33	6.07
Incompletion of school work	2.35	1.86	2.10
Because had to study/ go for tuitions.	0.94	1.86	1.40
Because of festival/fair, fasting/religious rituals, etc.	12.21	13.95	13.08
Inclement weather	3.76	6.51	5.14
Had not studied for school/test/exam	0.47	0.00	0.23
Own illness	10.33	13.49	11.92
Percent of children who were absent on the day preceding the survey	17.67	17.47	

Children could report multiple reasons for not going to school on the day preceding the survey. Most reported a single reason (76 percent), a few reported two

reasons (11 percent) and less than 1 percent report three or more reasons. Table 5.1 presents gender disaggregated reasons for being absent from school.

Rather curiously, majority of boys and girls reported household work as the reason for not going to school. But "household work" refers to a different set of activities for boys than girls. A simple cross tabulation with the subsequent section on time use indicates girls were more likely than boys to be engaged in indoor household activities as cleaning the house, helping in the kitchen, laundry, etc. while boys were more likely to be involved with outdoor activities as taking food to the fields, animal care and going to the market. In addition, around 5 percent of boys reported not going to school because they were engaged in an income generating activity of some form, including working on the family farm while around 6 percent of girls were likely to be absent on account illness in the family. Girls were more likely to self- report as being absent because of own illness (13 percent), among boys this proportion is only about 10 percent. Festival, fairs and other religious rituals are also an important reason for absence with about 12- 14 percent of sampled children reporting it.

Among those who reported a second reason for absence, the most common among boys (N= 28) is household work and about same percentage reported religious festivals and own illness. Likewise, for girls the second most common reason (N= 30) is household work followed by religions festivals and own illness.

Truancy from school

While the rate of absenteeism among sampled children is high, if children go to school, they are likely to be in school for the entire day. Around 97 percent of sampled children were present in school for the entire day, about 3 percent who did not- 1 percent reached late and another 2 percent left school earlier than their scheduled closure.

Experience of physical and/ or verbal abuse on last day of school

RTE provisions prohibit physical punishment in schools. About 4 percent of sampled children reported being physically punished while at school; still fewer reported verbally abused at school.

Learning experience from the point of view of children in terms of teaching activity

For each of the subjects taught at the upper primary level, children were asked if they have a teacher for that subject and if yes, whether they were present on the last day of school. They were also asked whether the teacher taught any other subject in addition to the designated subject.

Learning experience in terms of availability of teachers

In terms of sheer availability of teachers to teach a particular subject, the contrast between Nalanda and Satara could not be more striking (Table 5.2). In Satara, sampled children reported teachers as available for all subjects. In Nalanda, on the other hand, barring Hindi and Math, a large proportion of sampled children reported being without teachers for the other remaining subjects. The proportion is particularly high for social science subjects of history, geography and civics, followed by English and science. Table 5.2 also indicates that government schools are particularly understaffed.

Table 5.2: Percent reporting without teachers, by subject, management type and district

	Nalanda			**Satara**		
	Government	Private	Total	Government	Private	Total
English	11.81	2.87	11.11	Data not presented because there are few observations		0.04
Hindi	3.78	1.44	3.60			NA
Marathi	NA	NA	NA			0.00
Mathematics	4.65	0.96	4.36			0.04
Science	7.16	3.83	6.89			0.04
History	29.56	18.18	28.70			0.04
Geography	34.56	18.75	33.34			0.14
Civics	44.92	27.40	43.62			0.04

Teaching of multiple subjects by a single teacher

Shortage of teachers also manifests itself in teachers teaching more than one subject. Sampled children were, therefore, asked for each of their subjects, conditional on having a teacher teach a subject, if the teacher teaches any other subject as well. As Table 5.3 illustrates this seems to be the case for both the districts. For each of the subjects taught at the upper primary level, nearly half the sampled children reported teachers teaching more than one subject. Nearly a quarter of the sampled children in Satara reported that their English teacher taught another subject. In Nalanda, this percentage is 43. On the other hand, in Satara more than in Nalanda, teachers were likely to teach multiple social science subjects. However, the latter may not be a matter of huge concern to educators/ teachers, since a commonly (though probably mistaken believe) is that specialized training in each of the different streams of social sciences viz., history, geography and civics at the upper primary level may not be needed to teach them.

A further breakdown of the district level data by the management type of school indicates that teachers in government schools in Satara are most likely to engage in teaching more than one subject, followed by teachers in government schools in Nalanda. Sampled children in private schools (which also includes private aided schools) in Satara were least likely to report that their teachers taught more than one subject (barring social science subjects).

Table 5.3: Percent reporting teachers teaching more than one subject, by district, subject and management type

	Nalanda			**Satara**		
	All	Government	Private	All	Government	Private
English	43.38	43.31	44.06	26.49	68.68	11.72
Hindi	44.97	45.67	36.27	NA	NA	NA
Marathi	NA	NA	NA	34.25	69.94	21.78
Mathematics	47.05	47.23	44.88	30.22	68.68	16.81
Science	45.41	45.82	40.40	30.10	68.12	16.85
History	46.31	47.32	35.93	85.52	90.72	83.70
Geography	43.63	44.39	36.53	78.69	90.14	74.67
Civics	40.67	41.64	32.43	85.39	90.03	83.77

Teachers' attendance on the day preceding the survey

Keeping in view previous research on low levels of teachers' attendance in India (Kremer et al 2005), sampled children were asked conditional on having a teacher teach a particular subject if the concerned teacher was "present and taught", or "present and had not taught", or "not present" on last day of school prior to the survey.

As reported by sampled children in the study districts, teacher absence rates seem to be higher in government schools, notably for English and social science in Nalanda, where about 10 percent of teachers were reportedly absent on the last school day preceding the day of survey. Private schools have far lower absence rates, which are in single digits for all subjects. It is striking that while teacher absence seem to be the highest among government schools in Nalanda, sampled children in private schools in Nalanda reported similar levels of teacher absence as private school children in Satara (Table 5.4).

While the teacher absenteeism rate at less than 10 percent or so is less than that of children, the far more important matter of concern is that one-third of teachers in Nalanda and one-fifth in Satara were present but did not teach the sampled child. It is, however, not clear if this was on account of the fact that there were no classes of the particular subject in the sampled child's time table on that day.

Learning experience from the point of view of children in terms of ease of understanding material taught in class

Sampled children were asked to recall the last class or period for each of the subjects taught at upper primary level and rank the material taught in class as either "easy" or "difficult" or "neither easy nor difficult" or "some parts were difficult". The trends vary by subjects, district and management type of school.

As Table 5.5 indicates, in Math slightly more children in Satara said it was difficult to comprehend as compared to Nalanda. We have already seen earlier that average score of children in math in Satara is less than in Nalanda. Likewise, children in both the districts reportedly find Hindi/ Marathi easy. We already know from Chapter 3 that in comparative terms sampled children have done well in their own language vis-à-vis other subjects. So, there does seem to be some accuracy in

children's self- perception about the difficulty level of a subject and their learning levels.

The comparative difference by management type is not striking in Satara, but then again this might be a problem of miscategorization of private aided schools as private schools. Except for English, sampled children in private schools in Nalanda fall somewhere between government school children in Nalanda and children in Satara in terms of ease of understanding material taught in class. The percentage who said that they find it difficult to understand English is lowest for private school children in Nalanda.

Repeating a class

Children were asked if they ever repeated a class. Under the RTE Act, children cannot be held back in a class, till grade 8. Perhaps, as a result, only 6 percent of the sampled children reported repeating a class.

Table 5.4: Teachers' attendance on the day preceding the survey, by subjects and management type

	Nalanda		**Satara**	
	Government	Private	Government	Private
English				
Present and not taught	25.13	7.07	18.85	13.74
Not present	11.31	6.57	6.75	4.35
	Hindi			
Present and not taught	21.12	5.47	NA	
Not present	5.73	0.5		
Marathi				
Present and not taught	NA		18.42	12.36
Not present			3.52	2.69
Mathematics				
Present and not taught	19.46	2.48	18.42	12.76
Not present	5.64	0.99	4.08	2.98
Science				
Present and not taught	24.53	7.14	19.66	13.49
Not present	7.22	1.53	4.63	2.83
History				
Present and not taught	34.67	15.57	20.25	13.81
Not present	10.82	4.19	3.52	3.09
Geography				
Present and not taught	36.4	16.97	20.53	14.99
Not present	10.02	3.64	3.09	3.23
Civics				
Present and not taught	37.72	16.89	21.83	15.03
Not present	12.04	2.03	4.51	3.62

Table 5.5: Difficulty in understanding material taught on last day of school preceding the survey

	Nalanda		**Satara**	
	Government	Private	Government	Private
English				
Easy	24.57	55.0	52.73	55.4
Difficult	51.12	15.0	32.12	28.8
Neither easy nor difficult	13.3	17.5	9.12	9.63
Some parts were difficult	11.01	12.5	6.03	6.16
Hindi				
Easy	80.13	77.11	NA	
Difficult	5.55	3.98		
Neither easy nor difficult	12.51	17.91		
Some parts were difficult	1.81	1.0		
Marathi				
Easy	NA		96.34	96.48
Difficult			2.25	2.2
Neither easy nor difficult			0.98	1.03
Some parts were difficult			0.42	0.29
Mathematics				
Easy	38.64	50.73	61.8	57.75
Difficult	22.25	12.68	26.12	25.18
Neither easy nor difficult	28.03	23.41	7.58	9.0
Some parts were difficult	11.08	13.17	4.49	8.07
Science				
Easy	44.19	57.29	86.1	77.85
Difficult	16.67	7.54	9.55	13.74
Neither easy nor difficult	27.85	27.14	1.97	4.99
Some parts were difficult	11.3	8.04	2.39	3.42
History				
Easy	43.78	62.21	91.42	88.47
Difficult	22.12	8.72	6.33	7.67
Neither easy nor difficult	23.8	20.35	1.41	2.59
Some parts were difficult	10.3	8.72	0.84	1.27
Geography				
Easy	45.98	55.17	93.54	90.9
Difficult	21.05	12.64	5.06	6.07
Neither easy nor difficult	23.1	25.86	0.84	1.91
Some parts were difficult	9.88	6.32	0.56	1.13
Civics				
Easy	46.61	63.69	94.51	92.81
Difficult	21.96	8.92	3.66	5.23
Neither easy nor difficult	20.32	20.38	0.7	1.32
Some parts were difficult	11.1	7.01	1.13	0.64

Conclusion

Chapter 5 presented a glimpse of schooling experiences of children in our sample. On a few parameters- viz., availability of teachers and absenteeism rate of children on the day preceding the survey, the preliminary descriptive reinforce that the two districts are different from each other. But there are other parameters on which children in these two districts share similar experiences- for example, as they pertain to commute to school, being taught multiple subjects by a single teacher and gendered differences in reasons for being absent from school.

Furthermore, though a detailed analysis remains to be done, it is rather instructive that broad trends in scores in language and math assessments which were administered to children conform to their perception of levels of difficulty in these two subjects. We highlight this as it too lends validity to the assessments that were administered to the children.

For the upcoming round of school visits as part of the study and as a counterpart of the information we have from children; we propose to capture a snap shot of the teaching experiences of teachers in upper primary grades. One of the key dimensions that we propose to include in the latter is the teacher's perception of the learning experiences of students in upper primary grades. Along with the information that we have from visit 1 from children, we think this will allow us to construct a holistic picture of functioning of upper primary schools in the study districts. For instance, we intend to capture teachers' perceptions of subjects children find easy and difficult to understand in a class. Along with children's perception on the same (which we have presented here), and their scores in learning assessment tests, we think this will give us a sense of the learning environment in upper primary schools as it relates to understanding of subject materials taught in the class.

Chapter 6: Household Expenditure on Education of the Sampled Child

Average Expenditure on Education Disaggregated by District, Gender, Management and Other Household Characteristics

Parents of sampled children were asked detailed information[28] about expenditure on education of the sampled child for the academic year 2012- 13. While overall annual expenditure levels *per se* are interesting enough, we would also like to see if they vary and to what extent by gender of the child and school management type.

Table 6.1: Average annual expenditure on education disaggregated, by various characteristics

	N	Mean	Median
District: Nalanda			
Overall	2756	2480.43	1670
Boys	1344	2910.96	1845
Girls	1412	2070.62	1542.50
District: Satara			
Overall	2610	2620.10	1575
Boys	1378	2945.91	1685
Girls	1232	2255.69	1450
District: Nalanda			
Government	2521	1805.28	1590
Private	206	10798.92	8142.50
District: Satara			
Government	664	1592.46	1100
Private	1934	2980.56[29]	1740

[28] Parents were asked details of expenditure on the following components of household expenditure on the sampled child's schooling/ education- school tuition fee, registration or enrollment fee, miscellaneous expenditure comprising of Lab fee, maintenance fee, library fee, examination fee, computer fee, etc., school uniform, curriculum books, "guide" books, school bag, water bottle and tiffin box, pencil/ compass box, notebooks & copies, transportation to school expenses and finally, expenditure on private tuitions.

[29] Please note that mean total expenditure is Rs. 2980 while mean school tuition fee is Rs. 3779. The discrepancy arises because of differences in denominator. The former is reported for all sampled

While the overall expenditure in Nalanda and Satara do not vary by much (a difference of only Rs. 141/-), expenditure levels *do not* tell a surprising story with respect to differentials by gender and management type. As expected parents spend more on the education of their sons as compared to their daughters. The gender difference in mean expenditure is around 800 rupees in Nalanda and it is around 700 rupees in Satara (differences are statistically significant at 0.01 level).

Likewise, expenditures are higher for children who go to private schools, though the difference is much more substantial in Nalanda than Satara. In Nalanda, the difference in mean expenditure between government and private schools is almost 9000 rupees. The corresponding difference for Satara is only 1388 rupees. This is probably a sum effect of fewer children in Nalanda attending private schools (only 207) and higher number of children attending private schools in Satara (around 2000), which includes both aided and unaided schools and fees in private aided schools are not as high as in private unaided schools.

Which components of expenditure drive the difference between government and private schools? As Table 6.2 below indicates in Nalanda these are school tuition fee, registration fee, miscellaneous fees as lab fee, etc., curriculum books, guide books and transportation expenditure. In Satara, these are primarily school fees related expenditures as tuition fee, registration fee and miscellaneous fees as lab fee, etc.

Government schools in India technically do not charge any fees- yet, sampled children in government schools report a school fee. It is not clear as to why this is should be the case and requires further probing.

children studying in private schools who have reported some expenditure while the latter is reported for all for whom we have a private school tuition fee.

Table 6.2: Average annual expenditure on different components of schooling/ education expenditure, by district and management type

	Nalanda		Satara	
	Government	Private	Government	Private
School tuition fee	1520.82 (74)	4264.85 (169)	918.66 (67)	3779.05 (206)
Registration/ enrollment fee	62.54 (375)	1655.39 (65)	521.65 (26)	2351.40 (86)
Lab fee, maintenance fee, etc	37.29 (1504)	240.65 (170)	135.92 (593)	305.75 (1771)
School Uniform	801.64 (482)	1028.09 (178)	436.06 (268)	445.69 (1680)
Curriculum Books	410.84 (115)	1586.63 (187)	655.14 (14)	767.75 (153)
Guide Books	89.43 (97)	167.25 (20)	257.56 (380)	270.27 (1166)
School Bag	218.16 (255)	345.16 (158)	263.51 (597)	286.99 (1743)
School Shoes	221.59 (249)	328.49 (165)	224.29 (177)	316.46 (530)
Water bottle & tiffin box	61.36 (72)	100.54 (102)	98.77 (365)	104.53 (1249)
Pencil/ Compass Box	109.58 (2078)	139.27 (192)	94.63 (592)	95.83 (1816)
Notebooks/Copies	559.33 (2503)	892.72 (206)	362.36 (655)	433.51 (1916)
Transportation Expenses	662.27 (15)	3472.31 (78)	2253.89 (18)	2956.83 (248)
Tuition Expenditure	1282.41 (1698)	1824.12 (149)	1476.93 (75)	1533.43 (342)

* Figures in parentheses are the number of cases in a particular category.

Components of Household Expenditure on Education

Detailed expenditure collected from households allows us to further analyze the main components of household expenditure. Table 6.3 below presents the mean of various components of household expenditure as a percentage of total household expenditure on the education of the sampled child by district and management type.

Table 6.3: Components of annual household expenditure on education, by district and management type

	Nalanda			Satara		
	All	Government	Private	All	Government	Private
School tuition fee	12.19	2.47	32.40	12.28	5.82	13.51
Registration/ enrollment fee	1.92	0.51	4.84	3.16	1.28	3.51
Lab fee, maintenance fee, etc	1.44	1.23	1.84	9.13	7.62	9.39
School Uniform	8.37	8.47	8.23	12.73	11.05	12.99
Curriculum Books	5.04	1.04	13.34	1.85	0.87	2.04
Guide Books	0.18	0.19	0.15	6.05	9.26	5.47
School Bag	1.62	1.22	2.45	9.65	14.88	8.68
School Shoes	1.61	1.21	2.44	3.04	3.75	2.91
Water bottle & tiffin box	0.21	0.10	0.46	2.45	3.41	2.26
Pencil/ Compass Box	3.76	4.99	1.20	3.38	5.30	3.02
Notebooks/Copies	23.20	30.38	8.27	15.68	22.45	14.41
Transportation Expenses	4.11	0.22	12.17	11.31	3.84	12.72
Tuition Expenditure	36.35	47.98	12.22	9.30	10.48	9.10
Total	100	100	100	100	100	100

Private tuitions

Rather surprisingly, expenditure on private tuitions forms a substantial part of the total expenditure on the sampled child's education in Nalanda (36 percent), but not in Satara, where it is around 9 percent of total expenditure. Expenditure on private tuitions as a percentage of total expenditure is highest for sampled children attending government schools in Nalanda.

School tuition fee

School tuition fee is a substantial portion of children studying in private schools in Nalanda. In Satara, the proportion is much smaller; though as we have noted earlier this is probably because in Satara there are several private aided schools.

Transportation fees

Transportation expenses form about 10 percentage of total expenditure if the sampled child is studying in a private school. This is probably due to the fact that children going to private schools have to commute longer distances, as compared to children going to government schools.

Other categories of expenditure

The other substantial category of expenditures is notebook- about 23 percent in Nalanda and 16 percent in Satara. All other categories of expenditure are around 10 percent or less.

Transfers to the household in the form of scholarship and other schemes set up by private/ government agencies[30]

Transfers to the household in the form of scholarship and other schemes such as free uniform, text books, notebooks and copies, and school transportation are ways by which the overall expenditure on education can be reduced as a way to encourage parents, especially from the disenfranchised sections of the society, to invest in education of their children and generally, in the education of the girls. In the section

[30] The household questionnaire also included questions on whether the sampled child avails of the mid-day meal scheme. But since the latter does not constitute a direct transfer to the household, it has been excluded from the present analysis.

below, we discuss each of the above kinds of transfer with reference to economic class, caste background and gender.

Scholarships

Overall, less than 1 percent of the sampled households reported receiving scholarship from a private source as compared to about 22 percent of the households who reported receiving a government scholarship in the academic year (2012- 2013). Since only few households reported receiving scholarship from a private source, we focus on only government scholarships.

Table 6.4: Percent reporting government scholarship and average amounts, by background characteristics

	Percent	Average amount reported as received
Nalanda		
Overall	35.24	1303.13
Boys	33.75	1323.11
Girls	36.68	1285.86
Satara		
Overall	9.08	606.46
Boys	3.00	566.73
Girls	15.74	613.73
Caste		
General	3.81	939.6
Scheduled Caste	39.04	1143.36
OBC	19.85	1150.98
Extremely Backward Caste	40.47	1228
Class		
Bottom 25 percent	26.19	1057.64
Middle 50 percent	24.32	1184.21
Top 25 percent	17.61	1241.51

Between the two districts, very few sampled children in Satara report receiving scholarship (around 9 percent). A part of the reason behind this low percentage is probably the landscape of schooling in Maharashtra, which is dominated by private aided schools. In contrast, in Nalanda, about 35 percent of sampled children reported receiving a government scholarship- slightly more girls than boys. However, boys seem to be getting a slightly higher amount (100 rupees more) than girls (though we would expect it to be the other way round).

Caste and class wise, the differences are in the expected direction- general caste students are the least likely and EBC students most likely to receive scholarship. Similarly, about 26 percent of students at the bottom of the economic ladder reported receiving government scholarship, followed by the middle 50 and top 25 percent. Caste differences in the amount received is in the expected direction- the average scholarship is highest for the Scheduled Caste. However, there is no such class wise difference, which is expected since scholarships are targeted on the basis of caste than class. Nevertheless, the fact that the marginalized sections of the society are most likely to receive scholarship should bring some cheer among those who worry about "leakages" in the government machinery.

School Uniform

Table 6.5: Percent reporting receiving school uniform, by background characteristics

	Percent receiving school uniform in kind	Percent receiving school uniform in cash	Average amount reported as received
Nalanda	4.77	62.03	611.75
Satara	23.87	0.11	-NA-

In Bihar, under the Mukhyamantri Balika PoshakYojna, girl students from Class VI to VIII would get Rs.700 every year for purchasing two pairs of uniforms (Ranjan and Prakash 2012). Households in Nalanda reported on average receiving a sum of 600 rupees, which was directed towards stitching school uniform. The

scheme is meant only for girl students, so it is rather disconcerting that even parents of boys reported receiving help towards stitching school uniform.

In Maharashtra, even though free school uniform is provided to children between classes 1 to 4, it comes as a little surprise that around a quarter of children in Satara also reported receiving school uniform in kind.

Other kinds of benefits

Table 6.6: Percent reported receiving schoolbooks, by district

	Percent receiving school books in kind	Percent receiving school books in cash
Nalanda	85.34	0.48
Satara	85.57	0.32

About 85 percent of sampled children in both the districts reported receiving school books. In Nalanda, the percentage receiving free textbooks is higher for children studying in government schools- around 95 percent, which is not surprising; since in Bihar, under the text book distribution scheme, textbook are provided free to all children from Class I to VIII (Ranjan and Prakash 2012). However, it also means that 5 percent of children who are entitled to receive free books are not getting them.

Information about the provisioning of school textbooks in Maharashtra is harder to find, so it is not clear if *all* children should receive free textbooks. If the latter is indeed the case, here too we find that coverage in terms of provision of free textbooks is not universal.

The free provisioning of textbooks probably explains as to why textbooks accounted for 5 percent and 2 percent of total household expenditure in Nalanda and Satara respectively. In comparison to school books, very few households reported receiving any benefits towards defraying the cost of stationary and/ or school transportation.

To what extent do household transfers reduce expenditure? The following table provides some insights:

Table 6.7: Total annual household expenditure on education in the presence of scholarships, benefits in the form of school uniforms and school text books

	All	Nalanda	Satara
For all households in the sample	2548.18	2479.76	2620.42
For households who reported receiving scholarship	1768.78	1750.07	1834.83
For households who reported receiving school uniform	1646.34	1762.44	1329.58
For households who reported receiving school text books	1943.53	1866.5	2023.69

While all households in the sample have on average an annual expenditure of 2548 rupees, the transfers from the government to the household in the form of scholarships, school uniform and school text books seem to have the intended effect of reducing household expenditure. In other words, as intended, the various subsidies reduce the education bill of the households.

Conclusion

To conclude this chapter, while the two districts are markedly different in terms of indicators of socio- economic development, there is not much difference between the two in overall annual expenditure levels, which is perhaps a reflection of aspirations and hopes that parents hold for their children. That said, the chapter confirm our hypothesis of higher expenditure on average on private as compared to government schools and on boys than girls and that transfer to households in the form of scholarships or free notebooks/ uniforms indeed reduce overall annual household expenditure on sampled child's education.

Further analysis of household expenditure entails contextualizing expenditure levels in terms of their shares in household budget and to see to what extent it varies

by caste and class. Since we did not collect information on household budgets, this entails carrying out this analysis using other comparative large scale surveys as ASER, NSS and the forthcoming round of IHDS (2011). We would also want to see whether transfers to the household either in the form of cash or kind has an impact on the sampled child's aspirations.

Chapter 7: A Glimpse of Life Outside of School

In order to get a better insight into the lives of sampled children, we also probed about their life outside of school. Our particular focus was activities carried out on the day preceding the survey- both within and outside of school, details of how much they engage with the media, viz., radio, TV and newspaper and their future education and employment aspirations. We discuss each of these aspects in this section.

Time use of sampled children

Education related activities

Rather curiously, far fewer children reported going to school when asked in time use section as compared to schooling experiences section. In the time use section, about 65 percent children reported to be in school in both the districts while in the latter section the attendance rate is about 82 percent in Nalanda and 95 percent in Satara. It is not clear what is causing this discrepancy- both questions were administered in the same manner[31]. The discrepancy highlights difficulty of capturing attendance in household surveys.

However, while self-reported attendance in school is not consistent from the two sources, there is no such discrepancy with respect to the tuition attendance rate. Consistent with the incidence of tuition in the two districts, we find more children in Nalanda reporting going to tuition prior to the day of survey than in Satara. We also notice a gender difference in Nalanda, with more boys than girls reportedly going for tuition prior to the day of survey as we have observed earlier.

About three-quarter children in Nalanda and 65 percent children in Satara self-reported spending time on homework on the day prior to the survey. While in Nalanda more boys reported spending time on homework than girls, it is the other way round

[31] The question on time use was specific to last day in school preceding the survey. In the school experiences section, the question is worded as follows: "Did you go to school yesterday?" Only if school was closed for more than a week, they were to skip the entire section. Thus, instruction wise both questions on whether the sampled child was in school are same in both the sections.

in Satara. In both instances, however, the gender gap is not substantial. Incidentally, more children in Nalanda reported spending time on homework than going to school!

Non education activities within school

Once in school, time use varied more between districts and genders in terms of non- education activities. Both boys and girls in Satara were more likely to engage in cleaning the school, helping with the midday meal, and playing in school than their counterparts in Nalanda. Students in Nalanda were slightly more likely to report "helping the teacher".

Some gendered division of labor is also reflected in the school. Though not large, within each of the two districts, girls were more likely than boys to assume responsibility for cleaning the school and helping with the midday meal. Meanwhile boys were more likely than girls to report spending time playing.

Training related activities

Children were asked if they spend any time on training related activities (such as computers, knitting/ sewing, etc.) outside of their school hours. In both states, very small numbers of sampled children (less than 2 percent) reported spending time on any of these activities on the previous day.

Household activities

There is a strong-gender-based pattern in household responsibilities that is common to both districts. Most of the household chores included in the survey were disproportionately borne by girls regardless of district. In both districts, more than half of female students reported cleaning the house, helping in the kitchen, and doing laundry; sibling and elderly care. There is a gendered pattern too in household work that involves going out of the home - boys were more likely to go out to the market, take food to the field, help with animal husbandry and with own agriculture, business, etc. Girls, on the other hand, were most likely to be involved with fetching water. Yet another aspect of the gender division is that girls reported being engaged in a greater number of activities classified under household chores than boys in both the districts.

Leisure activities

More than 70 percent of both boys and girls in both districts reported spending time with friends on the previous day. In both places, boys were more likely to report time with friends than girls. Sampled children in Satara have higher levels of engagement with media sources- TV, radio, and newspaper. In both the districts, boys have higher level of media engagement but gender differences are slight.

Table 7.1: Activities carried out by the sampled child on the day preceding the survey, by district and gender

Activities carried out by the child on the day preceding the survey	Nalanda		Satara	
	Boys	Girls	Boys	Girls
Education Activities				
Attending school	63.69	63.80	66.14	67.27
Coaching/ Tuition class	58.92	46.77	10.63	7.77
Homework	75.04	72.84	65.30	68.65
Non- education Activities in the school				
Cleaning school	33.66	41.15	42.70	46.38
Helping with serving MDM	3.76	4.86	8.48	8.78
Playing games/ sports	57.06	54.63	65.98	64.08
Helping teachers with cleaning blackboards, etc	22.60	23.38	20.34	19.44
Training related activities				
Attending computer class/ sewing/ knitting class	1.56	0.88	1.32	1.28
Household activities				
Cleaning house	37.10	85.96	49.90	85.97
Helping in the kitchen	10.88	73.07	16.38	73.64
Doing laundry	32.01	68.97	4.30	49.51
Sibling care	36.89	55.65	9.03	26.09
Elderly care	34.02	45.72	18.59	28.40
Entertainment related activities				
Playing with friends	80.00	70.25	84.33	74.92
Watching TV	29.05	26.33	83.70	83.36
Listening to radio	7.14	5.64	8.18	7.68
Reading newspaper	13.71	10.14	25.52	23.36
Work outside home				
Fetching water for home	27.26	34.92	39.35	43.00
Going to the market	24.73	11.42	32.57	29.29
Taking food to the field	11.02	9.81	5.35	3.54
Helping in animal husbandry	8.90	3.63	6.32	2.94
Helping with own agriculture, business, etc.	12.59	8.34	4.31	2.03
Income generating activities				
Working on IGA outside home	3.89	3.30	0.90	0.15
Working on home based income generating activities	0.21	1.28	0.49	0.08

Income Generating Activities

Rates of reported participation in income-generating activities were consistently quite low, especially in Satara. Less than 4 percent of males and females in Nalanda reported having worked on income-generating activities the previous day. In Satara, both in- and outside-the-home income generating activities were reported less than 1% of the time. Older children (between 15 and 16 years of age) did not report spending more time on income generating activities.

Sampled children's engagement with the media and outside world

Engagement with the media- TV

We have already noted in the previous section the district differences in terms of engagement with media- about 80 percent of sampled children in Satara self-reported watching TV on the day prior to the survey. The corresponding percentage for Nalanda is about a quarter.

In response to another general, open-ended, question to sampled children: "Do you watch TV?", differences varied more by district than by other characteristics such as gender or economic status. In Nalanda, only 47 percent of currently enrolled students in the sample reported watching TV, and boys were 8 percentage points more likely to watch TV than girls. In Satara, where 94 percent of currently enrolled students reported watching TV, there was almost no difference between boys and girls. With regard to economic class (accounting for district-specific economic conditions), sampled children from wealthier families in both districts were more likely to report watching TV than poorer students. A part of it is, of course, an access issue because around 76 percent of children who fall in the bottom 25 percent of households do not have TV in their homes. In Nalanda, the top 25 percent reported watching TV twice as frequently as those from the bottom 25 percent. However, the largest differences were between the districts rather than within them; student from the poorest 25% of families in Satara were still more likely to report watching TV than the wealthiest 25% of families in Nalanda.

Types of programs watched on TV

A priori, we expect preferences for TV programs to vary along gender lines. But it would also be interesting to see if in addition to gender differences, there are differences by district and class. The underlying rationale is that TV is one of the medium that shapes a child's world view including their hopes and aspirations.

Table 7.2: TV program preferences among sampled children, by district and gender

	Nalanda			Satara		
	Overall	Boys	Girls	Overall	Boys	Girls
Religious	48.9	45.4	53	11	11	11
Cartoon	28.5	29.4	27.5	55.3	63.6	46.3
Sports	43.6	55.3	30	29.8	43.6	14.6
TV serials	58.5	42.3	77.3	71.5	57	87.3
Films	74.9	83.1	65.4	66.2	71.3	60.5
News	40.7	43.6	37.4	35.5	35.9	35
Songs	53.6	60.5	45.6	33.8	34.2	33.5
Knowledge	23.9	26.3	21.1	26	29.9	21.6

Among currently enrolled students who reported watching TV, favorite programs varied by both gender and district. Among boys in Nalanda, films are most popular, followed by songs and sports. Girls most commonly reported watching TV serials, films and religious programs. Satara seems to display less gender differences in terms of TV viewership- among both boys and girls, the top 3 popular programs are TV serials, films and cartoons. Cartoons are more popular in Satara than Nalanda. On the other hand, religious programs are more popular in Nalanda than Satara.

There are some limited class-based differences in terms of tastes for different types of TV programs. In both districts, sports programs, news, cartoon programs and knowledge programs increased in popularity with wealth levels. The largest gaps between classes occur for knowledge-based programs; while the least popular of all types of programming, in both states, they were nearly twice as popular among students who watched TV in the wealthiest 25 percent than among those in the bottom 25 percent.

Table 7.3: TV program preferences among sampled children, by economic class

TV program preferences of sampled children	Nalanda			Satara		
	Bottom 25 percent	Middle 50 percent	Top 25 percent	Bottom 25 percent	Middle 50 percent	Top 25 percent
Religious	47.4	49.8	48.3	9.4	10.5	12.6
Cartoon	26.3	26.5	30.9	47.4	56.0	59.5
Sports	38.7	42.5	45.8	20.9	29.8	35.5
TV serials	46.0	55.8	64.0	71.5	73.6	68.4
Films	77.4	73.9	75.4	60.9	67.5	67.8
News	31.4	35.9	47.5	27.1	36.9	39.5
Songs	56.2	53.4	53.1	29.8	34.3	35.7
Knowledge	19.3	19.0	29.7	17.7	23.2	36

Reading habits

Sampled boys and girls in Satara were more likely (61 percent) than Nalanda (30 percent) to read a newspaper. In Nalanda, only 30 percent children reported reading newspapers and there is a 12 percentage point difference between boys and girls in this respect. In contrast, there is no gender difference in Satara. However, even when children self- reported reading newspapers, they were more often than not reading it “sometime” as opposed to “regularly”.

The same district difference holds true in terms of having read a book other than school textbook in the past month. In Satara, 71 percent of sampled children reported having read a book in the past month. The corresponding percentage is 40 for Nalanda. It is rather interesting that there is no gender difference in Nalanda with respect to having read a book in the previous month while in Satara, girls were 6 percentage points more likely to have reported reading a book in the past month than boys.

Class wise, children belonging to the top 25 percent of households were most likely to read a book as compared to other economic groups, but while this difference is small in Satara (5 percentage points), it is not so in Nalanda (19 percentage points).

Aspirations of Sampled Children- Education, Occupation, Income and Marriage

Parental aspirations and aspirations of children themselves regarding their education and employment drives investment in education as well as learning outcomes. For example, in the immigration literature there is a general consensus that children of immigrant population, particularly Asian population who have migrated to the West, have better learning outcomes vis-à-vis children from similar socio-economic background belonging to native population as the former belong to families who have mobility aspirations for their children.

Sampled children and their parents in the survey were asked about their education aspirations. We asked both parents and children the same questions to examine how these aspirations differ. In this section, we will explore if educational aspirations of sampled children and of their parents for them vary by the usual markers of social stratification- gender, caste, class and whether sampled children and their parents themselves share the same educational aspirations. This section is followed with a discussion on the expected income of children, when they are of 25 years of age. Just as with educational aspirations, questions on expected income were asked to both parents and children.

The final section is on occupational aspirations, which were asked to only children. We conclude this section of the report by correlating educational and

occupational aspirations with learning outcomes. We conclude with a small note on age at marriage.

Educational aspirations of parents

In Satara, two- thirds of parents responded "don't know" or "depends on child" to the question on educational aspirations compared with 24 percent in Nalanda. This option is excluded from the table below in order to make comparisons of differences in revealed preferences for educational preferences.

Table 7.4 suggest that there are strong differences in parents' aspirations by district. In Nalanda, 32.71 percent of parents aspire that their children study until Class 10, while in Satara only 4.51 percent expect that level. Furthermore, in Satara around 36 percent said bachelors while another 29 percent said professional degrees as medicine or engineering. Rather striking is that only about 6 percent of parents' responded professional degree in Nalanda. It would be interesting to see if this is a reflection of paucity of institutions in the region and hence, a supply side issue or a demand side issue related to parents' socio- economic background and their lack of awareness of options available or lack of faith on their part in the ability of their children to achieve this level of education.

Gender differences exist but are not particularly striking in Satara. On the contrary, in Nalanda about 44 percent of parents would like their daughters to study till Class 10, while about 30 percent would like them to study till Class 12. Around 18 percent of parents desire that their daughters acquire a bachelor's degree. The corresponding proportion for boys is 19, 26 and 36 percent.

Economic differences are evident too in terms of aspirations for children but more in Nalanda than Satara. In Nalanda, nearly 50 percent of parents belonging to the bottom 25 percent of the sample wanted their children to study up till Class 10, another 25 percent till Class 12 and 19 percent of parents of sampled children wanted their children to have a bachelor's degree. The corresponding percentages for the middle 50 percent and top 25 percent are 35 and 20 for Class 10, 30 and 27 percent for Class 12 respectively, 24 and 34 percent for bachelor's degree respectively. In

both districts, parents from top 25 percent of the population were about 3 times more likely to want their children to pursue a professional degree as compared to the bottom 25 percent.

Caste differences are also more marked in Nalanda than Satara, but they do not appear to be as strong as class differences. In Nalanda, more parents from castes other than the general caste category want their children to study up till Class 10 or Class 12 vis-à-vis parents from the general category. Likewise, more parents from the general caste category would want their children to have a bachelor's degree (36 percent) than either SC parents (22 percent) or OBC (26 percent) or EBC parents (23 percent). In Satara, similar proportion of parents from general, OBC and SC background want their children to have a bachelor's degree. Around 30 percent of general and OBC parents would want their children to acquire professional degrees but only 18 percent of SC parents would want the same for their children.

Do parents who send their children to private schools as opposed to government schools have different educational aspirations for them? One can hypothesize that because these parents are willing to invest in private education of their children they hold different educational aspirations for them than parents sending their children to government schools. Yet again we find that government-private school divide is not large in Satara (though this might be because private schools in Satara also includes private aided schools), but is along expected lines in Nalanda. Most striking difference is that 29 percent of parents of children going to private schools would want them to pursue a professional degree and a 33 percent would want them to study for a bachelor's degree. In contrast, about a 35 percent of parents in government school wanted their children to study only till Class 10, 29 percent want them to pursue Class 12 and 25 percent desire them to get a bachelor's. Only 4 percent of parents sending their children to government schools responded with professional degrees when asked about educational aspirations.

Table 7.4: Educational aspiration of parents of sampled children, by gender, caste, income, and type of school.

Nalanda									
	N	Below Class 10	Class 10	Class 11	Class 12	Bachelors	Masters	Doctor, Engineer, other professional	ITI/ Diploma
Overall	1932	0.31	32.71	1.76	28.31	26.45	3.26	6.42	0.78
Gender									
Male	885	0.11	19.1	1.69	25.88	35.82	5.31	10.85	1.24
Female	1046	0.49	44.17	1.82	30.4	18.55	1.53	2.68	0.38
Caste									
General	161	0	19.25	4.35	24.84	34.78	3.73	12.42	0.62
Schedule Caste	231	0.43	31.17	3.03	33.77	22.08	3.9	5.19	0.43
Other backward caste	486	0.21	29.42	0.41	28.19	26.34	3.91	9.88	1.65
Extremely backward class	416	0	34.38	1.68	34.86	23.32	3.12	2.64	0
Income									
Bottom 25 percent	306	0.33	49.35	1.31	25.16	18.95	1.63	2.94	0.33
Middle 50 percent	1012	0.4	34.98	2.08	30.14	24.21	2.77	4.74	0.69
Top 25 percent	613	0.16	20.55	1.47	26.92	33.93	4.89	10.93	1.14
Type of School									
Government	1763	0.28	34.71	1.76	29.21	25.92	2.89	4.54	0.68
Private	143	0.7	9.79	1.4	16.08	32.87	7.69	29.37	2.1

Satara									
Overall	842	0.36	4.51	0.71	21.5	35.63	6.41	29.45	1.43
Gender									
Male	449	0.22	2	1.11	17.82	35.63	6.24	34.74	2.23
Female	393	0.5	7.38	0.25	25.7	35.62	6.62	23.41	0.51
Caste									
General	404	0.25	2.48	0.25	17.57	37.13	7.43	33.66	1.24
Schedule Caste	105	0.95	5.71	1.9	29.52	35.24	6.67	18.1	1.9
Other backward caste	201	0	5.47	0.50	20.40	34.83	5.97	31.34	1.49
Income									
Bottom 25 percent	194	1.03	12.37	1.55	31.96	31.44	3.61	17.01	1.03
Middle 25 percent	361	0	3.05	0.83	23.82	42.38	6.09	22.16	1.66
Top 25 percent	286	0.35	1.05	0	11.5	30.07	8.39	47.2	1.4
Type of School									
Government	215	0	5.12	0.47	26.05	39.53	4.19	23.26	1.4
Private	623	0.48	4.33	0.64	19.9	34.19	7.22	31.78	1.44

Educational aspirations of children

Next, we look at sampled children's own educational aspirations (Table 7.5) and if the trends match with what we have observed for parents. We would also like to examine if parents and children share similar educational aspirations (Table 7.6).

One thing that strikes out almost immediately as a contrast to parents' response is that very few children responded with "Don't know or depends on parents" when asked about desired education level. The latter accounted for less than 8 percent of all responses in both Nalanda and Satara as compared to about 25 percent in Nalanda, and 66 percent in Satara parents saying they didn't know.

We can see district differences in the level of educational expectations. In Nalanda, most of the children aspire to study until college (bachelor degree – 33 percent), while in Satara a large proportion hope to obtain a degree in medicine or engineering or other professional degree (30 percent).

Differences in parental preferences for educational level for their sons and daughters get reflected among sampled children too. Data shows strong gender differences in Nalanda: twice as many girls (26 percent) as boys (12 percent) want to study only till Class 10; 7 percentage points more girls (25 percent) than boys (18 percent) want to study till Class 12. And fewer girls want to study for a bachelor's degree (a 9 percentage point gender difference). Boys in Nalanda have much higher educational aspirations as compared to girls – almost 70 percent aspired to a graduate or post graduate degree as compared to under 50 percent girls. In comparison, the gender gap is much smaller in Satara: 31 percent of girls aspire to obtain a degree in medicine, engineer, etc.; one percentage point higher than boys, and 29 percent of girls hope to achieve a bachelor's degree (just one percentage point less than boys).

Economic background also seems to be shaping aspirations among children- in general, children from poorer backgrounds have lower desired levels of education. In Nalanda, there is 18 percentage points difference between sampled children who want to study till Class 10 from the poorest families as compared to the richest ones. The gap is narrower if we compare the middle 50 percent with the top 25 percent (11

percentage points). We observe a similar difference for desired education level till Class 12 but not for a bachelor's degree- a third of children irrespective of economic backgrounds would want to pursue college education.

Class differences are also observed in Satara and seem particularly striking when compared with parental preferences (wherein class differences were much narrower). Only 11 percent of sampled children from economically well-off households would want to study till Class 12 as compared to 22 percent of children from households who are moderately well off and 31 percent from least well off households. As compared to children from bottom 25 percent of households, twice the percentage of children from top 25 percent of households reported as wishing to pursue professional degrees. In contrast, there is no linear trend between income levels and the desire to pursue either bachelors or masters degrees. In both districts, the percentages who expressed a desire to pursue a bachelors or masters degrees is about the same across economic classes. The largest difference between the classes occurs in terms of professional degrees- six times more children from economically well-off households in Nalanda would want to pursue such degrees; the difference is twice as much between the two classes in Satara. Few children, irrespective of the affluence of the households as measured by possession of durable assets, would want to pursue ITI or other kind of diplomas in both the districts.

Caste differences too exist but as we observed with parental aspirations seem to be narrower when compared with class differences and for Satara than Nalanda. Across all caste groups, majority of children want to study till Bachelors, followed by Class 12 and Class 10. Overall, fewer children from privileged (general) castes would want to study only up till Class 10 as compared to marginalized castes (EBC and SC).

Incidentally, reservation of seats for marginalized castes in professional colleges (particularly as it relates to engineering and medical colleges) notwithstanding, parents as well as children from such backgrounds were not more likely than general caste parents/ children in stating that their desired education level is a professional degree.

Aspirations by management type confirm our earlier hypothesis of higher educational aspirations among private school children, again more in Nalanda than Satara. We would like to add the caveat that the lack of difference between government and private schools in Satara is probably an outcome of the fact that the latter includes both aided and unaided school, while in Nalanda it is mostly unaided schools.

Perhaps the difference between government and private school children in our sample is most striking in terms of percentage of children who aim to complete *only* Class 10 in Nalanda, which is about a fifth of all children in government school as oppose to around 2 percent of children in private schools Fewer children from private schools want to study for a professional degree.

Table 7.5: Educational aspiration of sampled children, by gender, caste, income, and type of school.

Nalanda										
	N	Below class 10	Class 10	Class 11	Class 12	Bachelors	Masters	Doctor, Engineer, other professional	ITI/ Diploma	Don't know or "depends on parents"
Overall	2787	0.54	19.48	1.11	21.74	32.8	6.42	7.28	1.79	8.83
Gender										
Male	1383	0.07	12.44	1.16	18	38.25	8.89	9.54	3.11	8.53
Female	1404	0.99	26.42	1.07	25.43	27.42	3.99	5.06	0.5	9.12
Caste										
General caste	238	0	10.50	2.52	19.75	34.87	8.82	11.76	2.94	8.82
Schedule caste	359	0.84	21.17	1.67	20.61	32.59	7.8	6.13	1.95	7.24
Other backward caste	695	0.58	13.96	0.29	23.02	34.82	6.47	8.49	1.87	10.5
Extremely backward class	573	0.17	22.16	0.87	26.88	27.05	5.76	5.93	1.05	10.12
Income										
Bottom 25 percent	411	0.97	29.44	0.49	18.98	31.39	4.62	2.92	2.43	8.76
Middle 50 percent	1442	0.42	21.78	1.46	23.3	32.52	6.24	4.72	1.32	8.25
Top 25 percent	932	0.53	11.48	0.86	20.49	33.91	7.51	13.2	2.25	9.76
Type of School										
Government	2,576	0.58	20.85	1.29	22.52	32.69	6.09	5.63	1.59	8.85
Private	202	0	1.98	0	11.39	34.65	10.89	28.71	4.46	7.92

Satara										
Overall	2,743	0.29	3.06	0.58	20.89	29.27	8.24	30.19	1.24	6.23
Gender										
Male	1425	0.28	2.04	0.63	22.11	29.89	8.63	29.47	1.61	5.33
Female	1317	0.31	4.18	0.53	19.59	28.63	7.82	30.9	0.84	7.21
Caste										
General caste	1,361	0.07	1.98	0.37	17.27	30.35	8.30	34.39	1.47	5.80
Schedule caste	305	0.33	3.28	0.33	31.15	30.82	7.21	19.34	1.31	6.23
Other backward caste	571	0.7	3.33	1.05	18.21	26.62	10.86	32.57	0.88	5.78
Income										
Bottom 25 percent	647	0.46	6.96	0.77	31.38	26.74	6.34	19.78	0.62	6.96
Middle 50 percent	1253	0.4	2.23	0.72	21.79	31.36	8.46	27.53	1.36	6.15
Top 25 percent	808	0	1.36	0.25	10.89	28.09	9.65	42.2	1.49	6.06
Type of School										
Government	706	0.57	3.97	0.57	20.11	29.18	10.48	28.05	0.85	6.23
Private	2,029	0.2	2.76	0.59	21.09	29.32	7.44	30.95	1.38	6.26

Comparison of educational aspirations

In this section we compare parents' educational aspirations for their children with respect to children's own aspirations and if they vary by sampled child's gender, caste, class and school type (Table 7.6 to Table 7.10).

In general, data shows that parents and children disagree in their aspired level of education, when comparing the specific level of education desired. Nevertheless, there are certain levels- not surprisingly, those which correspond to end of a certain level of education that show a higher match in preferences viz., Class 10, Class 11- 12 and bachelor's. In Nalanda, of children who aspire to study until Class 10, around 55 percent of their parents want that they achieve that same level of education. Moreover, as we saw before, many parents answered "Don't know or depend on the children". This is particularly true in Satara, where for every level of education expected by the children, more than 50 percent of parents don't have a specific response of the highest level of education they hope for their children. It is not easy to interpret this response, because this could mean that they prefer to give autonomy to their children, or that they are indifferent to their situation, or that they just don't have a clear answer. Therefore, we cannot say if this group of parents wants less or more education than their children.

In order to have a more accurate comparison between children and parents aspirations, we analyze the answers without considering the category "Don't know or depend on the children or parents", because it does not provide as any information about the highest aspiration. Additionally, we will divide the sample in three groups of matching preferences:

1. Both parents and children aspire to a school level education (between class 6 and 12),

2. Both parents and children aspire to more than school (ITI, bachelors, professional or masters) or,

3. Parents and children aspire completely different levels (parents' aspiration is till the school level while children's aspirations is beyond school level and vice versa).

Using this categorization (Table 7.6), we can say that in general parents and children share the same preference of achieving school or tertiary level of education: 35

percent of parents and children agree in that both expect to achieve school level of education and 39 percent share the desire to study more than school level education.

On the other hand, 26 percent express that they expect a different level of education (children want tertiary and parents upper primary or secondary, or vice versa). Data suggest that there are strong differences by district: in Satara 61 percent of parents and children express the desire to pursue more than school level of education, compared with only 29 percent in Nalanda. In contrast in Nalanda for 43 percent of parents and children the desired level of education is until Class 12. The corresponding percent for Satara is 17.

Further analysis of the data shows that within these categories, there are also some similarities and discrepancies of the exact level of desired education. For example, in the group where both aspire school level education, 65 percent share the exact level of education, but in 22.5 percent of the cases parents aspire less and 13 percent parents aspire more than children.

But perhaps most important is the category where we have disagreements when children and parents have different preferences in terms of level of education: 68 percent of parents aspire less for their children and only 33 percent aspire more; but this difference is higher in Nalanda where 74 percent of parents expect less education for their children and *only* 26 percent expect more (Table 7.7). On the other hand in Satara, this difference is not that robust in Satara, where 50.5 percent of parent's desire less and 49.5 percent aspire more, but the N is also smaller (N= 182).

In keeping with the expected gender norms, parents are more likely to aspire more years of education for boys and fewer for girls. In the group where parents and children have different educational aspiration levels (school versus more than school) and parents have less expectations, more parents are likely to aspire less for girls than boys (Table 7.10). In Nalanda, 79 percent of parents aspire less for their girls compared to 68 percent for boys; while in Satara 64 percent of parents want a lower level of education for girls and 40 percent for boys. In the other instance- viz., where parents have higher aspirations than their children, more parents are likely to aspire more for boys. In Satara, 59 percent aspire more education for their boys than desired by the boys themselves while the corresponding

percent is 36 for girls (32 percent and 21 percent respectively in Nalanda). Likewise, in the group where both parents and children aspire more than school level education (Table 7.9), in Nalanda 15 percent aspire more for boys and *only* 10 percent for girls. The same pattern is also observed in Satara where about 20 percent aspire more for boys and only 11 percent want more education for girls.

In terms of caste, it is significant that most of the cases where parents and children desire school level of education belong to the marginalized castes- "other backward castes" and "extremely backward castes"; and are in Nalanda.

Educational aspirations in terms of in terms of possession of durable assets indicates that both parents and children from least well off families are most likely to aspire for *only* school level education, particularly in Nalanda.

Table 7.6: Shared aspiration between parents and children, by district.

	Nalanda	Satara	Overall
Both school level	43.45	16.52	35.32
Both more than school	29.11	60.87	38.7
Different level	27.44	22.61	25.98
N	1,862	805	2,667

Table 7.7: Shared aspirations between parents and children, by difference in level.

Overall				
	N	Parents aspire less	Equal aspiration	Parents aspire more
Nalanda				
Both school level	809	23.61	62.92	13.47
Both more than school	542	18.63	67.9	13.47
Different level	511	73.58	0	26.42
Satara				
	N	Parents aspire less	Equal aspiration	Parents aspire more
Both school level	133	15.79	75.19	9.02
Both more than school	490	23.88	60.41	15.71
Different level	182	50.55	0	49.45

Table 7.8: Both parents and children aspire for school level education by gender, caste, income, type of school, and highest level aspired by children

	N	Parents aspire less	Equal aspiration	Parents aspire more
Nalanda				
Gender				
Male	232	20.69	64.66	14.66
Female	577	24.78	62.22	13.00
Caste				
General caste	50	34	44	22
Schedule caste	109	22.94	61.47	15.60
Other backward caste	178	23.60	65.73	10.67
Extremely backward class	211	22.27	64.45	13.27
Income				
Bottom 25 percent	155	23.23	60.65	16.13
Middle 50 percent	468	23.29	63.25	13.46
Top 25 percent	186	24.73	63.98	11.29
Satara				
Gender				
Male	52	13.46	75.00	11.54
Female	81	17.28	75.31	7.41
Caste				
General caste	42	11.90	83.33	4.76
Schedule caste	26	23.08	69.23	7.69
Other backward caste	32	15.62	68.75	15.62
Income				
Bottom 25 percent	61	24.59	68.85	6.56
Middle 50 percent	51	7.84	78.43	13.73
Top 25 percent	21	9.52	85.71	4.76

Table 7.9: Parents and children aspire for more than school level education by gender, caste, income, type of school, and highest level aspired by children

	N	Parents aspire less	Equal aspiration	Parents aspire more
Nalanda				
Gender				
Male	367	18.53	66.21	15.26
Female	175	18.86	71.43	9.71
Caste				
General caste	69	24.64	60.87	14.49
Schedule caste	63	11.11	71.43	17.46
Other backward caste	152	17.11	66.45	16.45
Extremely backward class	89	23.60	69.66	6.74
Income				
Bottom 25 percent	48	12.50	72.92	14.58
Middle 50 percent	243	17.28	68.72	13.99
Top 25 percent	251	21.12	66.14	12.75
Satara				
Gender				
Male	272	21.32	58.82	19.85
Female	218	27.06	62.39	10.55
Caste				
General caste	257	22.57	61.48	15.95
Schedule caste	50	22.00	66.00	12.00
Other backward caste	125	29.6	52.8	17.6
Income				
Bottom 25 percent	76	19.74	64.47	15.79
Middle 50 percent	197	23.86	62.44	13.71
Top 25 percent	216	25	57.41	17.6

Table 7.10: Parents and children aspire for different levels of education by gender, caste, income, type of school, and highest level aspired by children

Nalanda			
	N	Parents aspire less	Parents aspire more
Gender			
Male	245	67.76	32.24
Female	266	78.95	21.05
Caste			
General caste	43	69.77	30.25
Schedule caste	53	83.02	16.98
Other backward caste	132	73.48	26.52
Extremely backward class	99	73.74	26.26
Income			
Bottom 25 percent	85	78.82	21.18
Middle 50 percent	266	74.44	25.56
Top 25 percent	160	69.38	30.62
Satara			
Gender			
Male	106	40.57	59.43
Female	76	64.47	35.53
Caste			
General caste	78	46.15	53.85
Schedule caste	27	44.44	55.56
Other backward caste	39	56.41	43.59
Income			
Bottom 25 percent	49	53.06	46.94
Middle 50 percent	97	50.52	49.48
Top 25 percent	36	47.22	52.78

Children's expected income

Children were asked how much they expected to be earning in a month at the age of 25. We correlated their responses with their educational and occupational aspirations, to check if there is a relationship with the hierarchy of their academic and job expectations and the amount of income they hope to achieve.

In Table 7.11, we can see that there is a linear relationship between educational and income expectations: children that expect to have higher earnings also aspire to obtain a higher level of education. In Nalanda, children that expect to obtain a professional and a master's degree expect to earn on average around 40,000 and 36,000 rupees a month, respectively (the corresponding amount is 49,000 and 53,000 in Satara). On the contrary, in Nalanda children who aspire to study only until Class 10 and Class 12 expect to earn only 14,000 and 32,000 rupees per month on average (8,000 and 21,000 in Satara).

Parents' expected income for their children

Here again parents with higher educational aspirations for their children tend to expect higher earnings for them. Data shows (Table 7.12) that parents that wish their children to obtain a master's degree also have higher income expectations for them: around 51,000 rupees in Nalanda and 30,000 rupees in Satara. On the other hand, those who expect their children only until Class 12 expect for them earnings of around 12,000 rupees in Nalanda and 15,000 rupees in Satara.

By and large, and particularly for Nalanda, parent's income expectations for their children are lower than children's own expectorations. Could this reflect better knowledge about labor market conditions?

Table 7.11: Children expected income by educational aspirations

	N	Mean	N	Mean
	Nalanda		Satara	
Class 10	461	14,442.73	69	8,012.17
Class 12	548	32,490.12	548	20,776.26
Bachelors	838	21,953.94	792	29,689.23
Masters	160	35,693.75	221	52,548.91
Professional	185	39,921.62	819	48,641.25
ITI	46	25,521.74	33	29,988.12
Don't Know	206	16,819.30	164	13,392.37
Total	2486	24,537.36	2663	33,900.83

Table 7.12: Parents expected income for their children by educational aspirations

	N	Mean	N	Mean
	Nalanda		Satara	
Class 10	440	9,451.79	30	10413.6
Class 12	436	11,519.70	166	14,606.94
Bachelors	425	15,744.47	295	36,368.56
Masters	54	51,072.22	54	30,000[32]
Professional	99	28,495.85	236	28,602.15
Don't Know	431	17,825.47	1570	17,446.54
Total	1937	15,440.81	2368	25,187.58

[32] We have reported the median because a few outliers are pulling up the mean in this cell.

Children's willingness to pursue the occupation of their parents

Children were asked if they want to do the same work as their father and mother. The rationale behind this question is to see how strong is the perception that certain occupations are meant for men and other for women among sampled children. If gendered perception of occupation is strong, we would expect more boys to prefer their father's occupation than their mother's while more girls would prefer their mother's occupation than their father's (Table 7.13).

Data shows that children in Satara are more likely to wish to have the same occupation as their parents, including their mothers. In Nalanda, 48 percent of children want to do the same work as their mothers, 13 percentage points less than Satara. Similarly, in Nalanda only 30 percent of sampled children desire to do the same work as their father, the corresponding percent in Satara is 46.

Girls are more likely to be like their mothers – this is true in both districts. However, majority of the boys, in Nalanda, want to do different things as compared to their parents. On the other hand, boys in Satara are less likely to seek a change from their family occupations. This could simply be a reflection of the greater affluence of Satara as compared to Nalanda.

Table 7.13: Percent willing to pursue the same occupation as their parents, by district and gender

	Same work as mother					Same work as father				
	N	Yes	No	N/A	DK	N	Yes	No	N/A	DK
Nalanda										
Male	1414	30.91	67.68	1.34	0.07	1411	38.27	58.61	2.98	0.14
Female	1487	64.09	34.57	1.28	0.07	1485	22.09	74.55	3.16	0.2
Satara										
Male	1439	54.07	45.17	0.69	0.07	1439	52.19	44.48	3.13	0.21
Female	1325	69.06	29.96	0.98	0	1327	39.79	55.99	3.99	0.23

Occupational aspirations of sampled children

Children were also asked their most desired occupation; under the assumption they do not have resources or any other constraint limitation. This was collected as an alpha numeric information and coded it and coded as per the census categories of occupations. We found that the most preferred occupations are: teacher (24 percent), protective service workers (23 percent), engineers (21 percent), and physicians (15 percent). As we can see in Table 7.14, there are some differences across districts: children in Nalanda are twice more likely to desire to become teachers than those in Satara (33.02 and 15.15 percent, respectively). Additionally, 28 percent of children in Satara desire to be engineers, while only 14 percent in Nalanda want to do the same.

Using a broader census classification (Table 7.15), we can see that most of the children (38 percent) aspire to realize an "upper professional" occupation (engineer, physician, physical scientist, social scientist, aircraft officer, jurist, accountants, etc.). Yet again there is strong difference by district, since Satara's children preference for this category is around 13 percentage points higher than Nalanda. In both Nalanda and Satara, about a quarter of sampled children expect to work in a "service" occupation. This trend is mainly driven by protective service, like security, army, military, and air force service.

If we focus only on children who desire an "upper professional" occupation, there is some variation by gender, caste and class. Table 7.16 indicates that boys are more likely to aspire to these positions (39 percent in Nalanda and 49 percent in Satara) than girls (25 percent and 39 percent in Satara). Moreover, we can see that children belonging to privileged castes have a higher preference for upper professional jobs, compare with those from disadvantages castes. Yet, this difference is less prominent in Satara than in Nalanda: in the former, 43 percent of children from general caste aspire to an upper professional job, while 31 percent of "other backward caste" express the same desire; in the corresponding percentages in Satara are 48 and 42 respectively.

Likewise, there is some variation in terms of income. In both districts children from more well-off families are more likely to aspire to this type of positions: 18 and 14

percentage points of difference between top 25 percentile of income distribution and the bottom 25 percentile in Satara and Nalanda respectively.

Reasons behind desired occupation

Children were asked as to why they chose their particular desired occupation (Table 7.17). We wanted to see if there was a particular motive in choosing the desired occupation be it financial reward, desire to serve the country, social prestige associated with the occupation or simply because they found the occupation to be of interest to them or considered it to be a "good" one. Further, we wanted to see if these motivations vary by gender and SES status. For example, one could ask is it the case that children from poorer families were more likely to pursue their desired occupations because it is associated with greater financial reward.

In Satara, 69 percent of the children answered that they selected an occupation because they either found it interesting or thought it was good for them. This percent is lower in Nalanda at 38. Furthermore, in Nalanda 24 percent of children chose their desired occupation because they want to "serve the country"; around 12 percentage points more than in Satara. On the other hand, more children in Nalanda (18 percent) affirmed that the reason behind their desired occupation is that it is financially rewarding, this is lower in Satara at 4 percent.

There are also some gender differences in justifying the desired occupation. In both districts, boys are more likely than girls to respond "serve the country". Second, in Nalanda and Satara, boys are more likely to answer financial reward as the reason behind choosing their desired occupation. In Nalanda twice as many girls as boys said that they chose the desired occupation because they consider it to have a high social status or prestige or respect.

Differences in terms of income and class among reasons for choosing an occupation are not as large and they are not consistent across districts. In Satara children of well off families are slightly less likely to answer that is because they want to "serve the country", compared with children from low-income families. However, this trend has the opposite direction in Nalanda, where children of high-income families are marginally more prone to

select this reason. Similarly, in Satara children of advantaged castes are more likely than those from disadvantaged castes to pick financial reward as their motivation, but again this trend is in the reverse direction in Nalanda.

Social networks and desired occupations

Children were asked if they knew anyone in their social network who pursues their desired occupation (Table 7.18). Children who know someone in their close social network, it can be hypothesized, are more likely to be able to get the kind of support in terms of professional contacts and other information to pursue it. It is also possible that these individuals act as role models.

As can be expected children in Satara were more likely to know someone in their close network who pursues their desired occupation. About 53 percent of them, have household members or relatives pursuing their desired occupation, 25 percentage points more than Nalanda.

Table 7.18 indicates that children of socially privileged castes and well off families know more people from their household or extended family network who are pursuing the sampled child's desired "upper professional" occupation. For instance, in Satara 67 percent of children of the top 25 percent of the income distribution said that they know someone of their household or a relative that work in the desired occupation, while only 41 percent of the bottom 25 percent of the income distribution do so. The differences are larger for Nalanda (17 percentage points). Therefore, we could say there is an intergenerational association between child's desired high-level occupational aspirations and the socio- economic position of the sampled child's family.

This is further confirmed when we examine whether the kind of social network for children who desire to be in occupations that are classified as "upper professional" is different from the social network of children who desire to be in "all occupations other than upper professionals". Data shows that in Satara children who aspire to "all other occupations" also have a close relationship with someone who works in this field: 51 percent of the children who aspire to "all other occupations" know someone in their close network

(household or relative) who is pursuing that job, while in Nalanda this is only 26 percent. In Nalanda a lager share of children knows a neighbor (41.67 percent) or someone from other acquaintance (36.17 percent) who is working in their desired occupation. Also, there are less class differences: children that aspire to all other "occupations" of the top 25 percent and the bottom 25 percent income distribution are not that different in terms of knowing someone in their household or relatives that perform their expected occupations: only 10 percentage points (Nalanda) and 8.6 percentage points (Satara) difference between the higher and lower income children. Likewise, difference by caste is even narrower.

Table 7.14: Desired occupation of sampled children as per detailed census classification of occupation

	N	Nalanda	Satara	Total
Physical Scientists	7	0.18	0.07	0.13
Engineers	1,145	14	28	20.84
Engineering Technicians	1	0.04	0	0.02
Aircraft and Ships Officers	57	0.68	1.41	1.04
Physicians	828	16.17	13.92	15.07
Nurses and medical technicians	81	2.78	0.11	1.47
Scientific, Technical, Medical trained other	3	0	0.11	0.05
Accountants, auditors & related	2	0.07	0	0.04
Social scientists & related	3	0.11	0	0.05
Jurists	34	0.39	0.86	0.62
Teachers	1,334	33.02	15.15	24.29
Poets, authors, journalists & related	1	0.04	0	0.02
Sculptors, painters, creative	9	0.07	0.26	0.16
Composers and performing artists	30	0.36	0.74	0.55
Professionals n.e.c.	68	2.39	0.04	1.24
Elected & Legislative Officials	1	0.04	0	0.02
Administrative & exec. Officers Govt. & local bodies	126	2.53	2.05	2.29
Directors & managers, Financial Institutions	58	1.6	0.48	1.06
Working Proprietors, Directors, Managers Other	4	0.04	0.11	0.07
Administrative, Executive, Managerial workers n.e.c.	2	0.07	0	0.04
Clerical and Other Supervisors	6	0.21	0	0.11
Village Officials	21	0.68	0.07	0.38
Clerical and related workers n.e.c.	2	0.07	0	0.04
Transport and Communication Supervisors	2	0.07	0	0.04
Transport conductors and guards	11	0.11	0.3	0.2
Merchants and shopkeepers	64	1.64	0.67	1.17
Hair dressers and barbers	6	0.14	0.07	0.11
Protective service workers	1,273	18.1	28.48	23.17
Service workers n.e.c.	7	0.14	0.11	0.13
Farm Plantation	16	0.25	0.34	0.29
Tailors, dressmakers, sewers, and upholsterers	38	1.35	0	0.69
Carpenters, cabinet makers and related wood workers	1	0.04	0	0.02
Machinery fitters, assemblers, and precision instrument makers	1	0	0.04	0.02
Electric fitters and related electric, electronic workers	4	0.07	0.07	0.07
Plumbers, welders, sheet metal and structural metal workers	5	0.14	0.04	0.09
Painters	3	0	0.11	0.05
Laborers n.e.c.	1	0.04	0	0.02
Don't know	238	2.39	6.37	4.33

Table 7.15: Desired occupation of sampled children as per census 2 digits classification of occupation

	N	Nalanda	Satara	Total
Upper professional	2,076	31.6	44.27	37.79
Lower professional	193	5.66	1.27	3.51
Managers	187	4.24	2.53	3.4
Proprietors	4	0.04	0.11	0.07
Clerical	31	1.03	0.07	0.56
Teachers	1,334	33.02	15.15	24.29
Merchants	64	1.64	0.67	1.17
Service	1,286	18.38	28.67	23.41
Planter	16	0.25	0.34	0.29
Machine Operators	10	0.21	0.15	0.18
Artisan	50	1.5	0.3	0.91
Laborers	4	0.04	0.11	0.07
Don't Know	238	2.39	6.37	4.33

Table 7.16: Desired occupation- upper professional versus all other occupations by district, gender, caste and income

	Upper professional	All other occupations	Don't know
Nalanda			
Overall	31.6	66.01	2.39
Gender			
Male	38.57	59.53	1.9
Female	24.97	72.18	2.85
Caste			
General caste	42.68	55.69	1.63
Schedule caste	26.48	71.55	1.97
Other backward caste	33.1	64.34	2.57
Extremely backward class	29.79	68.64	1.57
Income			
Bottom 25 percent	27.95	69.4	2.65
Middle 50 percent	26.2	71.39	2.41
Top 25 percent	41.67	56.09	2.24
Satara			
Overall	44.28	49.35	6.37
Gender			
Male	49	46.08	5.72
Female	39.16	53.77	7.07
Caste			
General caste	48.39	46.65	5.53
Schedule caste	43.58	50.68	5.74
Other backward caste	42.01	52.06	5.92
Income			
Bottom 25 percent	35.16	55.16	9.69
Middle 50 percent	43.26	50.32	6.41
Top 25 percent	53.27	43.26	3.47

Table 7.17: Reasons of choosing desired occupation by district, gender, caste and income

	N	Parents desire	Interesting work	Not physically strenuous	Social status	Financial reward	Serve the country	Other reasons
Nalanda								
Overall	2756	3.88	38.32	1.67	12.92	17.74	24.35	1.12
Gender								
Male	1364	3.15	33.87	1.76	8.87	21.33	30.35	0.66
Female	1392	4.6	42.67	1.58	16.88	14.22	18.46	1.58
Caste								
General caste	243	4.12	40.74	1.65	13.99	10.29	27.16	2.06
Schedule caste	351	6.84	43.02	1.71	12.54	12.82	22.51	0.57
Other backward caste	691	3.47	42.84	2.46	11.87	16.5	22	0.87
Extremely backward caste	564	2.48	42.73	1.6	8.87	17.55	25.53	1.24
Income								
Bottom 25 percent	409	3.91	40.1	1.71	11.98	17.36	23.23	1.71
Middle 50 percent	1432	3.84	37.99	1.61	12.57	18.44	24.44	1.12
Top 25 percent	913	3.94	38.12	1.75	13.91	16.76	24.64	0.88
Satara								
Overall	2571	11.47	68.88	0.27	2.64	3.97	12.17	0.58
Gender								
Male	1342	10.88	65.50	0.37	2.76	5.89	14.23	0.37
Female	1228	12.05	72.64	0.16	2.52	1.87	9.93	0.81
Caste								
General caste	1284	10.59	68.30	.31	3.04	4.52	12.23	1.01
Schedule caste	289	17.30	62.28	0.00	2.08	5.54	12.46	0.35
Other backward caste	538	11.15	71.56	0.19	2.79	2.97	11.34	0.00
Income								
Bottom 25 percent	585	11.97	68.03	0.34	1.71	3.08	14.19	0.68
Middle 50 percent	1176	11.99	68.03	0.26	2.72	4.59	11.99	0.43
Top 25 percent	777	10.17	71.04	0.26	3.35	3.60	10.81	0.77

Table 7.18: Do you know anyone in your social network who is pursuing your desired occupational preferences, by district, gender, caste and class?

	All occupations			Only upper professionals			All other occupations		
Nalanda									
	Household or relative	Neighbor	Other acquaintances	Household or relative	Neighbor	Other acquaintances	Household or relative	Neighbor	Other acquaintances
Overall	29.22	40.06	34.59	36.54	36.05	30.71	26.27	41.67	36.17
Gender									
Male	30.83	40.84	31.73	33.76	41.18	28.45	29.21	40.65	33.57
Female	27.79	39.35	37.16	40.48	28.74	33.93	24.09	42.43	38.11
Caste									
General caste	42.06	35.71	27.78	50.00	30.00	22.00	36.84	39.47	31.58
Schedule caste	31.69	40.66	32.42	42.5	32.5	25	28.67	42.96	34.51
Other backward caste	31.96	38.87	34.82	36.84	34.51	34.51	29.52	41.07	34.98
Extremely backward class	28.68	41.39	35.06	39.13	37.68	28.57	25.12	42.65	37.31
Income									
Bottom 25 percent	25.24	43	33.33	30.23	44.19	30.23	23.93	42.68	34.15
Middle 50 percent	23.61	43.89	36.12	27.57	40.32	34.22	22.24	45.13	36.79
Top 25 percent	39	33.19	32.99	47.46	29.55	27.12	34.1	35.31	36.42

Satara									
Overall	54.46	24.24	22.85	58.25	24.85	18.13	51.76	23.8	26.2
Gender									
Male	57.01	28.31	16	58.06	29.39	14.7	56.22	27.49	16.98
Female	51.51	19.54	30.78	58.48	19.2	22.42	46.9	19.76	36.28
Caste									
General caste	56.13	24.84	20.36	63.37	22.34	14.71	50.43	26.80	24.78
Schedule caste	48.12	24.81	24.81	48.28	32.76	20.69	48	18.67	28
Other backward caste	57.14	19.92	24.39	55.79	22.11	23.16	58	18.54	25.17
Income									
Bottom 25 percent	46.99	22.85	31.84	40.91	29.55	30.68	50	19.55	32.4
Middle 50 percent	52.21	26.47	22.79	57.62	25.24	19.05	48.8	27.25	25.15
Top 25 percent	62.73	21.26	17.37	66.67	21.54	12.37	58.6	20.97	22.58

Expected average monthly earnings and occupational aspirations

Children that have occupational aspirations that are higher up the social hierarchy tend to expect higher earnings at the age of 25. For instance, upper professional wish on average a monthly income of 38,000 rupees in Nalanda and 41,000 rupees in Satara. On the other hand, children that hope to become teachers, expect to earn monthly 14,000 rupees in Nalanda and 19,000 rupees in Satara.

In this comparison we did not consider small samples size (below N=30) that is why some categories of education and occupation are not examined.

Table 7.19: Children expected income, by occupational aspirations

	N	Mean
Nalanda		
Service, planter, etc	502	20,281.67
Upper professional	798	38,028.18
Lower professional	142	18,239.44
Managers	113	36,845.13
Teachers	777	14,885.04
Merchants	42	11,892.86
Don't Know	39	9,182.05
Satara		
Service, planter, etc	776	25,632.50
Upper professional	1161	40,786.92
Managers	67	54,546.51
Teachers	388	18,617.57
Don't Know	142	10,392.45

Comparison between desired occupation and educational aspiration

Do children that aspire a high level occupation also want more years of education? Table 7.20 indicates a broad correspondence between the hierarchies of the desired occupation and educational level.

For instance, we see that children who aspire for "upper professional" occupations also have higher desired level of education- in Nalanda, 33 percent want to obtain a bachelor's degree and in Satara 48 percent expect to achieve a professional degree. Similarly, of those children who want to be in mangerial occupations, 51 percent in Nalanda and 44 percent in Satara want to pursue a bachelor's degree; while another 17 percent in Nalanda and 13 percent in Satara wish to study for a master's degree.

Unexpectedly, in Nalanda of those children whose desired occupation is teaching, 30 percent want to study only until Class 10 and another 27 percent till Class 12. This is not the case in Satara, where only 3.5 percent aspire to study until Class 10 and a fifth percent till Class 12.

Table 7.20a: Desired occupational vs. educational aspirations, Nalanda

	Std 6	Std 8	Std 9	Std 10	Std 11	Std 12	Bachelors	Masters	Professionals	ITI	Don't Know
Upper professional	0	0.11	0.11	8.74	0.79	16.8	32.92	9.19	19.52	2.27	9.53
Lower professional	0.63	0.63	0	18.87	3.14	16.98	38.99	5.03	1.89	5.66	8.18
Managers	0	0	0	4.2	0	11.76	51.26	16.81	3.36	3.36	9.24
Proprietors	0	0	0	0	0	0	0	0	100	0	0
Clerical	0	0	0	42.86	0	25	28.57	0	0	0	3.57
Teachers	0.22	0.66	0.11	29.95	1.42	26.89	27.87	2.73	0.55	0.44	9.18
Merchants	0	0	0	30.43	0	21.74	23.91	0	2.17	4.35	17.39
Service	0	0.19	0	17.54	1.17	23.39	37.82	7.8	3.31	1.75	7.02
Planter	0	0	0	57.14	0	14.29	14.29	0	0	0	14.29
Machine Operators	0	0	0	16.67	0	16.67	50	16.67	0	0	0
Artisan	0	9.76	0	41.46	0	26.83	14.63	0	0	0	7.32
Laborers	0	0	0	100	0	0	0	0	0	0	0
Don't Know	0	3.08	0	40	0	18.46	18.46	0	0	1.54	18.46

Table 7.20b: Desired occupational vs. educational aspirations, Satara

	Std 7	Std 8	Std 9	Std 10	Std 11	Std 12	Bachelors	Masters	Professionals	ITI	Don't Know
Upper professional	0	0	0.08	1.68	0.59	11.7	23.06	8	48.06	1.68	5.13
Lower professional	0	0	0	0	2.94	29.41	35.29	8.82	20.59	2.94	0
Managers	0	0	0	0	0	4.41	44.12	13.24	36.76	0	1.47
Proprietors	0	0	0	0	0	33.33	66.67	0	0	0	0
Clerical	0	0	0	0	0	0	100	0	0	0	0
Teachers	0	0	0.25	3.46	0.25	21.98	36.79	9.14	22.22	0.74	5.19
Merchants	0	0	0	22.22	0	27.78	22.22	0	22.22	5.56	0
Service	0	0	0	1.56	0.39	33.12	37.01	9.48	13.51	0.78	4.16
Planter	0	0	11.11	0	11.11	66.67	11.11	0	0	0	0
Machine Operators	0	25	0	25	0	0	0	0	0	50	0
Artisan	0	0	0	12.5	0	12.5	50	0	12.5	0	12.5
Laborers	0	0	0	0	0	0	100	0	0	0	0
Don't Know	0.59	1.18	0	17.06	2.35	30.59	11.18	0.59	2.94	0	33.53

Are children working towards their aspirations: Correlating desired occupation and educational performance?

We would expect that children who aspire to high-level occupations also have better educational outcomes. Table 7.21 indicates that children who aspire for "upper professionals" and "managers" positions tend to have higher test scores in all subjects as compared to "service, planter, machine operators, and laborers". In some cases, "upper professionals" have lower performance than proprietors and "low professional", but probably this difference is driven by small sample size of the latter groups.

It is interesting to note that children who aspire to be teachers in Nalanda have lower test scores on average than "service, planter, machine operators, and laborers" in all the subjects on which they were assessed. The opposite happens in Satara, where children who aspire to be teachers have higher test scores on average in all tests compare with the same group. This is particularly striking, because -as we saw before- a larger share of children in Nalanda want to become teachers. This needs to be probed further.

Table 7.21: Aspired occupation and average scores on assessment tests

Nalanda	Language		Science		English		Math	
Upper professional	697	48.51	690	44.54	692	45.00	766	49.48
Lower professional	107	44.86	108	41.90	109	39.62	126	44.08
Managers	101	49.04	102	44.22	103	46.03	111	51.35
Proprietors	1	73.33	1	61.76	1	57.63	1	76.92
Clerical	18	40.00	17	33.82	17	33.20	24	46.79
Teachers	604	40.74	588	38.71	589	36.32	735	38.56
Merchants	28	30.95	28	39.44	28	30.57	34	32.58
Service,planter, etc	389	43.68	381	41.64	381	40.00	473	43.50
Don't Know	33	41.01	32	40.26	32	39.30	41	38.87
Total	1978	44.58	1947	41.82	1952	40.76	2311	44.13
Satara	Language		Science		English		Math	
Upper professional	951	51.02	956	50.00	922	45.01	1010	41.71
Lower professional	22	54.39	23	51.73	23	47.75	24	42.69
Managers	49	64.29	54	58.01	53	55.58	52	56.24
Proprietors	3	44.44	2	47.06	2	50.00	2	40.00
Clerical	1	20.00	2	37.50	2	26.27	2	23.85
Teachers	319	52.11	341	48.52	334	42.03	344	39.19
Merchants	11	40.30	13	43.67	12	39.83	13	33.37
Service,planter, etc	596	44.82	594	46.03	574	36.82	611	35.41
Don't Know	101	40.46	96	44.32	89	33.31	104	32.63
Total	2053	49.14	2081	48.53	2011	41.93	2162	39.38

Age at marriage

We conclude this section with a brief discussion on age at marriage- desired marriage age as reported by parents and sampled children. Since sampled children are in the adolescent age group, it becomes a relevant topic to explore. It is perhaps instructive to note that a few sampled children were already married or engaged in our sample - 18 children were engaged to be married (8 in Nalanda and 10 in Satara), 6 were married and living with their spouses, and 16 were married but living separately (all 22 in Nalanda. The latter is not surprising because as per

custom young married girls move to their husbands home only after gauna ceremony has been performed.

The desired average marriage age is higher for males than for females in both districts. In Nalanda the marriage age as reported by parents is 23.03 years for males and 19.78 years for females while in Satara the age is 24.6 years for males and 21.79 years for females. These gender differences between marriage ages of males and females are mirrored in the desired ages reported by children.

Caste wise, the average marriage age reported by parents and children is highest for the general reservation category.

In Nalanda as well as in Satara, higher economic classes report a higher average age for children. Parents from the top 25% bracket reported an average desired marriage age of 22.12years while those from the bottom 25% bracket reported and average desired marriage age of 20.53 years in Nalanda. In Satara, parents form the top 25% bracket reported an average desired marriage age of 23.91 years and those from the bottom 25% bracket reported an average age of 22.54 years. Children from well off households also want to study more, which may explain this trend. The average desired marriage ages were higher when reported by children but the class differences were consistent.

Table 7.22: Desired marriage age by district, gender, caste and class, as reported by parents and children

	Desired average age, as reported by parents	Desired average age, as reported by sampled child	Desired average age, as reported by parents	Desired average age, as reported by sampled child
	Nalanda		**Satara**	
Gender				
Male	23.03	24.21	24.62	24.02
Female	19.78	20.76	21.79	22.12
Caste				
General	22.02	22.96	23.66	23.40
Scheduled Caste	21.07	22.31	22.86	22.65
OBC	21.64	22.72	23.11	23.16
EBC	21.14	22.31	Not applicable	
Class				
Top 25 percent	22.12	23.04	23.91	23.77
Middle 25 percent	21.14	22.29	23.24	22.96
Bottom 25 percent	20.53	22.12	22.54	22.65

Conclusion

This chapter presented an overview of children's life outside of school, but most importantly we have looked at their educational and employment aspirations. In a country with a substantial youth population, it can be argued that if children do not realize their aspirations, it can lead to considerable frustration. Therefore, it is essential that policy makers have a sense of what do today's youth aspire for in terms of their occupational choices.

Consistent with the picture of aspirational India, we find that children in both districts do want to pursue higher education and pursue occupations that provides them with income stability. Furthermore, the expected incomes as reported by sampled children are not out of sync with the respective per capita for the states of Bihar (INR 20, 000/- for 2010- 2011) and Maharashtra

(INR 1,32, 719 for 2009- 10)[33]. Learning outcomes indicate that broadly children are working towards meeting those aspirations, though we need further research to see how aspirations correlate with educational investments, both in monetary and non- monetary terms.

[33] http://en.wikipedia.org/wiki/List_of_Indian_states_by_GDP

Chapter 8: Way Forward

This chapter outlines the way forward in terms of field work and further analyses.

The findings of the baseline substantiate the need to corroborate teaching and classroom practices with what parents think about the children and how children perceive themselves. In Visit 2 which was carried out in the month of July-August-September we tracked the children surveyed in the baseline to find out their transition status and additionally wanted to collect information on the schools that the enrolled children were currently attending.

Going forward, Visit 3 (November- February/ March) incorporates administration of end line learning assessments to sampled children and between December and January we will conduct the school survey to understand the current situation schools that the children in the study attend. End line assessments coincide with the November- February time frame of baseline assessments. School visit will include in-depth interviews with school authorities, teachers and classroom observation of the class in which children transition from middle to secondary school i.e. 8^{th} in Nalanda and 7^{th} in Satara. This will be done in order to see how school, classroom and teaching practices related to children's learning. The information about schools collected in Visit 2 will act as the frame for Visit 3.

At the end of each chapter we have identified gaps that will be addressed in future analysis of baseline or visit 1 data. These include in-depth analysis of scores in higher level pen and paper assessments administered to children, multivariate analysis of learning outcomes with individual, household and school characteristics along with village and district level characteristics as control variables. While in this report, we have not correlated school experiences or time use patterns with learning outcomes, we will do so in further analysis. Likewise, we need to further understand how aspirations shape educational investment and learning outcomes. Second, the findings from this study need to be contextualized by placing it along with other national level surveys such as NFHS and forthcoming round of IHDS. Last but not the least, visit 1 data along with visit 2 and visit 3 data would enable us to better understand transition from upper primary to secondary grades in Nalanda in Bihar and Satara in Maharashtra.2