EDUCATIONAL DEVELOPMENT IN SOUTH SUDAN: CONSCIOUS DESIGN OR SPONTANEOUS ORDER?

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Abstract

Educational development is key to the future prosperity of South Sudan. Officially the situation appears bleak with up to 50 per cent of primary-aged children out of school, high reported dropout rates and poor attainment. Those involved in the development of education, government departments, international agencies, individuals and communities are each following one of two different approaches as they seek to extend the reach of education. The article suggests that these different approaches arise because those involved hold to either a conscious-design or a spontaneous-order model for educational development. The article looks at the recent development of schools in Juba, the capital of South Sudan, in the light of these two theories and finds, despite the rhetoric of the official reports, that most growth is organic and that most recent educational development is emerging spontaneously.

1. Introduction

The Republic of South Sudan came out of civil war through the Comprehensive Peace Agreement (CPA) in 2005, which brought a greater measure of stability and autonomy, followed by a referendum in 2011 in which 99 per cent of those who voted chose independence from Sudan.

South Sudan is one of the least developed countries in sub-Saharan Africa. Sudan (including South Sudan) was ranked 171 (out of 186) in the Human Development Index in 2013 (UNDP 2013). South Sudan is regarded as less developed than what is now Sudan – the culmination of a long history of underdevelopment (Bertelsmann Stiftung 2014).

While the country is certainly one that has suffered from conflict, it is questionable whether it is really a 'post-conflict' nation where the infrastructure and institutions have been damaged and destroyed by civil war and stand in need of *re*construction. Rather, it is a nation needing to develop or *construct* national systems from scratch (Watkins 2012). The lack of development has left South Sudan with one of the least-educated populations in the world (Sommers 2005) sitting at the bottom of the international league table for basic education (UNESCO 2011).

Reports indicate that there are over one million children out of school (Watkins 2013), 'fewer than half of primary school age children . . . in school' and 'deep disparities linked to gender' (UNESCO 2011, p. 2), with only 400 girls in the final year of secondary education

(Ministry of Education (GoSS) 2011; Brown 2012). Global interest and concern is evidenced by the vast amount of aid (much of it for education), as well as the number of reports that have been written about education. International development assistance 'plays a critical role in the delivery of basic services' and 'since 2005 between 30–40 per cent of the government's budget has been financed by aid' (Brown 2012, p. 26). 'Over the past decade, Sudan has been a major recipient of aid. In 2009, it received $2.4 billion in development assistance' (UNESCO 2011, p. 14).

Over recent years significant positive changes have been reported, particularly regarding the number of children in school. International aid, development partners and NGOs have been given the credit for this progress, with future success also seen as dependent on aid and external input:

> Much has been achieved. Increased aid has played an important role in getting an additional 1 million children into school, in constructing classrooms, hiring teachers. (UNESCO 2011, p. 15)

> In Southern Sudan, the rebirth of education, a sector deeply respected by the population, was influenced by several factors including the strong presence of international development partners, the singular ambitions of the national government, and high demand for education by the local population. (Kim et al. 2011, p. 285)

> . . . aid donors have financed service delivery, built capacity and made a difference to the lives of millions of people. Non-governmental organisations have developed practical solutions to apparently intractable problems. They are held back from delivering more by financial constraints that could be alleviated through increased aid. (Brown 2012, p. 34)

These reports suggest that past achievements are due to the implementation of a central plan by government, NGOs and international agencies, and future progress is dependent on significant increases in educational aid.

2. Theories of development

Two different theories of development have been advocated by Nobel Prize winners Gunner Myrdal and Friedrich Hayek. While they are not the only protagonists of these theories (Arndt, 1981), they serve to illustrate the differences.

Gunner Myrdal proposed that development takes place by conscious design as all the resources available are directed to planned and informed goals that have been designed by experts to promote the common good. Development requires expert analysis, an overall strategic plan and resources in terms of money, effort and people, geared to reaching that goal (Easterly 2013). For Myrdal the state is key to development (Myrdal 1957) as it has the responsibility of drawing on expert opinion, the capacity to coordinate the plan and the resources to see it all implemented. We return to these three factors in the context of South Sudan later.

Friedrich Hayek, a contemporary of Myrdal's with whom he shared the Nobel prize for economics in 1974, suggested that development takes place not through planning but through spontaneous emergence, that is, through the initiatives of individuals who have local knowledge and who respond to the challenges around them. These are the 'searchers' described by

Easterly (2006), who learn through trial and error in the field. They look to solve local (development) problems with their expertise and initiative and in doing so bring small improvements in local areas. Overall development takes place as these solutions emerge and adapt in a competitive environment where there is freedom for such independent thought and action (Easterly 2013). In this theory development is seen as the emergent property of a complex adaptive system (Barder 2013). For Hayek, the state does not bring about development; it is the local people who are the drivers of development.

The strength of Myrdal's theory is that it seeks to make a credible and feasible plan (Myrdal 1989), the bigger the better, the implementation of which should improve the situation at one stroke by the 'collective and conscious direction of all social forces to deliberately chosen goals' (Easterly 2013, p. 53).

> . . . one of the most serious shortcomings of policy in countries in which comprehensive planning has been undertaken is the failure to plan more ambitiously and on a larger scale. (Myrdal quoted in Bauer 1971, p. 207)

This course of action is often followed by governments and those responsible for education in the supporting aid agencies.

The strength of Hayek's theory lies in the people themselves as they build on what exists, respond to need and use the available resources. Its perceived weakness is that development is entrusted to the independent and competitive efforts of the many who do not have any grand goal in mind.

As alluded to above, the Government of South Sudan, the main agencies and the education experts are all seeking to implement development plans.

> The government has developed an overall planning framework – the South Sudan Development Plan 2011–2013 – along with sectoral strategies for health, education and other basic services. (Watkins 2012, p. 3)

They suggest that progress will be made as aid for education goes to the clearly defined national goals:

> For all of these reasons South Sudan needs a pooled fund in education. [It] would harness donor activity to the national strategy. (Brown 2012, p. 41)

These agencies and the government believe that pooled aid aligned with the government's strategic goals is the way ahead.

> Having developed a credible and ambitious national planning strategy for education, the Ministry . . . is well placed to provide leadership in meeting that demand [for education] through the development of a national education system. . . . aid agencies have greatly strengthened coordination and cooperation behind the government's strategy. (Watkins 2013, p. vi)

It is in Juba, the capital city of South Sudan with huge educational development needs and where local, national and international efforts are all geared to addressing the pressing issues of a lack of schools and of out-of-school children, that it is possible to see the results of the efforts

of those following these two theories. This study seeks to determine which approach is prevailing: whether education is developing as the result of a strategic plan or through the spontaneous emergence of local initiatives.

However, the article first looks at some of the challenges and opportunities for these types of development.

2.1. *The specific opportunities for, and challenges to, conscious design theory*

Three things are needed for development to take place along the lines advocated by conscious design theorists. It needs a strategic plan, the capacity[1] to effectively put that plan into operation, and the finance to implement it (Bauer 1971).

There is no lack of experts or plans, with many agencies as well as government producing reports and strategy papers. However, the requisite capacity and finance are both lacking in South Sudan at present. Capacity challenges are a recurring theme in reports by government and agencies.

> It is difficult to overstate the capacity constraints facing the [Government of South Sudan (GoSS)] . . . Education ministries in state governments have an even weaker administrative capacity. (Brown 2012, p. 34)

Indeed, UNESCO notes that

> human resource capacity has been identified as a major challenge for education sector planning and management. (UNESCO Office Juba 2013)

Brophy (2007, p. 5) expresses concern about 'the general lack of local technical and managerial capacity' and fears that such lack will limit progress:

> the lack of structures and human resource capacity . . . to co-ordinate, manage and work with the wide range of potential donors and agencies may limit the rate and the extent of progress. (Brophy 2003, p. 11)

UNESCO (2011, p. 12) also points out that the Government of South Sudan faces a range of capacity challenges in implementing its education plan.

Adequate finances are also needed to implement a development plan, particularly one with large infrastructure costs like school construction. It is in the light of these needs that Gordon Brown (2012, p. 12) advocated a huge increase in the aid budget:

> This paper sets out the case for a South Sudan Education Peace Premium (EPP) backed by a US$1.6 billion aid investment over the period 2012–2016 – US$400 [million] annually.

In the recent past funds have been severely limited, particularly with the shortfall in oil revenues and lower budget allocations for education (Watkins 2012), while the 'current aid efforts suffer from under-financing, unpredictability and the absence of a credible strategy for long-term support' (UNESCO 2011, p. 17). The lack of finance from government and aid agencies is such that some aspects of the development plan cannot be implemented:

> Both the GoSS [Government of South Sudan] and donors need to reassess financing strategies for basic services. In the education sector, plans for the construction of state-of-the art schools and teacher training colleges should be put on hold. These are highly capital-intensive investments that are incompatible with new budget realities. (Watkins 2012, p. 6)

The problem is summed up by the World Bank (2012, p. 133), which urges caution concerning development plans and encourages its readers to avoid those 'that will outstrip implementation capacity or available financial resources'. In summary, the potential for an educational development plan to be effective is severely compromised by a lack of capacity and funding, though there is no lack of experts or plans (Bertelsmann Stiftung 2014).

2.2. *The specific opportunities for, and challenges to, spontaneous emergence theory*

Just as some situations may make conscious design easier to implement successfully, there are also conditions that facilitate effective self-organised development. These include local people with knowledge and enterprise who think flexibly, and an adverse situation where innovation is needed by people who can do more with less and who follow their hearts (Radjou et al. 2012). In the case of South Sudan, where there are large numbers of returnees many of whom are enterprising, have greater experience and are more educated than those who have remained in South Sudan, this resource is not lacking. Indeed, the author has met returnees from Sudan, Nigeria, USA, Kenya and Uganda, all actively involved in non-state education. They are motivated and inspired, and appear passionate in a challenging environment.

The city of Juba, together with its peri-urban environs, is growing rapidly. The *payam*s (local government areas) of Munuki and Northern Bari in particular are expanding, with Gudele seeing dramatic growth. Gudele grew from zero population in 2005 to 62,000 in 2009, while the city population is thought to have doubled in the five years to 2010 (Martin and Mosel, 2011). In this context of rapid changes and of increasing numbers of children requiring education, it is the local people who are most aware of the need; and for spontaneous emergence this local knowledge is key. In these challenging environments flexibility and innovation are vital and schools need to be able to do more with less. If schools are to emerge spontaneously they are likely to do so as teachers and others from the community itself respond to these local needs and, despite their own limited resources, begin classes.

While there are capacity challenges to seeing such schools start and grow, they are less than the challenge of establishing a national education system. A lot of individuals (teachers and entrepreneurs) each with some capacity can each start a school with a single class and grow it year by year. The total capacity requirements are spread across a large number of individuals. Finance can also be a challenge for those involved in locally initiated schools but, as they usually build schools one class at a time and use local construction techniques and materials, most of these costs are met from within the communities themselves.

Spontaneous emergence has the potential drawback of missing much of what has been learned in the global community, while conscious design has the advantage of the input of experts aware of the latest global educational developments.

3. Research purview and findings

This paper reports some of the relevant findings of a research project which was a collaboration between Newcastle University's E. G. West Centre, directed by Professor James Tooley and

David Longfield, and the Nile Institute based in Juba, under the directorship of Kennedy Galla. The research aim was to find and identify all the schools in each of the designated *payam*s of Juba. A team of 60 researchers and five supervisors was recruited for the survey. Grouped in pairs, they carried out a systematic mapping of the localities assigned to them, searching in every street, alleyway and pathway for schools, whether or not these were registered or on government lists. Our aim was to find *all* schools across the whole of the designated *payam*s. The researchers worked during a one-week period in June 2012 (Longfield and Tooley 2013).

3.1. Types of schools

The government of South Sudan recognises that there are different types of schools providing education to the population. The churches have traditionally provided much of the schooling in southern Sudan (Sanderson 1980) and they claim to provide most of it now (Episcopal Church of Sudan et al. 2011). The government, however, refers to six categories of school: community, government, government-aided, private, NGO-supported and other (Government of South Sudan (GoSS) 2011).

The research found that there are six distinct private school types in addition to the government schools. These are those run by private proprietors, NGOs, communities, mosques, churches and teachers' trade unions (TTUs). A TTU school is run by teachers who are otherwise employed as government teachers: they operate the school as their own fee-paying private school in their own time. It appears that initially these schools may have been geared to older learners, but they now also cater for children of school age.

These seven categories bear some similarities to those of the Education Management Information System (EMIS), but the EMIS categories of 'private' and 'other' must contain such diverse types as private proprietor, church and TTU. Moreover, we did not find any non-government schools that received government assistance. In the past, we were told, many private schools, particularly those run by churches, were assisted by government. 'Government-aided' schools (Government of South Sudan (GoSS) 2011) was the term used for schools where government supplied and paid for teachers (Goldsmith 2010). However, this policy and practice has stopped (Episcopal Church of Sudan et al. 2011).

In this systematic mapping of the five *payam*s making up Juba, we found a total of 199 schools, with 88,820 students enrolled at nursery, primary and secondary levels. Many of these schools were serving the poor (see Longfield and Tooley 2013 for a discussion of fees and affordability). Table 1 shows that nearly three-quarters of schools are private, and just over a quarter government. The government schools are typically larger than the private ones. Hence, with regards to pupil numbers, 62.6 per cent of pupils are in private schools, and 37.4 per cent in government provision.

Table 1: Numbers of private and government schools and pupils, Juba

	No. of schools	% of schools	No. of students	% of students
Private	147	73.9	55,616	62.6
Government	52	26.1	33,204	37.4
TOTAL	199	100.0	88,820	100.0

Source: Longfield and Tooley (2013, p. 3).

Table 2: Schools and pupils by management type, Juba

School type	No. of pupils	No. of schools	Mean school size	Std. deviation of school size	% of pupils	% of schools
Private proprietor	17,186	56	306.9	302.1	19.3	28.1
NGO	5,864	13	451.1	557.5	6.6	6.5
Community	6,098	16	381.1	301.8	6.9	8.0
Church	22,717	50	454.3	443.0	25.6	25.1
Mosque	575	1	575.0		0.6	0.5
TTU	3,176	11	288.7	175.9	3.6	5.5
Government	33,204	52	638.5	421.1	37.4	26.1
TOTAL	88,820	199	446.3	405.0	100.0	100.0

TTU, teachers' trade unions.
Source: Longfield and Tooley (2013, p. 4).

Private proprietors, government and churches each supply a little over a quarter of schools. The other types of private schools each contribute less than 10 per cent of total school provision (Table 2). As for pupil numbers, government has the largest proportion, with over a third, followed by churches (just over a quarter) and private proprietors (almost a fifth). No other management type caters for more than 10 per cent of provision.

In the context of this article, it is the shares arising from planned development and from local initiatives that are of interest, and so the breakdown of the non-government provision is important.

The private proprietor schools are all local initiatives, as are the TTU and community schools. There were surprisingly few NGO schools in view of the prominence given to the impact of NGOs in the international reports. The NGO schools were run by a variety of organisations, and none of them was on the lists of schools known to the *payam*s, suggesting that they were not part of a national strategy. Three of these schools are run by BRAC, the international NGO, three are supported by European agencies and three have Islamic sponsors; all of these are probably consciously planned but independently of the government planning process. The church schools range from those that are initiated and run by the established churches (particularly the Catholic and Episcopal churches) to those set up in local independent churches as a response to the needs within their communities. While the government schools are generally the result of a strategic plan, as perhaps are some of the church schools, the majority of schools are locally instigated. Overall, treating the private proprietor, TTU, and community schools and a proportion of the church schools as local initiatives would imply that well over half the schools in Juba have emerged as 'spontaneous solutions' to the educational needs in their areas.
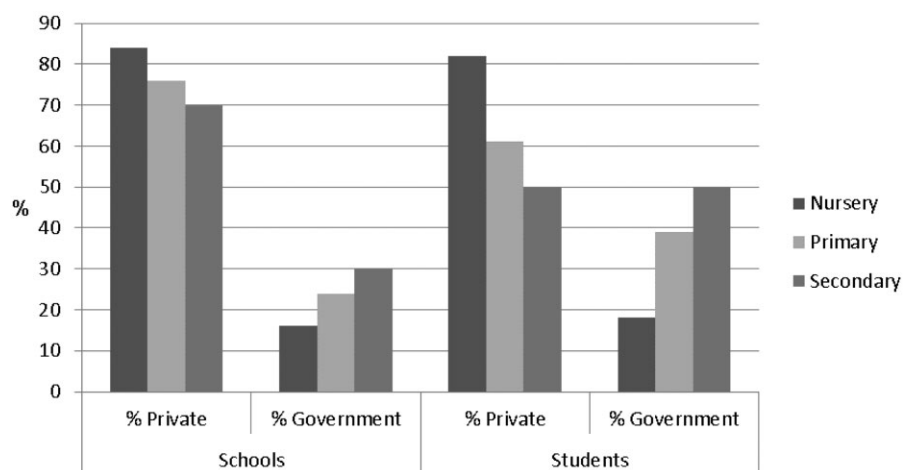
3.2. School types by level

When these schools are broken down by level, it becomes clear that nursery provision is even more the result of local initiatives, as government provides fewer than one in five nursery places (see Table 3).

Up through the school levels we find the government providing somewhat more of the education than at nursery level, 23.5 per cent of schools and 39.6 per cent of pupils at primary and 29.6 per cent of schools and 50.3 per cent of pupils at secondary level (see Figure 1). It may

Table 3: Nursery provision by management type

School type	No. of nursery pupils	% of nursery pupils	No. of nursery schools	% of nursery schools	Mean nursery school size
Private proprietor	4,744	34.4	39	36.4	121.6
NGO	609	4.4	6	5.6	101.5
Community	1,284	9.3	12	11.2	107.0
Church	4,678	34.0	33	30.8	141.8
Government	2,457	17.8	17	15.9	144.5
TOTAL	13,772	100.0	107	100.0	128.7

Source: Longfield and Tooley (2013, p. 8).

Figure 1: Private and government provision, by level of schooling.
Source: Longfield and Tooley (2013, p. 8).

be that nursery (and primary) schools are easier to initiate and so are more likely to emerge spontaneously than secondary schools, or it may be that the schools that have spontaneously emerged have not yet grown to include secondary sections.

These figures indicate how the present educational provision is largely and, as shown below, increasingly due to local spontaneous initiatives.

3.3. Growth of schools

We are interested in development, the changes that have taken place over recent years to bring education to its present state. While our study was conducted in 2012, the date that each school was established has been used to estimate the number of schools in Juba over the preceding 12 years.

Figure 2 shows the cumulative number of schools since the year 2000. Of the 198 schools presently functioning for which data are available, only 82 (41 per cent) were in existence in 2005. In fact, of these 198 schools 106 (54 per cent) were established after 2007. The growth in the number of schools has not abated; the largest increase in the number of schools of any year
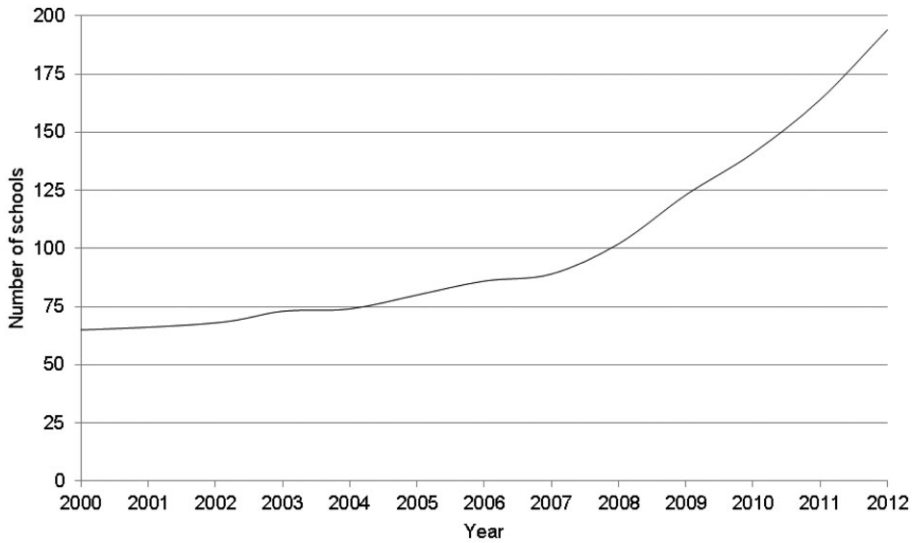
Figure 2: Cumulative number of schools, by date of establishment, 2000–2012.
Source: Longfield and Tooley (2013, p. 33).

(32) was in 2012, and the second largest (23) was in 2011. This fits with the literature on increasing enrolment (UNESCO 2011; Brown 2012).

All management types have contributed to this remarkable growth. However, their contribution has been far from equal (Figure 3). The most dramatic recent growth has been in proprietor schools. In 2000, there were only two private proprietor schools; by the time of the
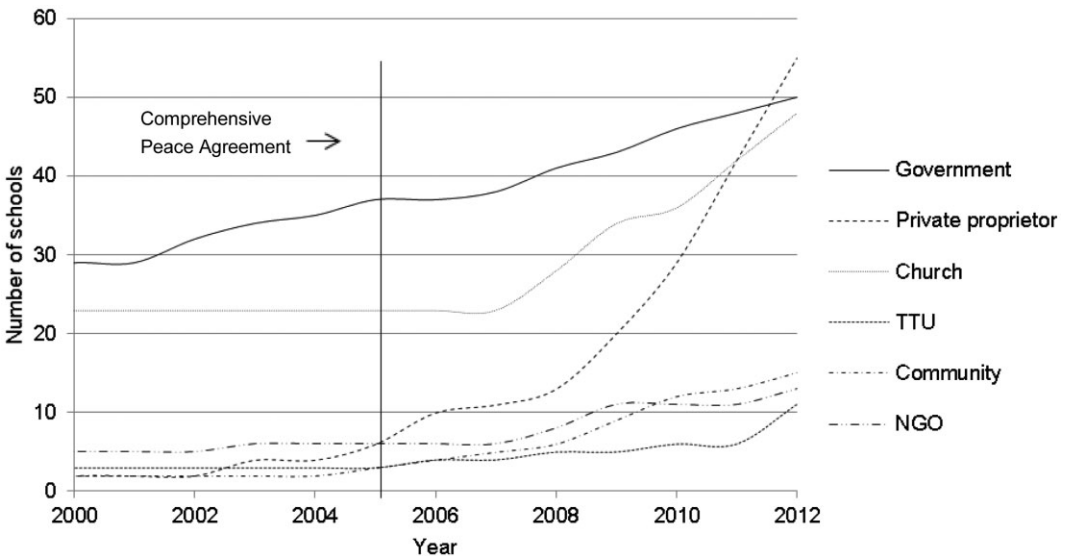

Figure 3: Growth in number of schools over time by management type, 2000–2012.
Source: Longfield and Tooley (2013, p. 34).

CPA in 2005 there were seven, and by 2012 there were 56, an increase of 700 per cent in the seven years since 2005. Much of the growth prior to the CPA occurred in government schools; eight out of the 15 new schools established in that period were government schools. Since the CPA the government with all its aid funding and central planning has established only about two schools per year (13 of the 116 new schools); the private proprietors and to a lesser extent the churches have been the leaders during this period. These findings point to the totally dominant role that the local initiatives are playing in bringing increases in educational access to the people of Juba.

3.4. *Growth by* payam

The different parts of Juba have different growth rates of schools. In the newly developing *payam*s of Munuki and Northern Bari most of their growth has occurred since 2007. Munuki had only eight schools in 2000 compared with Juba's 39, but 12 years later Munuki (60) had nearly as many schools as Juba *payam* (63) (see Figure 4).

The areas of greatest population growth are likely to be those where there are the biggest increases in the number of schools and where the situation is most dynamic. While Juba *payam* has seen steady growth over a longer period of time, rapid change and growth are occurring in the *payam*s of Munuki (Pantuliano et al. 2008) and Northern Bari. Is this growth in schools due to conscious design or spontaneous emergence?

Table 4 shows the details: 50 per cent of the private proprietor schools are in Munuki and 58 per cent of the places provided by these private proprietor schools are also in Munuki. Around
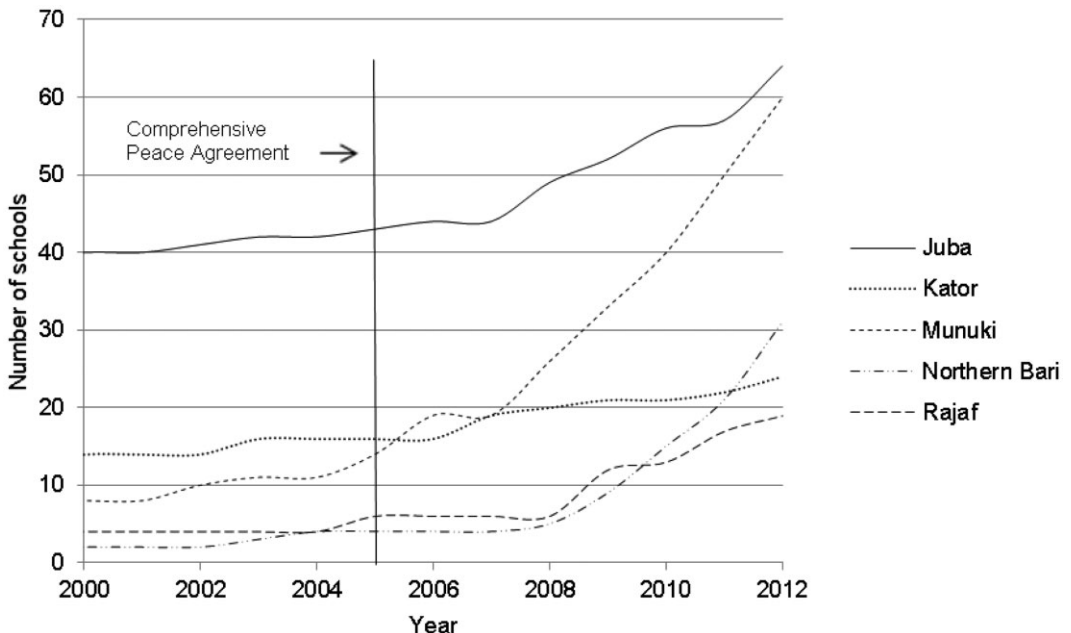

Figure 4: School growth by *payam*, 2000–2012.
Source: Longfield and Tooley (2013, p. 35).

Table 4: The *payam*s by management type

Management	Private proprietor		Community		Church		Government	
Payam	% of pupils	% of schools	% of pupils	% of schools	% of pupils	% of schools	% of pupils	% of schools
Juba	7.4	10.7	3.4	6.3	**37.2**	**26.0**	**40.4**	**50.0**
Kator	6.1	10.7	3.2	6.3	16.6	10.0	23.7	21.2
Munuki	**57.8**	**50.0**	**38.5**	**31.3**	31.0	**30.0**	21.8	13.5
Northern Bari	**24.2**	**21.4**	27.9	**37.5**	7.8	**20.0**	8.2	7.7
Rajaf	4.5	7.1	**27.0**	**18.8**	7.4	14.0	5.9	7.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Figures in boldface indicate the *payam*s where each management type has the largest proportions of its schools.
Source: Longfield and Tooley (2013, p. 21).

a third of the community schools and provision is also in Munuki, indicating how significant the provision by local initiatives is in this *payam*. The other area of significant presence of both these self-organised school types is Northern Bari, which includes much of the further reaches of the fast growing peri-urban area of Gudele.

These findings again point to the existence of a large self-organising strand of educational provision, particularly in Munuki and Northern Bari.

3.5. The nature of growth

Growth that is consciously designed may be expected to take a different form from that which spontaneously emerges.

Conscious design development would be expected to produce new schools built as a whole, with a full complement of identical classrooms, according to a well-designed overall plan. There is some planned development: whole new schools built at the initiative of government, some funded with aid from Norwegian, Danish or Japanese agencies, all well designed and well planned as complete units. One, funded by the Japanese, on the very edge of Juba even had extra classrooms ready for the school to grow into as it moves towards providing Primary 8. These are the schools (two per year) that the government is starting.

Schools built up class by class over a number of years as the local resources and demand increase, and schools gradually growing to become complete primary sections, display the characteristics of spontaneous emergence. Many proprietor schools are developing over time. We know from interviews that they start with Primary 1 in a single classroom, and in the following academic year move the children to a newly built classroom while enrolling the next cohort in Primary 1. To even a casual observer the hallmarks of development over time were visible; the classrooms were different, the newer ones of better, more solid construction.

In this way many schools are still emerging; they are not yet complete, not having reached the Primary 8 stage. While 75 per cent of government schools are complete, only 23 per cent of the private proprietor schools, 13 per cent of community schools and 40 per cent of church schools provide Primary 8 (see Figure 5). Again, this suggests that most of the government schools have been built to a central plan while the others are still evolving.[2]

This organic growth is further illustrated in Table 5, which shows the enrolment figures for 15 schools for each year since they were founded. On 42 out of 43 occasions there was
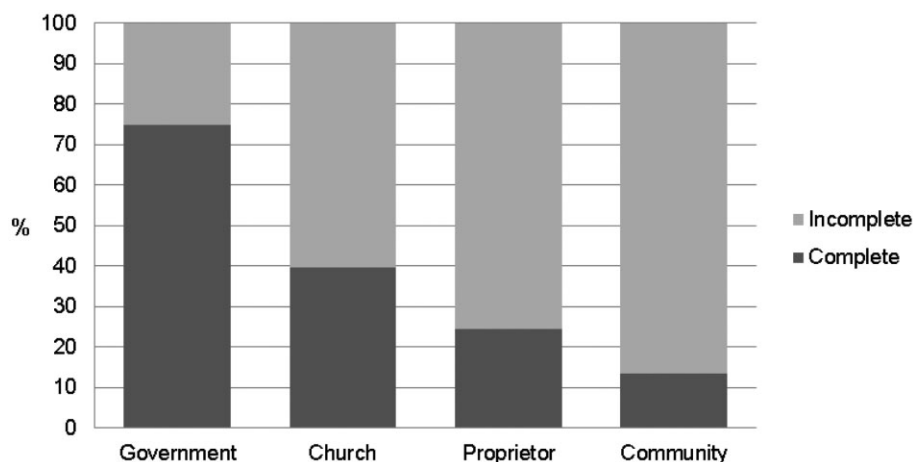
Figure 5: Shares of primary schools with incomplete and complete sections, by type.
Source: Author's calculations.

year-on-year growth in the schools investigated; and only one school (School G) on one occasion shows a fall in enrolments from one year to the next.

Schools that were established six or seven years earlier are still growing. The majority of schools still do not have a complete primary section and each plans to add the next higher class in the succeeding academic year. One school was starting a secondary school as it had reached Primary 8, while another had grown so much that it was now operating two streams and had built four new classrooms for the current academic year.

Table 6 summarises the growth of one of the schools as described by the proprietor, a returnee from Khartoum. It shows the increasing enrolments and the development of the school from the nursery level starting point in 2006 to Primary 5 level of 2012 with one new year-group added each year. It has also moved to double classes at each primary level, starting

Table 5: Growth of 15 schools (number of pupils on school role), years since foundation to 2012

School	Type	2006	2007	2008	2009	2010	2011	2012
A	Private proprietor					76	83	182
B	Private proprietor				365	414	557	756
C	Private proprietor						185	240
D	Private proprietor	50	94	143	280	340	500	665
E	Private proprietor			300	500	800	1,010	1,230
F	Church					210	275	330
G	Private proprietor					7	500	380
H	Private proprietor			350	600	940	1,012	1,230
I	Private proprietor			50	100	180	279	663
J	Private proprietor	60	180	300	500	700	920	1,020
K	Private proprietor				120	350	400	491
L	Private proprietor					50	250	500
M	Private proprietor						180	240
N	Private proprietor						50	186
O	Private proprietor					70	187	245

Source: Author's calculations.

Table 6: Growth and development of a Juba school, 2006–2012

	2006	2007	2008	2009	2010	2011	2012
No. of pupils	60	c.180	c.300	c.500	c.700	920	1,020
No. of classes	1	2	4	6	8	10	12
Highest class	N2	N3	P1	P2	P3	P4	P5

N, Nursery; P, Primary.
Source: Author's calculations.

with two Primary 1 classes from 2008, then two Primary 2 classes from 2009, and so on. In November 2013 it was in the process of building a three-story classroom block. This pattern of class-by-class growth and even expansion to two parallel classes is repeated in many of the new schools in Juba.

This shows that a great deal of the education currently provided is emerging from outside the strategic planning of the government and aid agencies, and thus strongly refutes the assertion that the government and agencies are solely responsible for the increased enrolments in schools.

3.6. *Unknown schools*

The local *payam* education offices have responsibility for providing information about the primary schools in their areas (secondary schools fall under the jurisdiction of the County Office). At a state and national level the data is coordinated by the EMIS. Unfortunately the data that these bodies hold are incomplete and therefore misleading.

3.6.1. *Payam*s Table 7 shows the findings for schools with primary sections. We compared the lists of schools we found with those on the *payam* lists for the areas covered. The pupil numbers are those which we recorded when visiting the schools. From this, it appears that the government lacks records of nearly 50 per cent of the schools offering primary classes and nearly 30 per cent of the children in primary school. In fact, these are lower-bound estimates as we cannot be sure we found all the schools in the *payam*s explored.

There is significant variation by management type of the proportion of schools known to the *payam*. Apart from church schools, a majority of all other school types was not known to the *payam*s. None of the schools run by NGOs or TTUs which we found were on the *payam* lists, while a large majority – 56 per cent – of private proprietor schools were absent from them. This suggests that those planning for educational development are unaware of many of the schools that are spontaneously emerging. Also, government enrolment figures are missing many children who are in fact at school. This has serious implications for how South Sudan

Table 7: Invisible private primary schools

	No. of pupils	No. of schools	% of pupils	% of schools
On *payam* lists	47,134	81	71.8	52.9
Not on *payam* lists	18,531	72	28.2	47.1
TOTAL	65,665	153	100.0	100.0

Source: Longfield and Tooley (2013, p. 12).

understands the state of its educational situation and its real needs. It also makes any strategic planning very difficult.

3.6.2. EMIS The EMIS data (Government of South Sudan (GoSS) 2011) refer to Juba County as a whole, which has 16 *payam*s; the area surveyed for this research contained five *payam*s, which make up roughly 78 per cent of the population of Juba County (Government of Southern Sudan 2010). So although we would not expect the same findings, we would generally expect the EMIS to have data on more schools than we found. In fact, the opposite was the case.

At Nursery level we found 107 schools providing education for 13,772 nursery pupils. However, according to EMIS data for 2010, there were only 34 nursery schools in the whole of Juba County, of which 11 are government schools and 23 are private schools of some type, educating 4,979 pupils (2,456 males and 2,523 females) (Government of South Sudan (GoSS) 2011). At most the government is aware of only 36 per cent of nursery pupils, and the actual figure is likely to be much lower as there are nursery pupils in the other 11 *payam*s.

We found 153 schools providing primary levels of education; EMIS data show only 125 (Table 8). We found well over twice the number of private schools recorded by EMIS (117 compared with 50). These figures suggest that the government is aware at most of three-quarters of the primary school population – again, the real figure is likely to be much lower than this, given that there are other schools in the 11 *payam*s not covered by our research.

EMIS data also appear to underestimate the number of pupils in secondary school. We found 19 private schools in our smaller survey, while only four are included in the larger EMIS survey. Overall, it is suggested that the government data cover only around half of the total number of pupils enrolled at secondary school level.

The figures are remarkable in that in the 16 *payam*s of Juba County EMIS found only three-quarters of the number of pupils in school that our survey found in just the five *payam*s in Juba city. The EMIS is also missing a greater proportion of the girls than the boys, so further skewing the data that are being relied on for the many reports and strategic plans produced by international agencies such as UNESCO:

> Despite the enormity of challenges, the Ministry of Education at all levels has managed to create an Education Management Information System (EMIS), as a solid base for collecting data to inform policy and planning decisions. (UNESCO Office Juba 2013)

Perhaps the data are not of the accurate and solid kind that a strategic plan needs.

Table 8: Primary provision, EMIS data and survey data, 2010 and 2012

		EMIS data for Juba County (2010)	Survey data for 5 *payam*s in Juba city area (2012)	EMIS/survey percentage
Schools	Government	75	36	208.3
	Private	50	117	42.7
	TOTAL	125	153	81.7
Pupils	Male	26,047	34,037	76.5
	Female	23,646	32,432	72.9
	TOTAL	49,693	65,665	75.7

Source: Longfield and Tooley (2013, p. 15).

3.7. *The entrepreneurs behind the schools*

As well as quantitative data about school and pupil numbers, the author also collected qualitative data through interviews with school proprietors and principals. The following stories illustrate the local and spontaneous initiatives of these entrepreneurs.

A local man who was working for a Norwegian NGO initiated a community school. He was concerned about his part of the town, where there was little schooling. In describing his experience, he told me that he 'went to the forest and cut poles and carried them back' to start the school building. He then asked the community what contribution they would make to the school. They did get behind the project, dug the latrines and agreed to pay the teachers. He began the school in 2007 with classes in Primary 1 to Primary 3, but at the time of the visit (January 2012) had built up to Primary 6, with 600 pupils and 12 teachers.

A lady who ran a school in Khartoum had been encouraged by an official from the then government of South Sudan to return to Juba to 'start a school, even if it is under a tree'. Despite many problems and without any government help, she started a very low-cost private school in some huts across the River Nile.

A former teacher, now a local pastor in a poor part of Gudele, was encouraged by his congregation to start a school (the nearest government one was too far away for their young children to attend). He began in 2010 with 50 pupils under a tin roof with a timber frame but no walls or seats. By 2013 he had nearly 500 pupils in slightly more secure buildings and was being asked about starting two more schools outside Juba.

A South Sudanese lecturer returned from Nigeria and started a school in 2008 for middle-income earners. I met him first in 2012, in his school constructed out of mud and timber. We met again in November 2013, this time in his office in the nearly completed purpose-built school. Families from across the city send their children to his school.

A young South Sudanese man is running a school in Gurei. He had been a secondary school teacher but was so discouraged by the fact that many of his pupils could not read English that he wanted to go back to the grass roots to set the problem right. He wrote a plan for a primary school and showed it to his colleagues, who urged him to implement it. He did so, starting in 2011 with two small mud-walled rooms. One was the classroom and the other the office, where he slept under the desk. The school had grown to just over 700 pupils in 2013.

A police officer, who had been a teacher, owned a school in Khartoum before he was invited by the government to join the South Sudan police force. He left his school in Khartoum but soon began a new one on the northern edge of Juba. The school comprises simple purpose-built classrooms in a large compound. It had 800 pupils enrolled in two shifts by the end of 2013. The proprietor has plans for two more schools, one in Gudele West and the other in Jebel, while he continues working in the police force.

These are a few of the people who are developing education in Juba. Individually, they and very many others like them are beginning to create an educational system as they respond to the local needs. Although there is no grand plan, that they understand their role in national development is clear from a conversation I had with one school proprietor, who said: 'The nation cannot depend on the government alone, the government cannot do everything', and 'People themselves must participate in the development of the nation'. Their individual contributions may be confined to the local development of Gudele, Munuki, Gurei, or wherever, but with so many doing similar work they are part of an emerging national development.

This convenience sample of interviews is not necessarily representative of school principals generally, but it does suggest that individuals are responding to the situations around them and initiating schools outside of any overall government educational strategy. It would be interesting to know, but would require different research to discover, whether the returnees who are active in education are coming back to South Sudan in response to any government initiative or strategic plan. If they are, then government policy may be having a spillover effect on the education development in the country. Otherwise, that development is entirely spontaneous.

3.8. Quantity and quality

The international focus for education is moving from access to quality; from making sure that children are in school to ensuring better learning outcomes. Although access is still a recognised issue in South Sudan (UNESCO 2011), quality must not be ignored. Educational development must include learning as well as attendance. This study does not report on the achievement levels of the pupils in the private or government schools, or the school effectiveness of either type. However, research was conducted into the achievement of the pupils in Primary 4 in the schools in Juba, which is reported elsewhere. In brief, it found a wide variation in learning outcomes between schools of the same management type; and while the low-cost private schools had higher average scores for maths, reading and spelling than the government schools when other factors were controlled, most differences were not significant (Longfield and Tooley 2013). These results suggests that not only is spontaneous development increasing the provision of education, it may also be having a positive impact on quality.

4. Conclusions and the way ahead

The educational development that is taking place in Juba is largely due to the efforts and initiatives of local people; development is spontaneously emerging, as predicted by Hayek 'through the independent and competitive efforts of many' (Hayek 1960, p. 27), in this case the efforts of educational entrepreneurs. This is clear from the extent to which local entrepreneurs are the predominant initiators of new schools, and from the nature of these schools which are growing organically class by class and improving in size and build quality year by year. While these initiators seek to solve the local problems of their own communities, together, without being aware of it, they are actually bringing about educational development across the city, and now run over half the schools in Juba, bringing increasing numbers of children into education. This is happening without central input and despite limited resources.

On the other hand, despite the efforts of many development experts, the huge input of aid and the plethora of reports, the impact of this conscious design approach has been minimal. The government (Government of South Sudan et al. 2008) and those who are prominent in development circles (e.g. Brown 2012) continue to advocate this approach despite its failure and the obvious capacity and financial challenges it faces. They appear unaware that the progress that they observe in increased enrolment is only a small part of the actual progress that is being made and that most of that progress is not due to their initiatives.

It is important for policy reasons to recognise that national plans and strategies to build and run schools are not the way to go, and to see that many local people who are inspired,

knowledgeable and active in their communities are already bringing education even to the poor. Can those supporting development within government and from the outside change their model of development to respond to the situation and to build on what is already emerging?

As schools grow and become established, the proprietors are expressing the need for additional finance for improved capital development. To build a two-storey classroom block requires more capital than adding a new mud and timber classroom; so as the school infrastructure improves its capital requirements grow. Schools are known to be in discussions with micro-finance companies and to have raised finance through a venture capital investment company which is supported by two aid agencies. That this is one way that these initiatives can be supported is beginning to be recognised (DFID 2014). It is also encouraging that the UK's Department for International Development is funding research as it seeks to understand the role and potential impact of these types of schools (Day Ashley et al. 2014; see also Tooley and Longfield 2015). International efforts may also help to improve the quality of the education through inputs at a teaching level (University of Warwick 2014), by supplying textbooks (DFID 2014), by technological innovation (TED 2013) or through teacher training (Episcopal Church of Sudan et al. 2011). In these ways schools can benefit from the experience and knowledge of educational experts, yet apply the lessons in the local educational environment, all the time recognising the role played by the local entrepreneurs.

The best way forward is surely through this cooperation wherein each party recognises the strengths of the others and all work together to bring increased educational quality as well as quantity.

Notes

1. Capacity means having the core features that enable the state to mobilise resources for key objectives. It is determined by territorial control, effective exercise of political power, basic competence in economic management and sufficient administrative capacity for policy implementation (OECD 2008, p. 14).
2. However, the division may not be as clear as 'government' being synonymous with 'planned', and 'private' with 'self-organised', as one government school that I visited was clearly evolving and responding to local needs rather than following a set central plan. This school, right on the edge of Juba, had begun as an adult education centre in a barracks area, but had changed into a regular primary school in 2010 (the barracks were no longer there). It had evolved locally to cater for the surrounding families and those who came from even further out of town. In 2012 it was functioning with 591 children on the register. Two of the classes were meeting in a rented or borrowed church hall and the remainder under the trees.

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