



EdQual

A Research Programme Consortium on
Implementing Education Quality in Low Income Countries

**DESIGNING & PLANNING SCHOOLS
FOR PRE-SCHOOL FEEDING PROGRAMMES
IN AFRICA:
A CONTINENTAL SUCCESS STORY?**

EdQual Working Paper No. 20

Ola Uduku

Edinburgh College of Art, UK

September 2009



EdQual

A Research Programme Consortium on
Implementing Education Quality in Low Income Countries

EdQual RPC is a Research Consortium led by the University of Bristol UK and sponsored by the Department for International Development, UK.



The Consortium comprises:

- The Graduate School of Education, University of Bristol, UK
- The Department of Education, University of Bath, UK
- The Institute for Educational Planning and Administration, University of Cape Coast, Ghana
- The Faculty of Education, University of Dar es Salaam, Tanzania
- The Kigali Institute of Education, Rwanda
- The Education Policy Unit, University of the Witwatersrand, Johannesburg, South Africa.

EdQual also collaborates with the Institute for Educational Development, The Aga Khan University, Pakistan and the Instituto de Informática Educativa, Universidad de La Frontera, Chile.

EdQual runs research projects mainly in Africa, aimed at improving the quality of formal basic education for disadvantaged groups. Our projects include:

- Implementing Curriculum Change to Reduce Poverty and to Increase Gender Equity
- Leadership and Management of Change for Quality Improvement
- Literacy and Language Development through Primary Education
- School Effectiveness and Education Quality in Southern and Eastern Africa
- The Use of ICT to Support Basic Education in Disadvantaged Schools and Communities in Low Income Countries.

For more information and other papers in this series, visit www.edqual.org.

This paper was first presented at the 10th UKFIET International Conference, University of Oxford, 15-17 September 2009.

This Paper has been published by EdQual RPC and funded by the UK Department for International Development, although the views expressed are those of the Author[s].

Extracts from this Working Paper may only be reproduced with the permission of the Author[s].
©EdQual 2009

ISBN: 978-1-906675-17-2

ABSTRACT

Pre-school feeding schemes in primary schools in South Africa and Ghana have been a qualified success. This paper considers whether the infrastructure and associated resources; staff, equipment etc., that are used to deliver the projects are adequate for the task. Two case studies are presented that describe the current status and working of national schemes in Ghana and South Africa. The concluding analysis considers the achievement of these schemes and, more importantly, the potential to develop them to enhance quality and equity of education.

CONTENTS

- 1. INTRODUCTION 1
- 2. BACKGROUND 1
 - 2.1 School Feeding Programmes: 2
- 3. ANALYSIS..... 3
 - 3.1 An Overview of School Feeding Programmes in Two African Countries 3
 - 3.1.1 South Africa 3
 - 3.1.2 Ghana..... 5
 - 3.2 Space and Design Implications of School Feeding Programmes 6
 - 3.3 A Performance Evaluation of School Feeding Programmes..... 7
- 4. CONCLUSIONS..... 8
- REFERENCES..... 11
- APPENDIX 1 13
- APPENDIX 2 13

For correspondence: Dr. Ola Uduku at o.uduku@eca.ac.uk

1. INTRODUCTION

In 2007, under the EdQual small grants project, a survey was undertaken of a select number of schools in Ghana and South Africa to ascertain whether links could be made between 'good' school design and improved educational performance (Uduku et al, 2007a). In the course of the research that followed, which surveyed nine schools in considerable detail, six in South Africa and three in Ghana, a number of findings were made (Uduku et al, 2009).

A key finding was that both nations now had significantly developed primary school feeding programmes, which has resulted in either the modification or new construction of buildings to enable such programmes take place. This had thus become a common feature of both nations' primary school building infrastructure over the last ten years. There has been now historic recorded research and documentation of the relative success of such feeding programmes in improving school retention figures, and also child wellbeing through nutritive health surveys conducted of its recipients compared with non- recipients of such programmes (see for example UNESCO, 1986; Babu & Hallan, 1989; and McCoy et al, 1997).

This paper seeks to consider whether the schools in each country have been adequately adapted to incorporate the infrastructure (buildings, kitchen facilities, etc.) that are required to successfully deliver pre-school feeding programmes onsite in these schools. Furthermore, it questions what plans, if any, have been made for future schools to incorporate the buildings for feeding programmes within the existing standard planning and layouts for primary schools.

2. BACKGROUND

African schools as common with those in other developing countries have had a long and varied history of planning and design. Commencing from pre-colonial times, the missionary project sought to ensure that alongside Christianity, education and health projects were promoted and developed. "Western" style schools thus are not new to Africa, however their function over time and space has changed considerably, from being literally shelters from the elements where the three 'rs' and religion were taught to native tribes, to today's complement of schools that can include libraries, technology laboratories, and computing suites.¹

There was a temporary improvement of educational provision in then newly 'independent states of West and East Africa in the mid to late 1960s. However despite this, the move towards attaining the original 1960's UNESCO aim to deliver global "education for all" by 2000, from the late 1970s effectively ended with the ensuing global economic crises, and the hardening of Nationalist Party rule in South Africa, that followed this 'independence period' States in West and East Africa. The combination of reduced education spending, poor resourcing and better health care, which lowered child mortality rates, meant there were pressures on the existing limited education systems in place to expand education delivery in most of sub-Saharan Africa.

This was especially true in Africa, where the struggle to provide improved literacy and education stalled in the 1970s. In most of Africa, with the cuts in social spending that have occurred since the late 1970s, there has been limited spending on school infrastructure. Even where spending programmes had been sanctioned, such as the Universal Primary Education Scheme in Nigeria, and its ensuing technical education initiative, the buildings and infrastructure built to accommodate these schemes have remained basic, often without electricity and sanitation that would have ensured the extended use of the buildings within the community (see Bray 1981).

Due to the unique circumstances of the 'apartheid' state, education in South Africa was both segregated and prescribed by the nationalist government. For school buildings this meant that strict building codes were in place for schools to be built in the different educational

¹ For more on schools and education in Africa there have been numerous UNESCO Reports, for South Africa, and Kallaway's (2002) edited "History of Education under Apartheid".

departments that covered all racial groupings in the country (see CSIR 2005, a guide for building schools for Bantu Education). Compared with schools found elsewhere in Africa, some South African township schools did have significantly better facilities planned and built. However, given the 'apartheid' education system that was supposed to be in place, the effective boycott of such schools and occasional arson by students, ensured these schools retained little credibility as edifices for learning (Van Straaten et al (1967).

Despite the decline in the global economy and national funding of education, the elite social classes in West and East Africa, have ensured that the 'top' schools from colonial times, and more recent additions, are able to guarantee their children a near facsimile of a 'Western' private or 'public' school education to GCSE-O-level standard or higher locally. In post-apartheid South Africa, the rise of the historic top 'white' colleges and more recent private fee-paying 'international' schools rapidly filled the post-apartheid demand for independent education, and now caters to an increasingly multi-cultural, multi-race, affluent middle class.

Since the mid-1990s, there has been the easing of the World Bank's structural adjustment conditions. This has had a direct effect on education, as from the 1980s to mid 1990s, the Bank's approach to education funding had focused, less on buildings and infrastructure and more on improved teacher education and school resourcing. Parents and communities were tasked with contributing towards the provision of school buildings and infrastructure, with the state providing supplementary funding. This remained a difficult task for the poorest parents in 'work-poor' communities where financial contributions were limited.

In South Africa, the realisation of self-rule with the ascension of the ANC to power in 1992 resulted in the complete re-writing of educational policy and handing over decisions on school design to the provincial level, with less influence from the central government. Despite this however, standards and norms for space and school design remain in place and determined from the central government in Pretoria (see Gazette, No.31616; Department of Education of the Republic of South Africa).

Elsewhere in Africa, the stark dichotomy between the poorly-resourced state sector education system and the private schools has become clearer, as education in countries such as Ghana and Nigeria in West Africa have become more free market influenced. Ghana, for example, does have a state sector education system that receives government funding, but for many of the more affluent the private sector education system is thriving and in direct competition with the state sector's top schools (Aiyekoo, 2009).

More recently, there has been some re-interpretation of school design through one-off school project commissions in South Africa. This has allowed architects to re-engage with the avant-garde Latin American, Freire-inspired ideas of 'classrooms without walls', (see Freire, 1970) and also some of the earlier 'mission' station ethos allowing integrated facilities such as education, healthcare and demonstration agriculture projects to all take place within an integrated 'hub' for development. This transformation has begun to take on different forms, school feeding programmes have become an increasingly popular way for governments and supporting NGOs to support children in school, and also extend the developmental ethos of the school.

2.1 School Feeding Programmes:

School feeding programmes have had a more recent history in much of Africa. Borne from the understanding of the need to provide nutrition to children as a prerequisite for educational development, UNESCO has been involved in feeding programmes via the World Food Programme and other United Nations organisations since the end of World War II.(see Kennedy & Davis, 1998; Greenhalgh et al, 2007; LSTM/DfID, 2008)). Africa and other developing areas have been beneficiaries of different feeding projects over the years. Since the late 1980s, the current form of part NGO part State funded pre-school feeding programmes have been trialled initially in much of the developing world with recorded programmes in Eastern, Western and Southern Africa (ibid).

South Africa has had pre-school feeding programmes in place for more than a decade. These were initially piloted by Non-Government Organisations who had helped with education in the nationalist era, and became a national government programme in 1994, which is implemented at the provincial level to all schools deemed to be in areas of low socio-economic achievement (see Kallaway, 1996).

Ghana's school feeding programme, (GSFP) began in 2005, and as of 2007 was still operating in 'pilot' schools in chosen locations, with a view to the government rolling it out across the nation in 2010.² Worries, however, have already been aired about the cost of the programme, (Amevor, 2008; World Food Programme, n.d.)

In this paper, an analysis of the current infrastructures, in place to support the schools with feeding programmes that the author visited in both South Africa and Ghana in 2007, are analysed in relation to the needs of the programme. (Uduku:2007)

3. ANALYSIS

3.1 An Overview of School Feeding Programmes in Two African Countries

In South Africa and more recently Ghana, the education authorities in collaboration with international NGOs, such as the World Food Programme and also health bodies, have successfully established school feeding programmes for junior primary school pupils. Both countries employ similar organisational arrangements where the food preparation is franchised to local contractors who bring the food on site to distribute to students at appropriate 'feeding times' and then are expected to clear their meals and paraphernalia at the end of the feeding period or school day.

3.1.1 South Africa

South Africa, which has the older of the two programmes, has facilities for feeding available in most schools that have been designated as being located in communities with the poorest socio-economic indicators and consequently low educational attainment. It is now often coupled with the government backed 'grow your own food' programmes, which involve the planting of crops on school land for commercial use, and also increasingly for use as ingredients for the school feeding programmes (De Klerk et al, 2004).

The age span for take-up of the free school meals officially is meant to incorporate the pre-school students, aged five, and through to all primary pupils. In some schools and provinces there were further variations to this. For example, in KwaZulu Natal, a school visited had an increased after-school feeding programme funded via a local NGO which provided finances for the school feeding to take place both during the school day and also at leaving time for vulnerable youngsters.

² There had been earlier NGO supported school feeding programmes, in certain areas. See Kennedy, 1991.



Image 1 – School Feeding at Dr Vilikanzi Primary School KwaZulu Natal

The budget for school feeding comes directly to the school from the provincial government and therefore is guaranteed on a term-by-term basis, which means that it is safeguarded from the uncertainties of local / parent contributions. A number of studies have cited the South African school-feeding programme as having positive benefits (from a scale of marginal to considerable) on the nutrition and learning profiles of its recipients. Certainly in the KwaZulu Natal schools visited, the benefits were positive in the two schools visited where in some cases more than 50% of class pupils were HIV orphans, who depended on the school feeding programmes for much of their daily nutrition.

In two of the schools visited, carers and parents of the school children were actively involved in the school farm project, growing vegetables which they either sold back to the school for use in the school feeding programmes or they used themselves to supplement their nutrition needs.



Image 2- School Farm Project, KwaZulu Natal

The meals for distribution were partly cooked on site with storage facilities being available in the schools for raw materials. A sub-contractor scheme was in place for catering, although many student parents and carers were involved with the distribution of the food.³

3.1.2 Ghana

Ghanaian School feeding programmes have been relatively recent developments. Funded in part by the United Nations World Food Programme, they were initiated in 2005. The school feeding programmes are targeted specifically at the pre school and grade one primary pupils, as part of a wider mother and child nutrition policy supported by the World Food Programme. As of 2007 the feeding project was still in 'pilot' stage with a few chosen schools having the pre schools feeding programme in implementation.

Two of the schools visited were part of the programme. One, 'Atonsu School' was located in a 'peri-urban' part of Kumasi. The second, RC Kuntanase, was part-Catholic Church funded, and located in a semi-rural location (Kuntanase) some miles away from the nearest main town, Kumasi.

At Atonsu, the peri-urban school, the feeding programme had resulted in the construction of a new three-classroom school block, which accommodated the new pre-school classes and doubled as a feeding area for use by the students. A small kitchen facility was also constructed to 'service' the feeding programme in the classrooms.

The food for distribution was cooked entirely offsite by the subcontracted caterer, and brought to the school in prepared form.



Image 3 – Atonsu Pre-Primary School Wing Constructed in 2007

Thus, the kitchen facilities were only used for distribution of the food. In the more rural school, part owned by the Catholic Church, the school feeding programme was fully funded by the World Food Programme, but no new classrooms had been built or facilities made available for distribution of food. The food was also cooked offsite by contractors who brought the food to be served out to the children on the school premises.

³ Communication with Principals at both Musi Thusi and Dr Vilikanzi primary schools in KwaZulu Natal.



Image 4 – Classroom Meals Atonsu Primary School Ghana

3.2 Space and Design Implications of School Feeding Programmes

The pre-school feeding programmes in each country, although different in coverage and status, both provide developmental benefits to the child recipients of the programmes and also new programme functions for schools. The historic genesis of schools in Africa and elsewhere in most post-colonial regions, despite in the past being connected with missionary and colonial government campus style educational institutions, have more recently been more mono-functional in their focus and design.

With the economic changes from the late 1970s onwards, the state education sector has been encouraged to focus much more on delivering basic education at primary level with the psychometric standards and norms of classroom size, developed by UNESCO and local organisations such as the CSIR in South Africa and the West Africa Building Research Institute/BRE in Ghana's case. (See Appendices 1 and 2 for a 'typical' floor plan for Atonsu School, Ghana c.1960s.)

The stripping back of the 'developmental' or possible community outreach function of the school also falls within the transformation of development policy to a neo-liberal stance, where the onus moved from the schools being beacons of development, to a reliance upon local self-help efforts to develop the 'needs' of local communities. This in, effect, ensured that more economically successful communities of interest were able to organise and fund school building projects, which were occasionally part-subsidised by state and NGO funding. Unfortunately, the poorest sectors of society rarely benefited from these policies as the wherewithal to either organise or contribute part funding to school building projects was lacking.

In effect, therefore, the last twenty years has left a legacy of standardised school 'shelters' at primary level in much of Africa. In South Africa, trickles of NGO funding has meant some poorer areas have marginally better quality schools, through the largesse of international and national NGOs, however generally at primary level the classroom has had a mono-functional existence.

Since the establishment of the ANC government in 1994, there have been a few exceptions to the rule. The CSIR, some educational NGOs, and a few provinces such as the Western Cape educational Department, have been involved in developing demonstration school designs that have resulted in a few exemplar schools which have been built to a broader functional brief.

The school feeding remit is part of the National South African education policy, for example, whereas the provision of integrated community facilities, such as libraries and IT centres, is encouraged but not mandatory for new schools. Newly designed schools in the Western Cape have in many cases managed to incorporate some community functions, such as libraries, within their design.



Image 5 – Public Accessible Library Block, Inkwenkwezi School, Cape Town

In Ghana, the position is more basic. The typical Ghanaian classroom block remains designed to conform with the UNESCO space standards and guidelines. The regulation for this is now in the hands of “ADSEL Services Ltd”, a government owned parastatal, which has the remit to oversee and provide design guidance for all government facilities such as schools, prisons, police buildings etc.

Design guidelines were being drawn-up for the new pre-school feeding programme facilities, but these were more related to space for the new pre-school classrooms, as previously the state primary school system did not have pre-schoolers. There were also to be guidelines for the design of small designated food distribution areas, the emphasis being on food distribution and not food preparation or cooking on site.

In Ghanaian schools, as in the South African schools visited, the school meals were as a rule eaten in classrooms. The service and distribution of the meals varied, but generally there was some provision of space for the distribution of food, often cooked offsite, and the storage of plates and other utensils related to feeding. Some South African schools did have kitchens and food stores on site, but these seemed to be the exception to the rule.

3.3 A Performance Evaluation of School Feeding Programmes

In the schools visited during field research, the school feeding programmes were both very popular with students and schools. There had been some statistical evidence to show that enrolments at junior level remained high, with staff attributing much of this to the school feeding programme in place. Interviews and research showed that the KwaZulu Natal programme was a lifeline to the high percentage of children affected by the AIDS pandemic. Furthermore, its coupling with the school farming programme meant that families involved in farming on school land had the double benefit of children being fed and their access to the farm produce, which was either for family feeding purposes or for small profits on commercial sales.

The continued ‘ad-hoc’ add-on nature of the school-feeding programme to the existing school classrooms in both countries has not diminished the success of the programme. However on interview staff did mention that it was often difficult to ‘monitor’ or organise food distribution and production at schools, as the sub-contracted caterers had to procure and deliver their food to the classrooms of the charges within specific time periods. The one demonstration school example, visited in the course of the research project in KwaZulu Natal, where there were non-classroom areas that students could sit in and eat and contractors could serve the meals worked particularly well. However, this was a one-off school design, its architect now being deceased.



Image 6 – Musi Thusi Primary School areas without walls KwaZulu Natal

The literature available on school design would suggest that well-integrated educational architecture contributes both to the public realm and also to the quality of the educational experience. In African countries and elsewhere in the developing world, this may be considered a less crucial feature of educational provision, compared to ensuring that there are enough classrooms, teachers and other direct resources for learning in schools.

However, the evidence would suggest that school feeding programmes contribute directly and significantly to improved school learning and retention at early years, thereby improving the longer-term outcomes of vulnerable learners from poor economic strata of society.⁴ This is especially so when, as in much of Africa, there are health issues from childhood malnutrition to full-blown AIDS cases whose main access to services and food may well be the classroom. Following this argument then, ideally better catering and school feeding facilities designed as a standard part of all new school infrastructure would both ensure that this linkage is strengthened, and also contribute to a virtuous cycle of improved service provision and access in many poor communities.

4. CONCLUSIONS

When compared with Western, specifically British, education support services, the schools feeding programmes in Africa are similar in vision to the Labour Government 'Sure Start' programmes in place in deprived areas in the UK. The absolute metrics of success of the Sure Start programmes, like the feeding programmes, vary although most show some if not fully significant improvements in all areas.

In Africa and elsewhere however, an improvement in children's nutritional status, or increased retention at school can be crucial to a child's existence, and in effect their educational outcomes, as for many of the poorest, school feeding programmes do provide both an educational lifeline, but more importantly a nutritional and health outline to themselves, and in some cases such as the described Kwa-Zulu Natal, a family lifeline.

The design of these facilities can still indirectly further improve educational outcomes. Field research suggested that influence of schools, particularly in their involvement with outreach programmes and the sharing of facilities such as libraries, in poorer areas to local community remains weak. In the current generation of new-build and traditional school refurbishments, this remains the case with a few notable exceptions. The school feeding programme, by its nature, lends itself to community participation and resultant outreach which could be furthered

⁴ The UK 'Sure Start' and the more recent Building Schools for the Future programmes both have as a core function of their optimum service provision the ability of future facilities to provide not simply a mono functioning service (education or care) but multi service activities such as adequate feeding, out of hours educational activities and other functions. See HMSO, 1998 and DfES, 2008.

if the architecture or design of feeding facilities played the dual educational support function and also connection function with the wider community.

As with libraries, the feeding facilities could, with some modification, become a resource for both the school and also the local community. As with the Natal schools, members of the community could become involved in both supplying raw foodstuffs from farms and also in its preparation and distribution. The location of these school-feeding spaces could also lend itself to use outside of classroom hours.

Organisationally, however it is clear that to manage and fund the extended use of school facilities is beyond the current remit of school employees and administrators in today's schools. This does not, however, mean that with outlined schemes as these in place there could not be the employment of a new tier of staff whose duty it might be to sustain and maintain these linkages with the community after school hours.

This has been the de facto role of NGOs in the past, particularly in countries such as South Africa, Ghana and in parts of Latin America, where the state's provision of education was limited, or non-existent, but the facilities were available for others to use in the after school hours as they saw fit.

The incorporation of these informal non-'school-related' uses, still continues today amongst varied groups, including evangelical churches, social clubs, etc. It could be possible that through the usage of the designed school feeding facilities, such groups and wider members of the school community; including parents, householders and others near to the school, could become more aware of and prepared to involve themselves with outreach and development activities that are school based.

It is also possible that facilities, such as public libraries and internet access hubs, could become better locally connected or linked as outreach posts through schools, with the additional buildings and infrastructure in place for these activities. The additional cost of providing a school dining hall area, and adjoining kitchen for school feeding programmes might pay itself back if the multipurpose facility created is then used for community activities out of school hours.

The premise of this paper has been to explore the impact of school feeding programmes in two countries in which field research was conducted in 2007. The findings that have emerged suggest that school feeding programmes in both countries schools that were surveyed had been a success, demonstrated by the improved student retention at junior level, and also parent interest and comments about the scheme. (Uduku et al. 2007) From the subsequent analysis and examination of literature and precedent examples from elsewhere, particularly the current UK-wide schools rebuilding programme, the importance of 'value-added' facilities and infrastructure in community facilities such as state schools is clear.

Some key findings can be drawn from the paper's analysis of the success school feeding and the design of the schools to incorporate the related infrastructure for these programmes, in both South Africa and Ghana. Firstly school feeding programmes are relatively low in new infrastructural needs. For existing schools, as was seen almost exclusively within the researched schools, classrooms are able to double up as feeding areas. However, the need to have better distribution facilities, and ideally cooking facilities, on site is more crucial than in the West where transportation, and onsite electricity enables the outsourcing of schools to be economically viable.

Currently, the areas in which most primary schools outside of urban centres in Africa exist have limited access to public services. Developing and equipping school feeding centres could therefore become a core 'hub' activity for such communities and tie in well with 'grow your own crops' programmes, which already exist in countries such as South Africa, to become 'health and nutrition demonstration projects, akin to some key objectives of the UK Sure Start programme and other objectives set out in the white paper, "Meeting the Childcare Challenge" (HMSO 1998).

Furthermore, in acknowledgement of the practice in place in both South Africa and Ghana, there is an advantage in 'de-linking' school meals provision from the educational/admin tasks of running schools. However, there need to be sufficient links and connections between the school staff and the meal providers to enable the facilities and infrastructure to be best used and adapted to the needs of the programme. In some of the visited schools, there was little that staff could do to help with storage requirements or sometimes space requirements for the meal providers, making the programme difficult to run on some occasions.

Also the programmes that seemed to be most successful, as might be expected, were those that integrated most with the local school community. Often, parents and relatives of students in the successful school feeding programmes were involved in helping the school feeding contractors, or in some cases contractors were picked from parents of existing children. The need to ensure that the programmes are locally supported and have local involvement is crucial to their continued growth and success.

Finally, the potential of the school feeding programme, its built infrastructure and the associated services, to become the core of future local 'outreach' development hubs in areas such as healthcare and adult vocational education is considerable. There are contemporary precedents for this both in the West, a close example being the 'Sure Start' childcare programmes, and their relationship and sitting within schools in the UK. Further afield in other developing countries, as well as in the West, there is ample evidence that integrated health promotion developed via schools and other community institutions are particularly successful (Gillies, 1998).

In keeping with the key thesis of the author's "Schools as hubs for educational development research project", the school feeding programme demonstrates that the incorporation of adequate space and facilities for school feeding programmes within existing schools enhances the education chances of vulnerable children and improves education experience and quality in the schools involved. More importantly, the research findings suggest that improved design to accommodate functions, such as feeding in schools, and furthermore allowing such facilities to be used by the community, would further enhance local contact and involvement with schools and the virtuous circle of community focused development enhanced by local access to available social infrastructure, such as schools.

Acknowledgements and Thanks:

I would like to thank my research partners at the CSIR, Pretoria, Kwame Nkrumah University of Science and Technology Ghana, the teachers and education Ministry officials in the South African and Ghanaian Schools I visited, the planning director of EDSEL services ltd (Ghana) and the funders of the EdQual small project, the University of Bristol and DfID

REFERENCES

- Aiyekoo! (2009) Ghana Education Guide, Accra
- Amevor, S., (2008) 'Ghana: School feeding programme is too expensive, for Country, Public Agenda, Ghana' [online] www.allafrica.com 25th July [accessed on 1/6/09]
- Babu S., & Hallam J. A. (1989) 'Socio-economic impacts of school feeding programmes: empirical evidence from a South Indian Village', *Food Policy* 14 (1) pp 58 – 66
- Bray, M. (1981) *Universal Primary Education in Nigeria, A study of Kano State*, Routledge, London
- CSIR (2005) *Education and Community Buildings*, Report, CSIR, Pretoria
- De Klerk M, Drimie S, Aliber M, Mini S, Mokoena R, Randela R, Modiselle S, Roberts B, Vogel C, de Swardt C, Kirsten J (2004). 'Food security in South Africa: Key policy issues for the medium term,' *Human Sciences Research Council Integrated Rural and Regional Development Position Paper*. Pretoria: Human Sciences Research Council
- Department of Education, (2009) Republic of South Africa, Submission on Norms and standards for Schools infrastructure, Financial and Fiscal Commission [online] <http://www.ffc.co.za/> [accessed 20th November 2009]
- DfES (2008) 'An Introduction to Building Schools for the Future', [online] Department for Children, Schools and Families, 4PS/Partnership for Schools, London 2008., www.partnershipsforschools.org.uk/.../BSF%20Introductory%20Guide%202008.pdf [accessed 20th November 2009]
- Freire, P. (1970) *Pedagogy of the Oppressed*, Continuum, New York
- Gazette, No.31616; Department of Education of the Republic of South Africa).
- Gillies (1998) 'Effectiveness of Alliances and Partnerships for Health Promotion', *Health Promotion International*, 13(2) pp 99 – 120
- Greenhalgh, T., Kristjansson, E. & Robinson, V. (2007) 'Realist review to understand the efficacy of school feeding programmes' *British Medical Journal* (335) pp 858 – 861
- Her Majesty's Stationary Office (HMSO) (1998) 'Meeting the Childcare Challenge: A Framework and Consultation Document' a Sure Start white paper, HMSO, London
- Kallaway P. (1996) Policy Challenges for Education in the New South Africa: The case for school feeding in the context of Social and Economic Reconstruction, *Transformation* (31) pp.1 – 24
- Kallaway P. (ed) (2002) *History of Education Under Apartheid 1948 – 1994: The Doors of Learning and Culture Shall be Opened*, Longman, Cape Town
- Kennedy, E & Davis, C. (1998) 'US Dept of Agriculture, School Breakfast Program', *American Journal of Clinical Nutrition*, 67(4) pp798S-803S
- Kennedy, E. (1991) Successful Nutrition Programs in Africa: What makes them work?, World Bank Working Paper 706, Washington
- LSTM/DFID (2008) 'Does the provision of school meals or snacks to children improve their nutritional status and educational achievement,' Evidence Update, Child Health Series, August 2008

McCoy, D., Saitowitz, R., Sassa, M., Sanders, D., Wigton, A., MacLachlan, M., Mokoetle, K., Swart, R., Kvalsig, J., Gordon, A., Hendricks, M., Dhansay, A., & Barron, P. (1997) *An Evaluation of South Africa's Primary School Nutrition Programme*, Durban, Health Systems Trust

Uduku, O. et al (2007) EdQual Small Scale Research Project "Schools as development hubs for learning," EdQual, Bristol

Uduku, O., Instiful, G, & Gibberd, J. (2009 in process) Final Project Report, "Schools as development hubs for learning", University of Bristol, Graduate School of Education

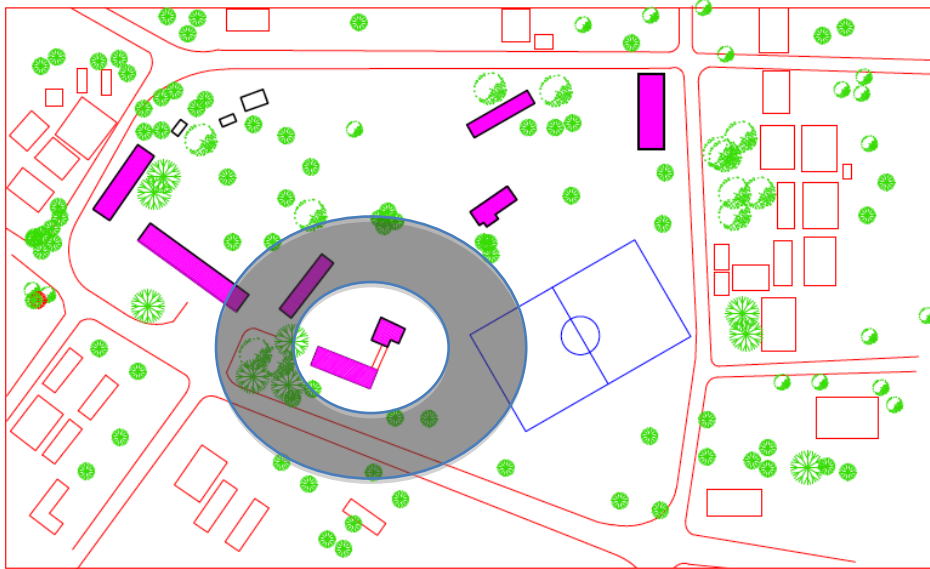
UNESCO-UNICEF-WFP (1986) *Some Recent ideas on School Feeding*, Paris, UNESCO

Van Straaten, J.F., Richards, S.J., and Lotz, F.J. (1967) CSIR Research Report "Ventilation and Thermal Considerations in School Building Design" Pretoria, CSIR

World Food Programme (n.d.) Country Report: Ghana [online]
<http://www.wfp.org/countries/ghana> [accessed June 2, 2009]

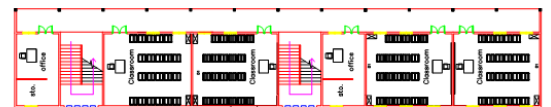
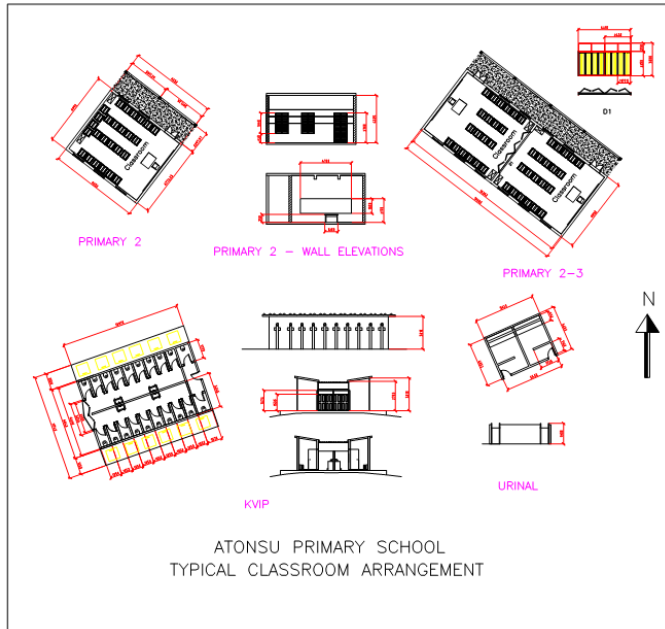
APPENDIX 1

Atonsu School layout Ghana. Central area = preschool feeding class + kitchen

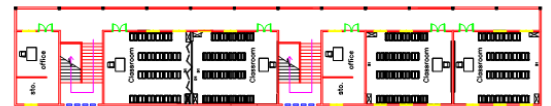


APPENDIX 2

School drawings for Atonsu School, Kumasi Local Government Ghana



ATONSU CLASSROOM BLOCK GROUND FLOOR PLAN



ATONSU CLASSROOM BLOCK FIRST FLOOR PLAN

**EdQual RPC
- Implementing Education Quality
in Low Income Countries**

Contact:

EdQual RPC
Graduate School of Education
35 Berkley Square
BRISTOL BS8 1JA
T 0044 (0)117 331 4288
F 0044 (0)117 925 7584

www.edqual.org

