Stockholm School of Economics
Department of Economics
Master's Thesis

Private Schools in the Slums

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Do they provide an effective primary educational service?

A case study of Aguablanca in Cali, Colombia

Abstract

Education in developing countries, as in all countries, is of great importance for future growth. The role of private providers of education in the developing world, particularly those focusing on the urban poor, is increasingly recognized as a factor in addressing the challenge of achieving Education for All. A case study of the extent and quality of the educational sector in Aguablanca in Cali, Colombia, confirms previous findings of the positive role that the private providers play. The private sector's share of schools and pupils is found to constitute a clear majority. Equally significant is the finding that the private schools perform better on two indicators of quality: *teacher activity* and *pupil-teacher ratio*. Ambiguous results were conveyed concerning *material inputs*. Considering that the government financed schools have more resources at their disposal these findings merit further attention. Even more so since these results are in congruence with previous studies, thus indicating that an interesting new field is only just being revealed.

Key words: Education, Poverty, Private Schools

JEL: I21, I38, L33, L38, O20, R28, R38

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This thesis is dedicated to the children of Aguablanca.[1]

[1] A tribute video with pictures from the field work can be reached at http://tinyurl.com/4gsmtm.

Abbreviations and Definitions

Abbreviations

UNESCO	United Nations Educational, Scientific and Cultural Organization
NGO	Non-Governmental Organization
NER	Net Enrollment Ratio
GER	Gross Enrollment Ratio
NAR	Net Attendance Ratio
GAR	Gross Attendance Ratio
PAC	Programa de Ampliación de Cobertura (Program for increased enrollment)
SISBEN[2]	Sistema de Identificación de Beneficiarios de Subsidios Sociales (System of identification for social subsidies beneficiaries)

Definitions[3]

Slum[4]	Low income[5], urban and peri-urban areas in developing countries.
Primary School	The primary schools studied for this thesis include both those providing only primary education and those providing both primary and secondary education. Primary schools in Colombia encompass children aged 6-10 and covers the first 5 grades. Secondary Schools encompass children aged 11-16 and covers grades 6-11.
Private School	'All formal schools that are *not* public, and may be founded, owned, managed and financed by actors other than the state, even in cases when the state provides most of the funding and has considerable control over these schools (teachers, curriculum, accreditations etc.)' (Kitaev 1999 p. 43.).
Aided School	Schools which are part of the national program for increased enrollment (PAC), the main program for state support to private schools.
Unaided School	Schools that are not part of the national program for increase enrollment (PAC), though they may receive funding from other non-state sources.

The terms "public schools" and "government schools" will be used interchangeable to indicate ownership and control by political authority.

[2] SISBEN is Colombia's national classification system that categorizes the citizens into 6 strata, where strata 1 includes homeless people and people in extreme poverty and strata 6 reflects the highest level of affluence.
[3] The definitions used here are the ones most accurately describing the area investigated for this thesis, and thus not necessarily the ones semantically most correct.
[4] One potential source of confusion is that there are already other definitions of slums, for instance UN Habitat has one with added emphasis on the material inputs. With their narrow definition, they estimate that the total global slum population is currently around one billion people, and is set to grow to three billion within the coming decades.
[5] In Colombia this implies people from strata 1 and 2 according to the SISBEN system.

1 Introduction

This thesis aims to research the effectiveness of private schools in addressing the educational needs in the slums. In particular, this thesis uses the case of Aguablanca, the largest slum in Cali, Colombia. The structure of the thesis is as follows. Firstly, to establish a basis, the importance of education and the current debate concerning education will be summarized. Secondly, the current state of education in developing countries will be accounted for. In the third part the research questions will be articulated and detailed. The main question is:

- *Do Private Schools provide the Poor an effective primary educational service?*

This is divided into two sub-questions:

i. *How prevalent are private schools compared with public schools in Aguablanca?*

ii. *How do private schools in Aguablanca compare with public schools on a number of the qualitative issues?*

This thesis will touch upon the recent research into private education for the poor by Prof. James Tooley and Dr. Pauline Dixon, which has been the inspiration for this thesis, and others looking into private education for the poor (Tooley, Dixon 2006). That will then be contrasted with the latest research into private education in general in Latin America, followed by an explanation of the factors affecting education in Colombia, Cali and Aguablanca. After this, the objectives and method of the field study conducted for this thesis will be expanded upon, followed by a presentation of the findings. These will subsequently be compared and contrasted with the previous research. After this analysis it will be possible to answer the research questions. The thesis ends with conclusions and a discussion of the broader implications of the research.

This thesis should be of interest for those who care about development, particularly in the field of education, are involved in allocating resources to education in developing countries or are interested in the possibilities of the private sector playing a role in addressing the challenges faced by today's slums.

2 Importance of Education

One can broadly say that there are three major benefits derived from it for society and the individual. Of most immediate importance are the direct effects on human capital and the associated increase in labor productivity, and the subsequent higher wage and economic growth. Secondly, education helps people stay healthy, with similar productivity and welfare effects. Thirdly, there is a political consequence, since higher educated populations are more likely to be supportive of democracy and political stability (Glaeser *et al*. 2004, Glaeser, Ponzetto & Shleifer 2006).

2.1 Education Debate

Generally, one can divide the debate on education into two parts. In the developed world the debate is to a large extent about the reform of public schools and the (increasing) role of non-public schools and especially how they should be financed, e.g., via vouchers or charter schools. Concerning education in the developing world the debate mainly focuses on increasing enrollment, this being considered to be achieved almost exclusively through public schools (UNESCO 1990). These two different debates come together on the issue of private schools for the poor. The notion of private schools in developing countries might strike some as a service limited to those already well off, or the elite, but research carried out during the last decade has demonstrated that this assumption could be misleading. There has been an uncovering of a phenomenon that seems too great to ignore, as subsequent chapters will demonstrate. In several slums of developing countries, a plurality, and sometimes a majority, of the children receive their schooling from private unaided schools. It is increasingly clear that for many urban slum dwellers these schools offer something more attractive to them than what current public policies have delivered. This merits further investigation, not least considering that the current one billion people living in urban slums is projected to double by the year 2030 (UN Habitat 2003). How to best meet the challenge of their educational needs cannot be known without understanding the current state better.

2.2 Education in the Developing World

Spending on primary education accounts for a bit more than one percent of GDP in all most all countries, including developing ones. Annual expenditure per pupil is on average equivalent to around 12 percent of GDP per capita (UNESCO 2007). In line with the United Nations' Millennium Development Goal of universal primary education, enrollment has been increasing over the last decade, reaching a net primary enrollment rate of 88 percent in

2004/2005 (World Bank 2007). This has partly been achieved by investing in schools, removing fees, offering free school lunches as well as paying parents to put their children in school.[6] Clearly, great efforts are being made, but are these funds and man-hours being used efficiently?

To judge efficiency, it is necessary to know the quality of the education. According to the literature, the quality of education has suffered owing to this increase in quantity (UNESCO 2004). This could either be due to insufficient resources or lack of proper planning (e.g. not enough school buildings or trained teachers). But even so, it may also depend on the fact that teacher absenteeism is a major problem for public schools in the developing world (Banerjee, Duflo 2006). The question then arises: what do the pupils and their parents do in response to this situation? As will be shown below, many have turned to private schools, even the parents and children from the slums and other low income areas around the world.

2.3 Private Schools for the Poor

That private education exists in poor countries is not debated, neither it seems is the existence of private schools serving the poor, some of which are privately funded and others which receive limited support from the state, aid agencies or religious organizations. There are several studies confirming this in different countries.[7] Also NGOs, such as Oxfam, acknowledge the prevalence of private schools in educating the poor (Watkins 2000).

Where the disagreement lies is whether this is something deplorable or genuinely positive. The critics would have it that the private sector only has arisen because of the collapse of the public sector, hence, private schools could be said to constitute a second-best option (e.g. Salmi 1998). Some raise the issues of equity and quality (Watkins 2000, United Nations Development Programme 2003). The equity argument centers on the fact that not everybody will be able to afford something that entails a cost. This argument could be questioned, as even main stream development economics text books acknowledge that in certain instances, such as in Kenya, where its "more permissive policy [regarding non-governmental schools] … was more equitable [than Tanzania's policy]" (Perkins *et al*. 2001 p. 341).

This superior equity is due to the fact that the provision of public education is far from complete, and is often suffering from a shortage of funds to bridge that gap. The result is too

[6] So called "Conditioned Transfers for Education" or "Conditional Cash Transfers".
[7] Haiti (Salmi 1998), Indonesia (ADB 2003), Bangladesh (ADB 2003), India (Probe Team 1999), Pakistan (Alderman, Kim & Orazem 2003, Andrabi, Das & Khwaja 2006), Ghana (Tooley, Dixon 2006), Nigeria (Adelabu, Rose 2004), Tanzania (Lassibille, Tan 2001) and Colombia (Angrist 2002).

few schools, and demand is then met only thanks to the efforts of the private sector. The argument that private schools are of insufficient quality is based on the assumption that these private slum schools are inferior to public schools, something that is yet to be proven. Certainly, the data thus far offer support for an opposite view (e.g. Tooley, Dixon 2006). The work has only recently begun on this topic. For instance, there has until now been no studies in Latin America on the topic of private schools for the poor, something which this thesis aims to address.

3 Research Questions

This study sets out to test whether the findings of the previous research in Asia or Africa are applicable in a new setting, i.e., Latin America, thus hopefully providing an indication of how prevalent private schools for the poor are within the chosen setting. Latin America, with its population of half a billion, is thus a highly interesting continent for such an investigation. In principle, there are no reasons to expect any slum in the region to be better or worse than any other in terms of suitability for such a study, provided that the slum area is of a sufficient size. The authors have chosen to study the district of Aguablanca in Cali, Colombia, thanks to previous experience and contacts in Cali. Aguablanca is the largest marginalized area in Cali, with almost all parts at the bottom of the Colombian social index (Escobar Morales 2007).[8] One important difference however, between Colombia and the previously studied countries, is that the nominal GDP per capita is at least three times as high in Colombia as compared with that of Ghana, India and Nigeria.

[8]The relative degree of poverty in Aguablanca compared with other slums in the developing world was not known with adequate precision when starting the research and fieldwork. However, it was by no means unclear that Aguablanca is one of Colombia's poorest settlements, and thus a suitable object of investigation. However, as the thesis aims to draw wider comparisons with similar studies across the globe it is necessary to find out more precisely how Aguablanca compares with areas of similar disrepute. Fundamentally, is Aguablanca comparable with the slums of India and Africa? As acknowledged in the definitions section, there are different ways of defining one. The United Nations agency UN-HABITAT defines a slum as "a heavily populated urban area characterized by substandard housing and squalor … and lacking in tenure security". A *slum household* is further defined as "a group of individuals living under the same roof who lack one or more (in some cities, two or more) of the following conditions: security of tenure, structural quality and durability of housing, access to safe water, access to sanitation facilities and sufficient living area"(World Bank 2007). A strict interpretation of this would most likely lead only certain areas of Aguablanca to be categorized as "slums". For instance, observing the material inputs of the households gave an image of a not so substandard *housing and squalor*. However, Aguablanca is acknowledged as a very poor area with high criminal rates and many social problems, all which affect access to education. Although the main concern in Aguablanca is not security of tenure but rather security from violence, the living conditions seem to fit well UN Habitat's classification of a slum. These concerns were made manifest to the authors on several occasions, e.g., taxi drivers advising against and initially refusing to entering certain neighborhoods where the schools to be visited were located and friends from Aguablanca reported being robbed repeatedly. To address this issue, guides and escorts, the majority from a local NGO helping youths, assisted the authors throughout the fieldwork. Thanks to them, with their familiarity with the neighbourhoods and the local youth, the authors' work in Aguablanca went without incident.

The purpose of this thesis is to investigate the existence, extent and quality of private schools in the area, comparing these with the local public schools. By means of a case study of Aguablanca in Cali, Colombia, the thesis will attempt to answer the question:

- *Do Private Schools provide the Poor an effective primary educational service?*

Since there was no *prima facie* indication that there are any private schools in Aguablanca, the first goal was to establish and gauge the prevalence of private schools. Once that has been established it will be possible to investigate the *effectiveness of the primary educational service.* This can be interpreted both on the aspects of quantity and quality.

By quantity is meant enrollment and access. That could in turn mean that private schools reach pupils who lack other school alternatives, thereby offering a service where previous none was available, or to those who experience a drastic shortening of the distance needed to travel to school. This thesis will measure the quantity aspect strictly by comparing the number of schools and the number of pupils they have. A further analysis, e.g., of the geographical distribution of the different schools, is deemed to be beyond the scope of this paper.[9]

Quality is harder to define. The Dakar Framework (Goal 6:42) says that "*a quality education is one that satisfies basic learning needs, and enriches the lives of learners and their overall experience of living*". Until this declaration, the focus of most efforts in promoting education and development had been on increasing enrollment. Dakar was followed-up five years later by a deeper investigation concerning quality (e.g. UNESCO 2004). It presents a framework for understanding education quality which consists of five pieces: *learner characteristics*, e*nabling inputs*, *teaching and learning*, *outcomes* and *context*. No study on private schools in the slums has looked at the first and last pieces of this framework, but Prof. Tooley and Dr. Dixon have looked at the three others. They evaluated *teaching and learning* by using the same indicators as suggested UNESCO: *class size* and *learning time*[10] (UNESCO 2004). *Enabling inputs* were evaluated using teaching materials and facilities. Tooley and Dixon also measured *outcomes* by testing *literacy* and *numeracy*, which also are suggested indicators by UNESCO.

For the purpose of continuity, thus making comparisons possible, the aspects investigated by Prof. Tooley and Dr. Dixon, with the exception of *pupil achievement*, have been chosen as

[9] The authors would gladly provide interested parties with the necessary data and maps for such a study.
[10] This last indicator is measured indirectly, since Tooley and Dixon actually measured teacher absenteeism, which certainly affects learning time.

subjects of investigation by this thesis as well. These are: *teacher absenteeism*[11], *class size*[12] and numerous *material inputs* (specified below).

3.1 Questions

Thus, this thesis aims to answer the questions:

1) How prevalent are private schools compared with public schools in Aguablanca?

2) How do private schools in Aguablanca compare with public schools on the following qualitative issues?

   i. *Teacher activity*
   ii. *Pupil-teacher ratio*[13]
   iii. *Teacher salaries* and *pupil expenditure*
   iv. *Material inputs,* i.e., *availability of blackboards, desks, fans, audio equipment, chairs, electric light, drinking water for children, toilets for children, separate toilets for boys and girls, availability of library for the children, number of book shelves in library, availability of computers for the children, number of computers* and *availability of television.*

4 Previous Research into Private Schools for the Poor

This section will detail what is known about the private schools for the poor in the slums. The only known direct contributors to this field of research have been Prof. James Tooley and Dr. Pauline Dixon. Their contribution merits a special section. Others, such as Prof. Keith M. Lewin, Dr. Pauline Rose and Dr. Yusuf Sayed, have also investigated this topic indirectly and their work will be reviewed as well.

4.1 Tooley and Dixon[14]

"Poor parents are flocking to private schools because state schools are inadequate and unaccountable."

- Prof. James Tooley

[11] This thesis treats *teacher absenteeism* and *teacher activity* as the same, but will use the latter.
[12] Instead of *class size*, this thesis will use *pupil-teacher ratio*. These two measures are not completely inter-changeable, since due to the existence of classes both before noon and in the afternoon, some teachers might have the possibility to teach two classes, thus skewing the ratio. This would however only hamper comparisons if it was believed that certain schools more frequently had these extra classes than others. This we have no reason to fear/believe. In addition, Tooley and Dixon themselves use pupil-teacher ratio in other studies, e.g., in their 2007 Hyderabad study (Tooley, Dixon & Gomathi 2007), as do others (e.g. Case, Deaton 1999).
[13] See previous footnote.
[14] This section draws upon (Tooley, Dixon 2006).

Tooley and Dixon realized that many had noticed the provision of private education to the poor, but without being able to piece it all together and see just how prevalent this phenomenon is. Tooley and Dixon began surveying and measuring the extent of private education for the poor. In addition they have put forward, and tested, ideas regarding why these schools have sprung up. They began by documenting the large failure of many developing countries in terms of provision and quality of public schooling. Tooley and Dixon write that the reason why private schools might be seen as advantageous to poor parents also seems to be widely accepted, namely *accountability*, both teachers to head teachers and of head teachers to parents.

4.1.1 Quantity Findings

Tooley and Dixon's investigations initially took them to Ghana, India and Nigeria, but subsequently beyond. Tooley and Dixon have lead teams, from the Universities of Ibadan (Nigeria) and Cape Coast (Ghana) and the Educare Trust (AP, India), into the slums of the developing countries of Asia and Africa in order to futher understand this topic. This work was done in three steps, with an initial census to reveal the extent of the private actors in providing primary education (see *Table 4.1a Number of Schools and Pupils*).

A second step consisted of a survey designed to extract information regarding the operations and facilities of the various schools. Thirdly, pupil achievement was measured through a test.

Table 4.1a Number of Schools and Pupils

	Hyderabad, India			Ga, Ghana			Lagos, Nigeria			Mahbubnagar, India		
	No. Schools	% Schools	% Pupils	No. Schools	% Schools	% Pupils	No. Schools	% Schools	% Pupils	No. Schools	% Schools	% Pupils
Government	320	34.9	24.0	197	25.3	35.6	185	34.3	26	384	62.4	47.8
Private aided	49	5.3	11.4	0	0	0	0	0	0	13	2.1	4.3
Private unaided recognized	214	23.3	41.5	405	52	49.1	122	22.6	42	141	22.9	41.2
Private unaided unrecognized	335	36.5	23.1	177	22.7	15.3	233	43.1	33	77	12.5	6.6
Total	583	63.5	76.9	779	100	100	540	100	100	615	100	100

The table shows the amount of schools of the different types and the distribution of pupils among them in Hyderabad, Ga, Lagos and Mahbubnagar (Tooley, Dixon 2006).

Important to note is that since Tooley and Dixon discovered few or no private aided schools, these were subsequently incorporated with the other recognized, but unaided, schools. They referred to this group as *private recognized*, but for the purposes of this thesis it is more appropriate to approximate this group to *private unaided recognized*. The reason for this is that in their data, the sub-group *private aided* was very small, whereas in the data from

Aguablanca, Cali, it was the largest group, meriting a separation of these groups whenever possible.

Once located, the researchers called unannounced on the school and briefly interviewed the school manager or head teacher, to elicit the data. Researchers then asked to make an observation of the school, where they checked the facilities available in the school against a short check-list of facilities, and visited one level – grade 4 or 5 depending on the country to observe the activity of the teacher and make a check on further facilities.

4.1.2 Quality Findings

4.1.2.1 Teacher Activity

In each country studied by Tooley and Dixon, it was found that, in the private primary schools, teachers were more often teaching than their government counterparts and teacher absenteeism was also lower in both types of private than government schools. See *Table 4.1b Teacher Activity in Primary Schools*.

Table 4.1b Teacher Activity in Primary Schools

	Activity of the Teacher	Hyderabad, India (%)	Ga, Ghana (%)	Lagos, Nigeria (%)	Mahbubnagar, India (%)
Government	Teaching	74.6	56.7	67.3	63.6
	Non-teaching	19.7	28.3	24.5	28.9
	Absent	5.7	15.0	8.2	7.5
Private unaided recognized	Teaching	97.5	75.0	87.9	82.7
	Non-teaching	2.0	19.8	11.1	12.7
	Absent	0.5	5.2	1.0	4.5
Private unaided unrecognized	Teaching	90.5	66.4	87.0	80.0
	Non-teaching	5.5	24.4	12.0	13.3
	Absent	4.0	9.2	1.1	6.7

The table shows teacher activity in the different types of primary schools in Hyderabad, Ga, Lagos and Mahbubnagar (Tooley, Dixon 2006).

4.1.2.2 Pupil-Teacher Ratio

In Hyderabad and in Lagos the number of teachers and pupils were measured. In Lagos they measured class size, but in subsequent studies, due to teachers' resistance, the actual physical counting of pupils in classes had to be dropped and class size was obtained from the head teacher's or owner's records. In Hyderabad, therefore, they measured the pupil-teacher ratio.[15] Both these instances revealed that the government schools performed worse than the private schools, with the exception of private aided schools in Hyderabad. That is, there were

[15] For a brief discussion about the differences between these two measurements, see footnote 11.

more children for each teacher in government schools, i.e., larger class sizes. See *Table 4.1c Pupil- Teacher Ratio and Class Size*.

Table 4.1c Teacher-Pupil Ratio and Class Size

	Hyderabad, India Mean pupil-teacher ratio	**Lagos, Nigeria** Mean class size
Government	42.35	27.13
Private aided	43.26	N/A
Private unaided recognized	21.63	19.30
Private unaided unrecognized	27.03	17.82

The table shows teacher-pupil ratio and class size in Hyderabad and Lagos (Tooley, Dixon 2006 and Tooley, Dixon & Gomathi 2007).

4.1.2.3 Teacher Salaries and Pupil Expenditures

The average wages are approximately three to four times as high in the government schools as opposed to in the private ones. Fees as a share of minimum wages differ greatly between Hyderabad and Lagos. It is also noticeable that the average teacher wages in private schools in Hyderabad are below the *de jure* minimum wage. This implies that the burden of fees might be higher in Hyderabad than perceived. See *Table 4.1d Teacher Salaries and Pupil Expenditures*.

Table 4.1d Teacher Salaries and Pupil Expenditures

	Hyderabad, India				
	Teacher Salary (Rupies)	In U.S. Dollars (45 Rupies/USD)	Mean Monthly Pupil Expenditure	In U.S. Dollars (45 Rupies/USD)	Expenditure as % of Minimum Salary (2310 Rupies)
Government	4 479	100			
Private unaided recognized	1 725	38	103	2.3	**4.4%**
Private unaided unrecognized	1 223	27	78	1.7	**3.4%**
Total	2 289	51			
	Lagos State, Nigeria				
	Teacher Salary (Naira)	In U.S. Dollars (130 Naira/USD)	Mean Monthly Pupil Expenditure	In U.S. Dollars (130 Naira/USD)	Expenditure as % of Minimum Salary (5500 Naira)
Government	20 781	160			
Private unaided recognized	6 415	49	1 091	8.4	**19.8%**
Private unaided unrecognized	5 598	43	748	5.8	**13.6%**
Total	9 389	72			

The table shows teacher salaries and pupil expenditures in Hyderabad and Lagos State (Tooley, Dixon 2006 and Tooley, Dixon & Gomathi 2007).

4.1.2.4 Material Inputs

In Hyderabad, the results show that private schools clearly outperform government schools on all indicators. Private unaided recognized perform the strongest concerning all material

inputs, and private unaided unrecognized take the number two spot. Interesting to note is that private aided often performs second worst on these indicators. See *Table 4.1e Availability of Material Inputs in Hyderabad*.

Table 4.1e Availability of Material Inputs in Hyderabad

	Blackboards		Desks		Fans		Audio Equipment		Chairs		Electric Light	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	246	(78)	6	(2)	18	(6)	18	(6)	22	(7)	35	(11)
Private aided	39	(80)	20	(41)	14	(29)	12	(25)	27	(55)	19	(39)
Private u.a. recognized	190	(96)	124	(63)	114	(58)	105	(53)	160	(81)	118	(60)
Private u.a. unrecognized	305	(94)	102	(31)	128	(39)	121	(37)	230	(71)	148	(45)
Total	780	(88)	252	(28)	274	(31)	256	(29)	439	(49)	320	(36)

	Drinking Water		Toilets		Separate Toilets		Library		Computers		Television	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	181	(58)	164	(52)	33	(11)	3	(1)	5	(2)	15	(5)
Private aided	43	(88)	46	(94)	26	(59)	12	(25)	13	(27)	10	(20)
Private u.a. recognized	195	(100)	191	(97)	163	(85)	64	(33)	98	(50)	59	(30)
Private u.a. unrecognized	312	(96)	315	(97)	184	(58)	35	(11)	43	(13)	16	(5)
Total	731	(83)	716	(81)	406	(48)	114	(13)	159	(18)	90	(11)

The table shows availability of material inputs in Hyderabad (Tooley, Dixon & Gomathi 2007).

4.1.3 Pupil Achievement

Finally, (except in Mahbubnagar, India), a stratified random sample of around 150 schools was selected from those found in the census (stratified by school size and management type – excluding the small number of private aided schools in Hyderabad), and between 3 000 to 4 000 students randomly selected from within these at primary grade 4 or 5, depending on in which country the achievement tests were carried out.

Through questionnaires given to the pupils, families, teachers and schools, Tooley and Dixon controlled for background variables, including family income and education, and for pupil IQ, and found through achievement tests (of mathematics and English) that the private schools, including the unregistered ones, were substantially outperforming government schools. See *Table 4.1f Test Scores*.

Table 4.1f Test Scores

Subject	School type	Hyderabad, India			Ga, Ghana			Lagos State, Nigeria		
		Mean % score	StdDev*	Cases	Mean % score	StdDev*	Cases	Mean % score	StdDev*	Cases
Maths	Government	39.19	25.95	991	56.21	20.09	1105	41.27	19.37	735
	Private unaided unrecognized	60.82	20.64	1108	61.66	18.88	570	55.48	19.72	783
	Private recognized (aided and unaided)	62.38	21.21	1161	68.26	16.63	1303	60.24	19.44	692
	Total	54.80	24.83	3260	62.53	19.19	2978	52.24	21.08	2210
English	Government	22.38	20.57	991	58.19	17.11	1103	42.68	20.03	734
	Private unaided unrecognized	53.90	19.79	1108	66.41	17.42	571	64.70	21.38	779
	Private recognized (aided and unaided)	58.69	21.30	1161	71.97	14.76	1301	71.83	20.48	688
	Total	46.02	25.91	3260	65.79	17.32	2975	59.59	24.04	2201

The table shows mean test scores from an achievement test in mathematics and English for the pupils studied in Hyderabad, Ga and Lagos (Tooley, Dixon 2006).

In their latest work Tooley *et al.* looked at even more input factors, this time adding *material inputs* (e.g. water, desks, toilets) to the previous indicators of *teacher inputs* (Tooley, Dixon & Gomathi 2007). These were selected since they had been the focus of previous research[16], where they had been seen as important proxies for the quality of the learning experience. On all factors the government schools were found to be inferior to the private ones.[17]

4.1.4 Conclusions

Even though Tooley and Dixon may have intended to investigate the role of private education for the poor, they have *de facto* remained within the urban and peri-urban areas (except in the case of Mahbubnagar, in which *pupil achievement* was not tested, and in Lagos state where one part, Badagry, is considered a rural area). Thus they have investigated what this thesis refers to as slums. This excludes any conclusions about the rural sector, something which many other researchers concern themselves with and remain skeptical about the private schools role in addressing. Nonetheless, in the slums Tooley and Dixon have provided further indications of a large role played by the private schools. They have also demonstrated that preconceived notions of inferior quality among the private schools need revisiting. Both on *pupil achievement*, *teaching inputs* and *material inputs* private schools performed better than public ones. This means that new opportunities have appeared:

> "The conclusion drawn by many – probably most – development experts is that 'education for all' means state education for all, and that the private sector is a distraction. However, are they missing another alternative? That is, to go with the grain of current

[16] These indicators were from the (World Bank 2003), (Nambissan 2003) and (Probe Team 1999).
[17] The data on this from Hyderabad, India, were published in Oxford Review of Education (Tooley, Dixon & Gomathi 2007) whereas data from Nigeria and Ghana have thus far only been published by the CATO institute (Tooley, Dixon 2005).

> parental choice, and think about the potential of private education to meet the educational needs of all" (Tooley 2004 p. 12).

4.2 Additional Research

Both urban and rural parts of the non-state provision of basic education in Nigeria have been investigated (Adelabu, Rose 2004). Despite a long history (even pre-colonial) of non-state actors providing education, the current situation is less clear. Adelabu and Rose conclude that:

> "there is little incentive for private schools to register, other than to avoid the threat of closure since the benefits they receive from government are extremely limited (if they exist at all) while disincentives in terms of cost and bureaucratic procedures are evident. Moreover, government schools themselves often do not meet the guidelines for minimum standards" (Adelabu, Rose 2004 p. 64).

By "little incentive" they may be referring to the fact that the Nigerian federal government stipulates that anyone who operates a private school *"should not run [them] essentially for monetary gains but purely as a humanitarian/social service"* (Adelabu, Rose 2004 p. 44). Nor does the difference in cost deter all Nigerians. Many parents indicate that if they believed that private schools offered their children better value for their money, they would take their children there. However, Adelabu and Rose temper any ideas that this would be relevant for pupils from low-income families.

> *"*Given financial constraints, although some private schools (particularly unapproved schools with lower fees) might include some children from low-income households, poorest households are more likely to send their children to government schools (if children are able to attend school at all)" (Adelabu, Rose 2004 p. 46).

This statement is clearly one that Tooley and Dixon would believe they now have the data to refute.

Rose more recently expanded on the role non-state providers could play for underserved groups, defined as those for whom access to affordable government services of appropriate quality is most problematic, and to best support these actors (Rose 2007). The results do not impress Rose. She paints a mostly bleak picture where when innovations are occurring with respect to non-state provision this is without much engagement and support from the government. This could be due to the *"on-going mutual mistrust between non-state providers and government which hinders constructive collaboration"* (Rose 2007 p. 48). More nefarious factors are also holding back innovation within the non-state sector. Rose finds

indications of outright *"collusion between elite, established providers with respect to quality assurance"* which *"can be at the expense of those potentially providing services to the poor"* (Rose 2007 p. 50).

The role of the private sector in provision of secondary schooling in several countries in Sub-Saharan Africa has also been investigated (Lewin, Sayed 2005). By looking at the dependency rates[18] and the ratio between average secondary teacher salaries and GDP per capita Lewin and Sayed concludes that without heavy subsidies the schools will be out of reach for the wallets of the poor. They then observe that such a subsidy is not available nor is it anywhere near certain that the governments concerned would have the capacity to administer the regulatory system that must accompany such a subsidy.

The lack of capacity is also something highlighted as part of the reason why so many private schools remain unregistered (Lewin 2007). For instance a survey in Malawi said that about 50 percent of private secondary schools were unregistered. These schools were also overwhelmingly urban and peri-urban, small, household based and casually staffed These suspicions combined with previously mentioned doubts about regulatory and oversight capacity show skeptical cautious attitude towards private schools. But this sometimes goes too far, or how can Lewin both be concerned that *"reducing [teacher] wage rates might damage both recruitment and motivation"* (Lewin 2007 p. 14) and at the same time call the increased competition for teachers that the private schools signify as *"possibly destructive"* (Lewin 2007 p. 18).

There are thus strong indications that there is a significant private sector in the slums. Most seem to appreciate the fact that these schools extend the availability of schooling to marginalized groups. Their quality is reportedly mixed, with some instances showing them performing better than government alternatives. Concerns are also about financing and spreading access to rural areas. In some countries there is the added aspect of large gender disparities.

[18] The proportion of 0-14 year-olds compared with the population of 15-54 year-olds.

5 Related Studies in Latin America

It is possible to take pieces from general studies carried out in Latin America and paint a picture that would seem to support the case made by Tooley and Dixon.

In Peru, it has been shown that rural Peruvian households are willing to pay fees high enough to cover the operating costs of new schools in their villages (Gertler, Glewwe 1990). The price elasticity of demand was even found to be higher for lower income groups. Teacher absenteeism in Ecuador indicates that absence is driven by features of the school, community and institutional environment rather than by individual factors and specifically by factors such as *poverty and urbanization, poor monitoring and discipline* and *distance from nearest Ministry of Education office* (World Bank 2003 pp. 136-162). A study of teacher absenteeism in Peru's public primary schools identified a number of key variables that help explain increased absence (Alcázar *et al*. 2006). They were *poor working conditions, teachers with few ties to the school's community, contract teaching* and *absence of private competition.* In Haiti, 75 percent of the primary schools are private. It has been found that although their quality is not up to standard, they constitute an expansion of access to a vast number of poor children who would otherwise not receive any schooling at all (Salmi 1998).

Hanushek and Woessman describe three institutional features as potential drivers to student learning: *choice and competition*, *decentralization and autonomy of schools*, and *accountability*, drawing attention to similarities between developing and developed countries in terms of positive effects due to private competition (Hanushek, Woessmann 2007 p. 68).

The next section will focus on the setting of Colombia and highlight the conditions facing the urban poor in the district of Aguablanca in Cali.

6 Education in Colombia

The educational systems in Latin American can be described as often a result of "*elite interests [rather] than those of the general population*" (Perkins *et al*. 2001 p. 326). Perhaps this favoring of the elites explains why Colombia on the surface fits the general picture of having exclusive private schools. The top universities are private and a very high share of the school children attends private schools (schools that are generally believed not to be in the slum). At the primary level, 28 percent are enrolled in private schools and at the secondary level that number rises to 40 percent (Tooley 1999).

Uribe *et al*. studied the differences in relative effectiveness of public and private elementary schools in the capital of Colombia, Bogotá (Uribe *et al*. 2005). They focused on the variables *teacher quality*, *class size* and *peer group composition*, which they demonstrated affect student achievement, measured by mathematics and language tests. The schools they investigated showed that 43 percent of the private schools enrolled primarily pupils from low-income families (i.e. the lowest two socio-economic strata) and only 10 percent from mainly high-income families (the highest strata). When comparing public schools with private ones they show that both types are equally effective. What differs is the combination of resources used to provide education, where private schools use more and cheaper (and less qualified) teachers than the public ones.

6.1 The National Level

In accordance with the Universal Declaration of Human Rights, the Constitution of Colombia expresses that education is one of the "fundamental rights of the children" and that "The State, the society and the family are responsible for the education, which will be mandatory between the ages of five and fifteen" … and … "free in the institutions of the State". At present, the official statistics show that more than 8.5 million children attend about 57 000 schools, public and private, in Colombia. The private sector in Colombia contributes to education more than in most Latin American countries, with official figures showing 15 percent of all primary schools and 40 percent of all secondary schools being private (World Bank 2002 p. 77). As a result of an incomplete decentralization process many years ago, poor management has been one of the most critical problems identified in Colombia's education sector. The country's schools were left weak and dependent, with few accountability mechanisms (World Bank 2002 p. 78).

6.2 Inequality[19]

As in many developing countries in Latin America, the difference in access to education between rich and poor is huge. Among the poorest children in ages 7-11 years, attendance is below 70 percent while the attendance of the richest deciles is above 90 percent. The difference in attendance is also great between urban and rural school aged children, 95.2 percent vs. 87.7 percent respectively.

Besides attendance, the even greater problem is the difference in quality of the education offered to the rich and the poor. "*More than half of the richest pupils attend private schools of good quality, while practically all the poorest attend public schools of inferior quality*" (Montenegro, Rivas 2005 p. 170). The reason for the poor state of public schools is said to be that the political leaders lack a stake in the public school system since their own children principally attend private schools.

6.3 Quality

The Colombian Ministry of Education could through national quality tests in 1997 and 1999 affirm that the educational situation in the country was critical.[20] In basic education, an average of one out of five pupils could understand well what they read; and only one out of ten could solve mathematical problems of any complexity (Montenegro, Rivas 2005 p. 171). Several international tests also indicated the low level of quality in Colombia's education in the end of the 1990s.[21] The Secretary of Education initially made great efforts to increase enrollment without increasing spending. However, in 2001, Law 715 was introduced which mandated that government spending on education shall have a direct relationship to the number of pupils attended. The same law introduced national knowledge tests in basic education as well as evaluation of basic competencies every three years. The capital Bogotá saw great success in this opportunity to decentralize the education and became an example for the rest of the country (Montenegro, Rivas 2005 p. 175).

[19] This subsection draws upon (Montenegro, Rivas 2005).

[20] This was done through the SABER exams that were developed in 1991. It was also decided that state exams would be a base of educational advancement. This lead to further national tests in the 1990s which gave a wider and more representative picture of the educational level in the country (Montenegro, Rivas 2005 p. 172).

[21] For example in the international test TIMSS (Trends in International Mathematics and Science Study) Colombia placed 42 out of 43 participating countries in 1996; according to UNESCO's test LLECE (Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación) in 1999 Colombia compared with the average in Latin America, below both Cuba and Chile. However, the rural population of Colombia surpassed the ones of other countries thanks to the internationally recognized achievement of the "New School" project.

6.4 Program for Increased Enrollment

The Colombian regulatory environment is friendly to private schools, not only are they legal, but actively encouraged through a *Program for increased enrollment* (PAC). This system mandates departments and municipalities to contract non-state entities to provide education where the State's educational institutions are deemed to be insufficient, meaning those areas most marginalized. It involves a process of application to the Secretary of Education from any independent entity that wishes to provide educational services in place of the State. To be eligible the funds certain requirements need to be fulfilled and the amount provided is dependent on the number of pupils attended.[22] The amounts received in 2007 varied between 590 000 and 750 000 COP per pupil (289 and 366 USD respectively).

In addition to the direct participation of educational services by thousands of private institutions, the Colombian private sector has a history of high participation in the improvement of the education of the country. Various foundations, entrepreneurs and interested groups, e.g., the Carvajal Foundation, have supported with financial resources and groups specialized in different aspects in education of the poorest groups. As much as 3.6 percent of the GNP is represented by private support to education (World Bank 2002 p. 77). Similarly, numerous NGOs contribute to a great extent to the improvement of the Colombian education (Montenegro, Rivas 2005 p. 179).

6.5 Cali

Cali is the capital of the department Valle del Cauca. In the 2005 census it had 2 075 380 inhabitants, making it the third largest city in Colombia. It has a history of relative prosperity but experienced a severe economic downturn from the mid-1990s. A large share of the city's population fell into unemployment and as much as above 25 percent fell below the poverty line. Most of this poor population is concentrated in two particular areas, the western mountain area *Siloé* and the large eastern district *Aguablanca*, the latter encompassing one-fifth of Cali's total population.

According to the World Bank, around 60 percent of the 400 000 students enrolled in Cali's school system in 1999 attended private schools (World Bank 2002 p. 81). In general, the quality of education in the city is comparable to the national average. Although enrollment in primary education increased in the country in the late 1990s, attendance in Cali fell from 98 percent in 1994 to 94 percent in 1998. With decreasing quality public schools were also

[22] PAC is directed to the Schools, not the pupils, and is thus not a "Voucher Model" as defined by the World Bank, but rather a "Service Delivery Model", since it is the Government that chooses which school will benefit.

shown to perform worse than private schools. As many as half of the city's public schools failed to reach the standards set by the National Testing Service, while the private schools had a 160 percent higher rate of high achievers. In 2007, the City of Cali carried out a study on the availability of material resources and teachers in the 90 public educational institutions in Cali. The final report and all data had become classified, to which Julio César Alonso from ICESI University and who had worked on the study commented by saying: "*I will not comment on the finding, but you are free to draw your own conclusions about why the results were classified*" (Alonso 2008). The study remains classified to this day and Dr. Alonso is not expecting it to be released anytime soon.

6.6 Aguablanca

Aguablanca is the largest low income area in Cali. It is officially constituted of three quarters, numbered 13, 14 and 15, covering an area of approximately 12 square kilometers. These three quarters have the combined population of 447 699, i.e., one fifth of Cali's total population (Escobar Morales 2007). Colombia has a national system, SISBEN, which categorizes its people according to their socio-economic level into 6 strata, where strata 1 include homeless people and people in extreme poverty and strata 6 reflects the highest level of affluence in the country. Almost all parts of Aguablanca are either strata 1 or 2 on this scale. According to official data, 45 588 children in Aguablanca were enrolled in primary education in 2006 (Escobar Morales 2007).

Social conditions in Aguablanca have for many years been among the worst in Cali, especially concerning family income and literacy rates. Besides being a less-educated population than Cali's population in general, Aguablanca's residents are comprised of larger families living in overcrowded conditions where general services are poor and violence exceptionally high. Homicide rates in the district are among the highest in the country, leaving children and young people outside of school and work at especially high risk of getting involved in illegal activities (Dávila 2002 pp. 17-18).[23]

[23] For details on homicide rates see (Escobar Morales 2007).

7 Field Work

7.1 Objectives

Recall that the research questions are the following:

1) How prevalent are private schools compared with public schools in Aguablanca?
2) How do private schools in Aguablanca compare with public schools on the following qualitative issues?
    i. *Teacher activity*
    ii. *Pupil-teacher ratio*[24]
    iii. *Teacher salaries* and *pupil expenditure*
    iv. *Material inputs*, i.e., *availability of blackboards, desks, fans, audio equipment, chairs, electric light, drinking water for children, toilets for children, separate toilets for boys and girls, availability of library for the children, number of book shelves in library, availability of computers for the children, number of computers* and *availability of television.*

It is therefore necessary to collect data on the existence and prevalence of private schools in order to properly measure their impact. The second step is then to measure the level of inputs, thus gaining an understanding of the service provided. Finally, it will be possible to gauge the effect of the private schools in Aguablanca, Cali.

By emphasizing inputs, one should not interpret this to mean that outputs such as *pupil achievement*, are unimportant – quite the contrary. However, to acquire such data it would be necessary to do a census of all pupils, stratify them in order to find comparable groups between public and private schools and then test them. The authors initially intended to take on this challenge as well in the investigation, but due to the limited resources available, this part of the study is better left for a future study.

This thesis will thus follow the method of Tooley and Dixon as closely as possible (Tooley, Dixon & Gomathi 2007). By investigating *teacher activity*, *pupil-teacher ratio* and *material inputs*, it will be possible to estimate how conducive the various schools are for learning.

[24] See footnote 11.

The study has collected data on 130 schools (public and private) in Aguablanca on the issues of:

- Number of pupils
- Gender of pupils
- Management type (public, private aided, private unaided recognized or private unaided unrecognized)
- Ownership type (charitable trust or society, religious organization, individual proprietor, partnership or commercial company)
- Year of founding and registration of school
- Number of teachers
- Average teacher salary
- Average pupil expenditure
- Activity level of teachers (teaching, non-teaching, absent etc.)
- Propensity of free and/or concessionary seats
- Material inputs, i.e., availability of blackboards, desks, fans, audio equipment[25], chairs and benches, electric light, drinking water for children, toilets for children, separate toilets for boys and girls, availability of library for the children, number of book shelves in library, availability of computers for the children, number of computers and availability of television.

The latter indicators (on material inputs) were not only used by Tooley and Dixon, but are also used by governments and go back to a book on education in Brazil (Harbison, Hanushek 1992). In a review of this book it is stated that:

> "the availability of software inputs (such as textbooks and writing materials) are a lot more cost-effective in raising student achievement, relative to hardware inputs such as school buildings" (Psacharopoulos 1994).

These findings have subsequently been called into question (Case, Deaton 1999). Case and Deaton argue that:

> "The only reasonable inference from a meta-study is that the mass of this literature permits no conclusion whatever ..." (Case, Deaton 1999 p. 1081) [but they] "… find strong and significant effects of pupil-teacher ratios on enrollment, on educational achievement, and on test scores for numeracy" (Case, Deaton 1999 p. 1047).

[25] Audio equipment refers to CD-player, cassette player or similar device.

Thus the findings of this thesis regarding teacher attendance, activity and their ratio to pupils should carry more weight than other inputs, such as availability of drinking water or library. This data will allow a comparison between public and private schools, as well as a comparison with previous studies.

7.2 Limitations

The data that this thesis builds upon include schools that have both primary and secondary education (cf. Tooley, Dixon & Gomathi 2007). Taking into account the possibility that schools with secondary education attract higher educated teachers, with higher salaries, this would skew the data towards higher salaries in these schools. If there are no differences in salaries for teachers for different levels, or only small ones, then this would be less of an issue. Other consequences of treating all primary schools the same (regardless if they also have a secondary level) is that the gender ratio might be more extreme in the larger schools (which is always those with both primary and secondary levels) since the difference between number of boys and girls increases with each grade.

Certain teachers are employed full-time, whereas many are only part-timers. Our salary data suffers from uncertainty in this regard.

7.3 Method

Similarly to the method of Tooley and Dixon, the field study for this thesis had three distinct elements: i) *locating* the schools, ii) *observing* teacher activity and the material inputs in the schools; and iii) *surveying* the principals, owners or head teachers.[26]

The first phase of conducting the study was greatly facilitated by the fact that almost all schools in Aguablanca are registered or are in the process of becoming registered under the Secretary of Education. Official lists gave us addresses to 248 schools, public and private, in the area. This information was not complete, albeit the few schools that were not on the list could be found thanks to assistance from the local heads of education and Corporación Juan Bosco, a local NGO. The official information about the schools was also not always correct, and when it was it did not automatically mean that the schools would be easy to find and access. Since some streets of Aguablanca can be characterized as quite irregular, locating even those schools with known addresses sometimes proved a challenge. Again, with local assistance it was possible to find most schools with reasonable effort.

[26] See Appendix for survey and observation form.

The second part, observing the schools, was also facilitated through the local heads of education and the Corporación Juan Bosco. Security is a major issue in Aguablanca, hence the majority of schools are locked at all times and often no one is allowed to enter without the expressed approval of the principal, who may or may not be present. In addition, the opening hours of schools vary, with most open only between daybreak and noon, others only in the afternoon and some others all day. Based on the perception that security was worse in the afternoon, it was initially decided that the research team would be visiting schools from early morning until noon only.[27] This might have skewed our data away from schools with only afternoon teaching hours. However, those were not plentiful and with increased familiarity with Aguablanca as well as increased team size these schools were no longer disadvantaged since work could continue into the afternoons as well.

Collecting data about the operations of the schools was often done in conjunction with the observation, but on several occasions these two parts had to take place separately. A notable example was during one week when all children had a sudden weeklong national holiday while the schools remained open.[28] This allowed for collection of data on the schools but not observation of teacher and pupil activity, since no classes were taking place.

In cases where the principal or owner, also referred to as *head teacher*[29], was not present and authority to enter could not be obtained, the schools were revisited once or twice to get as much data as possible. In total, roughly 200 schools were contacted, of which about 150 were observed, and 130 finally surveyed. The survey sample included 60 percent of the public schools and 50 percent of the private schools. These 130 schools are believed to constitute a representative and unbiased sample, since the reasons for lacking data on the other schools were random, e.g., issues of security, teacher strikes, school anniversaries and national holidays.

7.3.1 Differences

Since this thesis aims to compare its findings with those of Tooley and Dixon it is proper to highlight differences in our methods where such exists. A starting point could be to note the

[27] This judgment was supported by homicide statistics which is used as a proxy for general criminal activity since homicides are usually correctly accounted for (Escobar Morales 2007).

[28] This national holiday was declared through a surprise announcement by the President of Colombia only weeks before it was to occur. Needless to say, this initiative caused certain disruptions in the field work, not to mention the detrimental effects on teaching since everyone then had to cope with squeezed schedules following this sudden loss of a week's classes.

[29] The head teacher is defined as the main responsible at the school and thus for the smaller private schools is in general the principal or owner himself/herself.

different conditions affecting the field work of this thesis and that of Tooley and Dixon. The main difference here lies in the cultural and institutional context as well as in the fact that Colombia is a less poor country. In terms of differences in method these factors have not played a major role. Instead, the specifics of Aguablanca and the resources available explain most of the differences in method. For instance the relative lack of resources forced this thesis' field work to have a less comprehensive coverage of the schools in the studied area. On the other hand, the limited resources pushed the authors into the field to a larger extent than had been the case in previous studies. This, one could argue, augurs for a more homogenous data gathering and direct feed-back from the schools (something which made it possible to improve and clarify the survey).

The statistical universe of government schools in the studied area proved to be limited. This affected the possibility to statistically prove differences between public and private schools (aided or unaided). Previous studies found significantly more public schools and were thus able to test, and reject, the hypothesis that they were of equal quality to the private schools.

Considering the limited population of public schools, and thus the limited sample of these, it was not surprising that the p-values were too high to infer any significance. Therefore, those tests will be omitted from this paper. However, this omission should not deflect from the fact that the data do point in certain directions. Even if this was to be questioned, the fact remains that it is very hard to argue that public schools perform better than private ones (aided or unaided) on the measured indicators, as the data in the following chapter will show.

8 Data

This section will present the data found through the fieldwork for this thesis. All figures and tables are based on the surveys and observations made according to the method described in the previous section.

Few schools which were unrecognized by the local government were located in the process of this thesis. This could be the case due to both the lack of any incentive to hide (i.e. running a private school is not illegal) and presence of incentives to attract the governments' interest (e.g. through the program for increased enrollment, PAC). However, since the sample of these unrecognized schools is insufficient for drawing major conclusions, data related to that category of schools will for the most part be left without comment.

8.1 Quantity Aspects

8.1.1 Number of Schools and Pupils

Of the 130 schools located and surveyed only two of the private unaided recognized schools and one of the private unaided unrecognized schools were not found on the obtained government list of registered schools in the district of Aguablanca.[30] Three schools were on the list despite not having recognition. These were all found to be in the process of acquiring recognition.

In 128 of the surveyed schools a total of 55 286 pupils were registered. Of these, 19 802 pupils (less than 36 percent) were registered at 19 government schools. The rest attend 109 private schools of which 23 104 pupils (42 percent) attend 47 private aided schools, 12 182 pupils (22 percent) attend 58 private unaided recognized schools and 198 pupils (0.4 percent) attend the 4 private unaided unrecognized schools that were located. In the government schools, an average of 1 042 pupils attend each school whereas less than half, 492 pupils per school, attend the private aided schools. See *Table 8.1a Number of Schools and Pupils*.

[30] The two recognized schools not on the list have either given wrong information about their recognition or have been granted recognition only recently and have thus not yet been added to the official lists.

Table 8.1a Number of Schools and Pupils

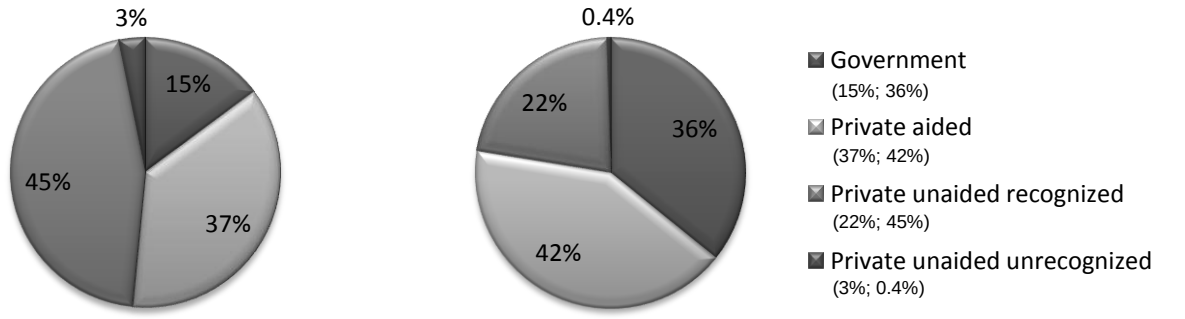
	No. Schools	No. Pupils	Min	Max	Mean
Government	19	19 802	195	3645	1042.21
Private aided	47	23 104	74	1424	491.57
Private unaided recognized	58	12 182	18	1330	210.03
Private unaided unrecognized	4	198	23	70	49.5
Total	128	55 286	18	3645	431.92

The table presents the total amount of schools and pupils and the distribution of the pupils among the different types of schools.

In other words, the government schools are on average twice as large as the average private aided schools. 210 pupils attend each private unaided recognized school on average whereas the private unaided unrecognized schools are on average attended by 50 pupils per school. The largest government school provides education to 3 645 pupils and the smallest to 195 pupils. The largest private aided recognized school serves 1 424 pupils and the smallest 74 pupils. The largest private unaided recognized school found was almost as large serving 1 330 pupils whereas the smallest serves only 18 pupils. The numbers for the private unaided unrecognized schools are 70 pupils for the largest school and 23 pupils for the smallest.

Interestingly, not only do the government schools encompass significantly less than half of the population (36 percent), but as a share of all schools they constitute less than 15 percent of all schools in the area. See *Figure 8.1a Share of Schools and 8.1b Share of Pupils*.

Figure 8.1a Share of Schools **Figure 8.1b Share of Pupils**



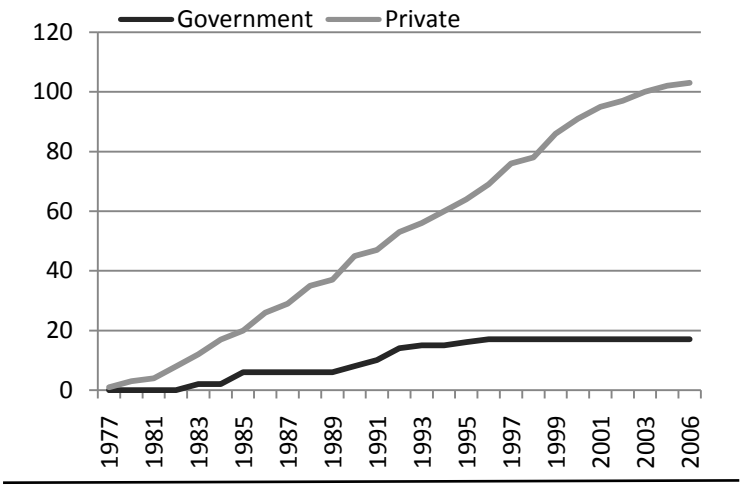
The figures present the share of schools and pupils according to their distribution among the different types of schools.

As the data presented thus far show, the 4 private unaided unrecognized schools found do not play a major role in the education sector in the district of Aguablanca. Also, since data on only 4 schools is insufficient for a fair comparison, these will not be included in the following sections.

8.1.2 Year of Founding and Registration

The cumulative number of schools, government or private, have taken very different paths of development. The private schools [here aided and unaided are treated jointly] have had a fairly constant growth since the beginning of the 1980s. Government schools have been set up in Aguablanca mostly during a ten-year period following 1985 and no new schools have been built since 1996. See *Figure 8.1b Year of Founding*.

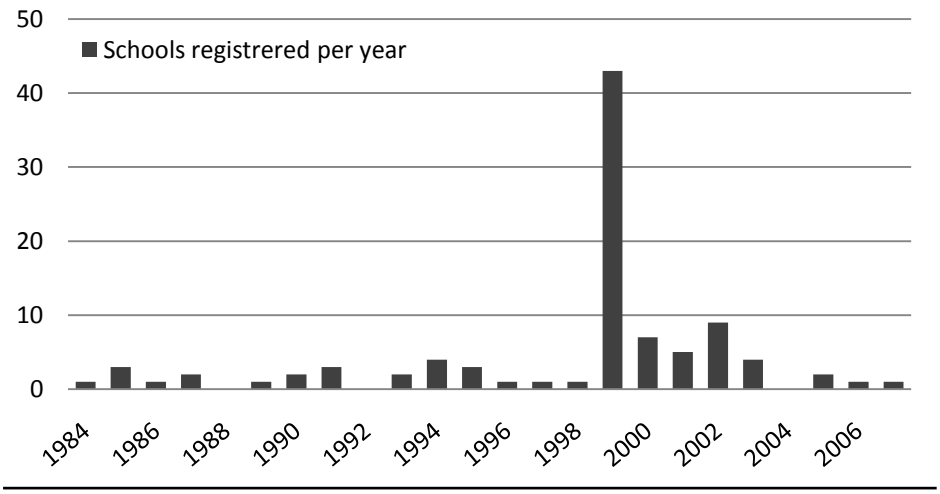
Figure 8.1c Year of Founding



The figure presents the cumulative amount of schools founded in Aguablanca from the year 1977 to 2006.

Not all private schools are registered with the government, but the vast majority are. This was done primarily in the wake of reports revealing the poor quality of schools published in the years 1997-99. As national education policy shifted, the private schools were approached, which is strikingly clear in *Figure 8.1d Attained Registration for Primary Level.*

Figure 8.1d Attained Registration for Primary Level



The figure shows the number of schools registered per year.

8.1.3 Gender Ratio of Pupils

A total of 116 schools in Aguablanca responded to the questions concerning gender ratio. The total number of girls registered at these schools is 28 936 and the total number of boys is 22 026. On average each school serves 249 girls and 190 boys. The average gender ratio for all schools is 1.32, i.e., 32 percent more girls than boys attend the schools located in Aguablanca. Additionally it was noted that the highest number of girls in a school is 2187, compared with 1458 for boys, whereas the lowest number of girls in a school is 8, compared with 10 for boys. Comparing the different types of schools the gender ratio is in government schools 1.42 (i.e. 42 percent more girls than boys); in private aided schools 1.39 and in private unaided recognized schools 1.22. On average 32 percent more girls than boys receive education in Aguablanca. See *Table 8.1b and 8.1c Gender Ratio of Pupils and Gender Ratio per Management Type.*

Table 8.1b Gender Ratio of Pupils

	No. Schools	Total	Min	Max	Mean
Number of girls at the school	116	28 936	8	2187	249.45
Number of boys at the school	116	22 026	10	1458	189.88
Gender ratio	116		0.43	3.2	1.3163
Gender share	116		0.3	0.76	0.5488

The table presents the division of girls and boys over the schools in the District of Aguablanca.

Table 8.1c Gender Ratio per Management Type

Management Type	No. Schools	Min	Max	Mean
Government	17	0.76	2.39	1.4222
Private aided	44	0.72	3.2	1.3907
Private unaided recognized	52	0.43	3	1.2237
Total	116	0.43	3.2	1.3163

The table presents the division of girls and boys over the schools and their distribution over the different types of schools.

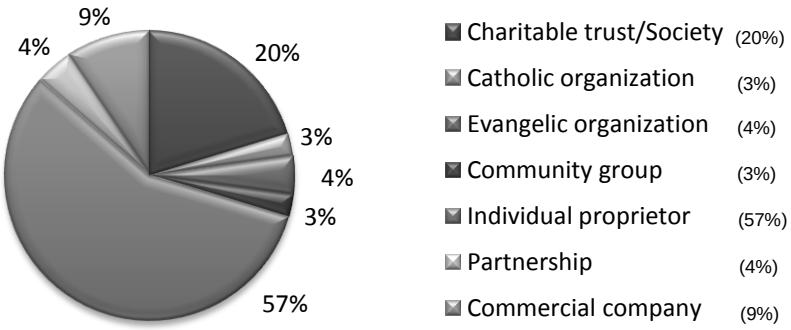
8.1.4 Ownership Type

A great majority (57 percent) of the 118 responding private schools was found to be owned by individual proprietors. A charitable trust or society was noted to own 20 percent of the private schools, and 9 percent were owned by a commercial company. Only 7 percent (8 schools) were found to be owned by a religious organization.[31] For 4 percent of the private

[31] Catholic or Evangelic.

schools a partnership constituted the ownership and for 2 percent a community group. See *Figure 8.1e Ownership Type*.

Figure 8.1e Ownership Type



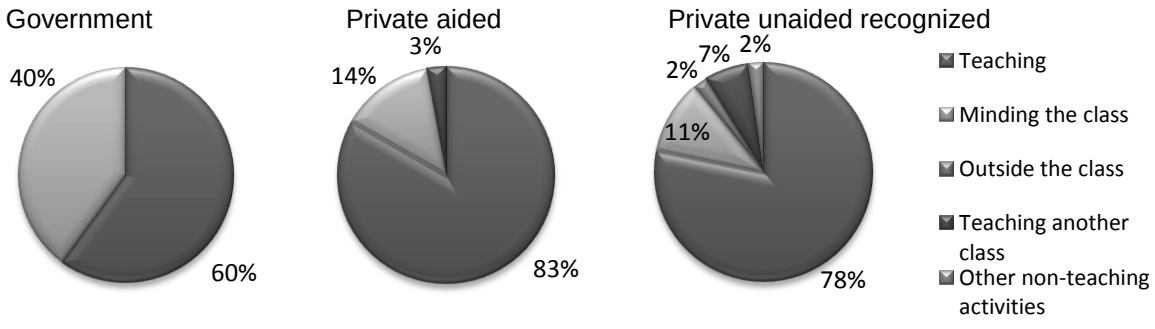
The figure presents the distribution of ownership types of the schools.

8.2 Quality Aspects

8.2.1 Teacher Activity

Concerning teacher activity, from 15 public schools studied, 60 percent of the teachers were in class teaching at the moment of observation. The remaining 40 percent were *minding the class*.[32] From the 35 private aided schools studied, 83 percent were in class teaching, 14 percent minding the class and 3 percent teaching another class. For the 41 private unaided recognized schools studied, 78 percent of the teachers were in class teaching, 11 percent minding the class, 2 percent being outside the class, 7 percent teaching another class and 2 percent engaged in other non-teaching activities. See *Figure 8.2a Teacher Activity*.

Figure 8.2a Teacher Activity



The figure shows the comparison in teacher activity among government schools, private aided schools and private unaided recognized schools.

[32] *Minding the class* is defined as the teacher's presence in the class room but with no teaching, answering of questions or class work in progress.

8.2.2 Pupil-Teacher Ratio

In total there were 1 821 teachers in the observed schools. The minimum amount of teachers that was found in a school was 1 and the maximum was 102. The average number of pupils per teacher was found to be 38 in the government schools, 30 in the private aided schools and 23 in the private unaided recognized schools. The highest amount of pupils per teacher was noted to be as high as 81, in a government school. See *Table 8.2a Pupil- Teacher Ratio*.

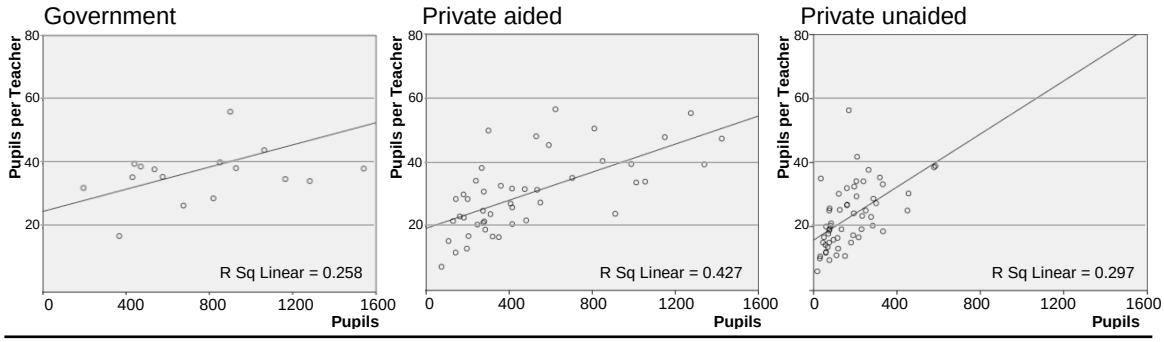
Table 8.2a Pupil-Teacher Ratio

	Total	Min	Max	Mean
Government	19	17.48	81.22	38.3759
Private aided	46	7.4	56.64	30.1407
Private unaided recognized	58	6	56.33	23.3252
Total	127	5.75	81.22	27.5832

The table presents the division of girls and boys over the schools.

There appears to be a correlation between pupil-teacher ratio and the number of pupils at a school. As seen in *Figure 8.2b Pupils per Teacher* the government schools are relatively large and many have a pupil-teacher ratio just below 40. This contrasts with the private aided and unaided, which include many more small schools with lower pupil-teacher ratios. Interesting to note is that the large private aided schools appear to have similar pupil-teacher ratios to the government schools, indicating that the perceived differences in pupil-teacher ratios could be a result of the differences in the number of pupils.

Figure 8.2b Pupils per Teacher



The scatter plots present the returns of scale with increasing school size, i.e., the larger the school the larger number of pupils per teacher observed in the different schools. This is especially noticable in the private unaided schools. Two outliers have been excluded from the government graph to facilitate comparisons

8.2.3 Teacher Salary and Pupil Expenditures

Concerning teacher salary data was gathered asking for average salary paid at the school. A clear difference between government and private schools can be noted. The average teacher salary is in government schools 488 USD, in private aided schools 284 USD and in private

unaided recognized 222 USD. In conjunction with *Teacher Salary* data on *monthly school fees* were also collected, yielding the information that those pupils attending private aided schools, but who themselves are not benefitting from the PAC-subsidy granted to some of their classmates, have to pay an average of 34 269 COP per month, about 17 USD. All pupils in private unaided schools, unless they benefit from some non-state sponsoring, will have to pay a monthly fee. On average this is 30 060 COP, or 15 USD. This is presented and compared with the Colombian minimum wage in *Table 8.2b Teacher Salary and Monthly School Fee* below.

Table 8.2b Teacher Salary and Monthly School Fee

	Cali, Colombia				
	Teacher Salary (COP)	In U.S. Dollars (2050 COP/USD)	Mean Monthly School Fee (COP)	In U.S. Dollars (2050 COP/USD)	Monthly Fee as % of Minimum Wage (433 700 COP)
Government	1 000 806	488			
Private aided	581 243	284	34 269	17	**7.9%**
Private unaided recognized	454 267	222	30 060	15	**6.9%**

The table presents the monthly teacher salaries (minimum, maximum and average) that the different schools pay.

8.2.3.1 Total Expenditures

In addition to monthly fees there are annual fees and *other costs*. Combining information on all these, it is possible to present an estimate of the total expenditure required for a parent to put a child in school. Since focus is on pupils instead of schools, this section has been divided into four categories, with private aided schools including two categories of pupils (one benefitting from PAC and one not). Two opposite tendencies become manifest, with annual fees being higher in public schools than private aided and private unaided. Regarding *other costs*, the tendency is the reverse. See *Table 8.2c Visible Annual Expenditures per Pupil*.

Table 8.2c Visible Annual Expenditures per Pupil

	Average monthly fee	Average annual fee	Average other costs*	Visible total expenditure**	Visible expenditure as % of min. wage (5 204 400)
Pupil in government school		59 756	56 250	116 006	**2.2%**
Pupil in private aided school receiving subsidy		49 132	67 577	116 709	**2.2%**
Pupil in private aided school not receiving subsidy	34 269	49 132	67 577	459 399	**8.8%**
Pupil in private unaided school	30 060	41 328	101 702	443 630	**8.5%**

The table presents the visible expenditures per pupil for the different schools and depending on subsidy (in Colombian Pesos, Exchange rage: 2050 COP/USD).

** School uniform, text books, execise books, transportation, examination fees, etc.*
*** Assuming 10 months of schooling per year.*

In order to properly compare the amount of resources spent per pupil a further piece must be added to the puzzle, namely that of the government subsidy. The government pays both to the government schools and the schools in the PAC an amount of at least 590 000 pesos per pupil. See *Table 8.2d Total Annual Expenditures per Pupil*.

Table 8.2d Total Annual Expenditures per Pupil

	Visible total expenditure**	In USD	Goverment subsidy***	Total expenditure	In USD
Pupil in government school	116 006	57	590 000	706 006	344
Pupil in private aided school receiving subsidy	116 709	57	590 000	706 709	345
Pupil in private aided school not receiving subsidy	459 399	224		459 399	224
Pupil in private unaided school	443 630	216		443 630	216

The table presents the total expenditures by both parents and government.

*** See table 8.2c Visible Annual Expenditures per Pupil.*
**** 590 000 COP is the minimum. Some schools receive up to 750 000 COP.*

8.2.4 Material Inputs

Concerning the material inputs of the schools, the availability of the following factors were studied: availability of blackboards, desks, fans, audio equipment, chairs and benches, electric light, drinking water for children, toilets for children, separate toilets for boys and girls, library available for the children, number of book shelves in the library, computers available for the children, number of computers and television.

8.2.4.1 Chairs, Toilets, Blackboards, Desks and Drinking Water

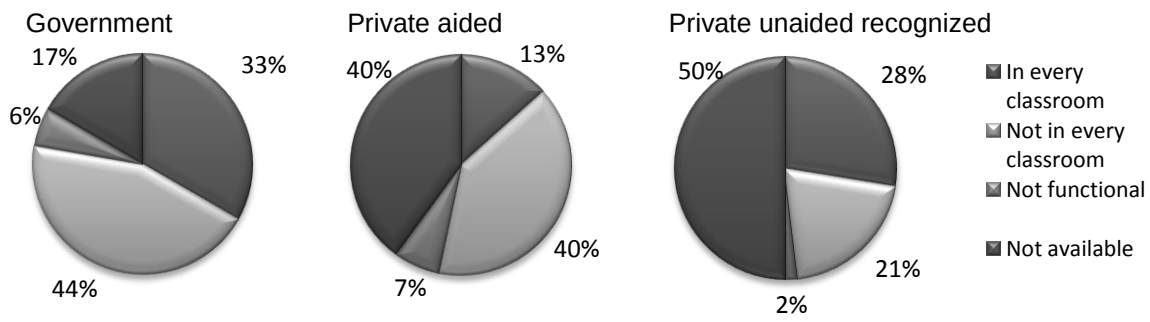
Chairs and toilets were found in all visited schools. Blackboards were observed as available in every classroom in all government schools, in 96 percent of the private aided schools and in 98 percent of the private unaided recognized schools. In the remaining schools blackboards were available but not in every classroom. Equal availability in the different school types was observed for desks, available in every classroom in all government schools and in 96 percent and 98 percent of the private aided and private unaided recognized schools respectively. Drinking water for the children was also observed in almost all of the schools. 7 percent (3 observations) of the private aided schools and 2 percent (1 observation) of the private unaided recognized schools had not access to functional drinking water.

The remaining factors, where significant differences between the different management types could be observed, will be elaborated upon in the following sections.

8.2.4.2 Fans

Fans were observed as available in every classroom in 33 percent of the government schools, in 13 percent of the private aided schools and in 28 percent of the private unaided recognized schools. In 44 percent of the government schools, in 40 percent of the private aided schools and in 21 percent of the private unaided recognized schools, fans were available but not in every classroom. In 23 percent of the government schools, 47 percent of the private aided schools and 52 percent of the private unaided recognized schools, fans were not functional or not available. See *Figure 8.2c Fans*.

Figure 8.2c Fans

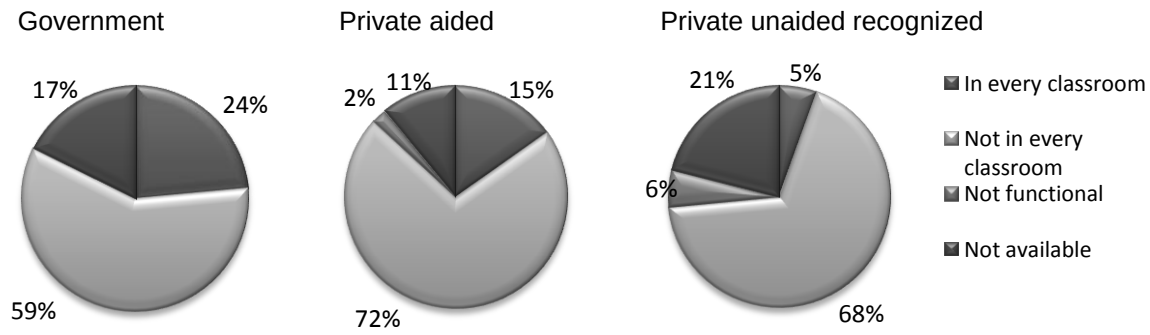


The figure shows the availability of fans in government schools, private aided schools and private unaided recognized schools.

8.2.4.3 Audio Equipment

Concerning audio equipment, 24 percent of the government schools, 15 percent of the private aided schools and 5 percent of the private unaided recognized schools had availability in every classroom. For 59 percent of the government schools, 72 percent of the private aided schools and 68 percent of the private unaided recognized schools, audio equipment was observed as available but not in every classroom. It was observed as unavailable or not functional in 17, 13 and 27 percent respectively for government, private aided and private unaided recognized schools. See *Figure 8.2d Audio Equipment*.

Figure 8.2d Audio Equipment

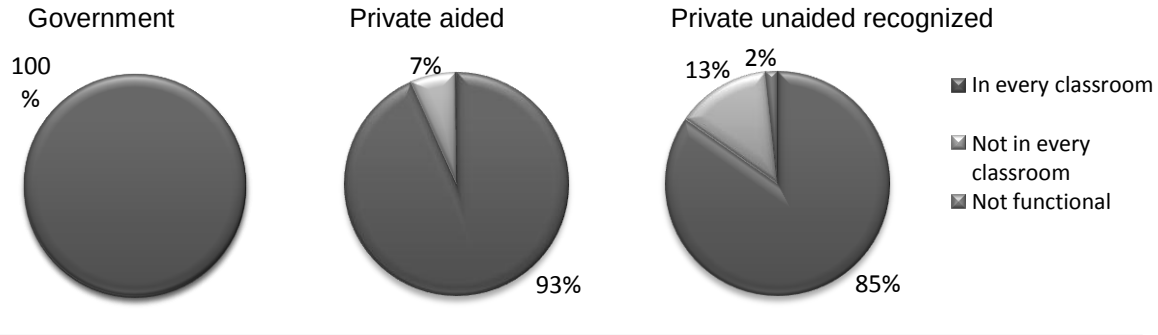


The figure shows the availability of audio equipment in government schools, private aided schools and private unaided recognized schools.

8.2.4.4 Electric Light

Electric light was available in all governmental classrooms, in 93 percent of all the private aided classrooms and in 85 percent of all private unaided recognized classrooms. In 7 percent of the private aided schools and in 13 percent of the private unaided recognized schools was electric light available but not in every class room. In only 1 private unaided recognized school (2 percent) was the electric light not functional. See *Figure 8.2e Electric Light*.

Figure 8.2e Electric Light

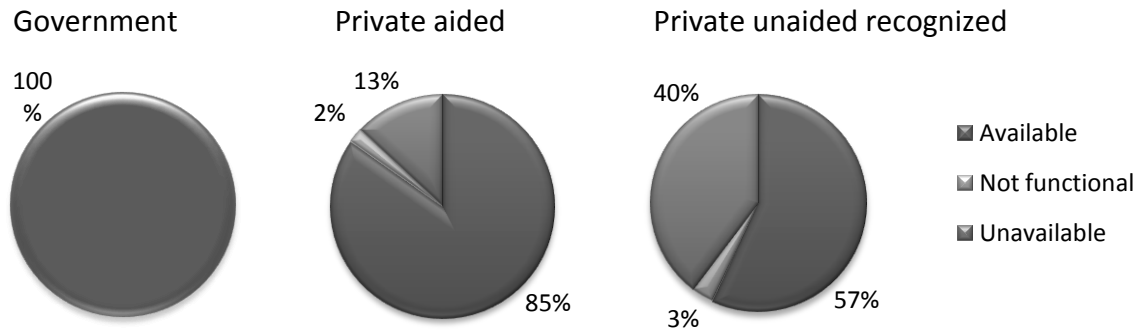


The figure shows the availability of electric light in government schools, private aided schools and private unaided recognized schools.

8.2.4.5 Separate Toilets

Although toilets were available in all schools, separate toilets for boys and girls were available in 85 percent of the private aided schools and in 57 percent of the private unaided recognized schools and in all government schools. See *Figure 8.2f Separate Toilets*.

Figure 8.2f Separate Toilets

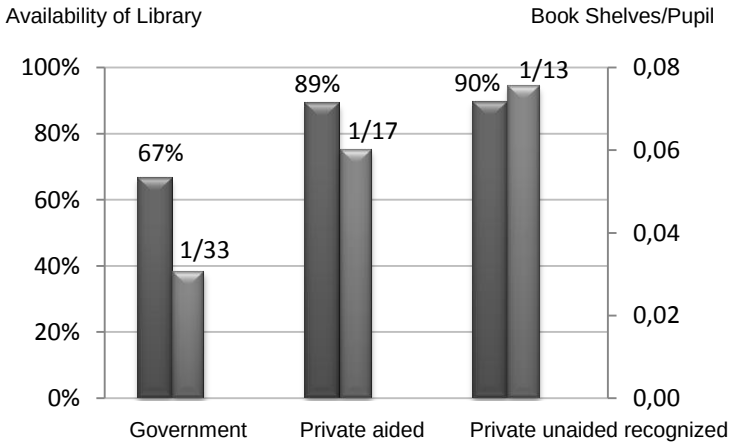


The figure shows the availability of separate toilets for boys and girls in government schools, private aided schools and private unaided recognized schools.

8.2.4.6 Library

Concerning libraries data was collected on their existence and also on approximate size in terms of the *number of book shelves* filled with books available for the children. For the government schools 67 percent had a library available for the children, with an average of 1 book shelf per 33 pupils. For the private aided schools 89 percent had a library available for the children, with an average of 1 book shelf per 17 pupils. As many as 90 percent of the private unaided recognized schools had accessable libraries for the children, with an average of 1 book shelf per 13 pupils. See *Figure 8.2g Library*.[33]

Figure 8.2g Library



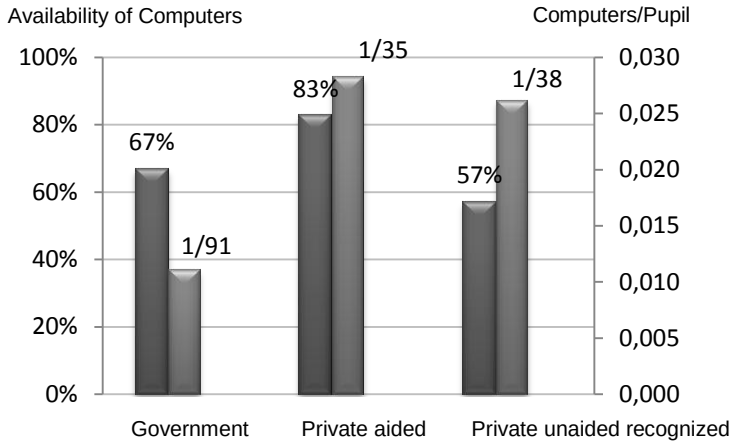
The figure shows the availability of library on the left side and the number of book shelves per pupil on the right side in government schools, private aided schools and private unaided recognized schools.

[33] The term *number of book shelves* refers to approximated meters of shelves filled with books. As some book shelves were of different size than others *shelf meters* rather than the actual number of book shelves was used.

8.2.4.7 Computers

In 67 percent of the government schools are computers available for the children, with an average of 1 computer per 91 pupils. In 83 percent of the private aided schools are computers available with an average of 1 computer per 35 pupils, a notable difference in access for the pupils compared with the government schools. 57 percent of the private unaided recognized schools have computers available for the children with an average of 1 computer per 38 pupils. See *Figure 8.2h Computers*.

Figure 8.2h Computers

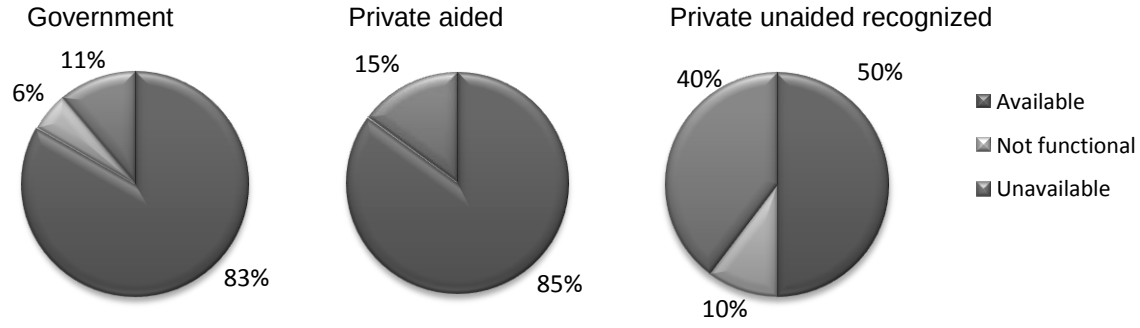


The figure shows the availability of computers on the left side and the number of computers per pupil on the right side in government schools, private aided schools and private unaided recognized schools.

8.2.4.8 Television

Of the government schools 83 percent have availability of television sets for the children. Of the private aided schools 85 percent have television sets available for the children and of the private aided schools 50 percent have television sets available for the children. The remaining shares have television sets either not functional or unavailable for the children. See *Figure 8.2i Television.*

Figure 8.2i Television



The figure shows the availability of television sets in government schools, private aided schools and private unaided recognized schools.

9 Analysis

This chapter aims to use the data gathered in Aguablanca to illuminate on the education situation there and its implications for what was previously known about Aguablanca. Then the analysis will be expanded to put the data in the context of non-state schools for the poor in general.

9.1 Aguablanca

The analysis will directly answer the research questions posed in the beginning of this thesis.

9.1.1 Answering Research Question 1

How prevalent are private schools compared with public schools in Aguablanca?

It is proven beyond doubt that the private sector providers of education play a major role in Aguablanca. State schools constitute a clear minority both in number of schools (less than 15 percent of all schools) and pupils (barely 36 percent of all pupils). This leaves the private schools with an overwhelming majority of both schools (85 percent) and pupils (64 percent). Given this large role, it is not surprising that the local authorities are aware of the sector's existence. Nonetheless, this is a revelation to the academic world, even in Colombia as mentioned in section 6.2 (Inequality), where Montenegro and Rivas were quoted as saying that "*practically all the poorest attend public schools*". Nor have these schools sprung up in the recent years, as shown in section 8.1.2 (Year of Founding and Registration). Many schools were founded before the introduction of PAC, which gives support to the idea that part of the appeal with non-state providers, is that they increase the prevalence of education. It is also clear that once the government wanted to engage with the private schools, after the revelations of the poor quality of schooling in Colombia as seen in section 6.3, the private schools registered *en masse*.

Another relevant aspect of the prevalence of non-state providers is the gender ratio among the pupils. Nationally, Colombia has a small gap in the Net Attendance Ratio (NAR) between boys and girls, with boys being, on average, 2.2 percentage points less likely to attend school. This national trend was at it's strongest among the poor, something that was backed by the data from Aguablanca. There, the gender ratio of pupils is heavily tilted in favor of girls, with an average 32 percent more of them enrolled than boys. Interestingly, the private schools are less gender unbalanced than the government schools. The root cause of this imbalance is not known, but if one were to hazard a guess, the level of criminal activity in Aguablanca is probably no small reason behind it.

Even though it is beyond the scope of this thesis one should note a geographical difference. Private schools, mainly by virtue of being smaller and much more numerous, are more spread out. Based on the authors' observations in Aguablanca, government schools, in addition to being significantly fewer, also seem to be situated towards the edges of quarters, hence increasing the average distance to school faced by pupils of these schools. Distance is an important factor when deciding which school to go to, since security is inversely proportional to the distance needed to walk in Aguablanca. For some children a walk longer than 500 meters is out of the question, and any school beyond that is effectively out of reach.

9.1.2 Answering Research Question 2

How do private schools in Aguablanca compare with public schools on the following qualitative issues?

9.1.2.1 Teacher Activity

The number of government teachers who are simply minding the pupils, as opposed to teaching them, is more than twice as large and constitutes two-fifths of all government teachers. Secondly, private school teachers have a tendency to do other things while class is in progress, mainly teaching another class (in parallel).

Head teachers display a similarity in the extent that they are in their office or doing some work-related task, regardless of which type of school they work for. The differences instead become manifest when looking at how large a share of them engages in teaching or are simply absent. The difference in propensity to do actual teaching could be explained by the fact that those schools where the head teacher was teaching are mostly small schools (mean: 141 pupils; median: 108). The reason for the high absenteeism of head teachers is somewhat more mysterious. Their schools are large (both mean and median just above 600 pupils). One possibility is that these relatively large schools are subdivisions of municipal schools, which tend to share head teacher, and hence, that person might be at one of the other schools at the time of the sampling.

9.1.2.2 Pupil-Teacher Ratio

In terms of the number of pupils per teacher this paper has shown that there are substantial differences between the different types of schools. Government schools have almost 40 percent more pupils per teacher than the average school. Private aided schools have 10 percent more pupils per teacher than the average school. Only the private unaided schools have 15 percent less than the average school. If private schools, both aided and unaided, are

compared with the government schools, it is revealed that government schools on average have 46 percent more pupils per teacher.

Possible explanations for why the average pupil-teacher ratio is much higher in government schools could be that they have more expensive teachers, as seen in section 8.2.3 and below in 9.1.2.3. Also, there seems to be a correlation between pupil population and the pupil-teacher ratio, but this appears only to be the case with pupil populations below 700. This could be interpreted as if increasing returns to scale peters out at that level.

9.1.2.3 Teacher Salaries and Pupil Expenditures

The Salaries received by teachers at the private unaided schools were approximately equal to the minimum wage, whereas the teachers at the private aided schools earned circa 40 percent more and government school teachers more than the double. This information forms a stark contrast to that in 9.1.2.1., which showed that government school teachers perform the worst on the issue of simply teaching their students. The correlation between money and performance seems to run in reverse. That no correlation between funding and outcomes exist has most succinctly been put by Eric Hanushek, who said that what such an assumed correlation misses, is that *"bad teachers want more money just as much as good teachers*" (Hanushek 2008).

Furthermore, the burden of the expenditures per pupil was estimated and found to be roughly two percent of income for parents of pupils in government schools or those benefitting from PAC. Others had an expenditure equivalent of between eight and nine percent of the minimum wage. This translates to a difference of paying 1 USD per week or 4 USD. But this was not the final word. For a proper comparison, it is not necessary to only consider the expenditures of the parent but of other actors, in this case the government. When that subsidy is included, the actual expenditure per pupil is more than 50 percent higher in the government schools or per pupil benefitting from PAC.

9.1.2.4 Material Inputs

The material inputs studied are blackboards, desks, fans, audio equipment, chairs and benches, electric light, drinking water for children, toilets for children, separate toilets for boys and girls, availability of library for the children, number of book shelves in library, availability of computers for the children, number of computers and availability of television.

On three of these accounts (chairs and benches, toilets, and drinking water) there were no differences. This alone is an interesting fact, since differences would have been expected.

This is worth pondering on. Two conclusions can be drawn from this: either both private and government schools are truly reaching the standards set or these standards are not suitable as quality indicators. On all of the indicators blackboards, fans, audio equipment, electric light and separate toilets, baring perhaps audio equipment, the government schools score higher than the private schools. On the other hand, the private schools outperform government schools both in availability of libraries and computers, as well as in number of book shelves and number of computers per pupil, interpreted as significantly superior access to these for private school pupils. See *Table 9.1a Availability of Material Inputs in Cali.*

Table 9.1a Availability of Material Inputs in Cali

	Blackboards		Desks		Fans		Audio Equipment		Chairs		Electric Light	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	18	(100)	18	(100)	14	(78)	14	(82)	18	(100)	18	(100)
Private aided	44	(96)	46	(100)	24	(53)	40	(87)	45	(100)	46	(100)
Private unaided recognized	59	(100)	59	(100)	28	(48)	41	(75)	59	(100)	58	(98)

	Drinking water		Toilets		Separate Toilets		Library		Computers		Television	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	18	(100)	18	(100)	18	(100)	12	(67)	12	(67)	15	(83)
Private aided	43	(94)	46	(100)	39	(85)	41	(89)	38	(83)	40	(85)
Private unaided recognized	58	(98)	59	(100)	33	(57)	52	(90)	33	(57)	29	(50)

The table summarizes the availability of the material inputs in Cali.

9.2 Private Schools in the Slums

In addition to revealing the situation in Aguablanca, this thesis aims to investigate how its findings compare with what is known through previous studies in other places.

9.2.1 Quantity Comparison

This thesis has presented data that prove the existence of private schools serving low income families. What is different is the number of private aided schools and the proportion of children they provide education for. In addition, this paper has demonstrated that these actors are plentiful and constitute a significant (even a majority) of the educational sector, based on share of pupils and also share of schools. Both these findings are in line with previous research. Combining data from Hyderabad, Ga, Lagos and Mahbubnagar (Table 4.1a) and the data from Cali (Table 8.1a) results in the following *Table 9.2a Number of Schools and Pupils*.[34]

[34] Keep in mind that from Hyderabad and Mahbubnagar Tooley and Dixon did find private aided school but that these were merged with the Private unaided recognized.

Table 9.2a Number of Schools and Pupils

	Cali, Colombia			Hyderabad, India			Ga, Ghana			Lagos State,			Mahbubnagar, India		
	No. Schools	% School	% Pupils	No. Schools	% Schools	% Pupils	No. Schools	% Schools	% Pupils	No. Schools	% School	% Pupils	No. Schools	% Schools	% Pupils
Government	19	14.8	35.8	320	34.9	24.0	197	25.3	35.6	185	34.	26	384	62.4	47.8
Private aided	47	36.7	41.8	49	5.3	11.4	0	0	0	0	0	0	13	2.1	4.3
Private unaided recognized	58	45.3	22.0	214	23.3	41.5	405	52	49.1	122	22.	42	141	22.9	41.2
Private unaided unrecognized	4	3.1	0.4	335	36.5	23.1	177	22.7	15.3	233	43.	33	77	12.5	6.6
Total	128	100	100	583	63.5	76.9	779	100	100	540	100	100	615	100	100

The table shows the number and proportion of different school types from the different studies comparable to this one.

It is striking that only four unrecognized private schools were found. This is likely because of the different institutional setting, i.e., they are both legal and encouraged to register. Contrast this with India, where private schools are illegal, or with Nigeria, where they are resisted by the authorities.

9.2.2 Quality Comparison

When comparing the activity of teachers from the different types of schools, the data from Cali confirms the previous finding of government schools performing the worst. Hyderabad looks more like the odd one out (with fully 97.5 percent teaching in private unaided recognized schools), with Cali's private schools performing similarly to private schools in Ga, Lagos and Mahbubnagar. Combining data from Hyderabad, Ga, Lagos and Mahbubnagar (Table 4.1b) and the data from Cali (Table 8.2) results in the following *Table 9.2b Teacher Activity in Primary Schools*.[35]

Table 9.2b Teacher Activity in Primary Schools

	Activity of the teacher	Cali, Colombia	Hyderabad, India	Ga, Ghana	Lagos, Nigeria	Mahbubnagar, India
Government	Teaching	60.0	74.6	56.7	67.3	63.6
	Non-teaching	40.0	19.7	28.3	24.5	28.9
	Absent	0.0	5.7	15.0	8.2	7.5
Private aided	Teaching	83.3	N/A	N/A	N/A	N/A
	Non-teaching	16.7	N/A	N/A	N/A	N/A
	Absent	0.0	N/A	N/A	N/A	N/A
Private unaided recognized	Teaching	78.3	97.5	75.0	87.9	82.7
	Non-teaching	21.8	2.0	19.8	11.1	12.7
	Absent	0.0	0.5	5.2	1.0	4.5
Private unaided unrecognized	Teaching	N/A	90.5	66.4	87.0	80.0
	Non-teaching	N/A	5.5	24.4	12.0	13.3
	Absent	N/A	4.0	9.2	1.1	6.7

The table shows activity of the teachers in the different studies comparable to this one.

[35] Again, keep in mind that from Hyderabad and Mahbubnagar Tooley and Dixon did find private aided schools but that these were merged with the Private unaided recognized.

Even though the level of teaching activity in Cali is far from ideal, it is notable that no absenteeism is detected in either government or the private schools. What this might be caused by is not certain to the authors, maybe thanks to better institutions or higher GDP

Concerning pupil-teacher ratio the data from Cali also fits well with previous studies, perhaps even demonstrating larger differences between government schools and the rest, than what was found in Hyderabad and Lagos. It is also noticeable how close the Cali and Hyderabad numbers are, with the exception for the private aided schools. Combining data from Hyderabad and Lagos (Table 4.1c) and the data from Cali (Table 8.4) results in the following *Table 9.2c Pupil-Teacher Ratio and Class Size*.

Table 9.2c Pupil- Teacher Ratio and Class Size

	Cali, Colombia	**Hyderabad, India**	**Lagos, Nigeria**
	Mean pupil-teacher ratio	Mean pupil-teacher ratio	Mean class size
Government	38.38	42.35	27.13
Private aided	30.14	43.26	N/A
Private unaided recognized	23.33	21.63	19.30
Private unaided unrecognized	27.58	27.03	17.82

The table compares the pupil-teacher ratio and class size in Cali, Hyderabad and Lagos.

Similarly as with *activity of teachers*, the data on *teacher salaries* in Cali follow the pattern of previous findings. Government school teachers earn more than twice as much as the teachers of private unaided schools in Cali compared with around three times as much in Hyderabad and Lagos. The fact that teacher salaries are close to five times as high in Cali as in Hyderabad and Lagos is certainly because of the fact that Colombia's GDP per capita is larger than that of India's and Nigeria's by a similar order. Looking at monthly fee as a percentage of minimum wage (comparison applicable only for private unaided recognized schools) Cali positions itself with 6.9 percent between Hyderabad's 4.4 percent and Lagos' 19.8 percent. Combining data from Hyderabad and Lagos (Table 4.1d) and the date from Cali (Table 8.5) results in the following *Table 9.2d Teacher Salaries and School Fees*.

Table 9.2d Teacher Salaries and School Fees

	Cali, Colombia				
	Teacher Salary (COP)	In U.S. Dollars (2050 COP/USD)	Mean Monthly School Fee	In U.S. Dollars	Monthly Fee as % of Minimum Wage (433 700 COP)
Government	1 000 806	488			
Private aided	581 243	284	34 269	16.7	**7.9%**
Private unaided recognized	454 267	222	30 060	14.7	**6.9%**
Private unaided unrecognized	N/A	N/A	N/A	N/A	
Total	581 194				
	Hyderabad, India				
	Teacher Salary (Rupies)	In U.S. Dollars	Mean Monthly School Fee	In U.S. Dollars	Fee as % of Minimum Wage (2310 Rupies)
Government	4 479	100			
Private aided	N/A	N/A	N/A	N/A	
Private unaided recognized	1 725	38	103	2.3	**4.4%**
Private unaided unrecognized	1 223	27	78	1.7	**3.4%**
Total	2 289				
	Lagos State, Nigeria				
	Teacher Salary (Naira)	In U.S. Dollars	Mean Monthly School Fee	In U.S. Dollars	Fee as % of Minimum Wage (5500 Naira)
Government	20 781	160			
Private aided	N/A	N/A	N/A	N/A	
Private unaided recognized	6 415	49	1 091	8.4	**19.8%**
Private unaided unrecognized	5 598	43	748	5.8	**13.6%**
Total	9 389				

The table shows a comparison of teacher salaries and school fees between Cali, Hyderabad and Lagos State.

When comparing the availability of material inputs, the first thing that is apparent is the number of indicators in which the different types of schools in Cali all have 100 percent availability, or near full availability. These cases are hard to draw conclusions from, except maybe that those indicators are impossible to use in Cali for distinguishing quality among the schools. The other indicators are much more interesting. Of those showing differences among Cali's different types of schools, the indicators on fans and separate toilets all show a reversal of the data from Hyderabad. In Cali the public schools outperform the private ones on these indicators. However, on technical equipment the picture is either unclear (audio equipment and television), hinting at a private sector advantage (computers) or clearly indicating that the private schools are outperforming the public ones (library). See *Table 9.2e Availability of Material Inputs in Cali and Hyderabad*.

Table 9.2e Availability of Material Inputs in Cali and Hyderabad

	Blackboards				Desks				Fans			
	Cali		Hyderabad		Cali		Hyderabad		Cali		Hyderabad	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	18	(100)	246	(78)	18	100	6	(2)	14	(78)	18	(6)
Private aided	44	(96)	39	(80)	46	100	20	(41)	24	(53)	14	(29)
Private unaided recognized	59	(100)	190	(96)	59	100	124	(63)	28	(48)	114	(58)

	Audio Equipment				Chairs				Electric Light			
	Cali		Hyderabad		Cali		Hyderabad		Cali		Hyderabad	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	14	(82)	18	(6)	18	(100)	22	(7)	18	(100)	35	(11)
Private aided	40	(87)	12	(24)	45	(100)	27	(55)	46	(100)	19	(39)
Private unaided recognized	41	(75)	105	(53)	59	(100)	160	(81)	58	(98)	118	(60)

	Drinking Water				Toilets				Separate Toilets			
	Cali		Hyderabad		Cali		Hyderabad		Cali		Hyderabad	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	18	(100)	181	(58)	18	(100)	164	(52)	18	(100)	33	(11)
Private aided	43	(94)	43	(88)	46	(100)	46	(94)	39	(85)	26	(59)
Private unaided recognized	58	(98)	195	(100)	59	(100)	191	(97)	33	(57)	163	(85)

	Library				Computers				Television			
	Cali		Hyderabad		Cali		Hyderabad		Cali		Hyderabad	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Government	12	(67)	3	(1)	12	(67)	5	(2)	15	(83)	15	(5)
Private aided	41	(89)	12	25)	38	(83)	13	(27)	40	(85)	10	(20)
Private unaided recognized	52	(90)	64	(33)	33	(57)	98	(50)	29	(50)	59	(30)

The table shows a comparison of material inputs between Cali and Hyderabad.

10 Conclusions

This thesis has studied the topic of private schools in Aguablanca, the largest slum in Cali, Colombia, and their role in providing an effective primary education. It was shown that they constitute as much as 85 percent of all schools and encompass 64 percent of all pupils in the area and thus play, without question, a vital role in providing education there, as has been the case for at least the last three decades. Private schools also continue to increase in number into today, whereas government schools have not become more numerous since 1996.

The overall findings concerning *teacher activity* show that teachers in private schools are more active than their government colleagues. The difference is clearly in favor of the private sector, with 83 percent of the private aided school teachers and 78 percent of the private unaided recognized school teachers teaching at the time of observation, compared with 60 percent of the teachers in government schools. This superior performance of the private schools, aided and unaided, is especially notable since they have fewer financial resources. This is primarily true for the unaided schools, which make due with only two-thirds of the amount of funds that government schools have per pupil.

Pupil-teacher ratio was also significantly better for private schools, with an average of 30 pupils per teacher in private aided schools and 23 pupils per teacher in private unaided recognized schools, compared with 38 pupils per teacher on average in the government schools. This appears to be a result of the difference in size (i.e. number of pupils) between the schools.

The material inputs were more evenly available over government and private schools, with an overweight in availability of some variables for government schools. Chairs and benches, blackboards and drinking water were all similarly available for children in both government and private schools. Concerning the remaining factors (fans, audio equipment, electric light and separate toilets) government schools show significantly better availability, whereas the private schools surpass the government schools in availability of libraries and computers as well as in access to these for the pupils. Due to these contradictory findings it is only possible to conclude that government schools outperform private ones on more material input indicators than vice versa, but not to suggest that government schools are superior to private ones on the issue of material inputs.

The material inputs investigated in this paper can be addressed through increased resources, such as *electricity* and *fans*. *Teacher activity* is not one of these. Hence, it is striking that this

is the area in which both private aided and unaided outperform government schools. Government schools on the other hand could be said to have an edge in terms of facilities.

Comparing the findings from Aguablanca with those from previous studies there are many similarities. For instance, the role of government schools in Cali is limited to only providing education to approximately a third of all pupils. This is true also in Lagos, Hyderabad and Ga.

Concerning teacher activity, the results are also markedly similar. Around 60 percent of the government school teachers in Cali, as well as in Ga and Mahbubnagar were observed to be teaching at the time of the visit. In private unaided schools the numbers were also strikingly similar in the proximity of 80 percent in Cali as well as in Ga, Lagos and Mahbubnagar. Looking at pupil-teacher ratios, it is also clear that government schools have significantly higher values in all the three investigated places (Cali, Hyderabad and Lagos).

Also teacher salaries showed similar findings in Cali as in both Hyderbad and Lagos, with government school teachers earning significantly higher salaries than the private unaided school teachers. In Cali the amount was twice as much and in Hyderabad and Lagos about three times as much.

Returning to the question posed in this paper – Do private schools in the slums provide an effective primary educational service? – it is possible to conclude the following: They certainly constitute the major provider of education in Aguablanca and they surpass government schools on the key indicators *teacher activity* and *pupil-teacher ratio*. Regarding *material inputs*, government schools seem to perform better but only ambiguiously so. Added to this is the fact that government schools have more resources at their disposal. The conclusion drawn by this paper is that the initial question can be answered in a clear affirmative. This result thus confirms those of previous studies on this topic.

11 Discussion

"Well, it was first, second, third grade, fourth grade, too,
Where I had to learn the big things the big kids do,
To add, subtract, and multiply, read and write and play,
How to sit in a little uncomfortable desk for nearly half a day."
- John McCutcheon

Based on the data this thesis has presented on Aguablanca and those of previous studies, it is apparent that private schools are playing a vital role in providing education to the poor in developing countries. More research is always welcome, but if taking what is already becoming clear, and thinking about the implications of these findings, a few points deserve to be discussed.

First, there is a huge section of the educational sector which is currently being ignored. This can be engaged by local governments (as is already the case in some places, but not all), NGOs (ditto) and development agencies (of which there are no known instances of collaboration). Their efforts can be broad or targeted to helping pupils with funds, schools with materials, teachers with training or government with supervision. A multitude of possibilities beckon!

Fortunately, the Swedish International Development Cooperation Agency seems to have the right attitude. They (Sida 2007) write:

> "In order to reach the poorest sections of the population it is not enough to build schools in their vicinity… In many cases this demands a reformation of the entire education system. Sida therefore supports reforms prioritizing elementary education. Assistance for competence development of school staff plays a key role in this process… The work [of improving the education system] demands that one listens to those present in the schools, especially the teachers. It is a constant challenge to take as starting point the needs and strategies of poor people."

Based on such statements, one would assume that development agencies would be falling over themselves in trying to engage with the private schools. Is it surprising that they actually do not? Sida has no direct cooperations and is unaware of any indirect ones.

Perhaps this is because of worries about private schools not being accessible to everyone? To a certain extent this is an unfair concern, since the government schools patently fail that very mission. Still, those skeptical about the role of private schools suggest that only the government schools could reach all and do so for free at the point of delivery. This might be

true given certain assumptions, but in practice, government schools do not reach all pupils since they lack the capacity and geographical coverage, nor are they completely free. In fact, government schools, as many other public services, suffer from *middle class appropriation*, where the poor benefit less from government run schools than the middle class. Secondly, the private schools were the first ones to appear in Aguablanca, indicating that they are able to earlier realize that there is a need and/or act upon that perception. The fact that they still continue to grow in number, is indicative of the needs that they still see and meet. Finally, this very question focuses solely on quantity and thus neglects the role of quality, leaving out a vital part and one which thus far has been an argument in favor of the private schools. In addition, even if private schools could not provide education for every single child, would that be a reason not to seize upon the fact that they play a role for the majority of the children?

Another concern might be that it is hard or impossible to work with such a motley collection of schools, as compared to the government schools which are all under a single (public) authority. This complexity would make schemes such as *vouchers* difficult, especially if local capacity for administering a voucher- or subsidy system was lacking. This is a valid critique, indeed the PAC in Cali has had its fair share of problems, and one reason for why previous programs in Colombia and elsewhere were terminated despite promising results for the pupils was that the bureaucracy proved incapable of sustaining them. However, it is hard to believe that it is impossible to overcome the capacity obstacle in any of the developing countries. Considering that private schools for the poor only recently have been receiving attention, it seems on the border of recklessness to dismiss their potential. For instance, both in previous studies and in the field work of this thesis, it has become obvious that there are already collaborations in progress to lessen the financial burden of sending a child to school. This takes the form of concessionary places or places provided for by an outside sponsor. Clearly, it is possible to follow Tooley's imperative and "*go with the grain of current parental choice, and think about the potential of private education to meet the educational needs of all*".

Appendix - Survey and Observation Form

(i) Date:	(ii) Investigator:	(iii) School on official list: Yes □ No □
(vi) Quarter:	(vii) Neighborhood:	(viii) Map number of school:

****

CALI - COLOMBIA: SURVEY INFORMATION OF SCHOOLS

1a) Name of School: _____

1b) Management Type

(1) Public ☐
(2) Private Aided ☐
(3) Private Unaided Recognized ☐
(4) Private Unaided Unrecognized ☐

1c) The school attends the following levels:

Nursery ☐
Primary School ☐
Junior Secondary School 6^{th}-9^{th} grade ☐
Senior Secondary School 10^{th}-11^{th} grade ☐

1d) Please indicate the number of children in each of the following sections:

Nursery ___
Primary School ___
Junior Secondary School 6^{th}-9^{th} grade ___
Senior Secondary School 10^{th}-11^{th} grade ___

2a) Name of the owner of the school (*optional*) _____
2b) Name of the manager of the school (*optional*) _____
2c) Gender of the owner: Male ☐ Feminine ☐

3a) Address:
3b) Telephone number:

4. Number of pupils registered
4a) In total _____ 4b) Number of girls _____. 4c) Number of boys _____

5. Number of teachers registered at the school _____

6. In which year was the school established? _____

7a) In your school do you only accept children from a specific religion? Yes ☐ No ☐
7b) If Yes, please specify which religion: _____

8. How many class rooms does your school have? _____

9. Do you charge any fee at your school? Yes ☐ No ☐
If Yes, please fill out the following tables …

10 - 13. Please indicate the fees paid in your school

Grade	**(10) Cost of *Pensión***	**(11) Cost of *Enrollment***	**(12) Seats sponsored by PAC**	**(13) Seats sponsored by other means**
a) Nursery 1st				
b) Nursery 2nd				
c) Nursery 3rd				
d) Primary 1st				
e) Primary 2nd				
f) Primary 3rd				
g) Primary 4th				
h) Primary 5th				
j) Junior Secondary 6th				
k) Junior Secondary 7th				
l) Junior Secondary 8th				
m) Junior Secondary 9th				
n) Senior Secondary 10th				
o) Senior Secondary 11th				

14 - 15. Investment of the family

Please indicate in the following table other items paid for by the children in your school.

Items that the children pay for in your school	**(14) Please mark with X**	**(15) Approximate cost per semester**
a) Additional private classes		
b) Text books		
c) Exercise books		
d) School uniform		
e) Computer classes		
f) Transportation		
g) Extracurricular activities		
h) Examination fees		
i) Parents' association fees		

16. (a) Do you have other costs of fees? Yes □ No □

(b) Please specify which ones (c) and monthly sum

16b) Other fees	16c) Monthly sum
(i)	
(ii)	
(iii)	

17. Which is the minimum and maximum salary of teachers at your school?

a) Minimum (monthly) _____

b) Maximum (monthly) _____

c) Estimated average sum (monthly) _____

****

Continuation for PRIVATE SCHOOLS ONLY

QUESTIONS FOR PRIVATE SCHOOLS

18. Is your school registered at the Secretary of Education? Yes □ No □

19. What levels of recognition does your school have?

Level	Recognition at this level
a) Nursery	
b) Primary School	
c) Junior High 6th-9th	
d) Senior High 10th-11th	

20. Please indicate the year in which the school achieved the recognition.

Level	Year of recognition
a) Nursery	
b) Primary School	
c) Junior High 6th-9th	
d) Senior High 10th-11th	

21a) Under which ownership is your school registered? (Mark with X):

Charitable trust/Society ☐
Religious organization: Catholic ☐
Religious organization: Evangelic ☐
Community group, e.g., self help ☐
Individual proprietor ☐
Partnership ☐
Commercial company ☐

21b) Do you receive any subsidy for the funding of your school? (*excluding resources from the PAC)*
Yes ☐ No ☐

21c) If **Yes,** for what is the subsidy destined:

1. Capital expenditure, e.g., buildings, computers, vehicles ☐
2. Recurrent expenditures, e.g., teacher's salaries, books, etc. ☐
3. Both capital y recurrent expenditures ☐

21d) If **Yes,** how much does the school receive in subsidy?_____

22a) Does your school or association/trust etc. own or rent from others the school building?
1. own ☐ 2. rent ☐

22b) If rent, what is the monthly rent? _____

22c) If owned, what is your estimate of its monthly rental value? _____

Date	
Researcher	
School Management Type	Private □ Government □

School observation schedule: CONFIDENTIAL

This observation schedule is to be filled in as unobtrusively as possible during/immediately after the school visit

1. School Name	
2. Location	

3. Activity of the teachers *	**Primary 4**	**Junior Secondary 2**
(1) Teaching (including examination or substitute teacher teaching)		
(2) Minding the class (including substitute teacher **minding** the class)		
(3) Sitting/Standing outside the class		
(4) In the headteacher's room		
(5) Talking with other teachers		
(6) In the staff room		
(7) Other non-teaching activities (specify)		
(8) Teaching another class		
(9) Absent (no teacher in the class room at all)		

* Only when the teaching is supposed to be going on. Take stream B, unless there's only one stream. If the specified class is not in the school go to the nearest other class

4. Activity of the headteacher/principal when you arrived at the school	**Tick for yes**	**Specify**
(1) Teaching		
(2) Absent		
(3) In her/his Office		
(4) Other activities (please specify)		

5. The majority of teaching is being undertaken ….	**Tick for yes**	**Other Specify**
(1) In a proper, brick, stone building		

6. School facilities	**Available ((1) Yes in every classroom)**	**Available but not in every classroom (2)**	**Available but not functional (3)**	**Unavailable ((4) No)**	**Not Known (5)**
6a) Blackboards					
6b) Desks					
6c) Fans					
6d) Cassette tape recorders					
6e) Chairs/benches					
6f) Electric lighting					

7. School facilities	Available ((1) Yes)	Available but not functional (2)	Unavailable ((3) No)	Not known (4)
7a) Own playground at the school				
7b) Playground using other facilities				
7c) Drinking water for children				
7d) Toilets for children				
7e) Separate toilets for boys and girls				
7f) Library (approx no. shelves?)				
7g) Computers - How Many?				
7h) Television/video player				
7i) Chemistry Lab				
7j) Workshop				

8. Any other comments?

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