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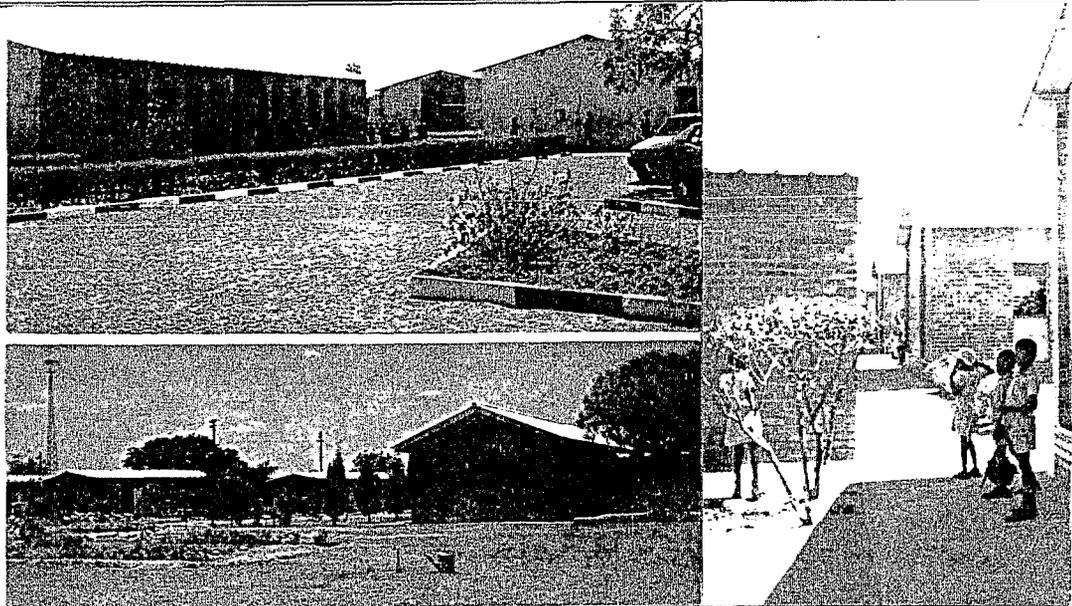


GOVERNMENT OF ZIMBABWE  
MINISTRY OF EDUCATION

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# SCHOOL SITE SIZE STUDY FINAL REPORT

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DECEMBER 1995

## PREFACE

*The study was commissioned by the United States Agency for International Development office in Zimbabwe in association with the Ministry of Education. The study's findings are to assist the Ministry of Education to make recommendations for the reduction in school site sizes in Zimbabwe so that more affordable houses can be provided to the community.*

*The report has been prepared against the background of a number of site visits to selected schools in Harare, Bulawayo and Gweru where a comprehensive questionnaire was administered to headmasters and selected teachers. The empirical findings together with the on the ground appraisals of school site usage has assisted the consultants in preparing recommendations for implementation both in the short term and medium/long term.*

*The study team comprised the team leader, Ross Palmer, Peter Ngara from PALMER ASSOCIATES (PVT) LTD and an educational consultant James Makawa. The team was well assisted in the site visits by Mr Mabuto from Ministry of Education (Head office) and staff from the Regional Directors offices.*

*The views expressed in this document are those of the above team and do not necessarily reflect those of USAID or Ministry of Education.*

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## LIST OF ABBREVIATIONS

USAID	:	United States Agency for International Development
M.O.E.	:	Ministry of Education
MPCNH	:	Ministry of Public Construction and National Housing
MLGRUD	:	Ministry of Local Government, Rural and Urban Development
D.P.P.	:	Department of Physical Planning
P.S.H.P.	:	Private Sector Housing Programme
S.D.A.	:	School Development Association
P.T.A.	:	Parent Teachers Association
Z.W.D.	:	Zimbabwe Dollar
P.A.	:	Per Annum

## EXECUTIVE SUMMARY

Under the umbrella of the USAID sponsored Private Sector Housing Programme with the Government of Zimbabwe, the level of low cost housing production has been constrained by the high land use standards for primary and secondary schools within urban housing estates. In the light of the fact that Zimbabwean schools are three times larger than those in neighbouring countries and the Ministry of Education thrust towards qualitative education and more efficient use of sites, the study of existing sites has become a necessity.

With the high costs of infrastructure provision for urban residential land, there is a need to assess the reduction of the school sites to regional levels, so that more affordable housing can be made available. The study has looked at the use of schools space in 16 urban schools, 8 primary and 8 secondary, built in the different periods, colonial rule, 1980-1992 and post 1992 era. The Ministry of Education chose the school sites and with the assistance of the Regional Directors of Education, the consultants visited schools in Harare, Gweru and Bulawayo administering questionnaires to headmasters and teachers.

The study investigated the policies being implemented by the Ministry of Education (school planning standards), the Ministry of Public Construction and National Housing (school designs) and the Ministry of Local Government Rural and Urban Development (local authorities), with a view to amending policies affecting the reduction of sizes. In addition, the study looked at the actual use of land in the schools and the inadequacy of the teachers accommodation for urban schools.

The assessment of the results of the study have revealed that there is an over provision of space in most new schools, notwithstanding the huge problem of overcrowding/double sessioning at high density schools. Because of the disparity in the allocation of land for schools between high and low density schools in the past, there is an imbalance in the provision of facilities at these schools. In addition, the results of the 1992 revision to the size of school sites are difficult to quantify, but it is noticeable that the liberated land has been given over to the local authorities and teacher housing has not been specifically designed on the land.

Specifically, it was found that there was a need to reduce school sites by 25% to fall in line with regional standards but also to allow for additional housing stands and significant savings in the infrastructure servicing costs. Not only are sites to be reduced, but some sports activities should be centralised into a local authority administered sports field for specialised sports (cricket, rugby, tennis and swimming). By removing the specialised sports facilities for cricket, rugby, tennis, hockey and swimming from the school land use requirements, the land saved would equal the amount of land required for housing i.e 1,5 and 2,0 ha respectively. The study noticed that due to financial constraints, the specialised fields were not available to the high density schools and therefore, they would be better centralised in a local authority financed and managed sports club.

It was found that by reducing the size of the primary schools by 1,5 ha and 2,0 in secondary schools in a typical 2500 stand layout, there would be an additional space for 400 houses. This would also reduce the cost of servicing stands in the layout by an estimated 16% or

\$1280 on a 150m<sup>2</sup> stand.

In order to support the reduction in school sites, planning standards need to be amended to allow for more realistic planning parameters (household occupancy levels) and numbers of households per school. It has also been suggested that some schools should share facilities like sports fields.

Recognising the limited financial resources available to government and local authorities in the provision of schools, it has been recommended that additional funds be raised through PTA/SDA sources for future capital projects in existing schools and that local authorities should stimulate communities to build their own "community schools" in designated sites within high density suburbs. The study noted that the reason for double sessioning in the high density areas was not only the high household occupancy levels, but the lack of adequate numbers of schools that were designated in the layout. Therefore there is an opportunity to encourage more self help projects in school construction in the urban areas.

The study, after carrying out a comprehensive analysis of the problems facing teachers in their accommodation, found that there was a high level of teachers occupying lodgings in small and insecure accommodation. It was therefore suggested that teachers at urban schools should be provided with larger and more secure tenure of accommodation equivalent to their status in the community. Because local authorities did not specifically build houses for teachers in the place of land liberated in the 1992 reductions of land, many teachers have formed cooperatives to build houses for themselves.

The Ministry of Education together with the Ministry of Public Construction and National Housing should embark on a more proactive policy for teacher accommodation that will ensure that houses will be built in place of land liberated by reduced school sizes.

The recommendations have been designed to improve the quality of education in schools by not only reducing the size of sites but by streamlining the activities and space allocations and encouraging the community to play a more active role in the construction and maintenance of the urban schools, specifically in the high density areas. The reduction of school sizes will enable a more qualitative and efficient management of land resources in urban schools. This will also mutually support the provision of affordable housing in Zimbabwe.

Following the empirical study of selected schools in three urban centres of Zimbabwe, the recommendations have been organised into priorities for implementation by the relevant agencies. The priorities have been organised into short term and medium/ long term periods. The **short term actions** to be undertaken are:-

- 1) Reduce the size of school sites to a minimum of 3,5 hectares for primary schools and 8,0 hectares for secondary schools. There must be flexibility within this policy for difficult sites where the terrain is steep, the soils are poor and there are many rocks. This policy would apply to new layouts prepared mainly for the urban areas.
- 2) The layouts prepared under this new policy should take into consideration the existing household occupancy rates when planning. Where possible the plan

should also group schools together on marginal land so that facilities can be shared. The planner should include a centrally planned sports field for specialised sports.

- 3) Urban Councils, through increased rates, can raise more revenue for the complete development of urban schools, in particular, the sports fields. This will allow for multiple use and efficiency in the use of the fields.
- 4) The existing schools that have too much land, in particular low density schools and some of the schools built after 1984, should be encouraged to release land that is not being used. The land could be used for additional housing for teachers employed at the school. The Ministry of Education needs to investigate each school thoroughly to evaluate the use of the land.

The **medium/long term actions** that need to be taken are :-

- 1) The Ministry of Public Construction needs to investigate the cost effective and aesthetic value of building double storey schools in urban areas. The space saved will not materially affect the size of school, but will improve the functioning and management of the schools.
- 2) It is necessary to continue with the government and urban council home building programme for civil servants. However the programme needs to be integrated into the Private Sector Housing Programme so that houses and flats can be built for teachers on both a rental and rent to buy basis.
- 3) The local authorities need to mobilise the communities in the high density areas to contribute more to the development of their childrens' schools. Contributions can be both for PTA/SDA funds for school improvements as well as the outright building of new schools on designated but undeveloped stands.
- 4) The Ministry of Education together with the Ministry of Public Construction and the local authorities need to develop a more proactive policy for teacher housing that will ensure an uplifting of accommodation status for teachers and will allow them more access to serviced stands for self building.
- 5) Urban schools need to scale down the agricultural training activities so that planting fields are no longer required in urban schools. Specialised agricultural colleges exist for the training of farmers.
- 6) Specialised sports fields need to be constructed in the high density areas to supplement the sports needs of the schools.

The recommendations from this study are intended to assist the Ministry of Education in formulating a policy on the reduction of school sites in urban areas. The Ministry of Education will have to work together with the Ministry of Public Construction and National Housing and the urban councils in making these recommendation work. In

the final analysis, the reduction of schools sites will liberate more land for housing (some of which will be for teachers), thereby making the servicing of a layout more affordable whilst making the education process more qualitative in urban schools.

## **1.0 INTRODUCTION**

### **1.1 Background To The Study**

USAID is in the process of implementing a US\$75 million Private Sector Housing Programme (PSHP) with the Government of Zimbabwe (GOZ). Of this amount, US\$25 million is in the form of grants and US\$50 million consists of Housing Guarantee (HG) Programme loans. The grant and HG funds are to be disbursed in three tranches, the first of which took place in April and July of 1994, respectively. Each disbursement is contingent on the satisfactory compliance of a series of conditions precedent mutually agreed upon by USAID and the GOZ. The conditions precedent are primarily policy reforms which are expected to result in increased production of more affordable housing for urban low income households on a sustainable basis.

The level of low cost housing production in Zimbabwe is constrained by a number of regulatory obstacles.

One secondary, however, existing impediment is the sizable cost burden of regulations which call for high land use standards for secondary and primary schools within urban housing estates. Although variation in enrolment and physical facilities do exist, it has been documented that school sites in Zimbabwe are three times larger than those in neighbouring countries. In light of the Zimbabwean Ministry of Education's new policy thrust of qualitative education and planned greater use of the sites in the future, a reassessment of the utilisation of existing large school sites needs to be undertaken.

The current situation of high infrastructure provision costs and limited urban land for housing development in Zimbabwe is exacerbated by the high land composition of urban schools. Land which is freed up by reducing a schools' open space, although still keeping within regional standards, would allow a greater number of residential plots to be developed, and a percentage of the resulting additional plots could be set aside specifically as teacher housing, which is in high demand. In addition, increasing the number of plots within a housing estate will effectively decrease the per plot cost of servicing in the area surrounding a school.

A reduction in the size of primary and secondary school sites was one of the conditions precedent to the first tranche disbursement. In 1992, the Ministry of Education agreed to a reduction in school sites by 15% and before the disbursement of the second tranche, there should be recommendations made for a further reduction of up to 40% so that more stands can be made available for teacher housing.

### **1.2 The School Site Size Study**

The study, which is one of the conditions precedent to the second tranche disbursement, is being undertaken by consultants (PALMER ASSOCIATES (PVT) LTD) who are familiar with the Private Sector Housing Programme (PSHP) and has

hired specific consultants familiar with the Ministry of Education policies and programmes. The specific objective of the study will be:-

**"to create a baseline information system which will analyse the use of school spaces without adversely affecting the activities within the school; determine the effective demand for teacher housing and explore alternative design solutions and specifications as a means to further reducing the size of schools."**

The tasks to undertake the study are as follows:-

- 1) Completion of a sample survey of 16 urban school sites, 8 primary and 8 secondary.
- 2) Assessment of usage of school sites, in particular the playing fields and open space.
- 3) Assessment of existing policies and reforms within the Ministries of Education, Local Government, Rural and Urban Development and Public Construction and National Housing.
- 4) Completion of a comparative study of the existing space standards for education facilities in neighbouring countries.
- 5) Discussion of the effective demand for teacher housing with local authorities and the Ministry of Education.
- 6) Preparation of alternative designs solutions for the size and layout specifications appropriate for urban secondary and primary schools.

### 1.3 Methodology Of Work

The preparation of the study report followed the tasks identified in the terms of reference. The study involved 4 distinct operations:-

- 1) Site visits to the selected schools.
- 2) Questionnaires and site appraisals.
- 3) Meetings with officials.
- 4) Regional assessment.

#### (a) Site Selection

The selection of the schools to be visited was made by the Ministry of Education based on the following criteria:-

- 1) Schools that were built before the policy change in 1984.
- 2) Schools that were built during the period 1984-1992.
- 3) Schools built after 1992, the second policy change to the school site sizes.

It was agreed that the schools should also be from both the low density and high density areas. The list of schools is shown in Table 1.

TABLE 1.1 : SCHOOLS SELECTED FOR SITE VISITS

PRE 1984	1984 - 1992	POST 1992
Wadzanayi Primary (H) Courtney Selous Primary (H) Prospect Primary (H) Prince Edward Secondary (H) Chaplin Secondary (G) Pumula Secondary (B)	Mkoba 4 Primary(G) Fusi Primary (B) Kuwadzana Prim. (H) Glenview 2 Sec.(H) Nketa Secondary (B) St John's College (H)	Budiriro 3 Pr.(H) Q. Elizabeth (B) Hatcliffe Sec.(H)

(B) = Bulawayo      (G) = Gweru      (H) = Harare

A total of 8 primary schools and 8 secondary schools were selected, 10 of which were in Harare, 2 in Gweru and 4 in Bulawayo. It was agreed that it was necessary to spread the sites between the three cities in order to get a better sample.

There were also a range of ownership in the section with 3 council schools and 1 private school among the predominately government schools. The location of the schools are shown on Map No's 1a, b and c.

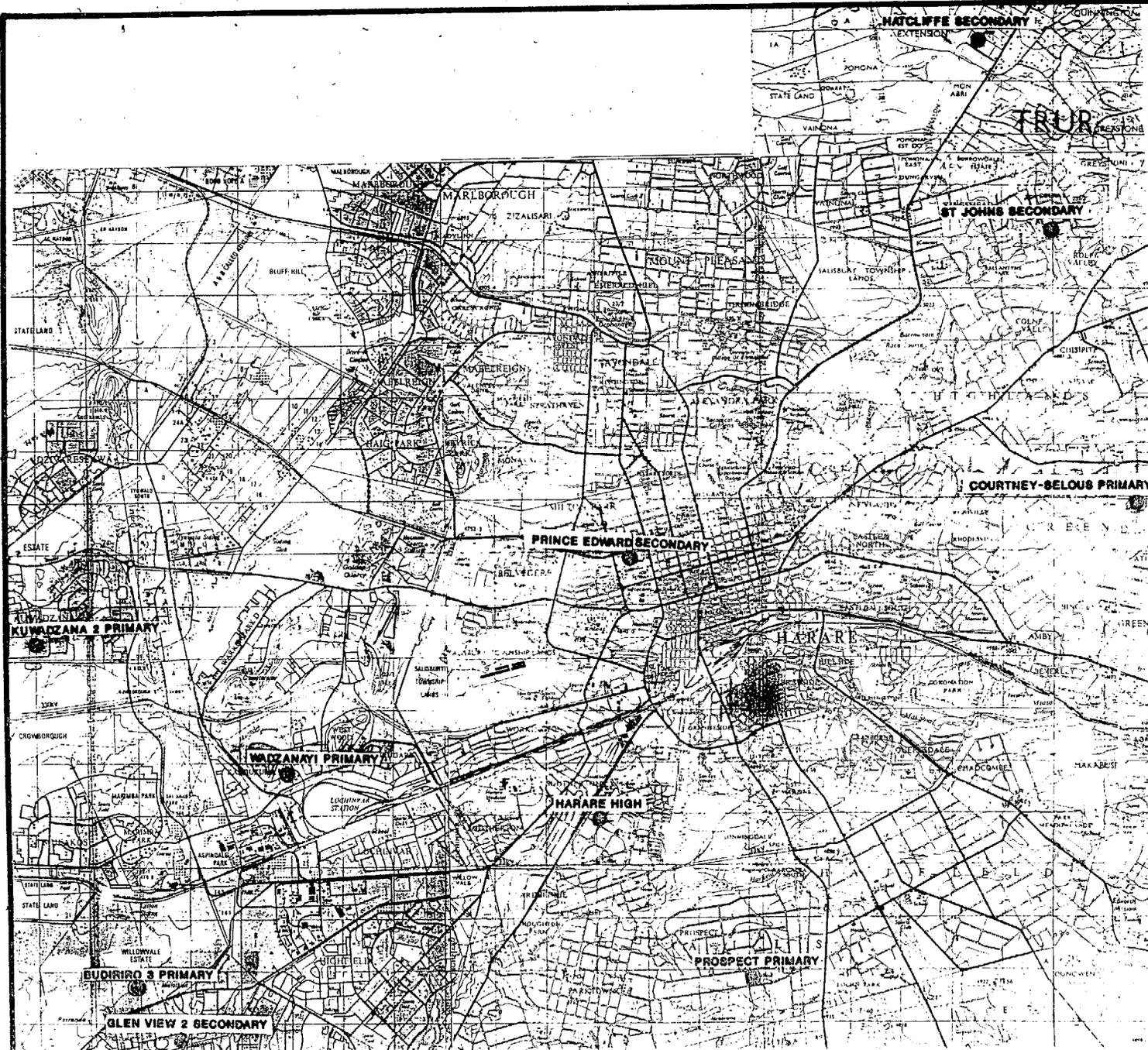
#### (b) Work Methodology Of Site Visits

The site visits involved 3 distinct steps:-

- STEP 1 : Questionnaires administered to the headmasters.
- STEP 2 : Questionnaires administered to the teachers
- STEP 3 : Site appraisal walk about.

The questionnaire for the headmasters was designed to obtain information about the school, including size, enrolment, activities undertaken etc. A copy of the questionnaire is shown in Appendix 1. A total of 16 questionnaires were administered to headmasters.

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# SCHOOL SITE SIZE STUDY

## USAID PROGRAMME

LOCALITY MAP - HARARE SCHOOLS

LEGEND  
 SCHOOL SITES 

Map source S.G 1:50 000 series sheets numbers 1730 D 4, 1731 C 1 and 1731 C 3

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DRAWING N° C 51 Map 1a			
PALMER ASSOCIATES P/L			
URBAN AND REGIONAL PLANNING CONSULTANTS			
P O BOX 50 381			
GREENDALE Har. Tel 704571/2			

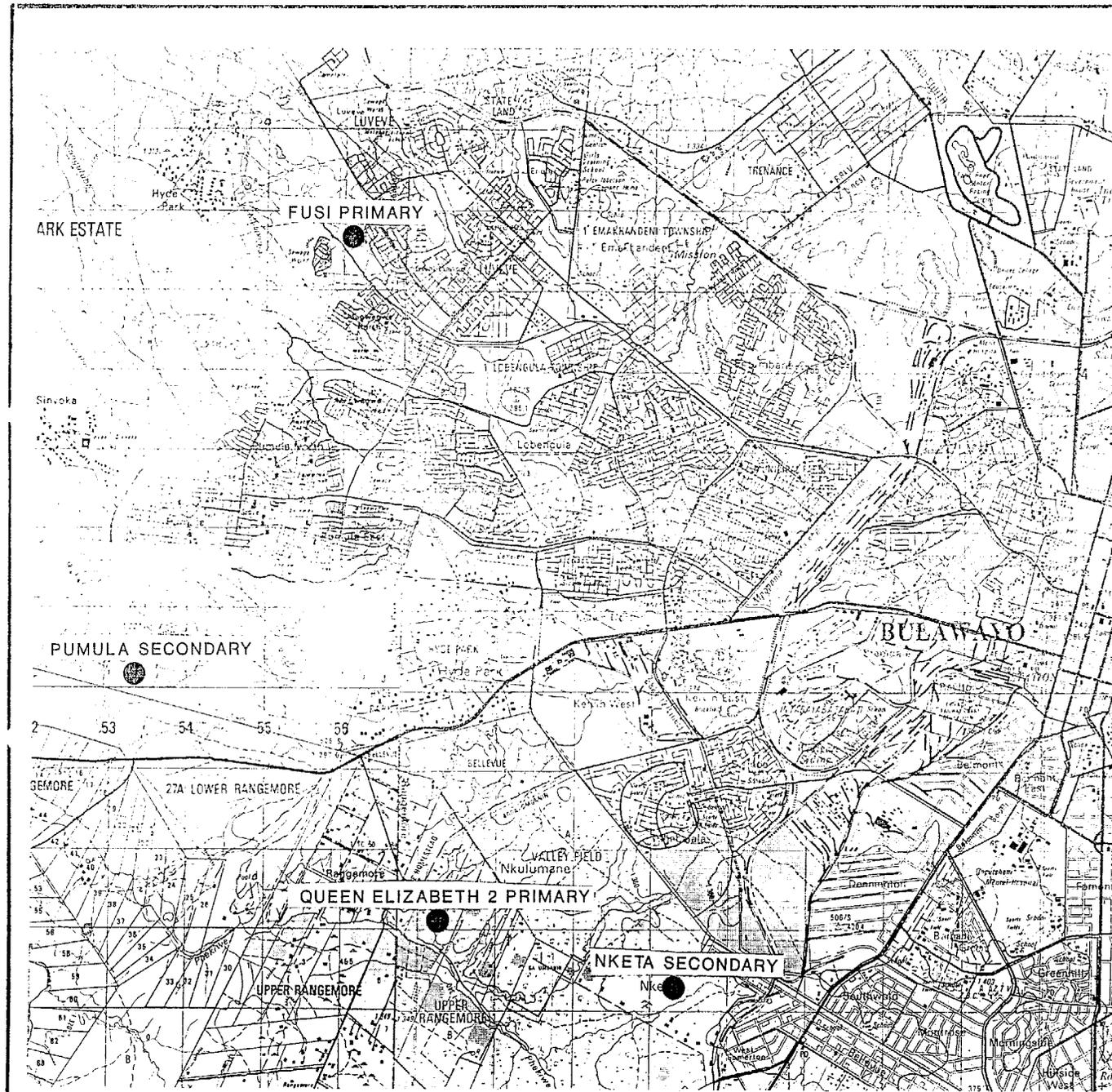
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SCHOOL SITE SIZE STUDY  
USAID PROGRAMME

LOCATION MAP - BULAWAYO SCHOOLS

LEGEND

School sites



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EXTRACT FROM S.G.'S 1:50 000 SERIES-  
MAP 2028A2 & 2028B1

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B165	

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SCHOOL SITE SIZE STUDY  
USAID PROGRAMME

LOCATION MAP - GWERU SCHOOLS

LEGEND

School sites



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EXTRACT FROM S.G.'S 1:50 000 SERIES-  
MAP 1929B3 & 1929B4

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The teacher questionnaire was designed to obtain information on the housing requirements of teachers, in addition to information about their existing accommodation and mode of transport. It was agreed that a total of 10 teachers in each school would give us a representative sample with which to analyse the results. Therefore, a total of 160 questionnaires were administered. A copy of the questionnaire is attached in Appendix 1.

The site appraisal of each school was most important in order to assess the utilisation of school facilities by the pupils and the management of these facilities. The site appraisal took the form of a walkabout with the headmaster and/or the school caretaker/groundsman.

In all the site visits the consultancy team was accompanied by Mr Mabuto of Ministry of Education (Head Office) and a representative from the Regional Directors Office. The information obtained from the questionnaire and site appraisals has been recorded on a data base and all graphs, tables and charts for the report were obtained from the computer data base.

Appendix 3 shows the summary of findings on selected site visits. Schools represented are Courtney Selous, St Johns, Prince Edward, Glenview, Chaplin, Fusi, Queen Elizabeth and Budiriro.

**(c) Meetings**

Part of the terms of reference requires the consultant to review the existing policies and reforms within the responsible Ministries. This involved conducting structured meetings with the Ministries of Education, Local Government and Public Construction. In addition, it was necessary to have meetings with the local authorities and in this case, meetings were held with the City Councils in Harare, Bulawayo and Gweru. Officials from the Department of Works (City Engineers), Department of Community Services and Housing, Town Clerks Department (Education Department) and Town Planning were at the local authority meetings. Other meetings were held with Z.I.M.T.A., the National Teachers Association.

**(d) Regional Assessment**

The Ministries of Education in the neighbouring countries of South Africa, Namibia, Botswana, Zambia, Malawi and Mozambique were consulted in the comparative analysis of education facilities. The information that was requested was the national percentage of children attending schools in urban areas, minimum sizes of primary and secondary schools, facilities provided, enrolment figures etc.

The information was requested by fax and the response has been poor. Not one of the countries have responded by 15 December 1995 so the information cannot be processed. The report, therefore, may have to be amended when this information becomes available.

## 2.0 SCHOOL POLICIES

This section looks at school policies in respect to school site sizes, school design standards, layout design standards, teacher housing and a comparison of these with neighbouring countries. A policy provides guidelines for the attainment of the general aim of education. Over the past three decades, changes in policy have taken place due to socio-political, demographic and economic factors as indicated in the paragraphs that follow.

### 2.1 School Site Sizes

Prior to independence there was a disparity in the allocation of land between schools in the African and European areas. The latter were given as much land as they desired. Primary schools in the African townships were built on 3.5 hectares and secondary schools on 4.5 hectares. The sizes were based on a much smaller school population than there is today and a limited number of extra-curricular activities, namely athletics, football, netball and to a lesser extent tennis. In addition, the school population in the sixties and seventies was much less than it is today because no child was admitted into an urban school without parents' residential cards. The colonial regime was able to control the influx of both adults and school going children into urban areas by insisting on town passes and house cards. Today with the rapid increase in population, the average school enrolment is 1700. Half the pupils attend classes in the morning and the other half in the afternoon. This is what is called double sessioning, a feature unknown in the low density suburbs.

In order to bring parity in the allocation of land to schools, the Ministry of Education stipulated minimum sizes of land for both primary and secondary school sites as per circular 1/169/2 of 1983 to all urban councils. The minimum sizes were 6 hectares for primary schools and 12 hectares for secondary schools in both high and low density areas. However, school playing fields are the only open land available for urban children to play on, especially children in high density suburbs.

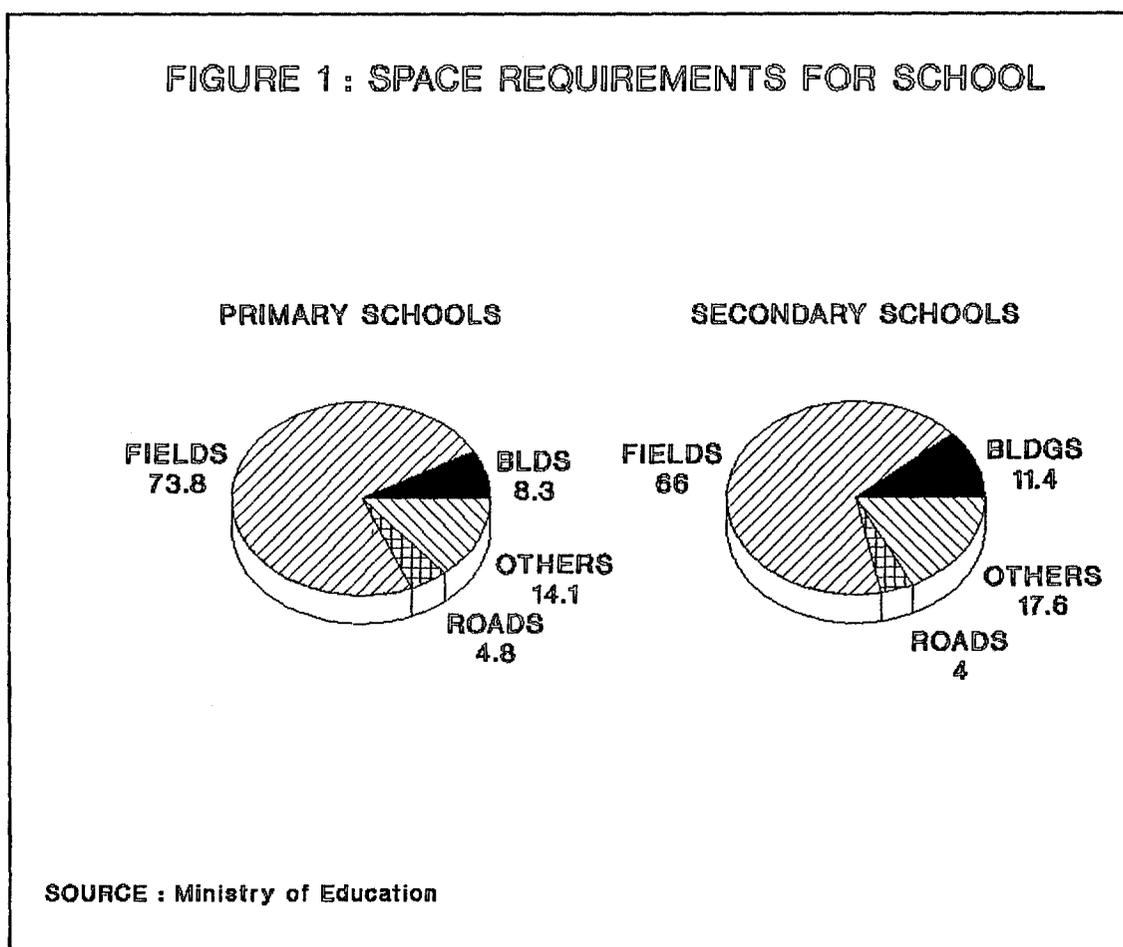
TABLE 2.1 : MINIMUM LAND REQUIREMENTS FOR PRIMARY AND SECONDARY SCHOOLS : URBAN CENTRES  
PRIMARY SCHOOLS (3 STREAM ENTRY)

SECONDARY SCHOOLS (6 STREAM ENTRY)

BUILDINGS	UNIT AREA (M <sup>2</sup> )	NO. OF	TOTAL AREA (M <sup>2</sup> )	BUILDINGS	UNIT AREA (M <sup>2</sup> )	NO OF	TOTAL AREA (M <sup>2</sup> )
ADMIN BLOCK	650,00	1	650,00	ADMIN BLOCK	750,00	1	750,00
CIRCULATION SPACE AROUND ADMIN	622,00	1	622,00	CIR. SPACE AROUND ADMIN	620,00	1	620,00
K.G. CLASSROOMS	155,60	3	466,80	CLASSROOMS	155,60	18	2 800,80
PRIMARY CLASSROOMS	155,60	9	1 400,40	LABORATORIES	400,20	4	1 600,80
GIRL'S TOILETS	214,00	2	428,00	BOYS PRACTICAL	354,46	5	1 772,30
BOYS TOILETS	214,00	2	428,00	GIRLS PRACTICAL	404,40	5	2 022,00
K.G. TOILETS	214,00	1	214,00	GEOGRAPHY	155,60	2	311,20
CARETAKERS HOUSE & PLOT	600,00	1	600,00	BOYS TOILET	314,00	2	628,00
CIRCULATION SPACE AROUND CLASSROOMS & TOILETS	207,00	9	1 863,00	GIRLS TOILET	314,00	2	628,00
CAR PARK	680,00	1	680,00	TECH. DRAWING	175,60	1	175,60
ALLOWANCE FOR HALL, LIBRARY & SWIMMING POOL	5 000,00	1	5 000,00	CARETAKERS HOUSE	600,00	1	600,00
JUNGLE GYM	2 000,00	1	2 000,00	CIR. SPACE	207,00	24	2 968,80
ROAD SAFETY TRAINING AREA	400,00	1	400,00	CAR PARK	900,00	1	900,00
FOOTBALL PITCH WITH ATHLETICS FIELD AND TRACK AROUND IT	8 500,00	2	17 000,00	ALLOWANCE FOR SELF HELP PROJECT	5000,00	1	5 000,00
HOCKEY PITCH				ALLOWANCE FOR HALL, LIBRARY, SWIMMING POOL & TOOL STORES	1000,00	1	7 000,00
CRICKET, VOLLEY BALL,	8 500,00	1	8 500,00	JUNGLE GYM	2000,00	1	2 000,00
SOFTBALL, BASKETBALL	1 500,00	1	1 500,00	ROAD SAFETY & TRAINING AREA	400,00	1	400,00
TENNIS COURT				FOOTBALL PITCH & TRACK AROUND IT	8500,00	2	17 000,00
NETBALL PITCH	500,00	4	2 000,00	HOCKEY PITCH	8500,00	2	17 000,00
ORCHARD & PLOT	450,00	2	900,00	CRICKET, VOLLEY BALL, SOFTBALL,	1500,00	2	3 000,00
ALLOWANCE FOR BUILDING LINES	1 250,00	1	1 250,00	BASKET BALL			
	220,00	10	2 200,00	TENNIS COURT	500,00	4	2 000,00
				NETBALL PITCH	450,00	2	900,00
				ORCHARD & HORT	2500,00	1	2 500,00
				RUGBY PITCH	8500,00	2	17 000,00
				ALLOWANCE FOR BUILDING LINES	220,00	24	5 280,00
TOTAL AREA FOR BUILDINGS & GROUNDS			48 102,20				96 857,50
ALLOWANCE 5% FOR SERVICE & ACCESS ROADS			2405,10				4 842,90
TOTAL AREA REQUIRED			50 507,30				101 700,40
MINIMUM REQUIREMENTS			5.0 HA				10.0 HA

However, in 1992 USAID initiated the reduction in sizes of primary and secondary school sites in urban areas in view of the scarcity of land. The minimum sizes for new schools to be established in urban areas in future would be 5 hectares and 10 hectares for primary and secondary schools respectively. The minimum land requirements would only affect schools to be established in the future but would not apply to boarding or rural schools. It was envisaged that the 15% reduction in school land would be used for teachers' houses around the schools.

Figure 1 shows the breakdown of land requirements for both primary and secondary schools in urban centres.



In spite of the changes in hectareage effected in 1992, as per Chief Education Officer's Circular Minute No. 33 of 1992, USAID has recommended a further reduction in the size of school land by 40% to 3,6 ha for primary schools and 8 ha for secondary schools. That means the amount of land saved would be 1.45 ha and 2 ha per primary and secondary school respectively. It was argued that the site size of Zimbabwe schools was 40% higher than that of neighbouring countries.

### Implications

- (i) Planners of land use in school sites must take cognisance of the fact that almost all schools in high density suburbs practise hot-seating due to dense school populations. It has not been possible to prevent pupils from rural areas from migrating to urban secondary schools where facilities are better and building fees reasonable.
- (ii) The prevalence of double-sessioning, i.e. morning session for a group of students and afternoon for another compromises quality in education. Two schools are using the same facilities built for one. The inconveniences being that those who attend afternoon classes come at a time not conducive to learning especially during the hot season and have their sports sessions in the morning. Furthermore, classrooms and staffrooms are overused such that there is often congestion in staff rooms when first session teachers mixes with second session teachers.
- (iii) Careful time-tabling is inevitable for large schools with four stream entry.
- (iv) If school land is reduced by 40%, a guarantee must be made to the effect that the saved land should be used for teacher housing.
- (v) It is envisaged, however, that the reduction in school sites would also account for a 16% cost saving in the servicing of each residential plot, equivalent to a saving of \$954 per plot assuming 300m<sup>2</sup> sizes.

### **2.2 School Design Standards (Classrooms)**

The Ministry of Education provides the site and Architect prepares the site layout. The project is either tendered or construction is done by the MPCNH Construction Unit which builds schools, houses and hospitals.

In terms of Circular B/47/1 of 1989 the following total area (m<sup>2</sup>) was stipulated for primary and secondary classrooms by stream entry as illustrated in table 2.3.

TABLE 2.2 : SIZE OF CLASSROOMS : PRIMARY

SCHEDULE OF ACCOMMODATION	UNIT AREA (M <sup>2</sup> )	3 STREAM ENTRY (800-900 PUPILS)		4 STEAM ENTRY	
		NO. OF	TOTAL (M <sup>2</sup> )	NO. OF	TOTAL (M <sup>2</sup> )
K.G. CLASSROOMS	155,6	3	466,8	4	622,4
JUNIOR CLASSES	155,6	8	1244,8	10	2556,0
SENIOR CLASSES	-	-	-	7	

SOURCE: MINISTRY OF EDUCATION 1989

With the large increase in school population in urban areas, one stream or two stream entry classes are no longer found. In 1985, Ministry of Education gave the responsibility of constructing primary schools to local authorities. Private schools have also sprung up in urban and rural areas. Different denominations still run mission, day or boarding, schools.

In urban areas, municipalities have adopted government plans in the building of their schools. However, the MOE sets building specifications to be adhered to by local authorities and it is up to the local authorities to adopt government stock-type plans or to their own in line with the Ministry's specifications who in turn approves the plans, as in the case of Harare and Bulawayo City Councils. The classrooms are simple rectangular in shape, arranged in single storey blocks in order to keep costs to a minimum. The unit areas are interceded to provide adequate space for pupil's desks, teachers desk, storage space and space for movement within. The recommended minimum floor area of a classroom is 60m<sup>2</sup> which makes it possible to accommodate up to 40 pupils. In addition, the specifications are intended to ensure maintenance of standards.

With the introduction of double-sessioning, the classrooms are carrying double the number of pupils for which they were intended. The wear and tear of the classrooms is much faster than was envisaged when the specifications were worked out. The whole question of quality becomes an illusion where facilities are overused.

In high fee-paying private schools, the building plans are different from the ones developed by government but must be approved by the Ministry of Education to ensure safety and minimum standards. There is no hot-seating in these schools.

For a secondary school in an urban area, the unit area for each type of classroom is shown in table 2.4 as per Chief Education Officers Circular Minute No. 33 of 1992.

TABLE 2.3 :SIZE OF CLASSROOMS : SECONDARY

BUILDINGS	UNIT AREA	NO. OF	TOTAL AREA (M <sup>2</sup> )
ORDINARY CLASSROOMS	155,60	18	2800,80
LABS	400,20	4	1600,80
BOYS PRACTICAL	354,46	5	1772,30
GIRLS PRACTICAL	404,40	5	2022,00
GEOGRAPHY	155,60	2	311,20
TECHNICAL DRAWING	175,60	1	175,60
TOTAL			8682,26

SOURCE : MINISTRY OF EDUCATION 1992

The majority of secondary schools in urban areas are run by government. The table above shows that there are specialist classrooms in addition to ordinary classrooms. Provision is made at high school for practical, science and geography rooms. The specifications for these are bigger to allow for space for demonstration, lecture, practical work, and storage space. The shape and structure of ordinary classrooms resemble those of primary classrooms.

The problem of hot-seating experienced especially in high density suburbs is even worse in secondary schools where time-tabling becomes a nightmare for a school with a population of 2000 students. The fact that secondary school teachers are not in charge of one class but several as they are subject teachers, makes the situation difficult. At peak hours (11 am to 1 pm) classrooms and staff rooms are used excessively.

In order to provide a wide range of activities, adequate classrooms, specialist buildings and grounds are required. Deviation from the standards indicated in Table 2.4 would mean an erosion of standards, students cannot learn properly if they are overcrowded.

### 2.3 Site Plan Standards

The Ministry of Education provides the site and the Architect prepares the site layout. The plan provides for rectangular single storey blocks, each of two classrooms with storerooms. The buildings are constructed preferably in one corner of the site in order to allow space for playgrounds, other types of buildings e.g. the caretaker's house, horticulture, agriculture and any other activities for Education with Production. The layout allows for:

- (i) Service and access road to the school by traffic (4570,1m<sup>2</sup> for a 4 stream school).

- (ii) Circulation space between tutorial blocks, toilets etc (2484m<sup>2</sup> for a 4 stream entry school).
- (iii) Minimum noise which does not disturb classes during circulation of pupils.
- (iv) Minimum building and maintenance costs.
- (v) Road safety training area (400m<sup>2</sup>).
- (vi) A car park (680m<sup>2</sup>).

The details on space required for buildings and grounds are shown on table 2.1 for both primary and secondary schools and are shown on Maps No. 2A and B.

The layout of buildings in the low density suburbs is different as almost all the schools have multi-storey buildings. This has had the advantage of maximising the use of land. The former European division received a higher budget to put up multi-storey buildings. In fact, some of the older government schools in the African townships, e.g. Chitsere, Mufakose and Mabvuku have some double storey buildings. The arrangement of classrooms into blocks is a relatively new feature.

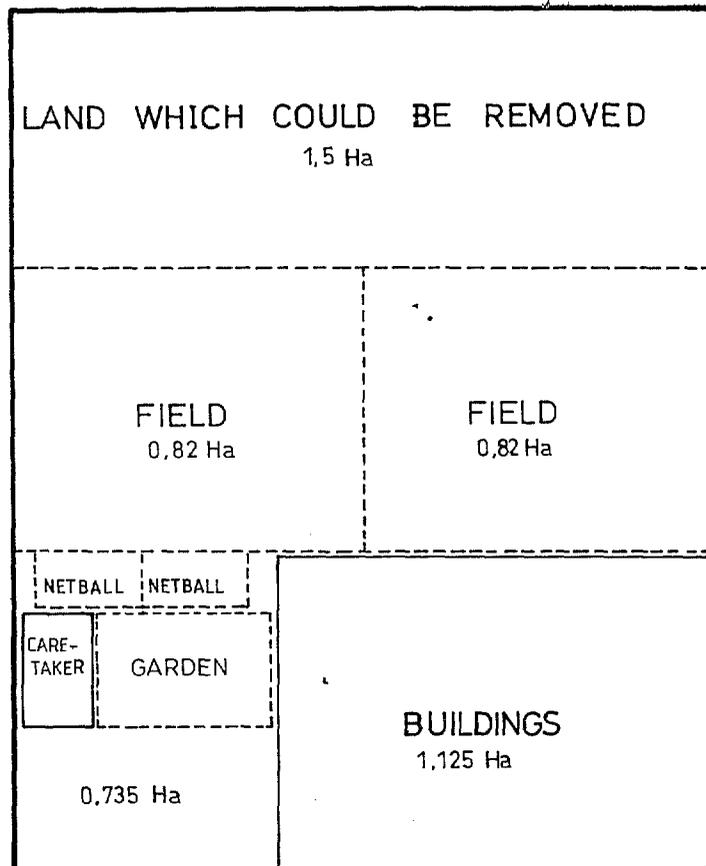
To economise on building plans and to have standard construction costs in all the provinces, the Ministry of Education decided to use a stock-type plan for all government schools. Furthermore, to change building type e.g. two storeys instead of one, it is believed, would cause an increase in cost and would not be favourable for handicapped children. There is likely to be an increase in noise during circulation time. The disadvantage of using similar or identical building plans is that no school can stand out as unique except for the ground on which it stands and this does not auger well for aesthetic value.

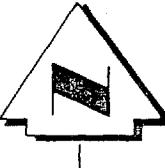
However, when all is said and done, the new plans enable the government to save on cost and to build sufficient schools for its children. Perhaps a reduction of the space between blocks and the distances of practical subject classrooms from ordinary classrooms might save ground but woodwork and metal work workshops would still require a reasonable distance from ordinary classrooms.

#### 2.4 Layout Planning For Schools

The preparations of town planning layouts for housing estates is usually done by the City Council planners or in the absence of city planners, by the Department of Physical Planning. Recently City Councils and some municipalities have been hiring the services of professional town planning consultants for the preparation of layout plans for residential estates.

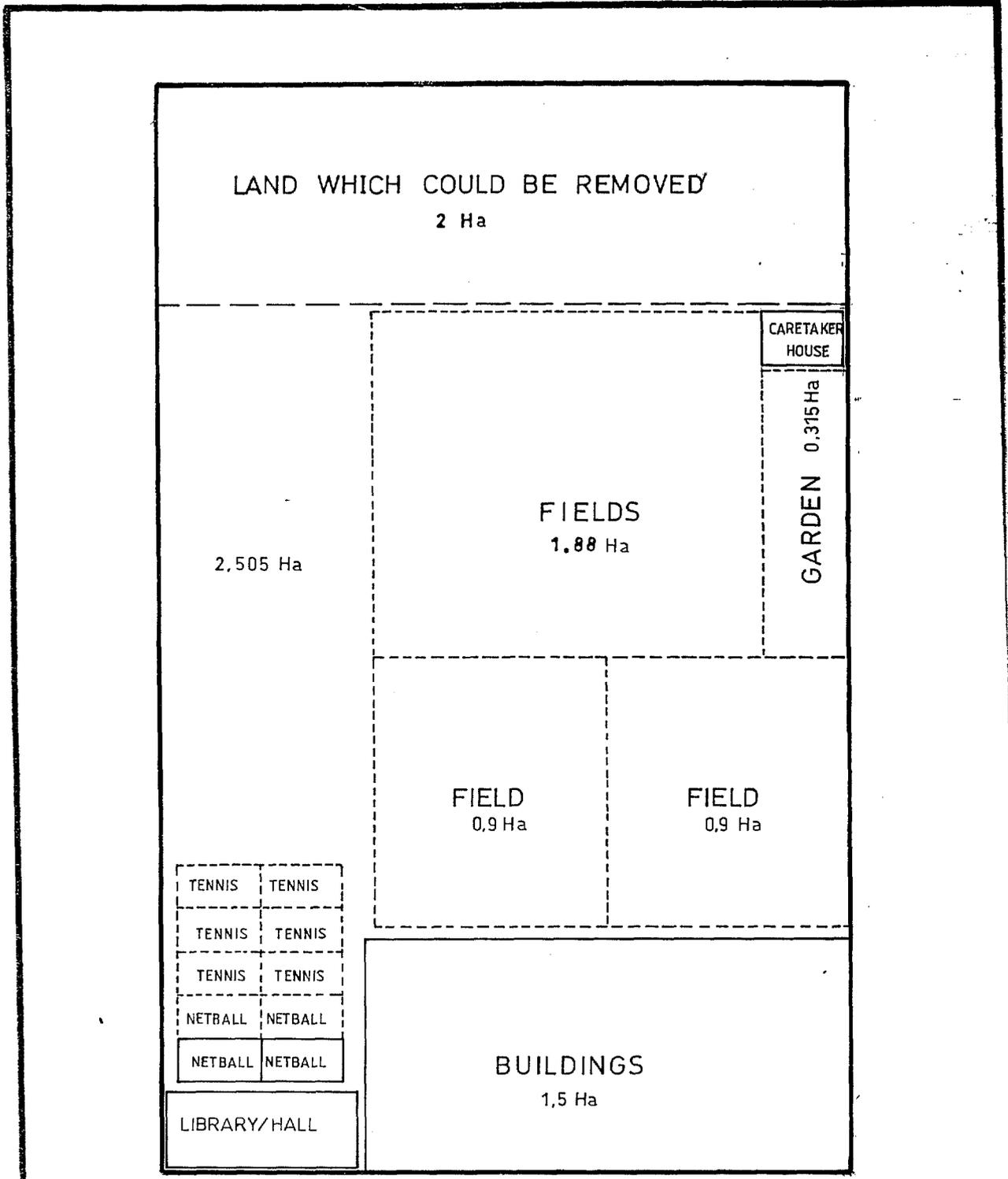
The Department of Physical Planning (DPP) have the responsibility of providing the standards or guidelines for town planning in Zimbabwe and they have produced standards relating to the location and position of schools within a layout.



<p><b>SCHOOL SITE SIZE STUDY</b> USAID PROGRAMME</p>		DESIGNED	REP	DRAWN	WS	DATE	DEC '95	
		SCALE		1:2 000		CHECKED		
STANDARD SITE PLAN FOR PRIMARY SCHOOL		DRAWING		A261	MAP 2a			
		PALMER ASSOCIATES P/L URBAN AND REGIONAL TOWN PLANNING CONSULTANTS						
		TEL 786571/2 P O BOX GD 381 GREENDALE HARARE						

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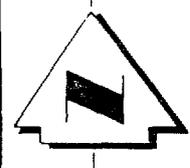
25



TOTAL AREA = 10Ha

**SCHOOL SITE SIZE STUDY**  
USAID PROGRAMME

STANDARD SITE PLAN FOR  
SECONDARY SCHOOL



DESIGNED REP	DRAWN WS	DATE DEC '95
SCALE 1:2 000	CHECKED	
DRAWING A262	MAP 2b	
PALMER ASSOCIATES P/L URBAN AND REGIONAL TOWN PLANNING CONSULTANTS TEL 786571/2		



Prior to 1992, the standard minimum size of high density stand was 300m<sup>2</sup> with a minimum land area of house being 50m<sup>2</sup>. These standards were revised and MPCNH spearheaded the reduction of minimum low cost residential stands from the 300m<sup>2</sup> size to 150m<sup>2</sup> in consultation with DPP. This has the effect of increasing the density of housing in an area by double.

### Primary Schools

The standards for schools in planning layouts were 1 primary school for every 500 households. This was based on the assumption that there would be an average of 1,5 children of primary school age in each household giving a potential catchment of 750 pupils.

Each school requires 21 classrooms (3 streams of 7 grades) with an average class size of 35. In reality, the schools are provided for 700 stands due to lack of sufficient funds to build schools. This results in a catchment population of over 1000 in each school.

Owing to the large rural/urban migration to the bigger cities (Harare, Bulawayo and Gweru), the household size has increased beyond the normal 6 per household. Nowadays, there are an average of 8 persons living in an average household in the high density areas with some houses having up to 20 residents. This is due to the lack of suitable and affordable accommodation in the cities. With the increase in households, primary school enrolment has increased to an average 2,5 children per household, thereby giving each primary school a catchment of approximately 1750.

Many of the high density schools have therefore adopted double sessioning (hot seating) whereby half the school attends the morning session (7.30-12.00 am) and the other half attends the afternoon session (12-4.30 pm). This really means that there are two schools in one.

Primary schools are usually sited in the centre of a neighbourhood on a main road (15 metre local distributor road) so that easy access for pupils is ensured. It is thought that each school should be within easy walking distance from home. They should be away from shopping centres and are usually located on marginal ground because most of the 5 hectares will be used for playing fields. In reality, the playing fields have become unplayable because of the marginal ground (rocky or wet) cannot be developed properly with a standard budget.

### Secondary Schools

Usually, the planning standard is 2 secondary schools for every 5 primary or feeder schools. Ideally, therefore, there should be a catchment of 2000 pupils (or 1000 households). The 2000 pupils could be accommodated in a 3 stream 28 classroom school including specialist laboratories.

The location of the secondary school must be on a main road and is usually next to one of the primary schools and is also situated on marginal land within the layout.

The typical example of layout is shown on Map No. 3. In the case of secondary schools, there is greater mobility of pupils, whereby the school is not only attended by the local neighbourhood residents but by other residents from different suburbs. Although zoning does exist, many pupils do "cross town" to attend a specific secondary school which may provide better or more appropriate facilities. In the 3 cities it was found that secondary schools in low density areas such as Prince Edward, Chaplin and St Johns areas had a lot of pupils from the high density suburbs.

### Implications

- 1) The standards for layout planning of high density housing areas needs to be realistic and use appropriate household occupancy levels and therefore numbers of households and children per school.
- 2) The existing schools in high density areas are all experiencing double sessioning because of the lack of adequate funds to build more schools and the high occupancy levels of households.
- 3) Double sessioning in schools affect the smooth operation of a school time table; many children do not have time for regular sporting activities.
- 4) Whilst location of schools within vleis areas and on marginal ground results in inappropriately developed sporting facilities, the location leaves maximum land available for housing.

## 2.5 Teacher Housing

In the history of both African and European education, there has been no written policy regarding provision of houses for teachers. However, it was common practice in the early fifties and sixties to set aside certain houses for teachers in government schools. For example in Gweru, there was a township set aside for teacher's accommodation. There were a few government houses throughout the country, especially in urban areas, occupied by teachers.

With rapid expansion of both primary and secondary schools, there was an influx of teachers in urban areas as well as civil servants from other ministries, creating a large demand for the few government or municipal houses available. The massive influx of civilians in urban areas also created an acute shortage of houses. The preference for houses that used to be extended to teachers died a natural death.

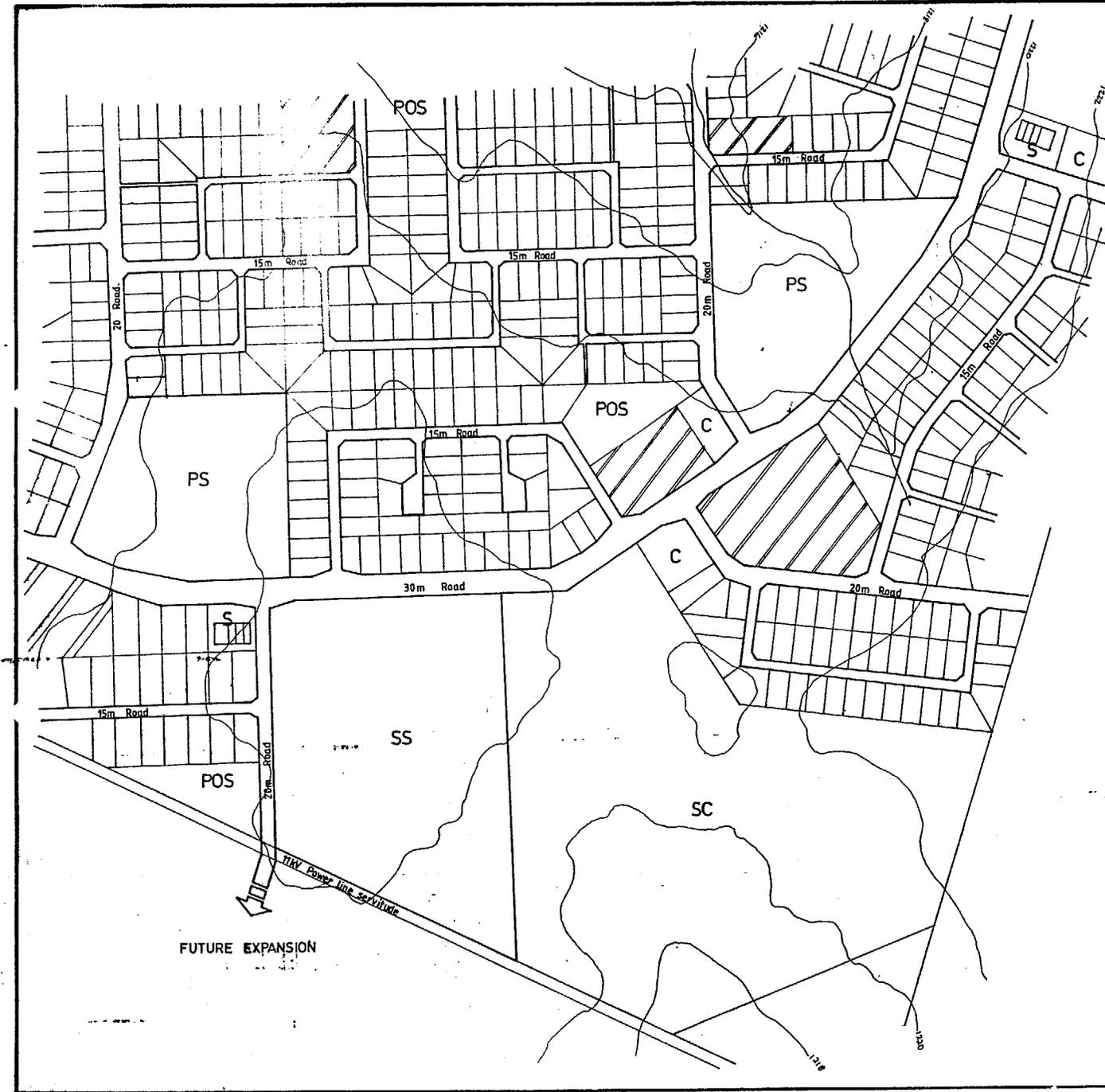
No provision was ever made by Ministry of Education for the construction of teachers' houses within urban school premises. However, according to circular B/47/1 of 11 January 1989 provision was made for local authorities to set aside an additional 2.5 hectares (over and above the stipulated minimum sizes) for on-site staff accommodation where necessary, no single local authority has constructed on-site teachers' houses. Prior to independence, on some sites, headmasters' houses were built. In recent years, flats have been built by the Ministry of Construction for civil servants to pay rent with a provision to buy the flats. Teachers have to compete with

# SCHOOL SITE SIZE STUDY USAID PROGRAMME

## GENERAL LOCATION OF SCHOOLS

### LEGEND

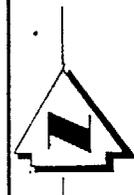
Contours	
Watercourse	
Roads	
Residential stands	
Maisonettes	
Flats	
Shops	S
Primary School	PS
Secondary School	SS
Church	C
Public Open Space	POS
Sports Club	SC



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29

DESIGNED	DRAWN	WS	DATE
SCALE	1: 5 000	CHECKED	NOV 9
DRAWING N° B175		MAP 3	
PALMER ASSOCIATES P/L			
URBAN AND REGIONAL			
PLANNING CONSULTANTS			
P O BOX 60 381			
GREENDALE			
HARARE			
TEL 78 6571/2			



civil servants from other ministries.

Local authorities retain control over the eventual allocations of plots to applicants on the basis of a number of criteria, the most important of which are:

- (i) Household must be registered on the local authorities housing waiting list. The date of registration gives that household a priority date; other things being equal, households which registered first are allocated plots first. Teachers must be in a queue to be allocated plots.
- (ii) Length of proven employment and residence in the city, generally a minimum of 10 years, are considered.
- (iii) Proven household income between established minimum and maximum limits approximately \$650 per month for the latter.

However, the Municipality of Harare stipulates the priority date to be based on the length of continuous service within the area under the jurisdiction of the city council without a break of employment of more than six months.

The criteria given above does not seem to be too difficult for a teacher to meet, but two things seem to militate against the teacher- the long list of households on the waiting list and the shortage of loans for purchasing or building houses.

Over the years, the land allocation for both primary and secondary schools makes no provision for teacher's houses within the school premises. However, Chief Education Officers Circular Minute No. 33 of 1992 states that "the 5% reduction in school land from 6.5 ha to 5.0 ha for primary schools and from 12.01 ha to 10.0 ha for secondary schools will be used for teacher's houses around the school."

Since the reduction of school land by 15% no houses have been built around the schools especially for teachers. They have only been built for the general public.

The need for teachers' houses cannot be over-emphasized. The study result under item No. 4 reveals the gravity of the situation. Suffice it to say a policy document on the question of teachers housing is overdue. The teacher's image or status cannot be enhanced without decent accommodation.

The recommendation by USAID to build teacher's houses on land saved by reduction of the size of school site land should be taken seriously. In effect, Chief Education Officer's Circular Minute No. 33 of 1992 indicates the 15% reduction in sizes allocated to schools would be used for teacher's houses around the school. What is needed is to implement the circular as a policy measure.

## 2.6 Regional Assessment Of Education Standards

The neighbouring countries to Zimbabwe, namely Zambia, Malawi, Mozambique, South Africa, Botswana and Namibia have been asked to provide information on the

minimum sizes of schools, facilities provided, enrolment figures and national percentage of school attendances. The information has not yet been received, so an analysis of previous reports has been undertaken.

According to a 1992 study of the constraints facing the housing and infrastructure delivery system done for USAID, Zimbabwean school sites are three time larger than schools in Kenya, Tanzania and Zambia. Table 2.5 shows the comparison between the countries.

TABLE 2.5 : EXISTING SPACE REQUIREMENTS FOR EDUCATIONAL FACILITIES IN ZIMBABWE, KENYA, TANZANIA AND ZAMBIA IN 1992

SCHOOL	CATCHMENT POPULATION	LAND (HA)	CATCHMENT PER HECTARE
<u>PRIMARY SCHOOLS</u>			
KENYA	5000	1,25 - 1,5	3333
TANZANIA	4800	2,5	1920
ZAMBIA	4500	1,6	2813
ZIMBABWE	3000	6,0 <sup>(1)</sup>	500
<u>SECONDARY SCHOOLS</u>			
KENYA	25000	4,0	6250
ZAMBIA	20000	5,0	4000
ZIMBABWE	7500	12,0	625

SOURCE: Plan Inc. Zimbabwe

- 1) The size of schools were 6,0 ha before the 1992 revision in size

The size of Zimbabwean schools (6.0ha and 12.0ha) are much larger than schools in in other countries shown in the table. Also notable is that the catchment populations are larger in the neighbouring African countries, thereby giving a higher catchment per hectare ratio.

Notwithstanding the problem of double sessioning (hot seating) and high percentage of school attendance (99%) in urban areas, the Zimbabwe school sites are too large in comparison with other countries to the north.

### 3.0 COST IMPLICATION

#### 3.1 Layout Servicing Costs Per Plot

The schools visited in Harare, Bulawayo and Gweru all were located in suburbs, surrounded by existing housing. Some of the suburbs were old and well established like Milton Park and Mbare in Harare and some were new like Budiriro 3 in Harare and Queen Elizabeth in Bulawayo. The layouts for these suburbs were either produced by the City Council or by the Department of Physical Planning based on the standards

used for layout planning.

The implementation of the layout, stand servicing and house buildings has usually been done by contractors at prices fixed at the time. There is considerable variation in the cost per plot between cities and there is obviously a variation between what the cost was and current costs of servicing.

In the interviews carried out with the local authorities, it was ascertained that the plot servicing costs were \$8500 in Harare, \$8500-\$9000 in Bulawayo and \$7000 in Gweru. The costs are based on the new standards of high density stands (150-200m<sup>2</sup>).

In comparison, the Private Sector Housing Programme (PSHP), Programme Delivery Plan prepared for the Ministry of Public Construction and National Housing in March 1995 undertook a comparative analysis of 25 towns in Zimbabwe and came up with costs of servicing 150-200m<sup>2</sup> plots. Harare, which had been servicing 300m<sup>2</sup> stands in Budiriro, have estimated that on 150m<sup>2</sup> in Crowborough North, the servicing costs will be reduced to \$8500. In Bulawayo, the Council is currently servicing plots under \$8000 in Cowdray Park where the stands are 200m<sup>2</sup>. Gweru has no record of servicing the 150m<sup>2</sup> stands but estimate the servicing of stands in Randolf Farm to be \$7000. This will involve the provisions of roads/stormwater and sewerage reticulation and includes the land survey costs.

It is therefore very expensive to service high density stands in urban areas and therefore affordable land is becoming more scarce because of the cost of servicing.

### 3.2 Cost of Construction of Schools

The construction of schools is usually undertaken by contractors who are paid either by the City Council directly in the case of primary schools or government in the case of secondary schools. Obviously there are also primary and secondary schools built by the private sector as well.

In **primary schools**, the average current costs of construction of the school is \$3,5 million, which includes the construction of 21 classrooms, an administrative block, toilets and caretakers house. The plans are usually provided by the Ministry of Public Construction, but are refined by the City Council. The budget for construction does not permit the construction of sports fields and this aspect is left to the parents and headmaster of any new school.

Bulawayo City Council has realised that there are not enough funds allocated to sports development and have now allocated \$100 000 to each school in the 1995/96 budget. The money will be used to improve the sporting facilities at schools.

In **secondary schools**, the Ministry of Public Construction has a set down schedule of costs as follows:-

TABLE 3.1 : SCHEDULE OF COST FOR SECONDARY SCHOOLS 1995/96

BUILDING TYPE	\$
Administration Block	564 458
Toilet block without septic tanks	590 625
Home Economics	765 450
Geography Block	400 275
General Science	1 069 875
6th Form Lab	2 025 000
Metal Work	636 930
Woodwork	558 090
Classroom Blocks (9)	5 193 720
Library	520 695
Building Shelter	93 150
Technical Drawing & needle room	378 000
<b>SUB TOTAL</b>	<b>12 796 268</b>
add 15% for civil works (levelling, parking areas etc)	1 919 440
and caretaker's house (F14)	211 625
<b>TOTAL CONSTRUCTION COST (approx.)</b>	<b>14 927 333</b>

SOURCE: MINISTRY OF PUBLIC CONSTRUCTION 1995

The cost of constructing a secondary school is \$16 million because of the specialist type of buildings (e.g. laboratories, woodwork, etc) required. Again there is no budget given to the Ministry of Public Construction for the development of sports facilities.

### 3.3 School Budgets

Each school, be it government or private receives a grant from the government for operation and maintenance. In addition to paying the salaries of the staff, government provides a per capita grant to permit the purchase of books, stationery, general maintenance of the buildings and fields, replacement of furniture etc. The per capita grants in the case of boarding schools like Prince Edward and Chaplin are mainly boarding costs for purchase of provisions, laundry etc.

### 3.4 School Development Authority (SDA/SDC)

The parents at each school have a school development association/council(SDA/SDC) which assists the headmaster in running the school. The SDA collect a levy from each child on a regular basis (every term) to supplement the school operation and maintenance budget given by government/council. In many cases the SDA levy is used for capital development projects such as construction of a durawall, sinking of borehole, building of libraries or halls.

The value of the levy depends to a large extent on the socio economic status and income of the pupils parents. In the high density areas the levy can vary from \$15-\$50 for a primary school while in the low density areas the levy can vary from \$210 to over \$400 per annum.

In the secondary schools, the levy can increase to over \$100 per annum in the high density areas. This has the effect of accelerating the inequality between the different economic areas of society. The more money the SDA has, the more facilities can be provided at the school.

Table 3.2 shows the disparities between the money raised through SDA levies at the schools visited. Some schools such as Prince Edward raise their levies through Centenary appeals and other fund raising activities.

TABLE 3.2 : SDA/SDC LEVY PER PUPIL

SCHOOL	LEVY PER PUPIL (ZWD)	NO. OF PUPILS	APPROX TOTAL (ZWD) P.A
<u>PRIMARY</u>			
BUDIRO 3	75	2003	150 225
KUWADZANA 2	12	2088	25 056
WADZANAYI	51	1071	54 621
MKBOA 4	30	1848	55 440
FUSI	15	1610	724 500
QUEEN ELIZABETH	15	1408	633 600
COURTNEY SELOUS	435	796	346 260
PROSPECT	210	753	158 130
<u>SECONDARY</u>			
GLEN VIEW 2	25	2908	218 100
HATCLIFFE	125	240	90 000
HARARE	120	2536	304 320
PRINCE EDWARD	-	1453	3000 000
NKETA	60	1241	74 460
ST JOHNS	n/a	515	n/a
CHAPLIN	33,3	1359	135 900
PUMULA	60	1655	99 300

SOURCE: SCHOOL QUESTIONNAIRE 1995

### 3.5 Implications

The analysis of the costs implications in providing schools within a suburb has revealed the following issues:-

- 1) With the high cost of servicing residential land, it is vital to maximise the number of housing units provided in an area, thereby effectively reducing the costs of servicing and providing more affordable housing for all.
- 2) The budgets allocated by government for the construction of secondary schools and by Council for the construction of primary schools do not include provision for the development of sports facilities.

- 3) The cost of building secondary schools is high considering the specialist buildings (laboratories) that are required.
- 4) The school budgets for operation and maintenance of schools allocated by Councils and government are inadequate and have to be supplemented by SDA levies from the parents.
- 5) The levies collected from parents are related to the socio economic conditions in the surrounding suburbs and vary considerably between the high density and low density suburbs, thereby exacerbating the unequal provision of facilities.

#### 4.0 QUESTIONNAIRE RESULTS

The School Site Size Study administered two questionnaires for headmasters and teachers. The sample frame for the headmasters' questionnaire consisted of all the 16 schools visited, while that of the teachers comprised of ten (10) randomly selected teachers at each school. Please refer to section 1.3 on the full explanation of the methodology used in the questionnaire surveys. The results of this survey are presented in the following sections.

#### 4.1 Size of Schools and Catchments

The sizes of the selected schools are shown in Table 4.1 and are categorised in terms of the criteria being used in this study. It was also imperative to categorise the schools in terms of ownership as shown in the table.

TABLE 4.1 : SITE SIZES OF SELECTED SCHOOLS

PRIMARY SCHOOL	PRE 1984	SIZE (HA)	1984-1992	SIZE (HA)	POST 1992	SIZE (HA)
GOVERNMENT (Primary)	WADZANAYI COURTNEY SELOUS	3 2.8	MKOBA 4 FUSI	3.3 3.4		
COUNCIL (Primary)			KUWADZANA 2	6,0	BUDIRO 3 QUEEN ELIZABET	6,0 6,0
GOVERNMENT (Secondary)	PRINCE EDWARD (B) HARARE HIGH CHAPLIN (B) PUMULA	27.7 4.4 34 7.9	GLEN VIEW 2 NKETA	12,0 13.8	HATCLIFF	10,0
PRIVATE (Secondary)			ST JOHNS	4.4		

Source: Ministry of Education 1995

B=Boarding School

There is a variation in the selected school site sizes shown in the table. The school sizes range from 2.8 hectares to 6 hectares and 4.4 hectares to 34 hectares for primary and secondary schools respectively. The table also indicates that at any particular period of time, standards as promulgated by the Ministry of Education (MOE) have not been strictly adhered to. For example, in the post-1980, the stipulated minimum standards for primary and secondary schools were 6 hectares and 12 hectares respectively. However, Courtney-Selous which was built in 1953 is only 2.8 hectares in size in comparison to Prospect Primary school which is 6 hectares and built almost at the same time (in 1950), despite the fact that they are all located in the low density suburbs.

This phenomenon also applies to schools built between 1984 and 1992 as shown in Table 4.1. Although the 1992 reforms which reduced the size of primary schools to 5 hectares and that of secondary schools to 10 hectares where in effect, some primary schools have been built on 6 hectares in the post 1992 era. For example the table shows that both Budiriro 3 (built in 1994) and Queen Elizabeth 2 (built in 1993) are sited on 6 hectares each. The only school visited which is built on the 1992 reviewed standards is Hatcliffe Secondary (10 hectares).

The explanation for this scenario is probably that some schools were already planned for prior to the reforms and that layout plans approved before 1992 were only awaiting their final implementation.

#### **4.1.1 School Site Sizes In Relation To Enrolment and Catchment**

The study results from the questionnaires indicates that there is a mismatch between what is planned for and the actual enrolment of the school, particularly in high density areas. This has consequently affected the capacity of a school to cope in terms of facilities provided. Table 4.2 shows the levels of enrolment for the 16 selected schools by each grade/form.

The results show that in all high density primary schools the levels of enrolment are conspicuously high with a minimum of 1071 pupils and a maximum of 2088 compared to the low density primary school average of 774 pupils. This phenomenon also applies to high density secondary schools. For example, although Glen View 2 Secondary School was initially planned for 960 pupils, its current enrolment is 2908, more than three times what has been planned for. The school site size is shown in Table 4.1.

The overall impact is that most schools in the high density areas are overstretched in terms of the available facilities and space.

TABLE 4.2 : ENROLMENT BY GRADE/FORM

SCHOOL PRIMARY	GRADES							TOTAL	TEACHERS	AVE. CLASS SIZE
	1	2	3	4	5	6	7			
WADZANAYI	154	166	138	145	149	170	135	1071	29	45
PROSPECT	116	112	121	115	87	94	108	753	20	37
KUWADZANA 2	333	330	276	308	265	269	283	2088	53	40
FUSI	213	220	245	214	220	239	259	1610	41	45
Q. ELIZABETH	219	217	198	208	176	176	214	1408	36	42
MKOBA 4	250	289	277	231	349	289	258	1848	51	45
BUDIRO 3	295	312	305	308	307	241	235	2983	46	46
COURT. SELOUS	120	112	120	107	116	110	111	796	21	37
SECONDARY	FORM								F1-4	F5/6
	1	2	3	4	5	6				
GLEN VIEW 2	860	540	540	968	0	0	2980	112	45	
HATCLIFFE	240	0	0	0	0	0	240	11	40	
CHAPLIN	295	283	264	252	129	136	1359	62	45	35
PRINCE EDWARD	303	294	250	264	170	172	1453	106	38	
ST JOHNS	90	90	90	90	77	78	515	40	30	38
PUMULA	400	400	434	421	-	-	1655	53	50	
HARARE	653	465	577	398	248	167	2536	88	48	36
NKETA	482	249	247	263	-	-	1241	46	42	

SOURCE : QUESTIONNAIRE 1995

The maximum allowable number of classrooms per primary school is 28 and for secondary schools is 18 in terms of the current MOE requirements. A majority of the schools visited in the high density areas are below the optimal level, and the questionnaire survey results indicates an average of 23 classrooms per primary school and 17 classrooms per secondary school. While this is close to the requirements of MOE, the levels of enrolment are extremely high in the high density areas such that "hot-seating" (or double sessioning) is the norm.

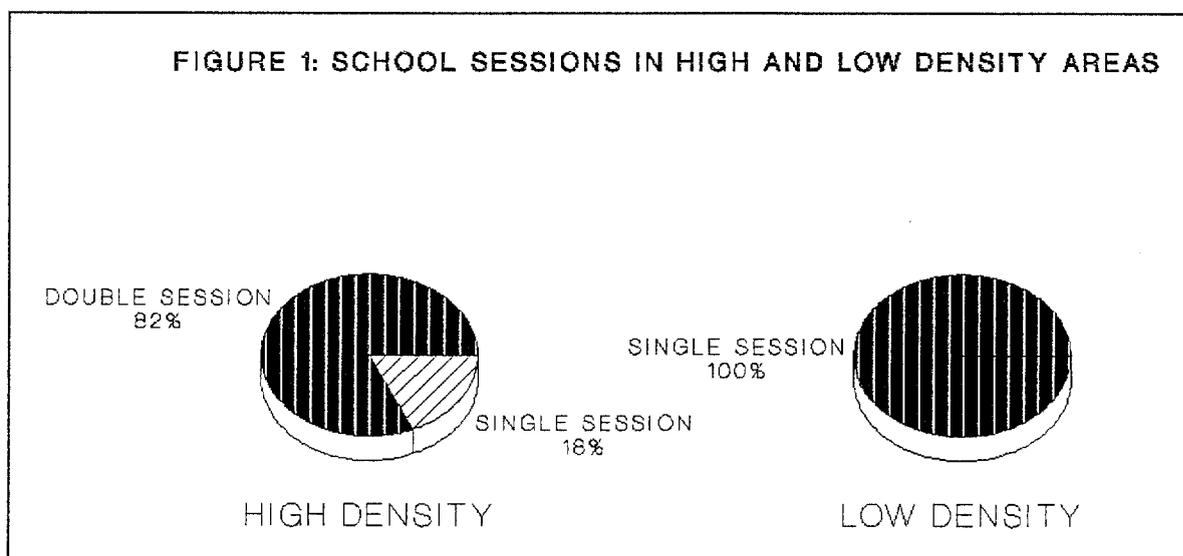
TABLE 4.3 : SCHOOL MAIN CATCHMENT AREA

SCHOOL	MAIN CATCHMENT AREA
<b><u>PRIMARY</u></b> BUDIRO 3 WADZANAYI KUWADZANA 2 MKOBA 4 QUEEN ELIZABETH 2 FUSI PROSPECT COURTNEY-SELOUS	BUDIRO 2 AND 4 AND PHASE 5 KAMBUZUMA SECTION 3 AND 4 KUWADZANA 3,4, 5 AND 6 MKOBA VILLAGE 4,5,6,7,14, 15 & 16 NKULUMANE 2 GWABALANDA, NORTH MAQWEQWE PROSPECT AND HATFIELD GREENDALE
<b><u>SECONDARY</u></b> GLEN VIEW 8 HARARE NKETA PUMULA  HATCLIFFE CHAPLIN ST JOHNS  PRINCE EDWARD	GLEN VIEW 8, BUDIRO 1-5 MBARE, HIGHFIELD NKULUMANE, NKETA PUMULA NORTH, OLD PUMULA EAST MAGWEGWE HATCLIFFE, HATCLIFFE HOLDING CAMP ZIMBABWE & SADC BORROWDALE, ALEXANDER PARK, GREENDALE, GREYSTONC PARK, CHISIPITE, GLEN LORNE, KAMBANJE AND MT PLEASANT HARARE CITY & ZIMBABWE

Fig 1 shows that out of the selected primary and secondary schools in the high density areas, 82% have double sessions in contrast to low density schools with 100% single sessions. Despite the colonial legacy in planning of schools, catchments which serve high density schools are overpopulous.

The site visits established an average occupancy of 8 people per household in all the three cities, although occupancy rates of up to 20 are common particularly in Harare. Although standards of one primary school per 500 households are used in the planning of schools, in reality each primary school in the high density areas serve an average of 2000 households which is four (4) times more than what each school can safely support.

Table 4.3 shows the main catchment areas of the selected schools, while Table 4.3A



gives an indication of the approximate population supported by each school in the selected high density suburbs. Table 4.4 shows that in Harare City each primary school supported an average population of 17 000 people in 1992, while for secondary schools this figure was 47 500. These figures are considerably higher in light of the rapidly increasing population of the low income earning group. Gweru City has at present an average of 17 000 and 40 000 people served by each primary and secondary school respectively. In Bulawayo, the average for a secondary school is, however, considerably higher (approx. 62 600).

Although low density area schools also serve wider catchments at the national level, these schools have strict enrolment criteria as well as stringent selection requirements and the zoning system. As a result, these schools maintain their levels of enrolment to minimal levels and the capacity of the schools to cope is not strained. In addition, some schools are privately run and this gives them the independence to set their own enrolment targets unlike Government or Local Authority schools

These preceding analysis serves to illustrate that standards currently used by MOE and Department of Physical Planning (DPP) of one primary school per 500 households and 2 secondary schools per 5 primary schools needs to be critically evaluated. The 1992 reforms recommended the reduction of school site sizes to 5 hectares and 10 hectares for primary and secondary schools respectively. However, while this is commendable in terms of infrastructural cost savings, schools in the high density areas are increasingly under pressure due to the high levels of enrolments.

TABLE 4.3A: POPULATION DISTRIBUTION PER SCHOOL BY SUBURB : HIGH DENSITY RESIDENTIAL AREAS

SUBURB	SCHOOL	POPULATION	TOTAL NO. OF SCHOOLS		POPULATION PER SCHOOL	
			PS	SS	PS	SS
<u>HARARE</u>						
GLEN VIEW	GLEN VIEW 2 SS	137 654	9	2	15 295	68 827
BUDIRO	BUDIRO 3 PS	65 003	3	0	21 670	65 003
MBARE	HARARE SS	107 064	8	3	13 400	35 700
KUWADZANA	KUWADZANA PS	75 200	7	1	10 700	75 200
KAMBUZUMA	WADZANAYI PS	34 413	3	2	11 471	17 207
HATCLIFFE	HATCLIFFE SS	5 098	2	1	2 550	5 098
<u>BULAWAYO</u>						
GWABALANDA/ LUVEVE	FUSI PS	44 780	6	1	7 500	44 780
NKETA	NKETA SS	136 296	11	3	12 390	45 432
PUMULA	PUMULA SS	69252	6	3	11 542	23 000
NKULUMANE	Q. ELIZABETH SS	136 296	11	3	12 390	45 432
<u>GWERU</u>						
NKOBA	MKOBA 4	120 000	7	3	17 143	40 000

Source: Harare City Council 1992, Bulawayo City Council 1995, Gweru City Council 1995.

**Note:** Population figures for Nketa and Nkulumane suburbs have been combined for purposes of analysis because Nketa almost falls under Nkulumane and they share almost all the schools and other facilities.

Low density suburb schools have not been included in this table mainly because their catchment is not localised.

## 4.2 Building Facilities Usage

### 4.2.1 Primary Schools

Site visits to the selected primary schools revealed that all the schools have standard buildings comprising mainly of classrooms. Table 4.5 shows the total number of classrooms and classroom blocks comprising each visited school as well as the average number of streams per class. The average number of classrooms and classroom blocks per school is 23.3 and 7.3 respectively. According to MOE standards, a maximum of 28 classrooms is permitted for every school. However, the table shows that with the exception of two schools (Budiro 3 and Kuwadzana 2) all the selected schools have classrooms below the MOE requirements.

There are two main reasons identified for this scenario. Firstly, some schools particularly in the low density areas were built using the older standards of 21 classrooms per school and would also want to maintain a manageable number of classrooms/classes at their schools. Secondly, although high density area schools have extremely high enrolments, most of them cannot afford to build additional classrooms or classroom blocks. The level of usage of the high density classrooms is also high due to "double sessioning" ("hot seating"). As indicated earlier (Section 4.1.1.), 81,8% of the selected schools have hot-seating compared to the 18,2% with single sessions. Some school streams in high density area schools are as high as seven (7) per secondary school.

TABLE 4.5. : TOTAL NUMBER OF CLASSROOMS PER PRIMARY SCHOOL

SCHOOL	TOTAL NO. OF CLASSROOMS PER SCHOOL	TOTAL NO. OF CLASSROOM BLOCKS	TOTAL AVERAGE NO. OF STREAMS PER CLASS
BUDIRO 3	29	8	7
KUWADZANA 2	28	8	7
WADZANAYI	24	3	3
FUSI	22	11	6
Q. ELIZ. 2	21	7	4
MKOBA 4	23	12	6
C.-SELOUS	22	5	3
PROSPECT	17	4	3
AVERAGE TOTAL	23.3	7.3	4,9

SOURCE: QUESTIONNAIRE SURVEY 1995.

The questionnaire survey conducted at each of the primary schools also wanted to establish how the double sessions operate. This was done with a view to determine the level of usage of the classrooms and the playing fields. Table 4.5 shows the timetable for hot seating at those schools with this type of system. According to the table, the first session operates in the morning (7.30 am - 12 pm) with the second session coming in in the afternoon (12pm - 4pm) (See illustration 1-3). However, there are overlaps in some cases where pupils actually commence classes outside under the shade waiting for the "inside" classes to dismiss.

The schools interviewed indicated this system alternates on a fortnightly basis - meaning those who have been coming in the mornings changes to the afternoon session and so on. In effect, this means the classrooms are being used at any point of time during the day until the school closes. During the first and second terms, sports fields are frequently used (See Section 4.4.1) because of the double-sessioning system.

TABLE 4.6 : TIMETABLE FOR DOUBLE SESSION SCHOOLS

SCHOOL	FIRST SESSION (AM)	SECOND SESSION (PM)
KUWADZANA 2	7.15 am - 12 pm	12 pm - 4.30 pm
BUDIRO 2	7.30 am - 1.00 pm	11.30 am - 3.30 pm
MKOBA 4	7.45 am - 12 pm	11.30 am - 4 pm
Q. ELIZABETH 2	7.30 am - 12.30 pm	1pm - 3.30 pm
FUSI	7.30 am - 11.30am	10.30 am - 11.30am
	11.30 am -1 pm	11.30 am - 4 pm

SOURCE : QUESTIONNAIRE 1995

Overall, the level of usage of primary school buildings is very high particularly schools in high density suburbs that have "double-sessions".

#### 4.2.2. Secondary Schools

Typical buildings comprising Secondary Schools are listed in Table 4.7 below. There is an exception to this list for former "Group A" Schools such as Prince Edward, Chaplin and St Johns.

These schools have additional building facilities such as photography, computer rooms, printing rooms, special music rooms etc. However, all other schools comprise of building structures listed in Table 4.6 and these include laboratories, wood and metalwork, a geography room and technical graphics - all arranged in blocks averaging five (5) per school.

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TABLE 4.7 : NO. OF BUILDINGS COMPRISING SECONDARY SCHOOLS  
(EXCLUDING BOARDING FACILITIES)

BUILDING TYPE	GLEN VIEW 2	HATCLIFF	HRE	PE	ST.JOHN'S	PUMULA	NKETA	CHAPLIN
CLASSROOMS	18	10	20	38	17	18	18	35
CLASSROOM BLOCKS	9	5	5	-	-	8	9	5
ADMINISTRATION	1	0	1	1	1	1	1	1
LABORATORIES	4	1	6	9	3	2	2	5
WOOD/METAL WORK	2	1	4	2	0	2	2	1
LIBRARY	1	0	1	3	1	1	0	1
HOME ECONOMICS	1	0	4	0	0	2	2	1
HALL	0	0	1	1	1	0	0	1
GYM	0	0	0	1	0	0	0	1
GEOGRAPHY	2	0	1	0	0	1	0	1
TECHNICAL GRAPHICS	0	0	1	2	0	0	0	1
TUCKSHOP	1	0	1	0	1	1	0	0
CHAPEL	0	0	0	1	0	0	0	1
OTHER (STUDY ROOMS)	1	0	2	18	6	0	0	6
AVERAGE NO. OF STREAMS	17	6	11	9	3	10	9	6
- UP TO FORM 4	-	-	4	5	2	-	-	3
- FORM 5 & 6								

SOURCE: QUESTIONNAIRE 1995

The average number of classrooms per school is 22 with Prince Edward and Chaplin having the largest number of 38 and 35 respectively. Hatcliffe Secondary School is not complete and therefore it does not have most of the building facilities found at other schools.

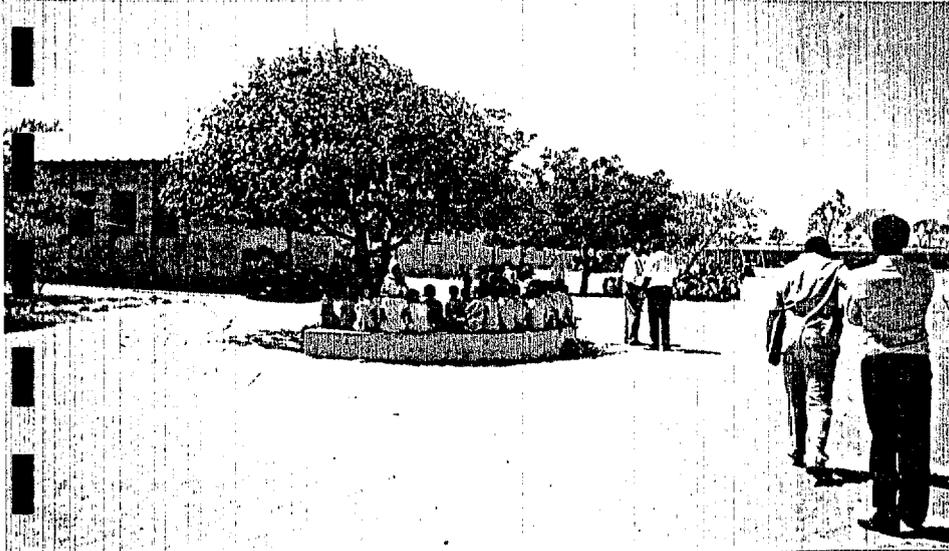
All high density secondary schools have double sessions and a similar timetable shown in Table 4.5 applies to these schools. However, lower classes (forms 1 & 2) attend the afternoon sessions up to 5 pm with upper classes attending morning sessions. The level of usage of the school is therefore higher for these high density schools. This is also reflected by the average number of streams per school. For example, Glen View 2 Secondary has almost an equal number of classrooms, in comparison to Prince Edward with 38 classrooms but with an average of only 9 streams (for form 1-4) and 5 streams (for forms 5-6).

#### 4.3 Sports Facilities and Usage

Table 4.8 shows the list of basic sports facilities found at the selected primary schools. The most common facilities comprise a standard soccer pitch with an athletics track around it (8500m<sup>2</sup>) and a netball pitch (450m<sup>2</sup>). A characteristic feature of these sports facilities is that they are used for multiple purposes. For example, a soccer field may also be used for cricket, hockey, rugby or softball. The reason for this is the lack of adequate space to accommodate all the sports activities on separate fields and where space is available there is often a lack of financial resources to develop the fields. Consequently the existing sports fields are either neglected or are over utilised (See illustration 4-6).

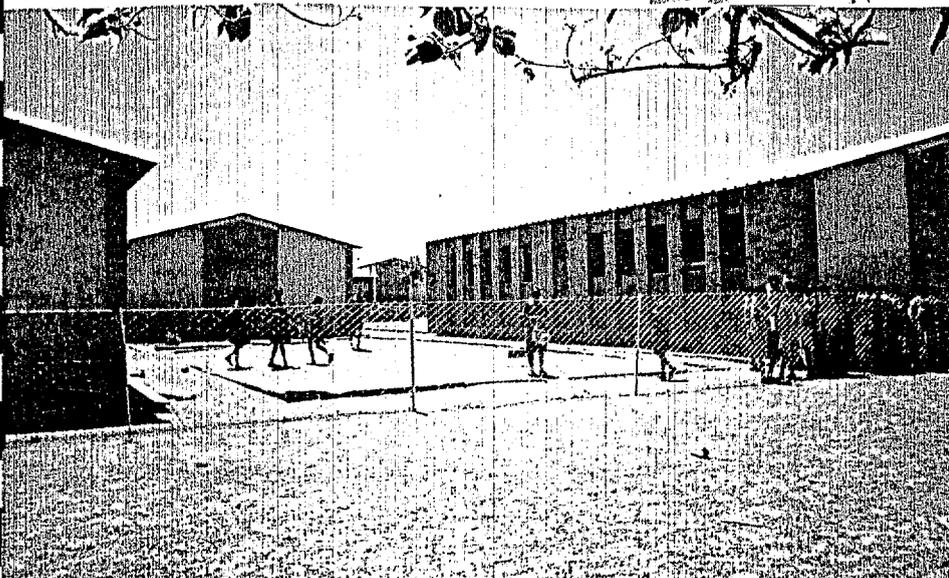
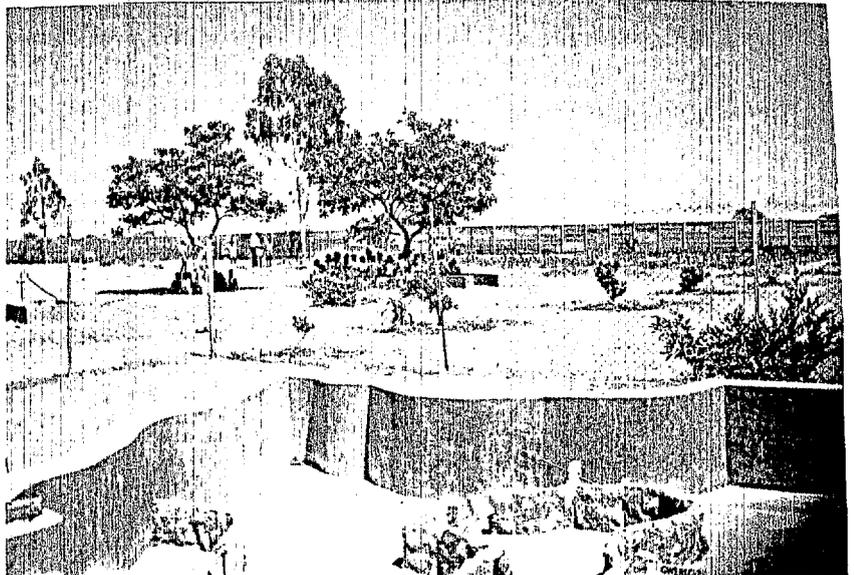
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# DOUBLE SESSION SCHOOL SYSTEM



(1) AFTERNOON SESSION  
IN TRANSIT TO  
CLASSROOMS

(2) ANOTHER "HOT SEAT"



(3) MORNING SESSION  
RELIEF

TABLE 4.8 : SPORTS ACTIVITIES : PRIMARY SCHOOL

## SCHOOL AND NUMBER OF FIELDS

TYPE OF ACTIVITY	KUWADZANA 2	PROSPECT	WADZANAYI	C-S	BUDIRO 3	MKOBA 4	FUSI	Q.E. 2
FOOTBALL (SOCCER)	1	3	1	1	1	1	1	1
NETBALL	1	1	0	0	0	0	0	0
TENNIS	1	1	1	1	1	1	1	1
CRICKET	0	2	0	0	0	0	0	1
VOL.BALL	0	1	0	0	1	1	0	0
HOCKEY	0	2	0	0	0	0	0	0
PLAY-GROUND (FOR (KG) SWIMMING	0	0	0	0	1	1	1	0
	0	1	0	0	0	0	0	0

For secondary schools, the picture is almost the same as primary schools. All the secondary schools have a standard football pitch and a track around it and a netball field. However, additional facilities are found at most low density schools to include a rugby pitch, tennis courts, hockey, volley ball, etc as shown in Table 4.7A. In high density area schools, multiple use of fields is the norm with some schools even using the carparking space for tennis and basketball.

TABLE 4.9: SPORT ACTIVITIES AND NUMBER OF FIELDS: SECONDARY SCHOOLS

TYPE OF ACTIVITY	HRE	HATCLIFFE	NKETA	PUMULA	ST.JOHN'S	CHAPLIN	PE	GLEN VIEW
FOOTBALL (SOCCER)	2	1	1	1	0	3	6	2
NETBALL	1	1	1	2	0	2	0	2
RUGBY	0	0	0	0	4	1	5	0
VOLLEYBALL	1	0	*0	1	2	3	4	2
TENNIS	1	0	*0	0	5	2	7	*
HOCKEY	0	0	0	0	3	1	1	0
BASKETBALL	2	0	0	0	1	1	0	*
HANDBALL (SOFTBALL)	2	0	*0	1	0	0	3	2
CRICKET	0	0	0	0	0	0	1	0
SWIMMING	0	0	0	0	0	0	1	0
GYMNASTICS	1	0	0	0	1	1	0	0
CROSS COUNTRY	0	0	0	0	0	0	0	0
WATERPOLO	0	0	0	0	1	0	1	0
SQUASH	0	0	0	0	1	0	4	0
DIVING	0	0	0	0	0	0	1	0
BADMINTON	0	0	0	0	0	0	1	0
BOWLING GREEN	0	0	0	0	0	0	1	0

\* -Use car park space

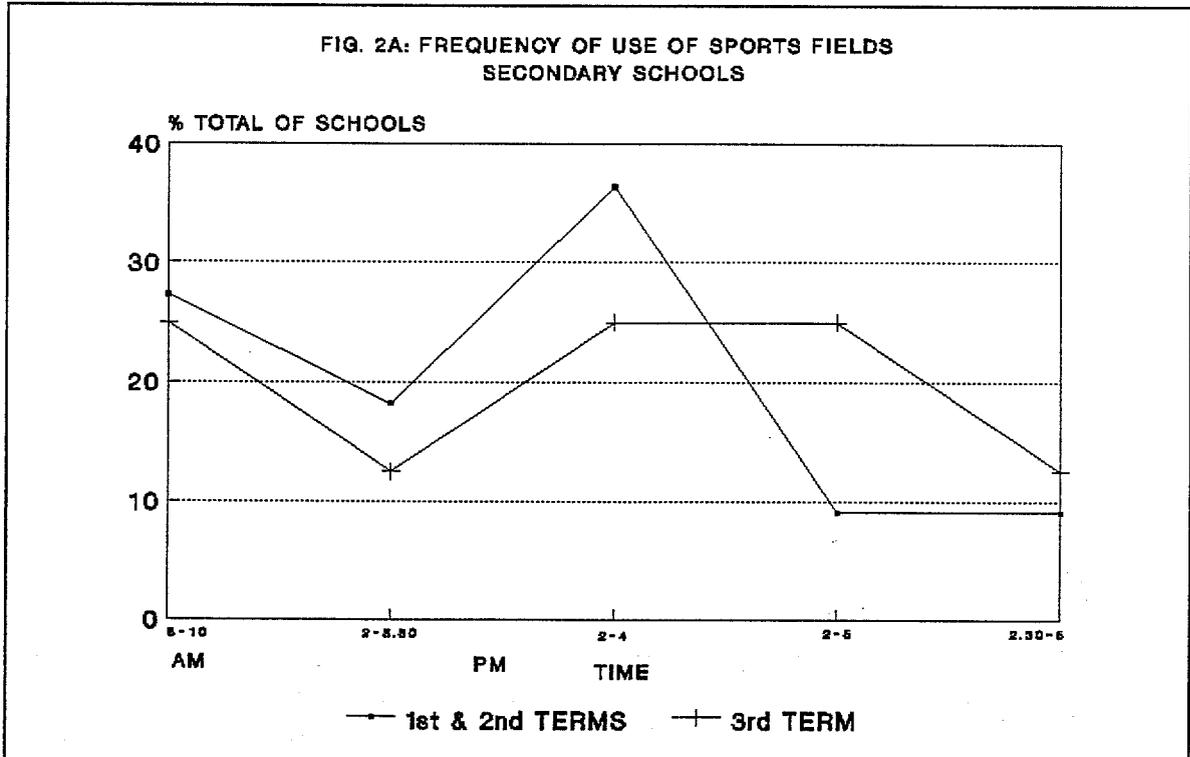
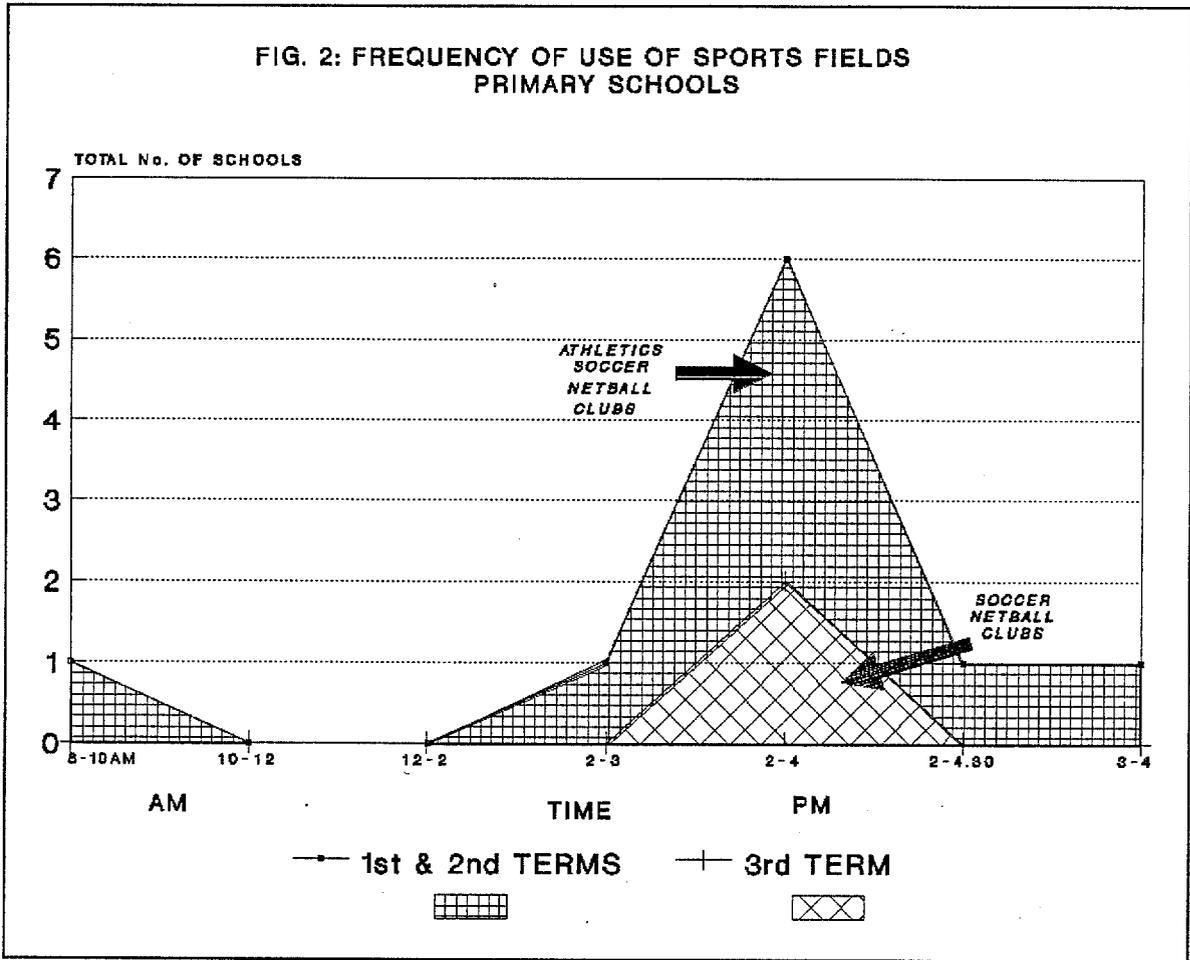
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#### 4.3.1 Frequency Of Use Of Sports Fields

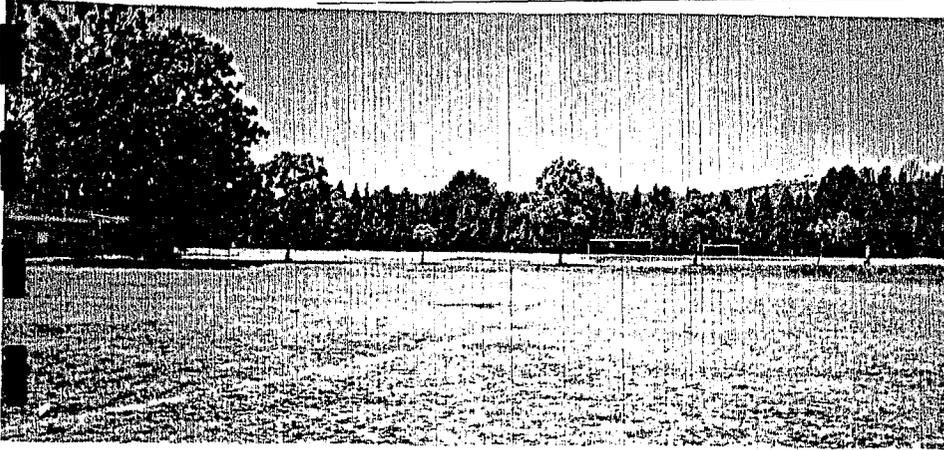
The frequency of use of sports fields is shown in Figure 2 for primary schools and Figure 2A for secondary schools. Both illustrations were derived from the results of the headmasters' questionnaire survey whereby each school indicated its timetable for sports activities. Schools which participate in sports activities at any given time during the day were added up to give an overall indication of the frequency with which sports fields are used. Figure 2A is expressed as a percentage for clarity in the presentation of the data and also because of the differences in the timetables between primary and secondary schools. In both cases, the level of use of sports fields is high during the first and second terms, mainly for athletics and (to a minimal extent soccer and mainly soccer) and netball respectively. According to the graphic results of the survey, only one school has sports during the morning session (8-10am) in the first and second terms for primary schools.

The first term is also intense in that "house" competitions are in full swing from which the school teams are chosen to participate in the second term sports activities. The period between May and August is considered the most intense in terms of sports activities. In the majority of cases sports activities are carried out in the afternoon between 2.00 pm and 4 pm as shown in Figure 2 and 2A. However, there are variations in the school's timetables particularly where "hot seating" (double-sessions) is practised. In this case, the questionnaire survey found that 18,8% of the total selected schools had their activities between 8am and 10 am and then resumes at 2pm up to 4pm. The rest of the schools have their activities between 2pm and 4pm from Monday to Thursday and Friday is an optional day used for special practice sessions when there is a major competition on a Saturday. Former "Group A" schools however, have sports between 2pm and 5pm from Monday to Friday during all the three school terms.

According to the survey, the questionnaire results established the peak periods for sports activities in terms of the school terms, days and time as shown in Figures 2 and 2A. In the third term, sports activities are minimal or non-existent in some schools (See illustration 4-6). The survey found out that 87,5% of the schools do not concentrate on sports but on examinations. The exception is mainly on the former "Group A" schools such as Prince Edward and St Johns where cricket is the main activity during the third term.



# SPORTS FIELDS



(4) LOW DENSITY AREA  
SCHOOL SPORTS FIELDS  
CLASSROOMS

(5) HIGH DENSITY AREA



(6) NO MAJOR SPORTS  
ACTIVITIES DURING  
THE THIRD TERM



NOTES TO FIGURE 2A:

*TERM 1 : MAINLY FOR ATHLETICS AND CRICKET. SOCCER IS PLAYED OCCASSIONALLY.*

*TERM 2 : MAINLY FOR SOCCER (NETBALL)*

*TERM 3 : SPORTS ACTIVITIES ARE OPTIONAL AS PUPILS START PREPARING FOR EXAMS.*

PEAK PERIODS

<i>MONTHLY -</i>	<i>MON - SAT</i>
<i>WEEKLY -</i>	<i>MON - THURS/FRI</i>
<i>DAILY -</i>	<i>2 - 4PM, 2 - 5PM</i>

Overall, the results of the questionnaire survey shows that for both primary and secondary schools in high density areas each school dedicates approximately two (2) hours per day or eight (8) hours per week for major sports activities in the afternoons. However, where there is "double-sessioning" an additional two hour sports session is carried out in the mornings to accommodate those who will be attending the afternoon lesson. This aspect is practised at Queen Elizabeth 2 Primary School, Harare Secondary School and Pumula High School. This means an additional two (2) hours per day or 8 hours per week for the "double session" schools.

The questionnaire survey also established that the former "Group A" Schools, that is, Prince Edward, St Johns ad Chaplin in the low density areas dedicate more time to sports activities compared to their high density area counterparts. A total of three (3) hours per day or 15 hours per week is reserved for sports activities during the three school terms in these schools.

#### 4.3.2 Co-Curriculum Activities

Schools are also involved in other activities outside sports. Table 4.9 provides a list of the co-curriculum activities carried out at the selected secondary schools. The activities varies from school to school although there are common ones such as agriculture/gardening, drama and indoor games. Former "Group A" schools have a multitude of other co-curriculum activities compared to their counterparts as shown in Table 4.9. Primary schools do not have many co-curriculum activities except gardening, (including orchard) music, girl guides/brownies, drama, drum majorettes, physical education and in some cases sewing.

The questionnaire survey established that the co-curriculum activities are mainly held on Wednesdays during the first and second terms between 2pm and 4pm in all schools and these are mostly in the form of clubs and societies. Some activities such as Chess, Debate and knitting/sewing are held indoor, while those that require outdoor space include sports clubs, gardening and drum majorettes.

TABLE 4.10 : CO-CURRICULUM ACTIVITIES : SECONDARY SCHOOLS (CLUBS AND SOCIETIES)

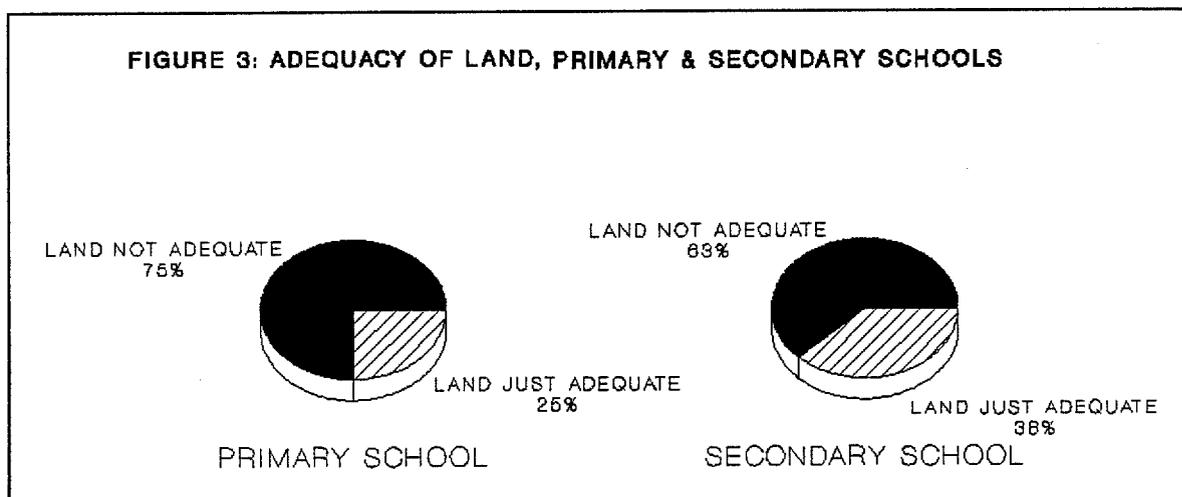
SCHOOL	ACTIVITY
HATCLIFFE	DRAMA, DRUM MAJORETTES, AGRIC, PLUS EDUC WITH PRODUCTION (E.G. TREE PLANTING)
PUMULA	DRAMA, CONSERVATION, GOOD SAMARITAN, AGRIC, GYM, AEROBICS, DEBATE
GLEN VIEW 2	GARDENING, BUILDING
NKETA	KNITTING, AIDS AWARENESS, INDOOR GAMES, DRAMA, AGRIC, MUSIC, DEBATE
HARARE	DEBATE, DRAMA, INDOOR GAMES
PRINCE EDWARD	ARCHIVES, ASTRONOMY, ART BOYS BRIGADE, BRIDGE, CHAPEL, CHESS, CHOIR/ORCHESTRA, MUSIC, COMPUTER, CRAFTS AND DESIGN, CURRENT AFFAIRS, INTERACT, DRAMA, ENVIRONMENTAL PROTECTION, WOODWORK, PHOTOGRAPHY
ST JOHNS	ART, CHESS, COMPUTERS, DEBATE, DRAMA, BALLROOM DANCE, GOLF, KARATE, ORCHESTRA, PHOTOGRAPHY, INTERACT, SCIENCE, ZOOLOGY, ETC
CHAPLIN	CONSERVATION, DRAMA MARATHON, RANGERS, INTERACT, PUBLIC SPEAKING, CHESS, ATHLETICS, SOCCER, TENNIS, BASKETBALL, NETBALL, RUGBY, SQUASH, HOCKEY, HISTORY, SWIMMING, SCRIPTURE UNION, ETC

SOURCE : HEADMASTERS' QUESTIONNAIRE SURVEY 1995

#### 4.4 Land Requirements Of The Schools And Future Needs

The questionnaire survey also wanted to establish the land requirements and the future needs of the schools. Figure 3 shows that in a majority of cases (75% for primary schools) and (63% for secondary schools) land is not adequate for the present and future needs of the schools. Table 4.10 provides a list of all the sports fields each school desires to have if land was available, expressed as a percentage of the total responses. Out of the total selected schools (both primary and secondary), 81,3% indicated that they have future plans for sports fields and only 18,7% have no future plans, this minority group gave their reasons as the lack of space to accommodate additional fields and also that they lack the financial resources to fully utilise the existing fields.

According to the table, 23,1% of the total primary schools would need a netball pitch in future, followed by those who need a rugby field (15,4%), a tennis court (15,4%) and a basketball court (15,4%). Only 7,7% of the total responses indicated that they did not want any fields in future. For secondary schools, 22,2% require all the sports fields and this response was on a par with those who indicated that there is no available land for the fields.



**TABLE 4.11 : BUILDING & SPORTS FIELDS REQUIRED IN FUTURE**

FIELDS (%TOTAL)		BUILDINGS (%TOTAL)	
<b>PRIMARY SCHOOLS</b>			
NETBALL	23,1%	ADMIN BLOCK	16,7%
VOLLEYBALL	7,7%	SCHOOL HALL	33,3%
RUGBY	15,4%	LIBRARY	8,3%
GARDEN	7,7%	TUCKSHOP	8,3%
TENNIS COURTS	15,4%	SPECIALISED	8,3%
BASKETBALL	15,4%	NONE	25,0%
SWIMMING POOL	7,7%		
NONE	7,7%		
<b>SECONDARY SCHOOLS</b>			
NONE	7,1%	NONE	11,1%
HOME ECONOMICS	21,4%	CRICKET	11,1%
LABORATORIES	21,4%	RUGBY	11,1%
METAL/WOODWORK	14,3%	TENNIS	11,1%
SCHOOL HALL	21,4%	ALL SPORTS FIELDS	22,2%
SPECIALIST CLASSES	7,1%	SWIMMING POOL	11,1%
YES, BUT THERE IS		THERE IS NO LAND	22,2%
NO SPACE	7,1%		

SOURCE: QUESTIONNAIRE 1995

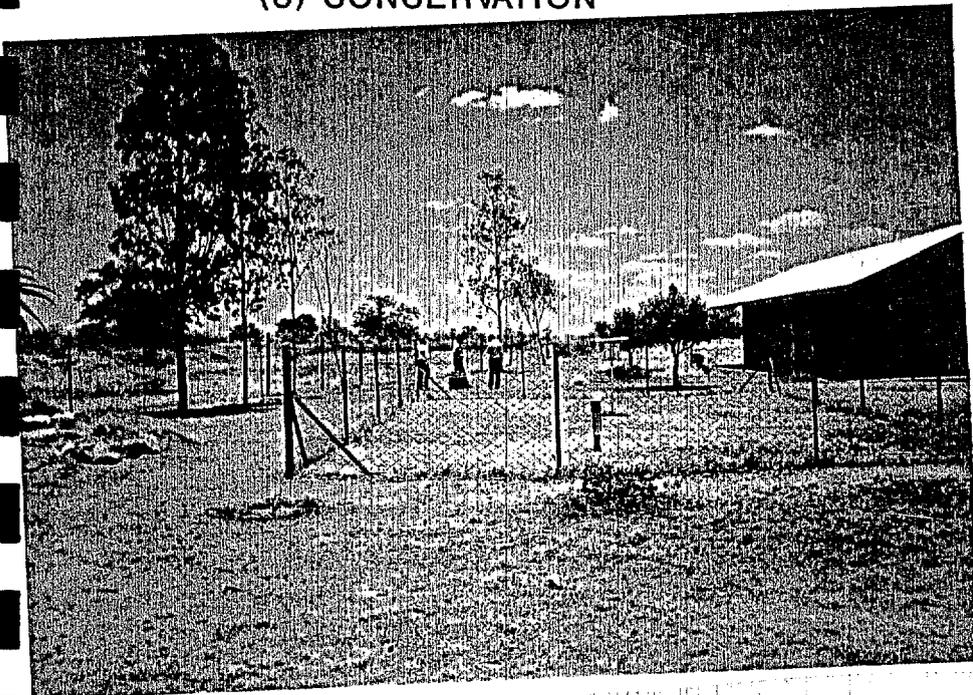
In terms of future building requirements, a number of primary schools (33,3%) and secondary schools (21,4%) responded that they required a school hall. This aspect is characteristic of most high density schools who do not have a school hall and hold their assemblies in the open air.

# CO-CURRICULUM ACTIVITIES



(7) EDUCATION WITH PRODUCTION

(8) CONSERVATION



(9) SCHOOL WALL IN RELATION TO RESIDENTIAL AREA



SP

Overall, while a majority of the schools expressed their desire to have additional sports fields, they are constrained by lack of land. Most schools visited are built in the middle of a residential area (See illustration 9) which renders expansion of school grounds virtually impossible. However, there is also another category of schools that pointed out that they lack adequate financial resources to fully utilise the existing fields.

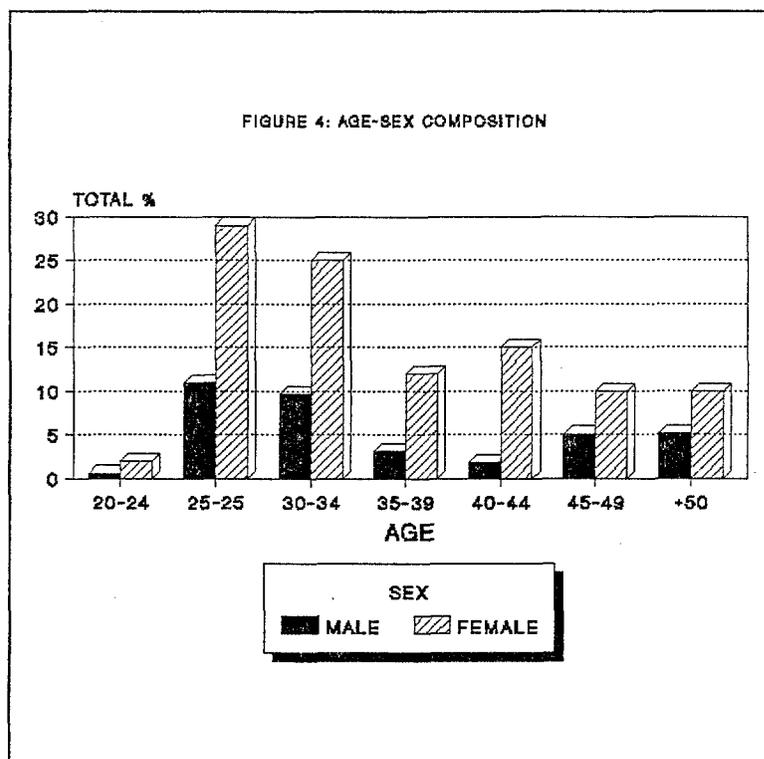
#### 4.5 Teacher Housing

This part of the report focuses on teacher housing or accommodation with a view to identifying the problems and needs of teachers. This section is based mainly on the results of a questionnaire survey administered to teachers during the school site visits. A sample of 10 teachers per school was used in the survey and this was considered representative. A total of 160 questionnaires were expected to be administered but only 158 were successfully completed and the remaining two (2) were not completed. The questionnaires contained mainly demographic questions and was also aimed at soliciting information on the problems facing teachers in terms of housing.

##### 4.5.1 Demographic Characteristics of Teachers

###### (a) Age-Sex Composition : Primary and Secondary Schools

The age-sex composition of the interviewed teachers is shown as a percentage in Figure 4. The figure shows the overall dominance of female teachers who accounted for 66,9% of the total interviewed teachers. The reason for this imbalance is largely attributed to the MOE's staffing office practice where a married female teacher is allowed to live with her husband. As a result, most female teachers live and work in urban areas where their husbands are gainfully employed.

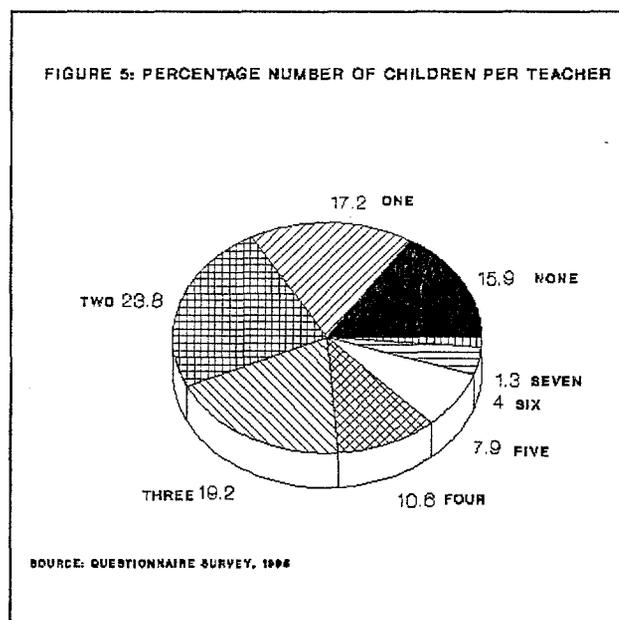


The age-sex composition also shows that the largest cohort is the 25-29 years age group for both sexes followed by the 30-34 age group (9,7% males and 16,2% females). According to the survey results, there are a fewer teachers on the extreme end of the cohort chart, namely those in 20-24 years and above 50 years age groups for both sexes. This is a result of the period of college training which takes up to four (4) years for the younger cohort and most of the teachers complete their course at 24 or 25 years of age. On the other hand, the older age groups usually retires at sixty (60) years of age or are promoted from teaching to other MOE's activities.

(b) Marital Status and Number of Children

There are 64,7% married male teachers, compared to female teachers (78,9%). Only 35,3% and 21,1% of the male and female teachers are respectively single. The survey results also show that only 2% of the teachers are either divorced or widowed.

Figure 5 shows the number of children per teacher.



A significant number of the interviewed teachers have two (2) children (23,8%), followed by those with three (3) children (19,2%). However, a significant number of teachers (15,9%) are presently childless and these are mostly young unmarried males. Larger families (i.e. 7 children or more) is no longer a characteristic phenomenon of teachers as reflected in the figure. Those with seven (7) children and above are mostly in the older age group (i.e. 50 years and above).

Overall, the implications of these demographic characteristics of teachers will only be apparent when this is related to the problems teachers face as well as their housing needs. For example, the housing needs for teachers without children is different from that with children.

#### 4.5.2 Profile of Teacher Accommodation and Housing

The questionnaire survey administered to teachers also aimed at ascertaining the characteristics of teachers' accommodation and housing in terms of, *inter alia*, tenure status, type of housing and mode of travel to work with a view to establishing the links between the perceived need for teachers to have accommodation on the school site, and the Government's desire to integrate the civil service in the community.

##### (a) Distance From School and Mode of Travel

Table 4.11 below provides in percentages statistics on the distances that teachers travel from home to school in the three cities of Harare, Bulawayo and Gweru. A majority of teachers in all the three cities lives within a 5km radius of their schools followed by those who live in a radius between 5-10km (20,8% Harare, 17,5% Bulawayo and 50% Gweru).

TABLE 4.11 : DISTANCE FROM HOME

CITY	< 5KM	5-10	10-15	15-20	>20KM
HARARE	38,5%	20,8%	16,7%	9,4%	14,6%
BULAWAYO	55,0%	17,5%	10,0%	5,0%	12,5%
GWERU	45,0%	50,0%	0%	0	5%

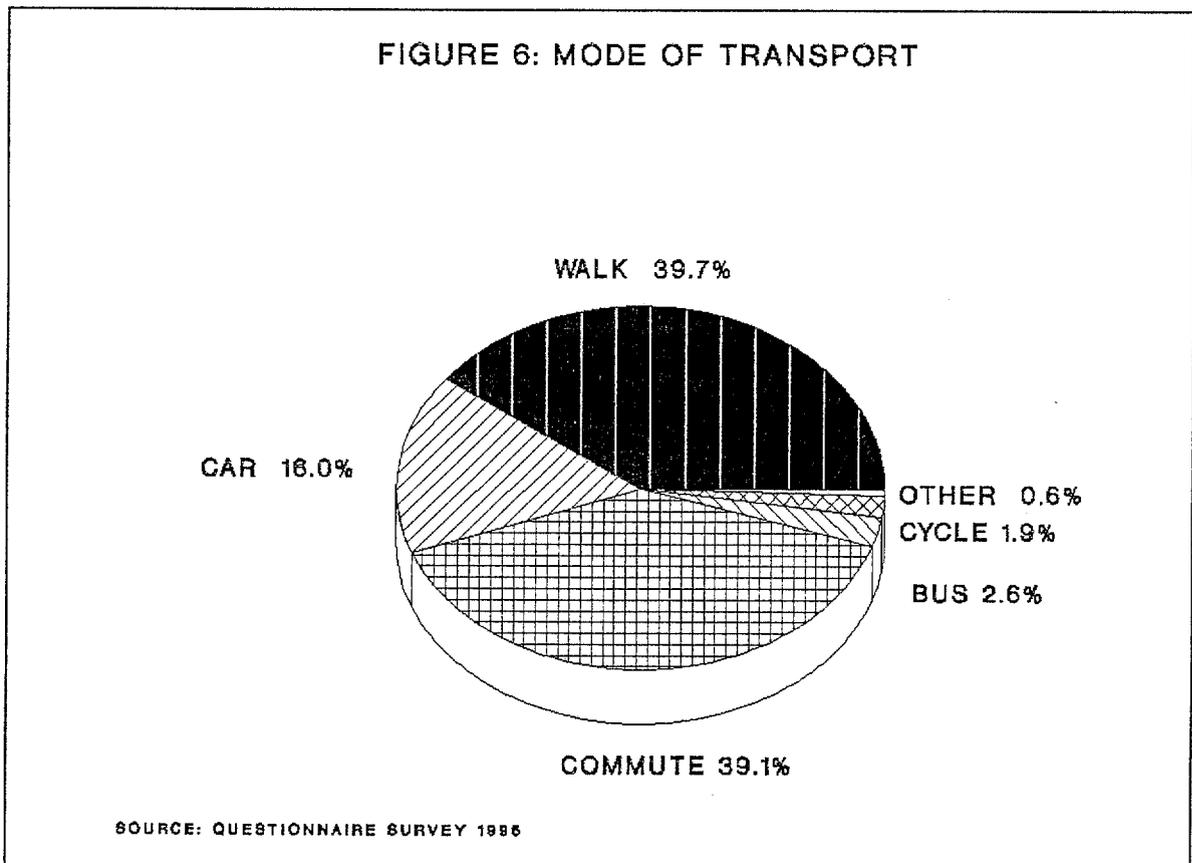
However, the results of the questionnaire survey also established that of the total number of teachers interviewed 54,1% live outside the suburbs in which their school is located compared to 35,9% who live in the locality. This is largely because some teachers reside in neighbouring suburbs which are close enough to the suburbs in which the school is located. For example, Glen View 2 School is located close to Glen Norah high density suburb which shares a boundary with Glen View suburb, within a 5km travel distance.

Table 4.11 highlights the fact that those teachers who live close enough to their schools are mostly lodgers and therefore find it convenient to live in the vicinity of the school. For schools such as Prince Edward and St Johns it was found that most teachers do not live in the vicinity of these schools because of high levels of mobility (a majority have cars) and also because of the difficulties of getting affordable rental accommodation in areas such as Borrowdale or Milton Park. As a result some teachers at Prince Edward live as far as Seke Communal Lands and Chitungwiza.

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### Mode of Travel

The distance travelled to the respective schools by teachers is also reflected in the mode of transport used. Figure 6 below shows the mode of travel to work of the interviewed teachers.

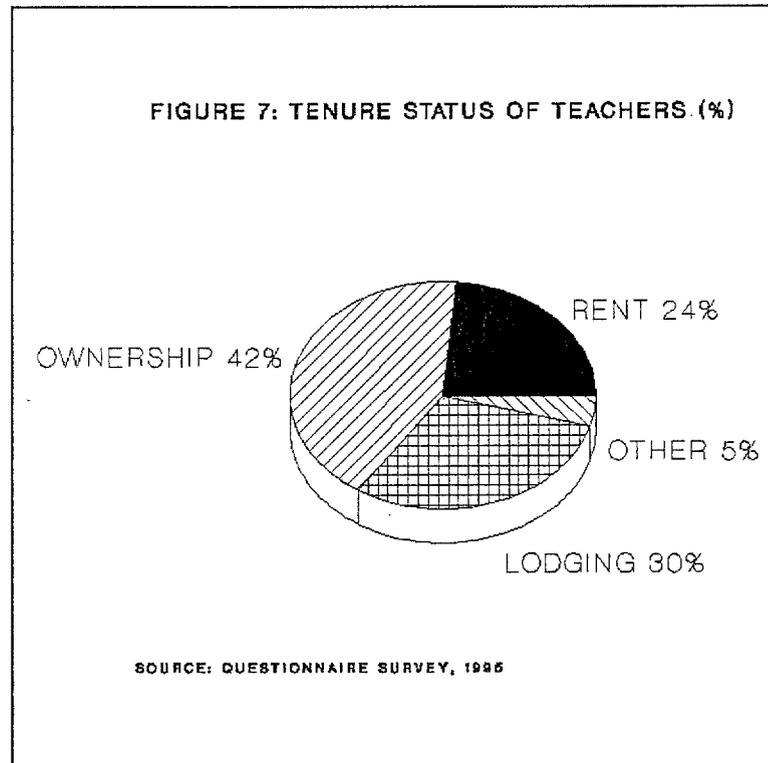


The dominant mode of travel is by foot (39,7%) and commuter omnibuses (39,1%). Since most teachers live within a 5km radius of their schools, it is convenient for them to walk to their place of work. Commuters are used mainly by teachers who live in areas located outside the 10km radius of their respective schools. In the high density areas, it was observed during the school site visits that the level of car ownership among teachers is very low. As a result the 16.0% who use cars shown in Table 4.13, are those in low density private schools and all the headmasters. Car parks in high density area schools are being used for sports activities (e.g. basketball, tennis etc).

The 'other' category in the figure refers to those who use either the commuter omnibus or bus as mode of travel to work.

(b) Tenure Status and Type of Accommodation

The tenureship status of teachers reflects a high level of home ownership (42,0%) as depicted in Figure 7 below.



The high levels of home ownership is attributed to the fact that a majority of the female teachers are married to husbands who own houses. However, the figures are not a true reflection of the situation on the ground because the survey sample comprised of a large proportion of the older age group in aggregate terms. This category managed to acquire houses at a time when the economic climate was favourable. In addition, teachers in the past were given preferential treatment by Government and local authorities to own houses. The category "lodging" shows a high percentage of 29,9% compared to those who are "renting" (23,6%). The distinction between the two was rather confusing to the

interviewed teachers. However, for purposes of analysis, the distinction was drawn on the basis of the living arrangements. In the case of lodging, this was defined as rented rooms in another person's house while for "rent" this referred to a full house, flat or cottage occupied and rented by a single family. The "other" category refers to those teachers who are still living with their parents or relatives and not formally paying rent.

The type of accommodation is categorised into flats, a cottage a full house and 'other' as shown in Table 4.12 below. The other category was mainly targeted for those teachers who are lodging (i.e. living in one or two rented rooms inside a full house or those still living with parents or relatives but not paying rent. A cottage was defined as a separate house (usually small and behind the main house in the case of high density areas).

TABLE 4.12 : TYPE OF ACCOMMODATION

TYPE	FLAT	COTTAGE	FULL HOUSE	OTHER (SPECIFY)	TOTAL
% TOTAL	6,4	10,2	65,0	18,5	100,0

The dominance of those living in a full house (65%) is a reflection of the high levels of home ownership among the interviewed teachers. This category is followed by those teachers who are either renting one or two rooms inside a full house or those teachers still living with their parents who accounted for 18,5% of the total.

The questionnaire survey also wanted to establish the authority which allocated houses to the teachers. The results of the survey indicates that the majority of teachers (47,2%) acquired private mortgage loans for themselves compared to those who have been allocated a house either by the local authority (21,3%) or Government (8,7%). Of these three (3) categories, 32,7% are in the high density (with average stand sizes of 278m<sup>2</sup>) and an equal percentage in the low density areas (with average stand sizes of 3968m<sup>2</sup>). The survey results also show that those who participate in home ownership schemes are mainly above 33 years old.

#### 4.5.3 Problems Of Teacher Accommodation

The sample teacher questionnaire survey also wanted to establish the problems faced by teachers in terms of housing and accommodation. Of the total responses, 69,4% of the teachers indicated that they have problems with accommodation compared to only 30,6% who have no problems. These statistics have been correlated with the tenure status and the results show that out of those 69,4% teachers, the majority (42,2%) are lodging, followed by those who rent (32,1%) as shown in Table 4.13 below.

TABLE 4.13 :TENURE STATUS OF TEACHERS WITH ACCOMMODATION PROBLEMS (%)

TENURE	RENT	OWNERSHIP	LODGING	OTHER	TOTAL
% TOTAL	32,1	19,2	42,2	6,4	100,0

The tabulated results also show that 19,2% of teachers who own houses still have problems. The problems expressed by this category are largely to do with the lack of funds for either expansion or renovation of existing houses.

The nature of the problems facing teachers were grouped and classed into different categories and tabulated for purposes of analysis as shown in table 4.14 below. The figures are expressed as a percentage of the total responses. Common among the problems is insecure tenureship and threats of eviction (32,7%) followed by very high and often uncontrolled hikes (20,4%). A majority of teachers expressed their reservations on threats of eviction when one is a lodger. This has resulted in the constant shifting and movement of some teachers to the detriment of their status and performance at school.

TABLE 4.14: PROBLEMS OF TEACHER ACCOMMODATION (%)

NATURE OF PROBLEM	%TOTAL
VERY HIGH RENTS	20,4
SMALL ROOMS FOR LODGING	10,2
HOUSE IS FAR AWAY FROM SCHOOL	5,1
INSECURE TENURE AND THREATS FROM EVICTION	32,7
HOUSE IS TOO SMALL	18,4
OVERCROWDED LIVING CONDITIONS	3,1
LACK OF LOANS TO BUY HOUSES	2,0
LACK OF PRIVACY AND FREEDOM WHEN LODGING	5,1
LACK OF HOUSING FOR MIDDLE INCOME EARNERS	1,0
CANNOT SECURE A STAND TO BUILD	2,0
TOTAL	100,0

A significant number of teachers also have problems of sizes - of both houses (18,4%) and rooms (10,2%) which are too small. In the former case, the whole family cannot be accommodated in the small house and this applies to those with more than two children of different sexes. While those lodging inside a house with small rooms have difficulties accommodating all their belongings and children as well. Another category of teachers (5,1%) noted that because of lodging there is completely no privacy and this is often humiliating when you have to lodge at a house where a pupil happens to attend the same school as yours. Some teachers commented that because of such a situation, our past glory and status is constantly being eroded.

A few teachers pointed out that they cannot secure loans to build their own houses (2,0%), let alone secure a stand to build (2,0%). These teachers felt in the past things were much easier because a teacher was respected and therefore could get a loan with much ease than at present.

Overall, teachers who are lodging have far greater problems than those who are renting or who own houses. The distance to work is not much of a concern today as long as one has got secure accommodation.

#### 4.5.4 Housing Needs of Teachers

The housing needs of teachers were also established through the questionnaire survey. The responses were all listed down, classed into different categories and then tabulated as shown in table 4.15 below. Responses are expressed in percentage terms. According to the table, responses were largely expressed in terms of the number of rooms/bedrooms teachers need. Top of the list are those teachers who indicated that they needed a three bedroomed house (36,4%), followed by those who need an ideal family house (28,3%). Presumably the "ideal family home" means a standard house for an average family. However, "ideal" could mean different things to different people.

Those who need a three-bedroomed house either have a family, comprising boys and girls and therefore would need two bedrooms and one for the parents. Teachers who plan to live a modest way of family pointed that they simply need a four roomed house (19,2%), in contrast to those who need four bedroomed houses (6,1%). A few teachers expressed their need for secure flats (2,0%) particularly for the unmarried.

What the teachers need and what is available is a far cry from reality. Most public housing projects at present which teachers can easily afford comprise a basic structure of two rooms, a toilet and a shower. This can only suit the single teachers with no family, but a majority of the interviewed teachers have at least one child. The "wet-core" house is planned so that it can be expanded in future. However, out of the responses received from teachers 6,1% indicated that with their present salary they will never be able to afford their own house, let alone afford to expand the wet core houses.

TABLE 4.15 : ACTUAL HOUSING NEEDS OF TEACHERS

HOUSING NEEDS OF TEACHERS	%TOTAL
A 6-ROOMED HOUSE	4,0
A 4-BEDROOMED HOUSE	6,1
A 3-BEDROOMED HOUSE	36,4
A 4-ROOMED HOUSE	19,2
AN IDEAL FAMILY HOUSE	28,3
A HOUSE CLOSE TO SCHOOL	2,0
A FLAT	2,0
A BIG STAND	2,0
TOTAL	100,0

## 5.0 DESIGN SOLUTIONS

### 5.1 Summary Of Issues

As a result of the Study of school sites, the following issues have been identified:-

#### 1) POLICIES

- a) In the past there has been disparity in the allocation of land for schools between low density (former Group A schools) and high density areas thereby creating an imbalance in the provision of facilities at these schools.
- b) The Ministry of Education, conscious of these existing imbalances in 1980, introduced a more equitable allocation system for schools by standardising the size of sites in both high and low density areas to 6ha for primary schools and 12 ha for secondary schools.
- c) The government recognised that the provision of primary education facilities was the function of local authorities and in 1985 gave the responsibility to urban councils for the building and operation of primary schools.
- d) The high land use standards for primary and secondary schools in urban housing estates coupled with high infrastructure provision costs and limited land for housing development in Zimbabwe resulted in the Ministry of Education reducing the size of schools by 15% to 5ha and 10 ha for primary and secondary schools respectively. The saving of the land was to be used for the provision of teacher accommodation. Although it is difficult to quantify the effectiveness of the 1992

change in policy, the study did find out that there was an opportunity to use some idle land in existing schools for extra housing.

- e) The Ministry of Education has the responsibility for setting the standards for school sites and the Ministry of Public Construction has introduced stock type plans for primary schools which are being used by local authorities. MPCNH is also responsible for preparing building plans and site plans for secondary schools based on standards supplied by Ministry of Education.
- f) Teacher accommodation should be provided by the local authority within the existing housing schemes surrounding the schools. The MOE policy for teacher accommodation is that teachers must integrate into the society in which they work. The MPCNH, recognising the massive increase of civil servant housing requirements have embarked on a house and flat building programme that will provide accommodation on a rent to buy basis.
- g) Local Authorities have the responsibility of allocation of stands for housing to people on the waiting list. Teachers have to put their names on the waiting list to be allocated stands for housing. With the enormous back log of housing in Zimbabwe, teachers are finding it difficult to get satisfactory housing.

## 2) LAYOUT AND SCHOOL PLANNING

- a) The standards for layout planning of high density housing areas need to be realistic and use appropriate household occupancy levels to determine numbers of households per school.
- b) Some schools are located on marginal land in order that the good land is made available for housing. This affects the construction of sports fields which are sometimes not properly developed.
- c) Existing schools in high density suburbs provide education facilities for an average of 17 000 residents (primary schools) and 47 000 (secondary schools). This is more than 4 times the planning requirements for primary schools.
- d) Although provided on the layout, sites for primary and secondary schools have not been fully developed by urban council and government because of lack of adequate finances.
- e) Although zoning for schools does exist, considerable mobility of pupils between suburbs takes place, especially in the secondary schools.
- f) There is a considerable variation in the size of schools built between 1980-1993, reflecting the changing policies within the Ministry of Education.

- g) Enrolments in high density schools are conspicuously high with average class sizes of 45 and average class streams of 6-7. Therefore the average numbers of primary schools in high density suburbs is 1700, requiring double sessioning (hot seating). Low density schools have smaller enrolments (775) and smaller sizes of classes (37) with fewer streams (3-4).
- h) The standard allocation of 28 classrooms for primary schools and 18 for secondary schools have not been optimised in the schools visited. There is an average of 23 and 17 classrooms respectively.
- i) Double sessioning requires occupation of the classrooms for the full day, and this requires pupils to conduct some of their classes outside their classrooms, thereby resulting in a drop in quality of education. In addition, because double sessions change over every two weeks, one class does not do any sporting activities in the afternoon, also affecting the quality of education.
- j) Double sessioning does not happen in low density schools where occupancy levels of suburbs are acceptable and the facilities provided at the schools are more satisfactory than in the high density schools.
- k) The allocation of land for sports facilities in schools is high with 74% of land in primary schools and 68% of land in secondary schools. However, in high density schools, because of lack of finances, the development of sports facilities is inadequate.
- l) There is an imbalance in the numbers and quality of sports fields between the low density and high density schools. The former have adequate facilities which are sometimes underutilised, while the latter have inadequate facilities (usually only one field) which are usually over utilised as a result of double sessioning.
- m) As a result of the facilities available, the low density schools can offer a wider range of sporting activities throughout the year.
- n) There are high occupancy rates of sports fields during the 1st and 2nd terms with the peak period being 2-4.30pm. Most fields are not well used in the morning, with the exception of some schools who have sports activities as a result of double sessioning.
- o) As a result of the double sessioning in high density schools, a specific sports and cultural day is made available on Wednesday. Most afternoons are reserved for organised sports in low density schools.
- p) The most common sports facilities in the high density schools are football and netball with an athletics track provided for the first term. Low density schools

tend to have additional fields for cricket, rugby and hockey and also have swimming pools and tennis courts in their schools.

As a result of the study, most high density schools need more sports facilities for cricket, rugby, hockey, swimming, tennis and basketball.

- q) Most primary schools (75%) and secondary schools (63%) felt that the size of school was not adequate and planned to build more buildings and provide more sports facilities when finances become available. However, existing schools cannot be expanded in most cases because they are surrounded by houses.

### 3) COSTS

- a) With the high cost of servicing residential land, it is vital to maximise the number of housing units provided in an area, thereby effectively reducing the costs of servicing and providing more affordable housing for all.
- b) The budgets allocated by government for the construction of secondary schools and by urban councils for the construction of primary schools do not include adequate provision for the development of sports facilities.
- c) The school operation and maintenance budget allocations are inadequate and have to be supplemented by SDA/SDC levies from parents.
- d) The levies collected from the parents are related to the socio-economic conditions in the surrounding suburbs and vary considerably between the high density areas (\$15-20) and low density suburbs (\$210-\$400), thereby exacerbating the unequal provision of facilities.

### 4) TEACHER ACCOMMODATION

- a) The majority (70%) of teachers in urban schools are young females who are married with between 2-3 children. They live within 5km of school and their predominant mode of travel to school is by foot or omnibus.
- b) Although there is a high level of home owners among the married female teachers, many of the other teachers are lodgers in houses, with insecure tenure, high rentals and unsatisfactory living conditions.
- c) Most of the problems being experienced with teacher accommodation are the size of rooms/house, overcrowding and lack of privacy all which contribute to the lowering of the status of teachers in their living environment.

- d) Teachers need to have larger and more secure accommodation and this was expressed in terms of access to stands from local authorities, access to capital to build houses and increased sizes of accommodation (rooms/houses). There has been no material increase in the number of houses for teachers as a result of the 1992 reduction in school sizes, there is a need for a more proactive programme of teacher accommodation.

## 5.2 Assumptions

In order to derive solutions to the issues identified in the study it is necessary to outline some of the assumptions being made.

- 1) The rural to urban migration in the country will not decline and therefore household occupancy will not decrease in the high density suburbs.
- 2) There will not be an increase in funds from government or urban councils to build sufficient schools for the population in urban areas.
- 3) Land liberated by the reduction in sizes of school sites will be used by local authorities for housing but will not be specifically used for teacher accommodation.
- 4) SDA/SDC levies in schools will continue to supplement the operation and maintenance of the schools.
- 5) Local authorities will continue to build and operate primary schools in urban areas and government through MPCNH will continue to build secondary schools.
- 6) Local authorities will plan, service and construct housing in high density suburbs and continue to allocate stands for housing. Government, through MPCNH, will continue to build houses and flats for civil servants.
- 7) Schools, particularly in the high density areas will continue to experience double sessioning (hot seating).
- 8) That government will continue to support sports development in schools under the guidance of the proposed national sports policy.

## 5.3 Recommendations

The analysis of the study issues has revealed that it would be desirable to reduce the sizes of schools sites by 25% by cutting out some of the sports facilities as well as improving on layout design. The result of reducing the size of schools can be empirically tested in the typical layout to assess what savings will result.

a) **Revising Town Planning Layouts**

The typical layout of a neighbourhood can consist of 2500 houses with 5 primary schools and 2 secondary schools. Map No. 5 shows the typical layout in concept from using an average stand size of 150m<sup>2</sup>. The important considerations in the layout are:-

- (i) Reducing the primary schools from 5,0 ha to 3,5 ha.
- (ii) Reducing the secondary schools from 10,0 ha to 8,0 ha
- (iii) Provision of a central community sports field for showing of specialist sports.
- (iv) Sharing of facilities between primary and secondary schools i.e. sharing of some sports fields, through careful careful timetabling.

b) **Layout Servicing**

In a typical layout of 2500 stands in a high density suburb, using the MPCNH minimum stand sizes of 150m<sup>2</sup>, approximately 5 primary schools and two secondary schools will have to be constructed.

TABLE 5.1 : LAND USE ANALYSIS COMPARISON

LAND USE	HA	%	HA	%
RESIDENTIAL (150M <sup>2</sup> )	38,5	38,5	48,5	48,5
SCHOOLS	35,0	35	23,5	23,5
PUBLIC OPEN SPACE	10,0	10	10,0	10,0
ROADS	15,0	15	16,0	16,0
COMMERCIAL	1,5	1,5	1,5	1,5
TOTAL	100 HA	100,0	100HA	100,0

SOURCE : OWN RESOURCES

With a reduction in the size of schools by 25%, there will be an increase of 10,5 ha onto the residential component (1,0 ha will be for roads). This will give an increase of 400 housing units.

If the anticipated costs of servicing 2500 stands @ \$8000/stand = \$20 million. For the same land area (100 ha), there will be a reduction of \$1280 per stand (or 16%).

# SCHOOL SITE SIZE STUDY USAID PROGRAMME

## TYPICAL NEIGHBOURHOOD LAYOUT

### LEGEND

PLANNING BOUNDARY

RESIDENTIAL 150m<sup>2</sup>

COMMERCIAL

PRIMARY SCHOOL

SECONDARY SCHOOL

PUBLIC OPEN SPACE

SPORTS FIELDS

ROADS 12, 15m, 20m

10m Reserve

FLATS

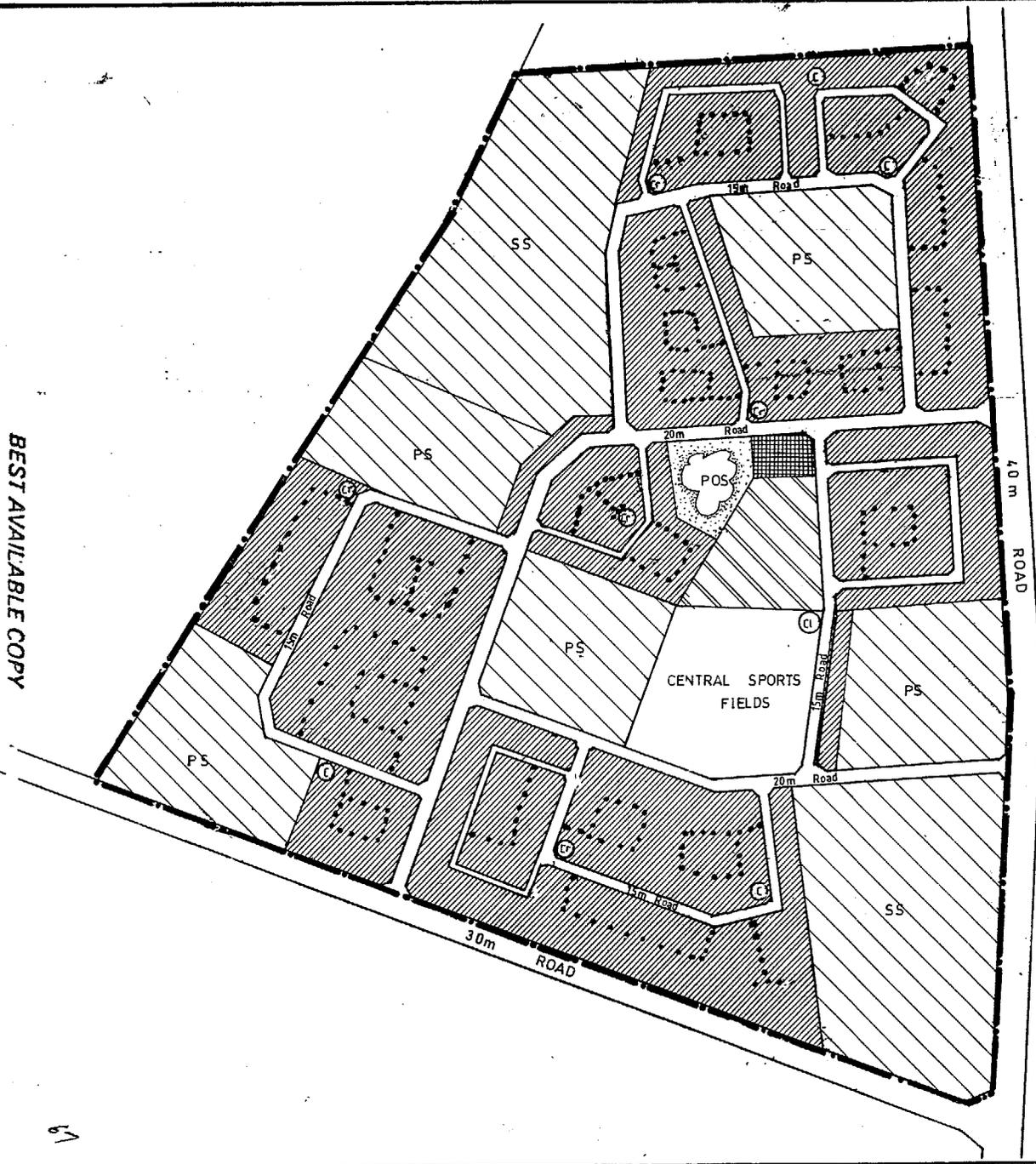
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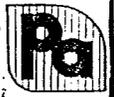


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PLANNING #	B176	MAP	5
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OLMER ASSOCIATES P/L  
URBAN AND REGIONAL  
PLANNING CONSULTANTS  
P.O. BOX 60 381  
GREENDALE  
NAPARE TEL 784571/2



c) **Site Plan Modifications**

The typical site plan for a primary school is shown on Map No. 2A. It contains all the proposed land uses required by Ministry of Education in a diagrammatic representation on 5 hectares. If the hockey field (8500m<sup>2</sup>), cricket fields (1500m<sup>2</sup>), production fields (1000m<sup>2</sup>), tennis courts (2000m<sup>2</sup>) and swimming pool (1500m<sup>2</sup>) were removed from the site plan, they would comprise a total of 1,5 hectares. Therefore there would be sufficient space for the school buildings, two soccer pitches, netball, athletics track, caretakers house, jungle gym and school garden on 3,5 hectares.

On the secondary school typical layout as shown on Map 2B, if the same fields plus a rugby pitch were taken off representing 2, hectares, the school will still be left with sufficient space for their buildings and sports fields on 8,0 hectares.

The objective of the study was to investigate the costs and benefits to the possible reduction in size of school sites in order to create more land for affordable housing. The recommendations therefore will follow the structure of the study and will be disaggregated into **POLICY, PLANNING, STANDARDS, COSTS AND TEACHER HOUSING**. Throughout the recommendations, the costs and benefits to the recommendation will be elaborated.

1) **POLICY**

- a) **The Ministry of Education should adopt a flexible approach to the size of schools but reduce the size of primary schools from 5 ha to 3,5 ha and for secondary schools from 10 ha to 8 ha in urban schools as a general policy. Obviously flexibility must be built in where difficult sites are encountered e.g. sloping terrain, rocky or wet ground.**

Costs

The disadvantage of the reduction in size of school sites are minimal and cannot be quantified. However, the issue of double sessioning in high density schools cannot be resolved through site reduction and therefore any reduction in size of schools will exacerbate the current overcrowding in terms of the overall space requirements of a typical school. Reduction in quality of education as a result of double sessioning is currently an issue and therefore cannot be overlooked. There is therefore a need for conditions to be set for various schools to be considered for other sizes in the Ministry flexibility.

Benefits

The advantages of this reduction will be as follows:-

- (i) more land (1,5 ha for primary schools and 2 ha for secondary schools) will be made available for high density housing. Approximately 35 stands per hectare can be provided.
  - (ii) the overall cost of servicing a high density suburb of 150m<sup>2</sup> stands will be reduced by approximately 16% if the school sites are reduced.
- b) **The Ministry of Public Construction should adopt a policy of building two storey schools in urban areas. The design of these schools should be cost effective as well as aesthetically appealing. In addition, the MPCNH should build houses and flats for rent to accommodate single teachers.**

**Costs**

The disadvantage of building two storey schools is the inability of handicapped persons to access particular classrooms.

**Benefits**

The advantage of building double storey schools is that space can be saved for the use for other activities, thereby justifying a reduction in school size.

- c) **The urban councils should allocate more funds in the budgets for the development of sports facilities in the schools and in community facilities. For example, Bulawayo City Council has set aside some funds (Z\$120 000) in its 1995/6 budget for the development of shared tennis courts, in addition to providing equipment to Council schools.**

**Costs**

The disadvantage to this policy is that there is a limited financial resource for the construction of schools.

**Benefits**

The development of sports facilities will assist the school in better management of timetables and give the pupils a better quality of education.

- d) **The Ministry of Education should make an in-house evaluation of the schools that have idle land with a view to using the land for extra housing.**

Costs

Manpower resources

Benefits

This will result in more efficient utilisation of land, reduce maintenance costs to the school and provide much needed accommodation on prime land.

2) **PLANNING**

- a) **Town Planning layouts should make provision where possible for the sharing of facilities between adjacent primary and secondary schools and the siting of community fields for specialist sports (cricket, rugby, swimming, tennis, etc).**

Costs

There are no disadvantages for this recommendation, except the need for careful timetabling where facilities are shared.

Benefits

The advantages of these planning standards remain as are but more realistic compromise of high occupancy rates can be taken into consideration and that better planning and management of institutional uses will result in better land management.

- b) **Encourage development of community schools on undeveloped sites promoted in layouts. Community schools can be built by the benefitting neighbourhood with assistance from the urban council or can be sold to private organisations/church groups with the approval of MOE and in accordance with their standards.**

Costs

There will be little control on the type of building constructed in these community schools, without proper regulatory structures.

Benefits

The main advantage to this recommendation is that additional schools will be built in a suburb to relieve overcrowding and double sessioning.

- c) **Encourage more capital development in existing schools using the PTA/SDA levies to build new classrooms, and better sports fields to relieve congestion at schools.**

Costs

The only disadvantage of this proposal is the increased cost to the parent in levies.

Benefit

Reduced congestion in classrooms and on the fields.

- d) **Provide more efficient and well planned layouts for sports and buildings facilities in a site plan of the school.**

Costs

Nil

Benefits

The MPCNH can prepare more efficient layouts on the site plan for the development of basic sports fields. Space will be saved thereby justifying the reduction in school site sizes.

- b) **Provide a community sports field in the layout in a central position for specialist sports (rugby, cricket, tennis, basketball and swimming).**

Costs

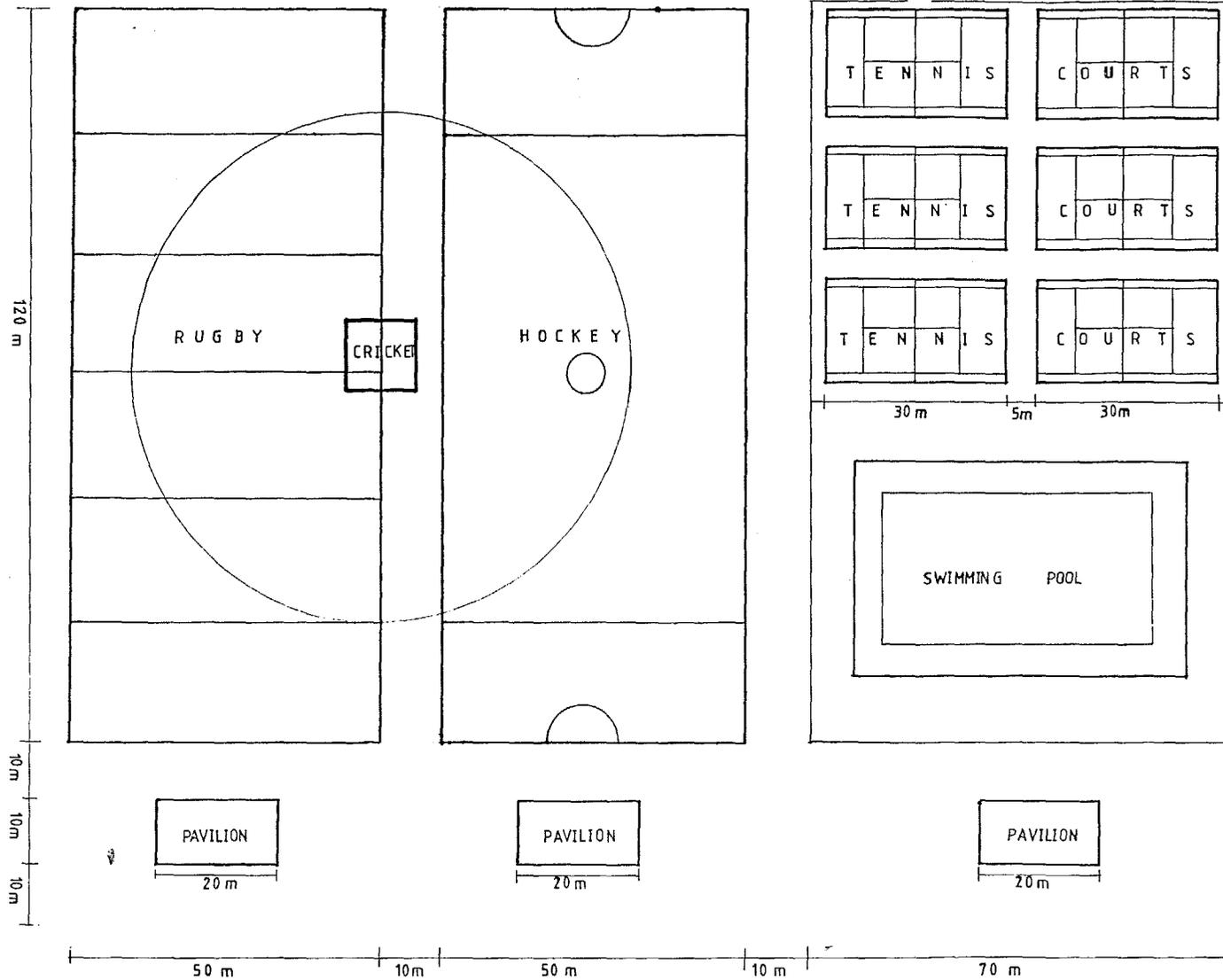
The disadvantage will be the additional costs to the local authority in construction and maintenance of the community sports fields. If privatised, this cost could be minimised.

Benefits

The provision of specialised, centralised sports fields will enable all schools to have access to the fields on a more efficient time table thereby releasing land. Specialised sports staff can also be shared.

- 3) **COSTS**

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# SCHOOL SITE SIZE STUDY USAID PROGRAMME

## TYPICAL COMMUNITY SPORTS CENTRE

Designed	REP	Drawn	GM	Date	Dec 95
Scale	1:1000	Checked			
Drawing	N° A 263	MAP	6		
PALMER ASSOCIATES P/L Urban and Regional Planning Consultants					
Box GD 301 Greendale Harare Tel 786571/2					



- a) **Increase levies in some high density schools to pay for capital development of the school.**

**Costs**

This will result in more expense to the parent.

**Benefit**

More classrooms can be built in addition to other needed amenities (walls, fences, etc) that add to quality of education thereby relieving congestion on the double sessioning in high density schools, if proper and efficient design standards are used, in school layout planning.

**4) TEACHER ACCOMMODATION**

- a) **The Ministry of Education together with MPCNH should together formulate a new policy for teacher accommodation which will result in more houses/flats being built for civil servants/teachers getting priority in allocation) and result in better allocation of stands by local authorities or forming cooperatives through organisation from ZIMTA.**

**Costs**

The main problem with this is obtaining additional government funds for housing. This can be alleviated by the private sector housing programme building houses for teachers at a ratio of 7,5% of all houses/stands being made available for teachers.

**Benefits**

More teacher accommodation, better status for teachers and higher quality of teaching.

**5.4 Programme and Implementation**

The programme for implementation of the recommendations will take the form of short term and medium/long term actions to be undertaken by the various responsible agencies.

**1) Short Term Actions**

- a) Policy review by Ministry of Education - reduce the urban school sites by 25% to a minimum of 3,5 ha for primary schools and 8,0 hectares for secondary schools. **ACTION : M.O.E.**

- b) Urban Councils allocate more funds in budgets for the development of sports facilities. **ACTION : URBAN COUNCILS**
- c) Amend town planning layout requirements to make provision for more appropriate school standards and more efficient layout plans. **ACTION : DPP/MPCNH**
- 2) **Medium/Long Term Actions**
  - a) Investigate policy options of building cost effective aesthetic two storey schools in urban centres. **ACTION : MPCNH**
  - b) Build houses and flats to rent for single teachers. **ACTION : MPCNH**
  - c) Investigate existing schools ability to release land for housing. **ACTION : M.O.E, MLGRUD, MPCNH .**
  - d) Mobilize communities to build schools on vacant designated school sites in high density suburbs. **ACTION : URBAN COUNCILS**
  - e) Educate the community to contribute more to PTA/SDA funds for school development and maintenance. **ACTION : URBAN COUNCILS/M.O.E.**
  - f) Provide centralised community sports fields for specialist sports in the high density suburbs. **ACTION : URBAN COUNCILS**
  - g) Develop new policy on teacher accommodation. **ACTION : M.O.E./MPCNH**

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APPENDICES

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**APPENDIX 1 : PERSONS CONSULTED**

MR MAKWATI	:	C.E.O. (Policy Planning), Ministry of Education.
MR MOYO	:	Deputy Director, Policy Planning Ministry of Education
MR MUTENZWA	:	Planning and Building, Ministry of Education.
MR MABUTO	:	Planning and Buildings, Ministry of Education
MR MASHINGAIDZE	:	Deputy Director, Policy Planning, Ministry of Education
MR KANENGONI	:	Regional Directors Office, Planning and Buildings, Harare
MR TANYANYIWA	:	Regional Director, MOE, Gweru.
MR SHAVA	:	Planning and Buildings, MOE, Gweru
MR GORDON	:	Regional Director, MOE, Bulawayo
MR DHLODHLO	:	Planning and Building, MOE, Bulawayo
MR MUZONDO	:	Gweru City Council, Assistant Director (Town Planning)
MRS CHIKWATURE	:	Town Planning Technician, Gweru City Council
MS MAGONYA	:	Senior Town Planning Technican, Bulwayo City Council
MR DUBE	:	Principal Education Officer, City of Bulawayo.
MR NONTO	:	Town Planner, City of Bulawayo
MR MSANG	:	Town Planner, City of Bulawayo
MRS FOLOGWE	:	Department of Community Services and Housing, City of Harare
MR MBIRIRI	:	Acting Director of Physical Planning.

- MR CHINZOU : Chief Town Planning Officer
- MR MPAMHANGA : Deputy Secretary, Ministry of Local Government,  
Rural and Urban Development.
- MR MATUMBIKE : Deputy Secretary, Ministry of Local Government,  
Rural and Urban Development.
- MR MATONGO : Under Secretary, Ministry of Local Government  
Rural and Urban Planning
- MS NDLOVU : Assistant Secretary, Ministry of Local  
Government Rural and Urban Planning
- MR AHMED : Chief Architect, Ministry of Public Construction  
and National Housing
- MR MUA : Architect, MPCNH
- MR MABANDI : National Organising Secretary, Zimbabwe Teachers  
Association.

## APPENDIX 1 (CONTD)

## LIST OF HEADMASTERS INTERVIEWED

- (1) MR MOYO - QUEEN ELIZABETH 2 PRIMARY SCHOOL
- (2) MR MAKHUBALO - FUSI PRIMARY SCHOOL
- (3) MR CHISAKA - DEPUTY HEAD, PROSPECT PRIMARY SCHOOL
- (4) MR KAMHUKA (DEPUTY HEAD) - COURTNEY SELOUS PRIMARY SCHOOL
- (5) MR SAUNYAMA - WADZANAYI PRIMARY SCHOOL
- (6) MR MUYAMBO - MKOBA 4 PRIMARY SCHOOL
- (7) MR MUSHANGINGA - KUWADZANA 2 PRIMARY SCHOOL
- (8) MR S AKINO - BUDIRIRO 3 PRIMARY SCHOOL
- (9) MR MHAZO - CHAPLIN HIGH SCHOOL
- (10) MR KOLBE - ST JOHNS SECONDARY SCHOOL
- (11) MR MALUNGA - NKETA SECONDARY SCHOOL
- (12) MR KHUMAXO - PUMULA SECONDARY SCHOOL
- (13) MR BARNES - PRINCE EDWARD SECONDARY SCHOOL
- (14) MRS MUFUKARE - HATCLIFFE SECONDARY SCHOOL
- (15) MR KANDIYE - GLEN VIEW 2 SECONDARY SCHOOL
- (16) MR MUZONDIWA (ACTING) - HARARE SECONDARY SCHOOL

## APPENDIX 2

## SCHOOL SITE SIZE STUDY : QUESTIONNAIRE FOR TEACHERS : NOVEMBER 1995

1. Please complete table below

AGE	SEX	MARITAL STATUS	NO.OF CHILDREN

2. Where do you live?

.....  
 .....

3. How far away is it?

< 5km	5-10km	10-15km	15-20km	> 20km
1	2	3	4	5

4. What is your tenure status?

RENT	OWNERSHIP	LODGING	OTHER (SPECIFY)
1	2	3	4

5. What type of accommodation do you live in? (tick)

FLAT	COTTAGE	FULL HOUSE	OTHER (SPECIFY)
1	2	3	4

6. Who allocated you the house?

LA	GV'T	SELF	OTHER (SPECIFY)
1	2	3	4

7. What is the plot size of the house?

8. How do you travel to work? (tick)

WALK	CAR	COMMUTER OMNIBUS/ET	BUS	CYCLE	M/CYCLE	OTHER
1	2	3	4	5	6	7

9. Do you have problems with accomodation?

Yes                      No.

If yes, what are the problems?

.....

.....

.....

.....

.....

.....

8. What are your actual housing needs?

.....

.....

.....

.....

.....

**SCHOOL SITE SIZE STUDY : QUESTIONNAIRE : NOVEMBER 1995**

---

1. Name of School .....

2. Location .....

3. Type of School      PS                              SS                              (tick)

4. Is it a boarding school      YES                              NO

If yes, what boarding facilities do you have? (list)

.....

.....

.....

5. Size of Land                              HA

6. What is the number of Pupils                              TOTAL

7. Where do the pupils come from?

.....

8. What is the number of classrooms other than specialist rooms?

Blocks                              Individual Classrooms

9. What is the number of pupils per class?

(A) PRIMARY SCHOOL

CLASS/GRADE	1	2	3	4	5	6	7
No. OF PUPILS							
No. OF STREAMS							
No. OF TEACHERS							

(B) SECONDARY SCHOOL

CLASS/FORM	1	2	3	4	5	6
No. OF PUPILS						
No. OF STREAMS						
No. OF TEACHERS						

10. What is the total number of employees?

General Hand

Office Staff

11. What other buildings (specialist rooms) comprise the whole school? List below.

BUILDING	TOTAL NO.

12. Do you have any housing for teachers at the school?

Yes

No

If yes, state the total number

13. If there are houses at the school other than for teachers, who are the occupants?

.....  
 .....  
 .....

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14. Do you have hot seating?

Yes                      No

If yes, how does it work?

.....  
.....  
.....  
.....

15. Are you used as an annex?    YES                      NO

If yes, how many classes do you offer?

16. Do you have an annex?    YES                      NO

If yes, how many classes and classrooms do you use?

How far is the annex from the main school?

17. What activities are you involved in? (Specify subjects). (Please refer to the School Master Time Table.)

.....  
.....  
.....  
.....

18. How many sports fields do you have at your school? Specify in terms of categories of sports e.g. athletics, soccer etc and give their sizes.

NO. OF FIELDS	ACTIVITY	SIZE OF FIELD (HA)

19. How often are the fields used? (Specify in terms of (18) above and give specific times) (Also refer to Master Time Table.)

FIELD	ACTIVITY	FREQUENCY OF USE DAY                      TIME

20. What fields would you like to have?

.....

.....

.....

21. What other activities is the school involved in? (e.g. Education with Production)

ACTIVITY	SIZE (HA)	LOCATION

22. Is your land more than adequate for all your activities?

Yes                      No.

Why, .....

.....

23. If yes do you favour the reduction in size of the land? By how much? (Give reasons)

.....

.....

.....

24. What infrastructure do you have at your school (tick)

INFRASTRUCTURE/SERVICES	
1. PIPED WATER	
2. SEWERAGE DISPOSAL	
3. ELECTRICITY	
4. TELEPHONE	
5. REFUSE DISPOSAL	
6. TOILETS	
7. OTHER	

85

25. Do you have any future plans for buildings? Sports fields?

25.1	BUILDINGS	YES	NO
------	-----------	-----	----

25.2	SPORTS FIELDS	YES	NO
------	---------------	-----	----

If yes, specify

.....  
.....  
.....  
.....  
.....

26. What is your source of funds for maintenance of school facilities?

.....  
.....

27. What do you use the building levy for?

.....  
.....  
.....

## APPENDIX 3

## PROFILE OF SELECTED SCHOOL SITES

1) Glen View Secondary School

This is a Government run school built in 1989 on a site area of approximately 120 hectares. The school has a current total enrolment of 2908, comprising of 18 classrooms, an administration block and 4 laboratories. Sports fields comprise of one soccer field with an athletics track and a netball pitch, although the soccer field is also used for cricket. The site plan for the school is shown on Drawing No. B172. The school has double sessioning (hot seating), and also has an annex which caters for 800 children. The school was original built for only 960 pupils, but caters for Glen View 8 Sections and Budiriro residential areas.

The school has plans to fully utilise the existing sports fields by introducing additional activities such as rugby and softball. This is mainly because they lack enough space for expansion of sports fields. The sports masters of the school indicated that given adequate financial resources the school intends to introduce most of the sports practised as former "Group A" schools.

The classrooms are inadequate given the high level of enrolment at the school. The School Development Association (SDA) assists the school in supplementary funding and recently the (SDA) funds have helped to erect a durawall around the school and to buy additional furniture.

The school is involved in some form of "Education with Production" characterised by the operation of a chicken run. Chickens are for sale and a vegetable garden (also for sale).

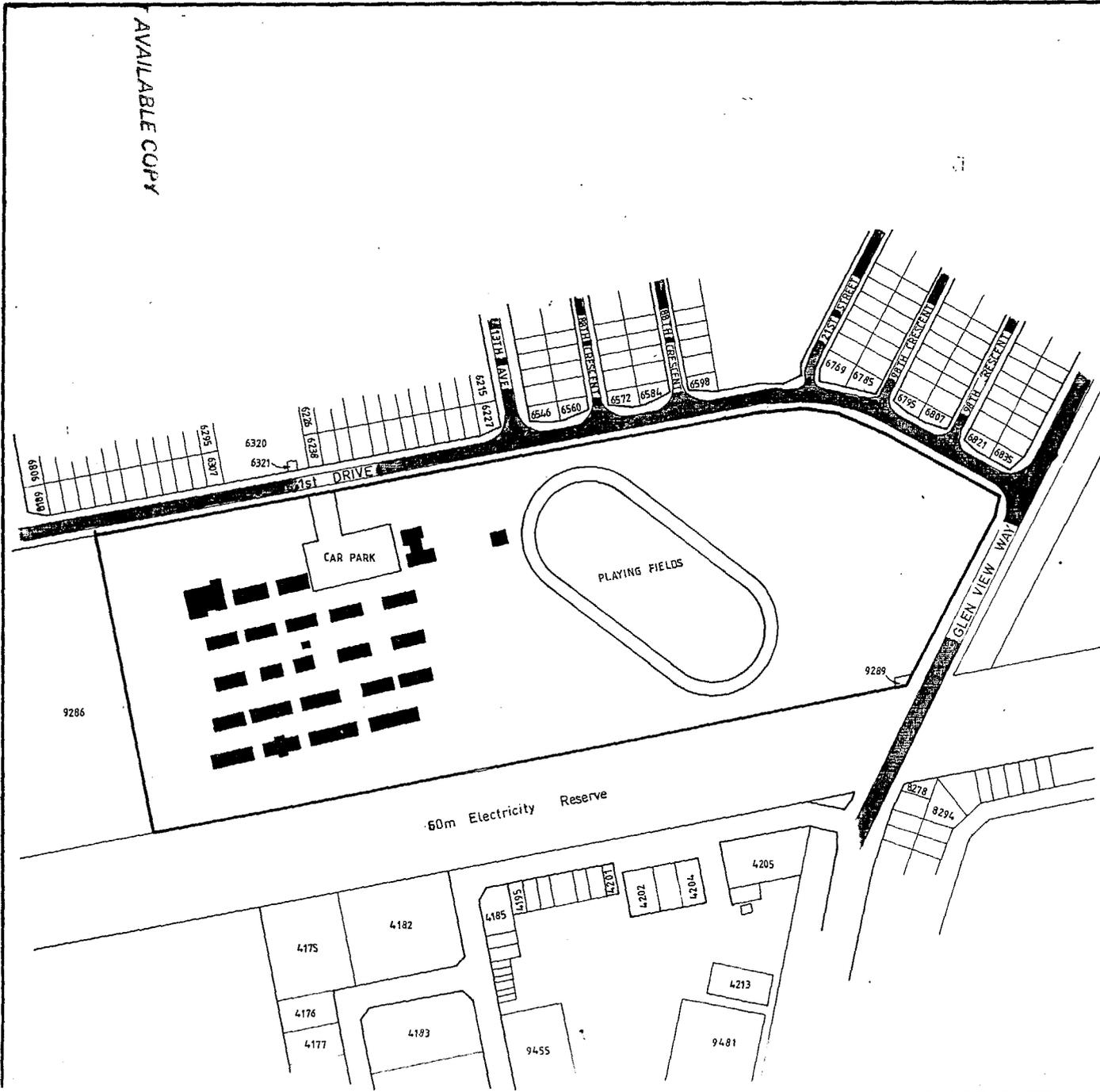
2) Hatcliffe Secondary School

The school is Government owned and was built in 1994 on 10 hectares of land. It is presently incomplete with a total enrolment of 240 form one pupils only. There are presently (10) classrooms and two laboratories. Sports fields have not been fully developed, although there is a soccer/netball field and an athletics track.

The school's catchment is mainly Hatcliffe suburb, although other pupils are coming as far as Domboshava Farms, Borrowdale and Hatcliffe Holding Camp and Vainona.

The site plan is shown as Drawing No. B170.

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# SCHOOL SITE SIZE STUDY USAID PROGRAMME

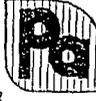
SITE PLAN - GLEN VIEW N°2 SEC.

LEGEND

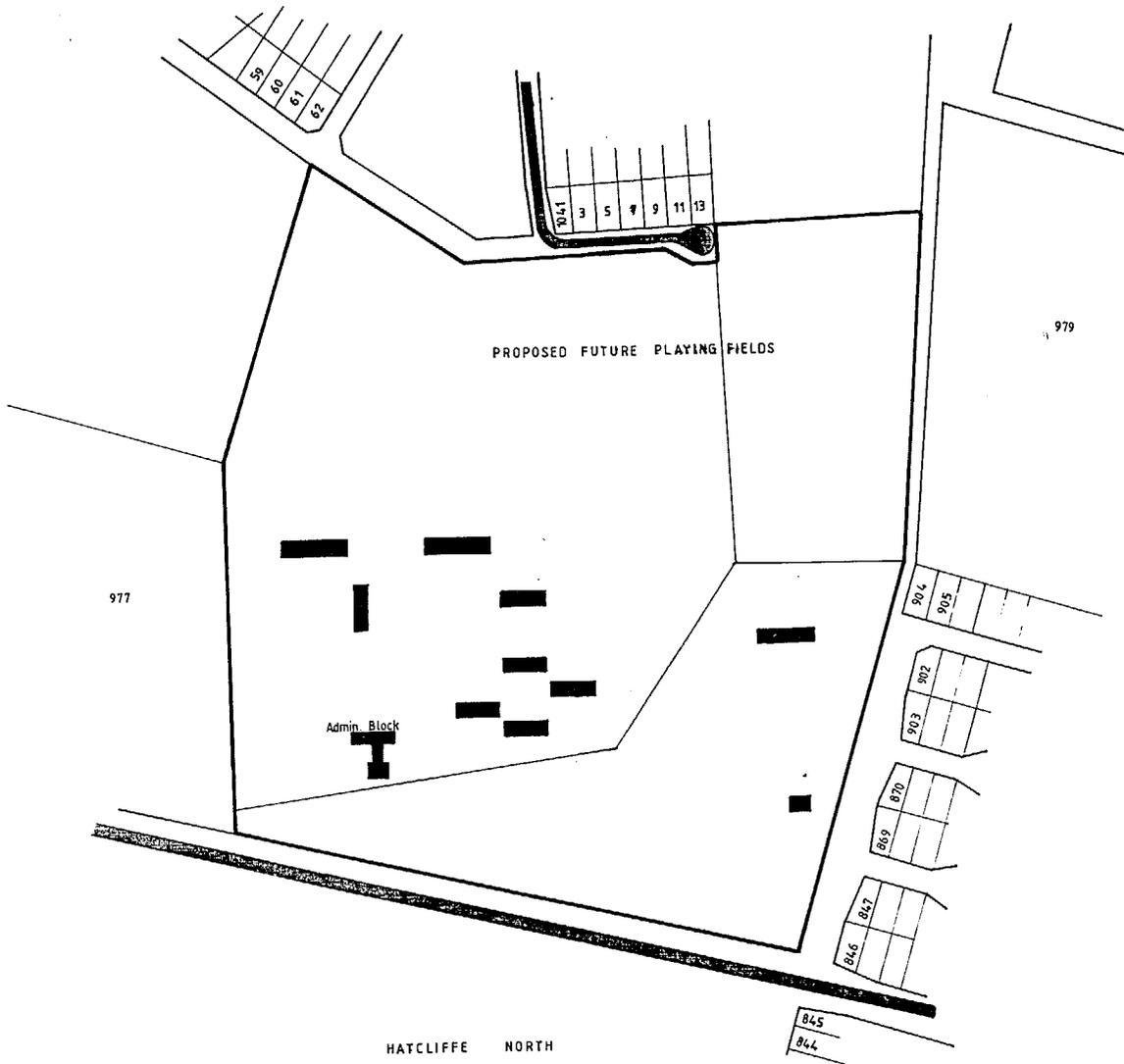
- Roads 
- Buildings 
- Planning boundary 

TOTAL SITE AREA = 12Ha

DESIGNED	DRAWN	WS	DATE
SCALE	1: 2 500		
DRAWING N° B172		MAP 4f	
PALMER ASSOCIATES P/L			
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PLANNING CONSULTANTS			
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GREENDALE			
HARARE			
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# SCHOOL SITE SIZE STUDY USAID PROGRAMME

## SITE PLAN - HATCLIFFE SEC. SCHOOL

### LEGEND

- Roads (tarred) 
- Buildings 
- Planning boundary 

TOTAL SITE AREA = 10Ha

DESIGNED	DRAWN	WS	DATE
			NOV 95

SCALE	CHECKED
1:2500	

DRAWING N°	MAP 4d
B170	

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 WINDYBUSH  
 DURBAN



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3) **Prince Edward Secondary School**

Built in 1925, the school with an enrolment of 1500 boasts of a totally different and classical (colonial) approach in the design of schools. The main classrooms (38) are built in quadrangle shape, although further improvements to the school include the Beit Hall, school hospital, the school memorial chapel and the sixth form study centre and library.

The school is built on approximately 23 hectares of land, offering boarding facilities and amply parking facilities and playing fields. Prince Edward is comparable to other schools in terms of its facilities and level of utilisation. (See Drawing No. B168 for the site plan). The school's catchment is city wide.

The school is involved in a diverse range of sports activities practised on eight main fields which includes hockey, rugby, soccer, cricket, volley ball, swimming, golf, basketball etc. There is also a multitude of clubs and societies at the school which each student is supposed to participate in.

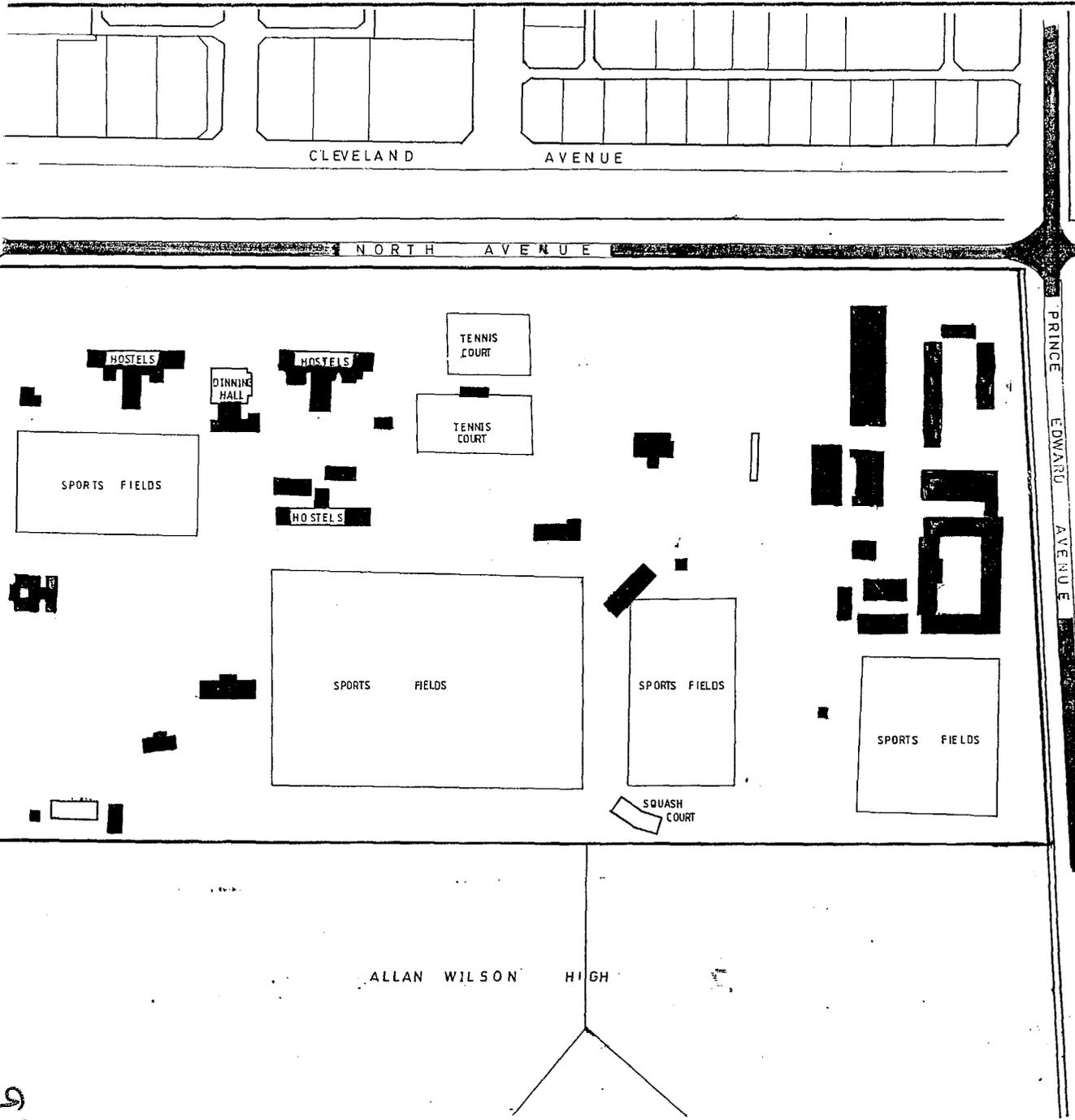
Overall, Prince Edward is an efficiently run school by virtue of the fact that it has a huge budget (approximately Z\$3 million per annum) and has no major financial hurdles. The school grounds and gardens are well maintained and in the words of the school's head, "this gives the boys a sense of place and space."

4) **St Johns Secondary School**

St Johns is a private boys only school located in Borrowdale low density suburb. It has a total enrolment of 515 pupils who are mainly Borrowdale residents although it accepts other pupils from areas such as Alexander Park and Mount Pleasant. The school size is approximately 4,4 hectares of 17 double storey classrooms. Classrooms however, occupy only about one third of the total area and the remainder is used for sports fields.

The school buildings are compact and arranged in such a way that the time loss between lessons and movement between classrooms is minimised. (See Drawing No. B167). The sports fields are also "compact" in that one big open space is used for variety of activities such as hockey, rugby, cricket and athletics.

The school which is sited in the midst of a residential area does not have any additional land for expansion. According to the headmaster of the school, although there are plans to build a specialist turf for hockey and athletics track, the school is constrained by the surrounding houses.



SCHOOL SITE SIZE STUDY  
USAID PROGRAMME

SITE PLAN - PRINCE EDWARD SECONDARY

LEGEND

- SCHOOL BOUNDARY 
- BUILDINGS 
- ROADS 

TOTAL SITE AREA 23 Ha

DESIGNED	DRAWN	GM	DATE
			NOV 95

SCALE 1: 2 500

CHECKED

DRAWING N° B 168 MAP 4b

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# SCHOOL SITE SIZE STUDY USAID PROGRAMME

SITE PLAN - ST JOHN'S COLLEGE

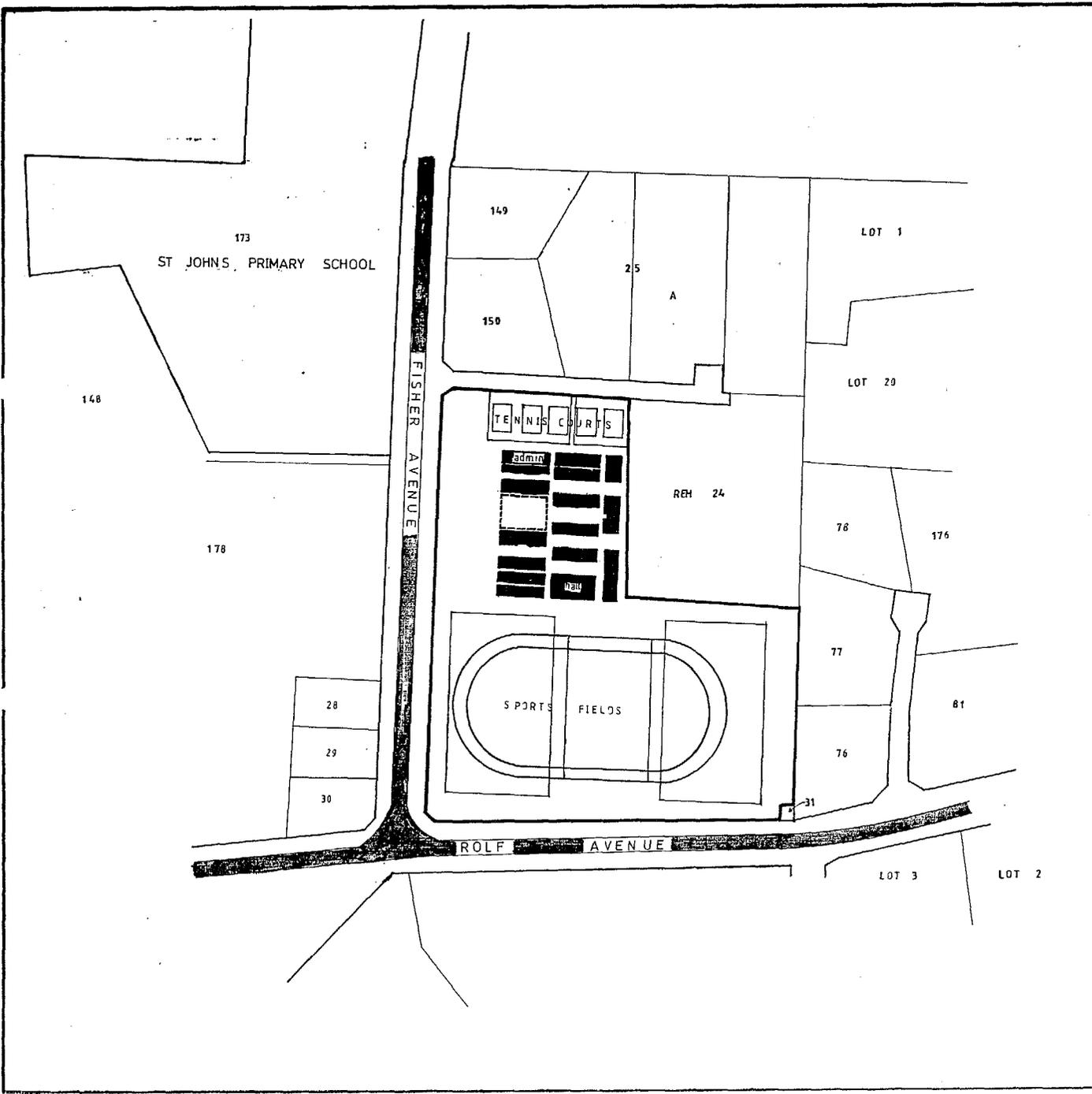
## LEGEND

SCHOOL BOUNDARY

BUILDINGS

QUADRANGLE

ROADS



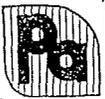
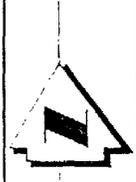
TOTAL SITE AREA 4.4Ha

DESIGNED	DRAWN	GM	DATE
			NOV 95

SCALE	CHECKED
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DRAWING NO	MAP
B167	4a

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5) Chaplin Secondary School

Chaplin was opened in 1901 in Gweru City Centre as a Government boarding school. Of all the 16 schools visited, it has the largest land area totalling 34 hectares. Its present enrolment is 1300 pupils and has 35 individual classrooms built in five (5) blocks). As a forms "Group A" school, Chaplin has diverse facilities which include a gymnasium, museum, visual aid rooms and a chapel.

The playing fields are vast and expansive comprising three soccer fields, one rugby field, a hockey field, three volley ball pitches and two tennis courts as shown on Drawing No. B 173. An additional field is presently not used and this is being leased to outsiders for soccer.

Overall, the land at Chaplin School is undertutilised due to the fact that there is over provision of sports fields. The school does not have "hot seating" and as a result facilities are not overstretched.

6) Fusi Primary School

The school is a prototype Government school situated in Luveve/Gwabalanda. It has a total of 3,4 hectares, although the school has recently acquired an adjacent 1,02 hectares for sports fields. Fusi has a total enrolment of 1638 and has the double session system (See illustration 1). There are a total of 22 classrooms built in eleven (11) blocks as shown on Drawing No. B174.

The school is located adjacent a high density residential area mainly on semi-detached dwellings, to the north east, and the western section of the school is a vacant bushy area.

Sports fields at the school comprise a soccer field with an athletics track, a netball pitch and a volleyball pitch - all of which are dusty with no visible sign of grass. This is a reflection of the inability of the school to maintain its facilities due to lack of funds.

7) Courtney Selous Primary School

In contrast to Fusi Primary, Courtney Selous is a former "Group A" primary school located in Greendale. It is built on a total area of 2,8 hectares and comprises of 22 classrooms and a hall. The school opened its doors in 1953 but due to the careful maintenance of its sports facilities, they are still in good order. The fields are characteristically grassy with a well maintained swimming pool and two clay tennis courts and one all weather tennis courts, as shown on Drawing No. B169.

Although the school is built on only 2,8 hectares, the layout of the buildings and sports fields have allowed the optimum utilisation of the land without overstressing it. However, the school has no "hot seating" with a total enrolment of 796 pupils.

# SCHOOL SITE SIZE STUDY USAID PROGRAMME

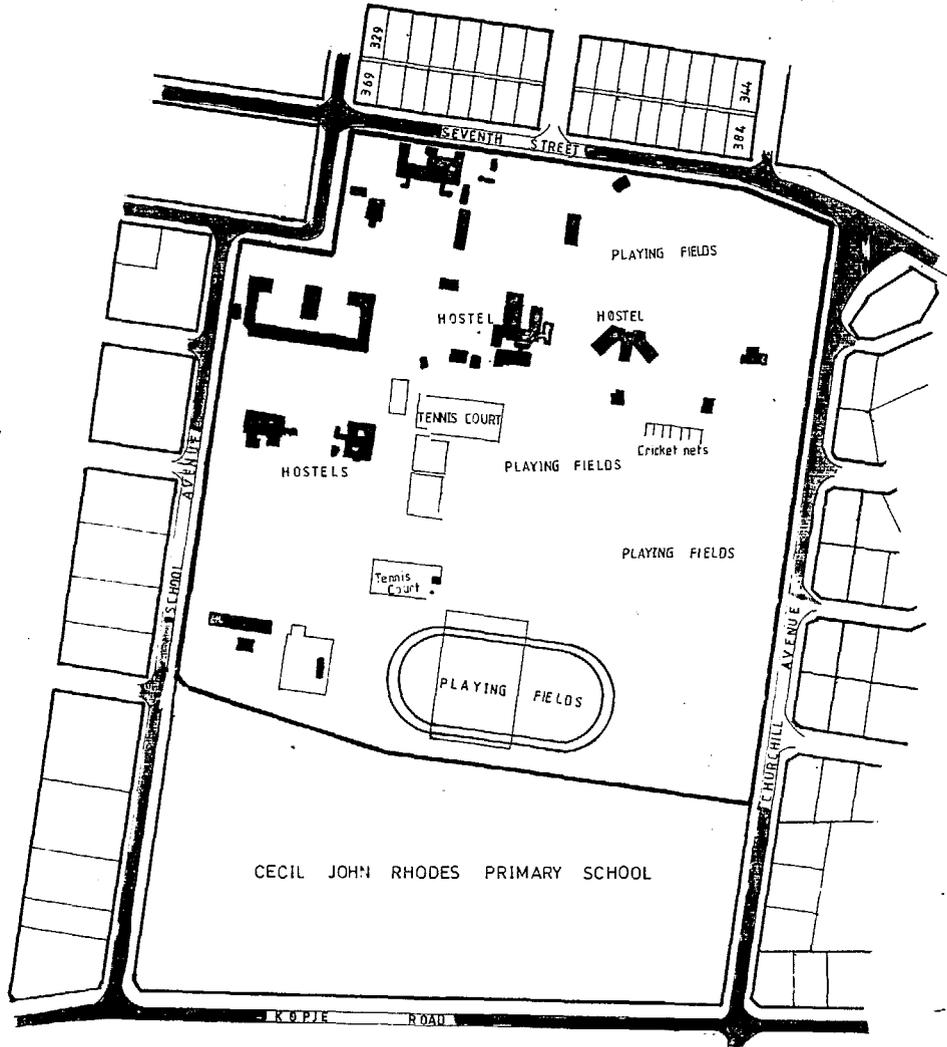
SITE PLAN - CHAPLIN SECONDARY

## LEGEND

SCHOOL BOUNDARY

BUILDINGS

ROADS



TOTAL SITE AREA 34 Ha

DESIGNED	DRAWN	GM	DATE
			NOV 95
SCALE		CHECKED	
1:5000			
DRAWING N° B173		MAP 4g	

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# SCHOOL SITE SIZE STUDY USAID PROGRAMME

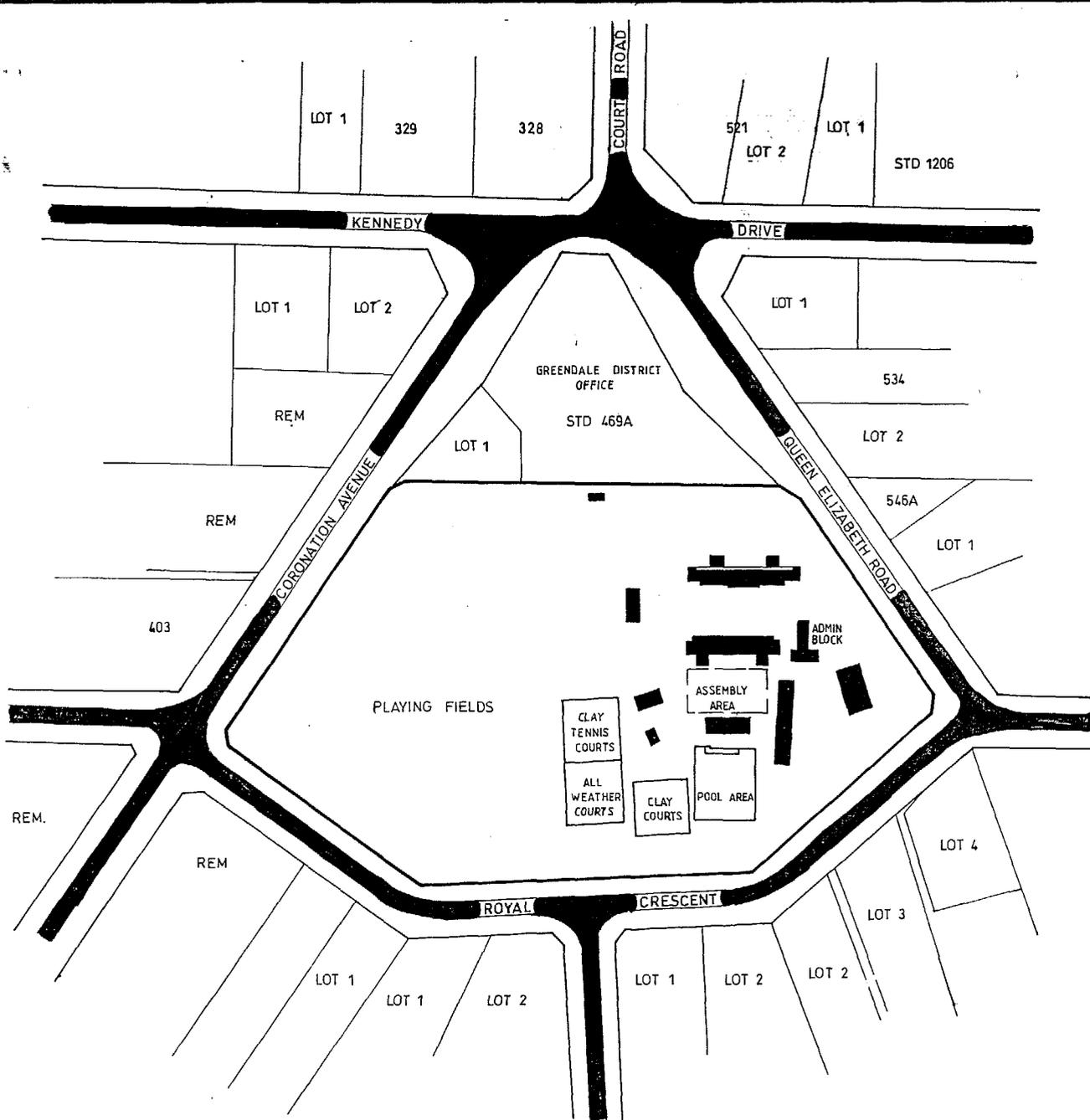
SITE PLAN - COURTENAY SELOUS P.S.

## LEGEND

Roads

Buildings

Planning boundary



TOTAL SITE AREA = 2.8Ha

DESIGNED	DRAWN	WS	DATE
			NOV 88

SCALE	1:2500	CHECKED
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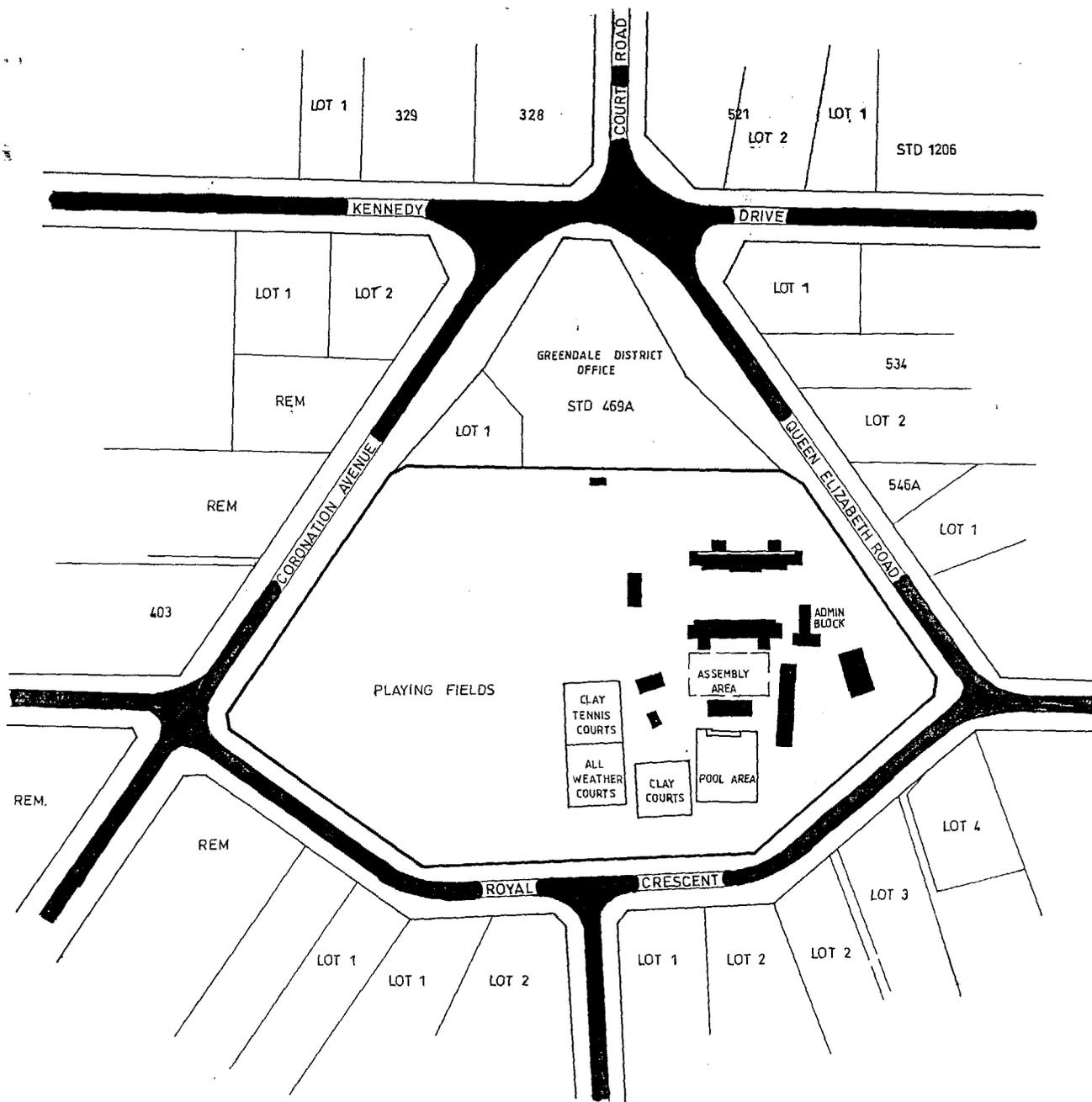
DRAWING N°	B169	MAP	4c
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 GREENWICH  
 SE18 7JF



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### SCHOOL SITE SIZE STUDY USAID PROGRAMME

SITE PLAN+ COURTENEY SELOUS P.S.

**LEGEND**

- Roads
- Buildings
- Planning boundary

TOTAL SITE AREA = 2.8Ha

DESIGNED	DRAWN	WS	DATE
SCALE	1:2500	CHECKED	NOV 98
DRAWING N°	B169	MAP	4c

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URBAN AND REGIONAL  
PLANNING CONSULTANTS  
100 BOY SCOUTS  
GREENFIELD  
HARARE



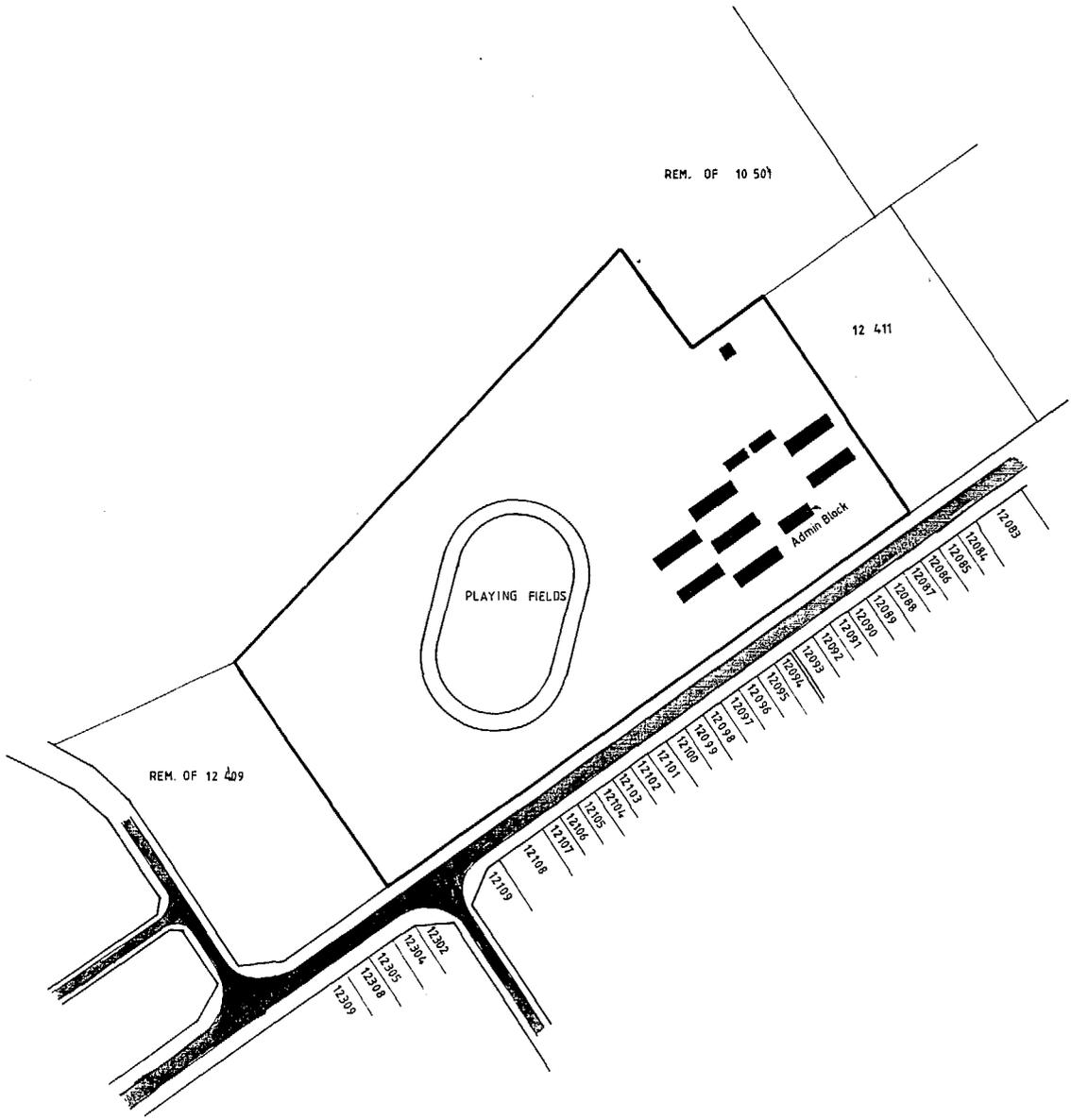
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8) Queen Elisabeth II Primary School

While this school is built on 6 hectares of land, the Headmaster admitted that some of the land is of no use to the school. However, this is mainly because the unwanted ground is rocky and is on a steep slope. The existing sports fields are not conducive for sports activities because of the numerous small rocks which litter the fields. There is only one soccer field, a netball pitch and a volleyball pitch.

Queen Elisabeth has a total enrolment of 1443 pupils and experiences "double sessioning" despite the fact that there are two primary schools in the vicinity. The school has 21 classrooms built in seven (7) blocks. (See Drawing No. B171).

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# SCHOOL SITE SIZE STUDY USAID PROGRAMME

## SITE PLAN - QUEEN ELIZABETH II

**LEGEND**

- Roads 
- Buildings 
- Planning boundary 

TOTAL SITE AREA = 6Ha

DESIGNED	DRAWN	WS	DATE
SCALE		CHECKED	
1:2 500			
DRAWING N° B171		MAP 4e	
PALMER ASSOCIATES P/L URBAN AND REGIONAL PLANNING CONSULTANTS 11 BUCKINGHAM GARDENS WINDYBUSH JOHANNESBURG 2001			
			

8b

## REFERENCES

- (1) Central Statistical Office, Census of Population, 1992
- (2) Department of Physical Planning : Proposed Sizes for Primary and Secondary School Sites," 1984.
- (3) Ministry of Education : Circular No. 73, "Standardisation of New Primary and Secondary Schools", 15 October 1991
- (4) \_\_\_\_\_ "Land Requirments For Primary Schools" : Pro Rata Land Allocation For Primary Schools by Enrolment," 11 January 1989
- (5) \_\_\_\_\_ "Minimum Sizes For Primary and Secondary School Sites in Urban Centres "Circular Minute No 33 of 1990.
- (6) Ministry of Public Construction and National Housing. Minutes of meeting held between mr Ahmed, Chief Architect, Education and Mr A Mua, Senior Architect, Education and Palmer Associates (Pvt) Ltd.
- (7) Plan Inc Zimbabwe : "Land Delivery for Low Cost Housing in Zimbabwe, Phase 1 : Report of Findings", 1989.
- (8) Questionnaire Surveys for Headmaster and Teachers and interviews with M.O.E. officials.
- (9) United States Agency for International Development : "Study of Constraints in the Housing and Infrastructure Delivery System, Report of Findings," 1992.