

**MINISTRY OF EDUCATION SCIENCE AND  
TECHNOLOGY**



**REPUBLIC OF KENYA**

**Kenya Education Sector  
Support Programme  
(KESSP)  
2005-2010**

**Strategic Plan for the  
Development of  
School Infrastructure**

**Draft for Approval  
February 2005**

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**Ministry of Education Science and Technology**



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## Executive Summary

1. The Government of Kenya (GoK) has made a priority of reaching the goal of Universal Primary Education (UPE) by 2005. During 2003 and 2004, following the introduction of Free Primary Education (FPE) and the abolition of fees and levies at the primary school level, there was a significant increase in primary school enrolment. Where enrolments have increased this has put additional pressure on the existing infrastructure, which was already inadequate in many cases.
2. In order to build on the success of the FPE reform, the Ministry of Education, Science and Technology (MoEST) undertook to design a more comprehensive sector wide development programme. Since June 2004, MoEST has been working with a wide range of stakeholders in the education sector to develop this programme, which is now known as the Kenya Education Sector Support Programme (KESSP). A significant part of the programme involves upgrading of school infrastructure.
3. The overall aim of the KESSP is to form a common basis on which GoK, development partners and a wide range of stakeholders can jointly support the education sector. Focussing on one 'road map' for the development of the sector will significantly reduce duplication and inefficient use of resources. This Strategic Plan aims to set out the steps needed to develop a common system for infrastructure provision, which ensures that investments in school expansion and upgrading contribute as much as possible to improving learning outcomes.
4. The purpose of the infrastructure Strategic Plan is to '*Establish a framework for the programme design for school infrastructure provision as part of the KESSP, which is agreed between GoK, development partners and other stakeholders*'. The scope of the Strategic Plan is wide-ranging and designed to take a holistic view of school infrastructure provision, rather than just the construction of physical facilities. It therefore includes references to social development, environmental, health and economic issues, as well as more standard construction issues such as procurement, building standards and maintenance. It also aims to address issues relating to infrastructure that are included in other investment programmes within the KESSP, particularly in relation to Early Childhood Development and Education (ECDE), Non Formal Education (NFE) and initiatives in Arid and Semi-Arid Lands (ASAL) areas.
5. The four critical issues relating to primary school infrastructure that have been identified are:
  - There is a major backlog of infrastructure provision and a shortage of permanent classrooms;
  - The existing school infrastructure, including permanent and semi-permanent classrooms, water and sanitation facilities and other essential items are generally in an extremely poor condition due to lack of investment, poor construction standards and inadequate maintenance. This results in learning environments that are less than suitable;
  - There is a shortage of primary schools serving populations in isolated rural areas, as well as those living in low-income areas within large urban centres, and
  - Needs and priorities within individual schools vary. Many existing school infrastructures require renovation while other schools need provision of new classrooms, water, sanitation and other facilities.
6. To address these issues MoEST has developed a Primary School Infrastructure Investment Programme as part of the KESSP. Under this programme there are two sub programmes, which aim to improve access to primary education in Kenya over the next five years. These are the:
  - School Improvement Grants Programme (to assist schools in upgrading their own infrastructure in accordance with their long term school development plans and to address chronic backlogs of infrastructure provision in selected schools);

- New Primary School Construction Programme (to construct new schools in poorly served areas).

A Capacity Building Programme and a Monitoring and Evaluation Programme will support these programmes.

7. In order to provide the evidence base for the design of the investment programme five key studies have been developed, which are summarised below.

- *Data Collection and Analysis*: this will collect, verify and analyse existing school and socio-economic data which will form the basis for identifying and planning priority areas for investment, monitoring programme progress and for management of assets. It will develop the most appropriate way for collating, storing and analysing information relevant to school construction and maintenance planning at both district and national level
- *Procurement Methods Assessment*: this will consist of a comparison and analysis of the strengths and weaknesses of selected national and regional procurement systems and make recommendations for this programme. It will ensure that economic, legal and institutional arrangements are developed and that the risks associated with them are addressed.
- *Strategic Social and Environmental Impact Assessment*: this will assess the environmental impact of the investment programme and make specific environmental recommendations to inform the programme design. It will ensure that the programme design maximises potential for social development and improving learning outcomes and that social issues relating to school construction are adequately addressed.
- *Review of Standards and Development of Maintenance Strategy*: this will produce a set of appropriate national and regional standards to promote cost effective and easily maintainable school facilities and make proposals for improving maintenance in primary schools.
- *School Water, Sanitation and Hygiene Promotion Assessment*: this will consider the most efficient way of ensuring coordination of the school health and the infrastructure investment programmes and ensure that hygiene promotion is properly integrated with water and sanitation hardware provision.

These key studies are designed to ensure that the investment programme is designed with reference to the prevailing situation in Kenya and national and international best practice, and that investments in infrastructure make the maximum contribution possible to improving learning outcomes.

8. In order to produce the tools needed to operationalise the investment programme four design activities will need to be completed. They will be informed by the findings and recommendations of the key studies.

- *District Prioritisation*: agreement between stakeholders on the districts to be included in the investment programme, based on evidence presented and the range of options developed in the strategic social assessment.
- *Production of Procedures and Guidelines*: production of approved procedures and guidelines to operationalise the infrastructure programmes.
- *Production of Revised Standards, Designs, Contract Documents and Costings*: updating of drawings, contract documentation and costs in line with recommendations from the key studies.
- *Monitoring and Evaluation Design*: design of appropriate targets and progress and impact monitoring and evaluation systems.

9. The activities developed in the Strategic Plan have been packaged into discreet sections of work so that they can be undertaken in a manageable way and in some cases simultaneously, in order to reduce the design programme timescale. The amount of work to be undertaken in the design stage should not be underestimated, and there is need for significant inputs from MoEST, as well as outside consultants to ensure that the programme is designed within the proposed timescale. It is anticipated that the design of the programme will take approximately 6 months (March 2005 – September 2005) to complete if it is adequately managed and resourced.
10. Given the volume of work that needs to be undertaken and the links with other investment programmes and initiatives that are required to be developed there will need to be a project management team in place during the design stage. Preferably, members of this team will remain in place as the implementation stage gets underway, so that institutional memory can be retained.
11. Work activities will be resourced by a combination of MoEST officers and outside consultants, under the direction of the project management team. Specialist studies, such as the Strategic Environmental and Social Impact Assessment, and assessment of economic, financial and legal issues will be undertaken, in the main, using consultancy inputs, whilst other items of work, such as the Review of Standards would be led by MoEST, assisted by specific consultancy inputs. During the design and implementation process it is proposed to have a full or part time advisor, reporting to the project manager, to provide strategic advice and direction.
12. This version of the Strategic Plan is a draft For Approval. It is proposed that it should be discussed at the forthcoming Director's Retreat with a view to reaching agreement on its contents by the end of February 2005. The plan would then be updated if required and completed by the end of the 4 March 2005. The programme design process, based on the agreed plan could then commence.

## 1. INTRODUCTION

### 1.1 Background

The Government of Kenya (GoK) has made a priority of reaching the goal of Universal Primary Education (UPE) by 2005. During 2003 and 2004, following the introduction Free Primary Education (FPE) and the abolition of fees and levies at the primary school level, there was a significant increase in primary school enrolment. Where enrolments have increased this has put additional pressure on the existing infrastructure, which is already inadequate in many cases.

In order to build on the success of the FPE reform, which has been strongly supported by a number of development partners, the Ministry of Education, Science and Technology (MoEST) undertook to design a more comprehensive sector wide development programme. Since June 2004, the MoEST has been working with a wide range of stakeholders in the education sector to develop this programme, which is now known as the Kenya Education Sector Support Programme (KESSP). A significant part of the programme involves the improvement of primary school infrastructure.

The overall aim of the KESSP is to form a common basis on which GoK, MoEST, individuals, communities, the private sector, non governmental and civil society organisations, development partners and other stakeholders can jointly support the education sector for the period financial years 2005 to 2010. Focussing on one 'road map' for the development of the education sector will significantly reduce duplication and inefficient use of resources which have historically occurred when projects and programmes have been implemented without a clear long term sector wide development strategy. This strategic plan aims to set out how to design a common system for provision of infrastructure, and to ensure that that provision is implemented in such a way as to make the maximum contribution possible to improving learning outcomes.

### 1.2 Government of Kenya Policies and Targets for School Infrastructure Provision

Education plays an important role in human development through the process of empowering people to improve their well being and participate actively in nation building.

Providing education opportunities to all Kenya's children is central to GoK's Plan for Economic Recovery and Poverty Reduction Strategy (2001-4), which states that GoK's highest priority in the medium and long term will be to ensure affordable and equitable access to education through several strategies including "*collaborating with private sector, NGO's and development partners to provide additional educational facilities*". Previous reports and commissions, such the Kamunge Report (1988), the Sessional Paper No 6 and the KOECH Report (1999) have all placed importance on the provision of school infrastructure.

The present GoK's emphasis on improving access came as a result of challenges arising from the cost-sharing policy, which had been in place since the 1980s and required households to contribute towards the education of their children. The result of this policy was poor access, low enrolment and high drop out rates, particularly in poor and marginalized areas. The 1994 welfare monitoring survey found that 50% of the 6 year olds, 33% of 7 year olds and 25% of 8 year olds were out of school.

To address these issues the NARC Government abolished cost sharing, and as a deliberate policy to promote Universal Primary Schooling, it now provides Free Primary Education (FPE) capital grants for the costs of teaching and learning materials and provision of support services. However construction and maintenance of the physical facilities still remains the responsibility of communities and parents under FPE.

In the yet unpublished Sessional Paper entitled A Policy Framework for Education, Training and Research (October 2004), MoEST has acknowledged that primary education still continues to experience many challenges relating to access and equity, including

overstretched facilities, overcrowding, poor learning environments and lack of sanitation. To respond to this challenge, the GoK will continue to develop strategies to enhance participation of children in special circumstances, including orphans, children in urban slums, ASALs and pockets of poverty.

To implement this policy the Government will employ the strategy of continuing to work with partners and other line ministries to improve the school learning environment and accessibility in infrastructure. It has as one of its main targets *"to construct and renovate physical facilities and equipment in public learning institutions in disadvantaged areas, particularly in ASAL, urban slums and pockets of poverty"*. The primary school construction programme will contribute to meeting the challenges set out in the Sessional Paper.

Also central to GoK's poverty reduction strategy are achievement of the Millennium Development Goals. The KESSP, including the Primary School Infrastructure Programme will obviously make its major contribution to *Goal 2 – Achieve Universal Primary Education*. However, the infrastructure programme, if developed and implemented in a holistic way has potential to contribute more widely to progress towards other goals, namely:

*Goal 4 - Reduce Child Mortality*, by improved school health programmes, including improved water, sanitation and hygiene promotion for young children and ensuring health messages are developed so they are transferable to the household situation;

*Goal 6 - Combat HIV/Aids, Malaria and other Diseases*, by improved school health programmes, including improved water, sanitation and hygiene promotion, adequate school design and detailing (e.g. including mosquito screens in boarding houses, proper design of drainage structures) and an HIV/Aids impact assessment for the construction programme, and

*Goal 7 - Ensuring Environmental Sustainability*, by ensuring proper environmental assessment of the programme, increasing coverage of improved water supplies and sanitation and improving schooling opportunities for slum dwellers.

As gender plays an important cross cutting role in GoK policy the MDGs it is will be important that infrastructure interventions are made with gender sensitivity in mind, especially in relation to health, hygiene promotion and sanitation provision. Infrastructure will also be designed to encourage access for those with special needs.

This plan attempts to ensure that the policies and targets above are fully incorporated into the infrastructure programme design stage. Further work will be required during the design stage to develop more specific targets relating to infrastructure provision based on the Sessional Paper and the MDGs, which will create a focus for GoK, development partners and other stakeholders as the programme is funded and implemented. The design will specifically need to ensure that resources are targeted to priority districts to assist communities in meeting their responsibilities for infrastructure construction and maintenance under the FPE programme.

### **1.3 Development of the KESSP**

The KESSP has been developed around six thematic areas, which were identified by MoEST as essential in order to improve access to and quality of education in Kenya. Out of the thematic areas 22 investment programmes have been identified, which will represent the major areas of focus for MoEST for the period 2005-2010. It is proposed that for implementation, each investment programme is assigned to its relevant division within MoEST, and is run by a dedicated management unit.

### **1.4 Infrastructure and the Proposed Investment Programmes**

Of the 22 investment programmes proposed one is dedicated solely to primary school infrastructure and another five contain infrastructure provision as sub-programmes. A further seven need to be coordinated or integrated with the infrastructure programmes or support them in some way.

#### **Investment Programmes Solely Related to Infrastructure**

- Primary School Infrastructure Investment programme.



**Investment Programmes Containing Infrastructure Provision as a Sub Programme**

- Secondary School Education Investment Programme
- Early Childhood Development and Education (ECDE) Investment Programme
- Non Formal Education (NFE) Investment Programme
- Expanding educational opportunities for children in ASAL areas Investment Programme
- TIVET Investment Programme

**Investment Programmes requiring Integration or Coordination with Infrastructure Programmes**

- Special Needs Investment Programme
- HIV/AIDS Investment Programme
- School Health and Feeding Investment programme
- Educational Management Capacity Building Investment Programme
- ITC and Education Investment Programme
- KESSP Coordination and Impact Research Investment programme
- School Performance and Standards Investment Programme

The main focus of the Strategic Plan on how to operationalise the Primary School Infrastructure Investment Programme. However, it also aims to ensure that the programme design integrates infrastructure provision throughout the investment programmes, and develops common guidelines and procedures to support this, particularly with regard to primary education, ECDE, NFE and the primary school component of the ASAL Areas Investment Programme. Harmonising prioritisation of districts, particularly between the primary school and EDEC programmes will be important and will need further work during the design stage.

In addition, the procedures and guidelines produced will be designed to be used in schools that do not receive financial assistance under the investment programme, if this is applicable. For example, if a set of guidelines relating to the use of the existing general purpose account is developed, these will be applicable and of use to all primary schools.

In the secondary sector the existing method of infrastructure provision, which is through the school boards of governors is well established. However, where the work arising from this plan can usefully address identified problems in the secondary sector (for example on building standards), these can be included as required.

## **1.5 The Existing Situation**

### **1.5.1 The Need for Infrastructure**

The need for improved school infrastructure is not in doubt. There is a definite need expressed from those working in the sector for the renovation of existing and provision of new primary school infrastructure. In some schools, where children are learning outdoors, classroom construction is an obvious priority. However, refurbishment of existing building stock, provision of boarding and teacher's facilities, water and sanitation, sports facilities, security fencing and so on are often identified as equally important by heads, school committees and children.

The exact backlog of infrastructure is not well defined, and although ongoing work on the school mapping exercise and data from the 2003 School Census are likely to be very useful in this regard, further analysis will be needed during the design and implementation stages. What is certain is that existing infrastructure is generally in an extremely poor condition, due to lack of investment, poor construction standards and inadequate maintenance and has been put under increasing pressure since the introduction of FPE. This has led to poor conditions

and overcrowding and in learning environments that are less than suitable, especially in poorer districts.

In addition, there is a lack of primary schools serving populations in isolated rural areas, those living in low-income areas within large urban centres, and in other pockets of poverty with large primary school enrolments.

### **1.5.2 Existing Investment Programmes**

There has been limited GoK investment in primary school infrastructure over the past years and communities and parents have been responsible for and have made investments in school infrastructure. Development partners, churches, NGOs and other organisations and individuals, have made other investments, often in conjunction with communities. There are many successful strategies currently ongoing to provide cost effective school infrastructure from which the programme design can learn.

There are a number of active GoK projects, which either wholly or partly support primary school construction, particularly in the ASAL areas. These include the Infrastructure Support for North Eastern Province Primary Schools (GoK/USAID funded), Basic Education Project (GoK/OPEC funded), Arid Lands Resource Management Project (GoK/World Bank funded) and the Community Development Trust Fund (EU funded) projects. Collaboration and coordination with these initiatives, especially in the ASAL areas is likely to be crucial to the smooth implementation of this programme. The Local Authority Trust Fund (LATF) and the Constituency Development Fund (CDF) both provide funding to a wide range of community based projects including school construction. All schools also receive an existing capitation grant for school improvements.

## **1.6 The Purpose of Infrastructure Strategic Plan**

The purpose of the infrastructure strategic plan is to:

- Establish a framework for the programme design for school infrastructure provision as part of the KESSP, which is agreed between GoK, development partners and other stakeholders.

## **1.7 The Objectives of the Infrastructure Strategic Plan**

The objectives of the infrastructure strategic plan are to:

- Develop a strategy to design a common set of guidelines and procedures for school infrastructure provision, which are based on best available national and regional experience and evidence, maximise the potential to improve learning outcomes, and meet GoK and development partner requirements;
- Identify the key issues related to infrastructure provision and to set out how they should be addressed in the programme design;
- Ensure that infrastructure provision throughout the investment programmes is coordinated;
- Identify and schedule key tasks and activities needed for the programme design;
- Identify any medium and long term technical support to MoEST to support the programme design or implementation, and
- To ensure wide stakeholder participation in the plan preparation.

## 1.8 The Scope of the Strategic Plan

The scope of the strategic plan is wide-ranging and designed to take a holistic view of school infrastructure provision, rather than just the construction of physical facilities. It therefore includes references to social development, environmental, health and economic issues, as well as more standard issues such as procurement, building standards and maintenance.

## 1.9 Infrastructure and Education Outcomes - Making the Links

A wide body of research reveals that physical facilities are a fundamentally important factor in both school attendance and achievement. Whilst school buildings and furniture do not teach (parents, teachers, textbooks and supplementary learning material do), soundly built, well maintained and adequately furnished and equipped buildings have a profound positive effect on both participation and achievement rates<sup>1</sup>.

In addition, infrastructure provision can have a greater effect on enrolment and retention rates and quality of education if its design and implementation recognises the links with the wider school environment, and its potential role in empowering schools to take responsibility for their planning and expenditure.

The strategic plan therefore tries to link infrastructure with the wider school environment by:

- Including school development planning as an integral part of infrastructure provision to encourage local participation, to ensure that local priorities and needs are adequately addressed and encourage planning of the whole school environment;
- Ensuring that the provision of adequate water and sanitation facilities are combined with hygiene education to promote better child and teacher health and reduce days lost at school because of illness;
- Designing to promote social inclusion, for example providing adequate sanitation facilities for girls and boys; providing facilities for the physically disabled and others with special needs, incorporating suitable recreation facilities for girls as well as boys; designing for ethnic and cultural considerations (prayers, washing, privacy etc) and so on;
- Ensuring that classrooms and school grounds are designed to promote an environment that is pleasant and conducive to learning (for example considering classroom detailing, school grounds design, aesthetic design, ensuring adequate lighting, ventilation, acoustics ensuring that school furniture allows flexibility in teaching approaches and so on);
- Ensuring environmental issues are adequately addressed;
- Improving security and public safety by design, and
- Developing approaches to encourage routine planned maintenance to ensure the most cost effective use of school resources and improve the learning environment over the long term.

## 1.10 School Infrastructure – Recognising the Limitations

While infrastructure is necessary, it is not on its own sufficient, in many areas, to improve access to schools. For example, in ASAL areas a pastoral lifestyle and poverty, coupled with food and water scarcity, continue to be major impediments to education, and the ongoing school-feeding programme has a major impact on numbers of children in school. Elsewhere child labour, traditional cultural and religious practices, lack of parental concern for schooling and so on are contributing factors. In these areas innovative strategies and programmes and alternative education delivery systems are required. The strategic plan promotes infrastructure as a supporting role to these initiatives, highlighting the links between infrastructure planning, procurement, design and maintenance and enrolment and retention.

<sup>1</sup> Physical Facilities for Education – What planners Need to Know by (John Benyon, 1997), gives a good overview of research work in this area

## 1.11 Communication, Consultation and Coordination

### 1.11.1 Development of the Strategic Plan and Programme Design Phase

During the preparation of the strategic plan much effort has gone into communication, consultation and coordination with relevant parties make them aware of its existence and content, and to allow comments.

The following have been involved in the preparation of the strategic plan:

- Other investment programmes contained in the KESSP;
- GoK line ministries including Ministry of Health, Ministry of Water, and Ministry of Public Works;
- Development partners and International Organisations, and
- Civil Society Organisations.

A draft of the strategic plan was discussed at the Pre-Appraisal Mission in January 2005.

During the programme design stage further communication, consultation and coordination at all levels is going to be crucial to its success.

### 1.11.2 Implementation Phase

During the implementation phase communication will also be key, as most of the implementation and support to the programme will be at the district and school level. They will need to be brought on board and buy into the programme as early as possible in the process.

As the implementation progresses there will be wider communication issues arising such as sharing information and raising awareness of the successes and failures of the programme with both programme partners and external players.

As this is a key issue a communication strategy will be developed during the design stage.

## 1.12 Summary of Proposed Programme Phases

In order to visualise better the steps required in designing and implementing the school infrastructure programme a five stage process has been developed. The stages are briefly described below and shown graphically in **Figure 1**.

### 1.12.1 Strategic Plan Preparation Phase

In this stage the strategic plan, which sets out an agreed basis for the design of the infrastructure programme, will be completed. This phase ends (provisionally at the end of February 2005) with the agreement (between MoEST and development partners planning to make major investments in infrastructure) of the plan.

### 1.12.2 Programme Design Phase

In this phase all the work items agreed in the strategic plan will be undertaken, which will lead to the completion of all the necessary standards, drawings, procedures, guidelines, prioritisation criteria and so on needed for implementation of the investment programme. This phase is anticipated to run from March to end September 2005.

### **1.12.3 Selected Implementation and Assessment**

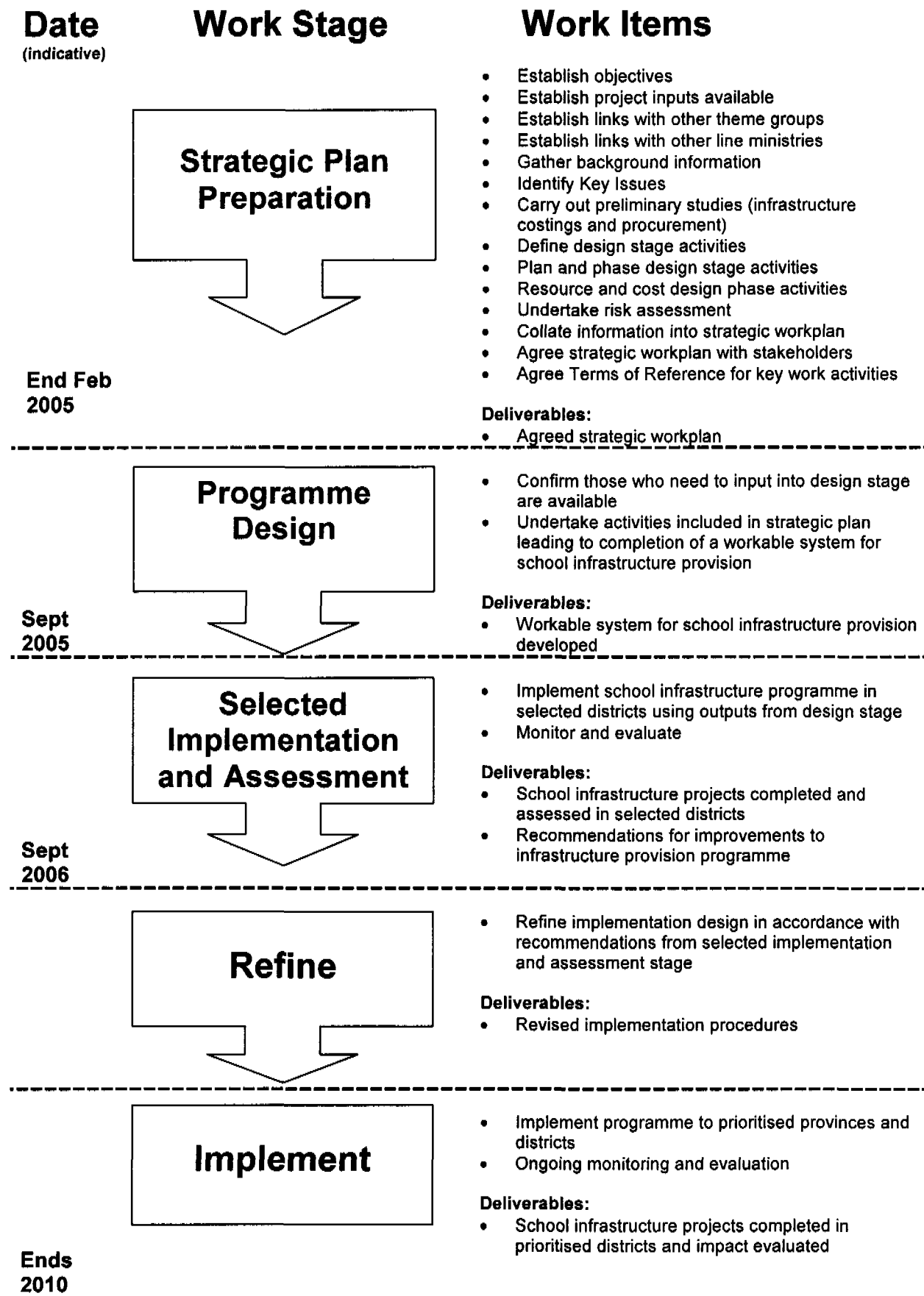
In this phase implementation of the infrastructure investment programme (and other investment programs involving infrastructure provision) will commence in selected districts. This stage will be characterised by a strong monitoring and evaluation component where the effectiveness of the new procedures can be assessed. This phase is anticipated to run from late 2005 to late 2006.

### **1.12.4 Refine**

In this phase any modifications required to the process as originally designed will be made prior to implementation in a larger number of districts. Implementation of the investment plan will not stop while this stage is undertaken.

### **1.12.5 Implement**

In this phase the implementation of the infrastructure investment programme (and other investment programs involving infrastructure provision) will be rolled out in all prioritised districts. This phase is anticipated to run from late 2006 until the end of the KESSP plan period.



**Figure 1**

**Outline of Design and Implementation Phases  
for the Primary School Investment Programme**

## 2. PROPOSED INVESTMENT PROGRAMMES

### 2.1 Summary Of Investment Proposals

As part of the ongoing development of the KESSP, the Primary School Infrastructure Investment Programme has been developed to address the current inadequacies in infrastructure provision. Under this programme there are two sub programmes, which aim to improve access to primary education in Kenya over the next five years. These are the:

- *School Improvement Grants Programme* (to assist schools in upgrading their own infrastructure in accordance with their long term school development plans and to address chronic backlogs of infrastructure provision in selected schools);
- *New Primary School Construction Programme* (to construct new schools in poorly served areas).

A *Capacity Building Programme* and a *Monitoring and Evaluation Programme* will support these programmes.

### 2.2 School Improvement Grants Programme

The immediate priority for infrastructure investment is in the expansion and upgrading of existing schools. Needs vary considerably between schools – in some there may be a major backlog of classroom construction with many classes learning outside, in others classrooms may be adequate in number but need major refurbishment, in others water supply may be a priority, and so on. Some schools have chronic deficiencies in infrastructure. The design will ensure, through school development planning that the individual priorities of each school are met.

The *School Improvement Grants Programme* will provide a grant for school improvement of between Ks 100,000 and 200,000 per year (depending on the size of the school) for 5 years to primary schools in poor districts. The benefiting districts will be selected using clear and transparent criteria. The grant will be paid directly to the school and can be used to improve existing infrastructure such as classrooms, toilets, storage rooms, fences, water supply, furniture etc, and to undertake planned operation and maintenance. Running the grant over 5 years will encourage forward planning. All expenditure from the grant will need to be based on the school development plan. Communities will be expected to make contributions to augment the grant money. It is proposed that for ease of administration and operation, and given that nearly all schools need to improve their infrastructure, every primary school within a prioritised district would receive the basic school improvement grant.

In addition to the basic grant a smaller number of schools in the prioritised districts, that have chronic deficiencies in their infrastructure provision, will be assisted with additional grants, either as a lump sum or phased over a number of years. Schools within prioritised districts will be selected based on clear and transparent criteria. It is expected that most of the additional grant money will be used for classroom construction in line with the school development plan.

The present budget for this sub-programme is KSh. 4,640m (US\$55m) over 5 years. This will provide the basic grant to approximately 4,000 schools and provide additional grants to 900 of them, allowing construction of approximately 4,500 classrooms and 9,000 latrines.

The details of how this system will be operationalised will require further work in the programme design stage.

#### **Activities Required For Design Stage**

There are a large number of activities required to ensure that the programme is designed on the best available evidence and national and regional best practice, and ensure that the money spent contributes as effectively as possible to improving learning outcomes. The activities are summarised below:

- Studies to assess and make recommendations on cost and budgeting; most appropriate procurement practices; economic and institutional issues; building standards; environmental and social issues and school health, particularly relating to water, sanitation and hygiene promotion;
- Production of all the relevant drawings, designs, specifications, procedures and guidelines and capacity building initiatives to support the programmes, based on recommendations of the assessments above;
- Rationalisation of the new grant programme with existing monies received by schools for upgrading and maintenance;
- Design of monitoring and evaluation system to assess both progress and impact of the programme;
- Development of clear and transparent guidelines for the prioritisation of districts and schools within districts.

These issues are explored in more depth in **Section 3**.

### 2.3 New Primary School Construction Programme

Although the immediate priority is for refurbishment and expansion of existing schools, there is an identified need for new primary school in areas where there is excessive overcrowding or inadequate coverage. The *New Primary School Construction Programme* will address this.

The 2004 School Mapping data, when fully analysed and processed will be a useful tool in identifying at the district and municipal level where need is greatest. However, it will be important that the programme responds to demand from communities. Traditionally, it has been communities who have identified the need for new schools, found suitable land and have been responsible for their construction - any government backed programme needs to ensure that this process is fully integrated into the procedures developed to ensure ownership and sustainability.

The new school construction programme is proposed to start during the financial year 2006/7, allowing 2005/2006 for a data analysis and planning phase. This will give enough time for developing the process of new school planning and for lessons from the grants programme to inform the process. In reality, many of the procedures and systems for new construction will be the same as those for expansion and upgrading of existing schools. Additional guidance may be required relating to overall school planning and there is likely to be scope for a number of different modalities for supporting new schools, especially in urban areas.

The present budget for this sub-programme is KSh. 536m (US\$6.5m) over 5 years, and allows for construction of 300 new schools.

#### Activities Required For Design Stage

As there is a planning phase scheduled for 2005/6, activities that relate specifically to new schools during the initial programme design stage will be limited. However most guidelines, standard designs and procedures developed will be applicable to the construction of new schools. Some supplementary guidance that deals specifically with issues relating to new schools may need to be developed during 2005/6.

### 2.4 Capacity Building Programme

One of the major risks to both the programme is that there will not be sufficient capacity to plan, implement, supervise and monitor. In particular, adequate supervision and support to schools will be of crucial importance. This programme will build capacity at each level to ensure that stakeholders have adequate skills and resources at their disposal.

Capacity building will be required in the following areas:

- At central level in the school infrastructure management unit, to ensure the necessary manpower, skills and support is available to undertake progress monitoring of the overall



construction programme, and to be able to give necessary strategic support and advice as required;

- At district level to raise awareness of the construction programme and to understand, explain and implement new procedures and guidelines. To ensure enough capacity to effectively manage and supervise the construction process and to provide support and advice as required. MoPW and MoH staff, as well as MoEST staff will require capacity building;
- At school level to ensure heads, school committees and parent's associations have the right skills to implement new procedures and guidelines and to effectively manage their financial resources, therefore ensuring value for money from infrastructure investments, and
- With small and medium sized contractors and materials suppliers to assist them improving their management skills and quality.

## 2.5 Monitoring and Evaluation Programme

Progress, quality and impact monitoring of the school investment programme will be another key area to ensure that value for money is achieved.

Monitoring and evaluation will be required in the following areas:

- At the central level for overall programme coordination, monitoring and control, and providing advice and backstopping to districts level management units; reporting project progress against agreed targets;
- At the central level to undertake monitoring of the impact of the infrastructure programme on learning outcomes and undertake specific research where required;
- At the district level to provide coordination, monitoring and control of the programme within the district. To assist and advise schools on infrastructural issues and to supervise the construction process. Supervision is likely to be undertaken, at least in part by the private sector in order to ensure adequate capacity to ensure adequate quality standards, and
- At the school level to ensure heads, school committees and parent's associations monitor funds and construction quality of small works adequately.

### 3. KEY ISSUES TO BE ADDRESSED IN THE PROGRAMME DESIGN STAGE

The following are the key issues relating to infrastructure provision that have been identified.

Each paragraph gives a brief summary of the issue, and outlines the activities that are required during the programme design stage to address it or incorporate it into the design. The activities identified in this section form the basis for the key studies and design packages presented in Section 4.

#### 3.1 Data Collection and Analysis

##### Issues

Collection, analysis and use of reliable data will be of crucial importance in both identifying and planning priority areas for investment, monitoring programme progress and for management of assets. The ongoing school mapping exercise, which has mapped all the primary schools within Kenya onto a geographical information system (GIS), could form the basis of a powerful tool to help undertake these functions if combined with other information, such as poverty data. With or without GIS, it will be important that the infrastructure programme is based on accurate and well-presented data. Typical data that needs to be collected prior to and during construction will be: location of existing schools; school size and distribution, poverty indicators, enrolment by gender and existing infrastructure initiatives. This information can then be analysed to ensure effective targeting of resources to most needy districts; prediction of future needs; mapping of schools assisted under the programme and how they use funds; mapping construction quality and costs within and between districts and to predict future investment and maintenance costs and requirements.

##### Activities Required in the Programme Design Stage

The following main tasks are required during the programme design stage to develop the necessary information database for planning and monitoring the programme:

- Develop most appropriate way for collating and storing and analysing relevant information at both district and national level, including assessment of the feasibility of expanding the existing GIS based school mapping system to form the basis of the school construction programme database and;
- Collection, verification and analysis existing data to provide accurate and well presented planning information

#### 3.2 District and School Prioritisation

##### Issues

Although the project design aims to develop a common system of procurement that can be used anywhere in Kenya, in a situation where available resources are not able to meet demand it will be necessary to develop simple and clear criteria that both prioritise the districts to be targeted, and to phase them over the plan period.

MoEST has undertaken analysis of data from the Geographic Dimensions of Well-being in Kenya report and key education and poverty indicators to start to inform this process, and has made an initial assessment of the geographical areas are in the greatest need. District prioritisation is and will continue to be a problematic area, which will need further discussion and agreement during the programme design.

Additionally, schools within districts to receive additional assistance under the school improvement grants programme will need to be prioritised.

##### Activities for the Programme Design Stage

The following activities will be required during the programme design stage to build on the substantial amount of work done on prioritisation and targeting to date:

- Pulling of all existing prioritisation data into one report which presents the data graphically as well as in tabular form, and gives some background to the criteria used;
- Social assessment to develop options (in terms of geographical targeting) on how limited resources should be spent to provide best value in terms of improving learning outcomes;
- Agreement amongst stakeholders on the reasoning behind the district prioritisation and after that, the prioritisation criteria within districts, and
- Agreement on the phasing of districts over the 5-year length of the plan (not all districts and locations will be able to be targeted from Year 1).

### 3.3 Maintenance

#### Issues

The effect of maintenance of educational facilities has an impact on educational outputs since decrepit and inadequate facilities make schooling a less attractive product to children, parents and teachers. Additionally, not maintaining schools does not make economic sense. When considering lifecycle costs, buildings with adequate, routine maintenance last longer and have lower costs than those that do not.

Communities are best placed to manage their physical assets, and in Kenya this is where the responsibility lies. However, maintenance has been poorly addressed in the past. Although lack of money is always stated as the reason for poor maintenance (and it of course plays its part), other issues such as low prioritisation against other pressing needs, the lack of maintenance schedules, poor initial construction, institutional weakness, unclear responsibilities and lack of ownership by local communities are just as important. It is imperative that asset management issues are incorporated into the programme design and budgets. On average, adequate maintenance of a well-constructed building will cost between 1 and 2% of the capital cost per annum. In fact, an investment in maintenance is the most cost effective investment that can be made in infrastructure provision.<sup>2</sup>

#### Activities Required in the Programme Design Stage

The following main tasks are required during the programme design stage to encourage planned routine maintenance:

- Assessment of options for a community based asset management scheme for piloting and development within the school improvement grants programme, which will include locking new infrastructure provided into a routine maintenance schedule,
- Design of appropriate building standards that are easy to maintain and allow for minimum of maintenance, and;
- Develop costed maintenance schedules for each building design;

### 3.4 Efficiency of Building Use

#### Issues

The amount of school infrastructure needs to be constructed is very much influenced by how efficiently classrooms are used, and is therefore directly related to whether multishift and multigrade schooling are being used. For example, teaching two shifts daily in the same classroom doubles the efficiency of building use, and halves the number of classrooms required. Again, multigrading reduces the number of classes in a school, and therefore the number of classrooms. Using school buildings more efficiently in even a small number of schools where multigrade and multishift is a realistic option can have a profound influence on capital costs and recurrent (maintenance) costs.

<sup>2</sup> Education for All; Building the Schools, World Bank August 2003

**Activities Required For Design Stage**

The following activities are required during the programme design stage to assess the possible effect of multigrade and multishift teaching on infrastructure provision:

- Modelling of future scenarios for infrastructure provision with respect to multishift and multigrade teaching and;
- Working closely with other investment programmes on this issue to ensure that any analysis of the effect of these approaches includes information on capital and recurrent infrastructure costs.

### **3.5 Minimum Design Standards and their Effect on Cost, Quality and the Learning Environment**

**Issues**

The design standards governing architectural and technical specifications can have significant implications for the capital and maintenance costs of school buildings and other infrastructure. Minimum standards need to be set in such a way that they provide an attractive and durable learning environment and make allowance for local conditions, whilst not being prohibitively expensive.

The project design needs to encourage the construction of classrooms that promote exciting educational environments. The design must promote group work and allow enough light and air for the children, who are often learning in a crowded situation. Simple features outside the classroom, such as external learning areas and play equipment can be cheap and easy ways to enhance the school environment.

Currently, many primary school facilities, and particularly classrooms built by communities, although inexpensive, are below minimum acceptable standards, have a short lifespan and need substantial ongoing maintenance to keep them serviceable. In many cases communities are reluctant to use existing MoPW standard designs as they are perceived to be expensive to construct, although they would be substantially more durable over the long term.

Building standards in Kenya are governed by the Building Code and Local Authority adoptive bye-laws. These regulations tend to be rigid and apply to urban, rather than rural areas.

**Activities Required For Design Stage**

The following activities are required during the programme design stage to ensure that appropriate standards for school infrastructure are developed:

- Undertake a review of national and local standards and specifications, including development of recommendations for selection of a design life<sup>3</sup> for school buildings and minimum plot sizes. Setting effective standards for buildings and other infrastructure will require an interdisciplinary team where educationalists, engineers, architects, quantity surveyors and children work together to develop solutions that ensure a pleasant learning environment which is also functional, affordable and low maintenance. Good standards can only be generated through careful research and input from relevant stakeholders.
- Development of clear and appropriate guidance relating to all aspects of school design at national, provincial and district levels. It is important that national standards are modest, flexible and where possible performance based, in order to allow local standards to reflect local conditions.
- Based on the above, production of standard drawings, specifications and other standard documentation.

<sup>3</sup> Design Life is the term used for how long the building is expected to last for, assuming proper routine maintenance is undertaken. Generally, the longer the design life, the higher the initial cost will be.

### 3.6 Construction Costs

#### Issues

Construction costs are determined by a number of factors including the procurement method, the amount of community contribution, whether small and medium sized contractors or individual artisans (fundis) are used, the geographic location and so on. It is important that realistic unit costs are developed to inform the design. As part of the preparation of the strategic plan an initial analysis of construction cost has been undertaken. Costs will be refined as the programme becomes more developed. Typical estimated costs are shown in Table 1.

**Table 1 – Typical Construction Costs**

<b>Item</b>	<b>Estimated Cost (Dec 2004)</b>
<i>Classroom</i> , traditional tendered contract with contractor responsible for all labour and material. Includes contractors overhead, profit, taxes and insurance. No community contribution	Ksh 465,000
<i>Classroom</i> , constructed by fundis and managed by school committee. Community contribution 20% of material, 30% of labour. No profit, overhead or taxes	Ksh 285,000 [excluding equivalent of Ksh 81,000 (22%) community contribution]
<i>Classroom</i> , tendered contract with contractor to provide specialist labour, school procures all materials. Community contribution 20% of material, 30% of labour. No contractors profit, overhead or taxes on materials	Ksh 300,000 [excluding equivalent of Ksh 81,000 (21%) community contribution]
<i>Latrine</i>	Ksh 35,000 per latrine
<i>Rainwater Harvesting Tank</i> , masonry, 15m <sup>3</sup>	Ksh 90,000
<i>School Furniture</i>	Ksh 750 per pupil

For the purposes of programme cost estimation at this stage, a typical cost to GoK of a classroom has been determined to be Ks 300,000.

#### Activities for the Design Stage

The following activities will be required during the programme design stage to ensure that accurate cost data is developed for cost estimation and monitoring purposes:

- Refinement of unit costs as the preferred procurement system, minimum standards, prioritised districts, preferred level of community contributions and cost data from other projects<sup>4</sup> become known, and
- Refinement of total costs of the investment sub programmes as the programme design progresses.

### 3.7 School Development Planning

#### Issues

Different schools have different priorities. Classroom construction is a priority in many schools but in others items such as refurbishment of existing building stock, provision of boarding and teacher's facilities, water and sanitation, sports facilities, security fencing and so on that are priorities for heads and school committees. It is the provision of school infrastructure that meets individual school's needs that contributes most to a school environment, which

<sup>4</sup> Priced Bills of Quantities from the USAID Arid Land Project and the OPEC Basic Education project, when available will be able to provide detailed cost data for this programme design.

promotes access, improves retention and quality and contributes to a positive learning environment.

School upgrading programmes within Kenya have shown that school level planning of improvements is effective and leads to better community participation and sustainability. It will be important that the principle of school development planning is developed and formalised as part of the infrastructure programme<sup>5</sup>. A number of schools do currently have basic school development plans, which although presently limited in their scope, would be a good basis for taking this process forward.

#### **Activities for the Design Stage**

The following activities will be required during the programme design stage to incorporate school development planning into investment programmes:

- Ensuring that the investment programme designs include school development planning as an integral part;
- Developing guidance materials to assist school committees and parents associations in developing their school development plans, and;
- Investigating and making recommendations on how the issue of title deeds and land tenure, which are problematic areas for many schools, can be incorporated in to the school planning process.

### **3.8 Procurement Issues**

#### **Issues**

The procurement method(s) used for the school infrastructure upgrading programmes has potential to have far reaching effects on its effectiveness. The importance of the link between the type of procurement system and the amount of local ownership generated, and sustainability, should not be underestimated. Simple, transparent procurement procedures appropriate to small building projects will be key.

As part of the preparation of the strategic plan a brief study of procurement systems currently being used within Kenya was undertaken. This study, in addition to information from previous field visits has highlighted five key issues that need to be addressed in the procurement design.

#### **i) Community Involvement**

Community involvement in the construction of primary schools in Kenya has a long tradition. Historically, communities and especially parents have contributed either in money, time, labour or materials to school building programmes. School committees have coordinated these inputs and arranged for artisans (fundis) to construct school facilities. This model of self-help has sustained the primary school sector in the past years and is one of its strengths. However, due to rising poverty or lack of demand for education in some areas, communities have not had the capacity or willingness to contribute to the building or maintenance of school buildings, leading to poor conditions and overcrowding.

Whilst community involvement is alive and well in a number of schools, there is a realisation that since the introduction of FPE there has been a reduction in community input. Parents understand that the government should take care of all costs related to education, including provision and maintenance of physical infrastructure. Whilst this is not the policy, it seems to be the perception in a number of areas. Implementation of a large GoK funded building programme may entrench this view if the issues of community involvement (and contribution) are not specifically addressed by the chosen procurement system(s) and reflected in GoK policy.

<sup>5</sup> Although particularly useful for prioritising infrastructural development programmes, the school development plan should also address other issues relating to the overall school development.

*ii) Amount of Community Contribution*

Evidence from ongoing construction programmes in Kenya suggests that contribution to the construction and maintenance of school facilities by the community, in whatever form and however small, is key to building ownership. Therefore, even though the school infrastructure programmes will be targeted at the poorest districts, the procurement system(s) will need to insist on community contributions (in whatever form) prior to any release of funds. Questions remain, however, as to how much contribution is appropriate, how community contribution is measured, and whether there should be any minimum contribution, bearing in mind that construction will take place in the poorest areas. This issue will need to be resolved during the programme design phase.

*iii) The Tendering Process*

Three main approaches for tendering are currently being used in Kenya for government or development partner funded small infrastructure works at the district level.

*System 1 – Full Delegation to the Lowest Level.* In some cases school committees (or their equivalent) are responsible with all aspects of tendering, monitoring and supervision and payment. Monies for the project are paid directly into their bank account and the committee becomes responsible for its expenditure. Experience from these systems seems to show that local committees are well able to manage the process as long as they receive adequate capacity building and support<sup>6</sup>.

*System 2 – Tendering and Payment at the District Level.* This is the traditional system of procurement where tendering, monitoring, supervision and payment are all made at district level, through the District Education Board and District Tender Committee. Although the school committee has limited involvement in the tender process, community contributions can still be included<sup>7</sup>.

*System 3 – A Hybrid System.* In this system, procurement of the contractor and materials are separated. The school committee is responsible for the procurement of all materials required, either through purchase or community contribution. However, the tendering process for contractor is undertaken at the district level. Money for the project is paid directly to the school and the school committee is responsible for both payments for materials and to the contractor. This system allows for more involvement and control at the school level than System 2, whilst not overburdening them with the work involved in selecting a suitable contractor. This method allows for easy community contribution of materials, as the school is solely responsible for this item.<sup>8</sup>

In community-funded primary school projects there is one common procurement system prevailing:

*System 4 – The Fundi System.* This system is the most commonly used in community built schools Kenya. Local artisans (fundis) are paid by the school committee to construct infrastructure from materials purchased separately or contributed by the community. This system tends to produce buildings at the lowest cost (mainly because there is no contractor's profit or VAT to pay), but standards and quality tend to be low due to lack of supervision, contracts and formal guidelines and procedures.

Given the number of systems currently in use and it will be important during the programme design that each is assessed to determine which (if any) will be most appropriate for the larger construction projects proposed under the school improvement grants programme and later the new school construction programme.

<sup>6</sup> This system is being used in the Arid Lands Resource Management Project and the EU Community Development Trust Fund Project. These projects do not relate to school construction specifically but the principle remains the same. This system is in effect the same system as that used for MoEST schoolbooks programme.

<sup>7</sup> This is the system being used in the USAID Arid Lands Project.

<sup>8</sup> This is the system being used for the upcoming OPEC Basic Education Project.

Typical issues to be assessed will be the amount of responsibility given to school management committees; where funds will be disbursed from; whether or not building should be undertaken by small and medium sized contractors or fundis; how quality is controlled; and the compliance of the preferred system with GoK Public Procurement procedures, which may not be applicable for community based projects. During the design stage comparisons will also be made to similar regional school building programmes in Uganda, Malawi and Rwanda.

#### *iv) Prioritisation of School within Districts*

A simple and transparent system of prioritisation of schools at the district level will be required. This will be developed as part of the programme design. Three main methods of prioritisation are generally used – either a simple ranking on need, a competitive process where schools bid for funds, or a combination of both. The preferred system for this programme will need to be determined.

#### **Activities for the Design Stage**

The following main tasks are required during the programme design stage to develop a suitable procurement system that is based on best practice and available evidence:

- Building on work undertaken during preparation of the strategic plan, undertake a comparative study of existing school building within Kenya and the region<sup>9</sup>. This study would compare and contrast different procurement systems that have been used, costs of construction, quality and so on, consult interested parties at the district level and make recommendations on the most suitable system in this context. This process could make the use of workshops and local study tours;
- Assess the feasibility of non-traditional modalities, such as channelling money for school construction through NGOs and the use of existing structures in place such as those set up by the Arid Lands Resource Management Project;
- Undertake a resource analysis to assess the capacity of a district(s) to undertake a school building programme. This would look at capacity in the relevant government ministries; in the private consultancy sector; the small/medium construction and material supply sector and communities in order to identify any capacity constraints. It would make recommendations on any institutional strengthening, capacity building or external assistance needed in order to ensure the smooth implementation of each programme, and
- Social analysis of the appropriate level of community contribution under the programme.

### **3.9 Controlling Quality**

#### **Issues**

Quality control, both in terms of construction materials and workmanship is vital to ensuring value for money and durability of any completed infrastructure. As evidenced from field experience, the quality of materials and workmanship in primary school construction is often poor, resulting in buildings that are both unattractive and costly to maintain.

Quality needs to be central to the design of any procurement system and requires a combination of appropriate standards and specifications, a contract strategy that ensures that the contractor fulfils his obligations (including having responsibility for defects) and adequate supervision. In addition, and depending on the procurement strategy chosen, assistance may need to be given to small and medium sized contractors, and materials suppliers, for them to improve quality. The importance of adequate supervision, especially when working with small contractors and communities, cannot be overstated.

<sup>9</sup> Although there have been no major government funded school building programme in recent years many development partners, NGOs, churches and other organisations have been active in this field (including USAID, KFW, OPEC, ADB and the Catholic Church, among others). There are regional examples of school building programmes in Rwanda, Malawi and Uganda.



The responsibility for supervising construction of public school buildings falls with the MoPW. However, in some cases they may not have adequate capacity to undertake this function effectively if a large building programme is rolled out and they may need to be appropriately supported in this role, perhaps by the private sector.

#### **Activities Required in the Programme Design Stage**

The following main tasks are required during the programme design stage so that there is an adequate framework for controlling quality:

- Development of appropriate standards and specifications;
- Development of relevant contracts, documentation and procedures;
- Investigation of the capacity of MoPW to undertake supervision and identification of any additional support or capacity building required in MoPW or other line ministries;
- Investigation of the possibility of using the private sector for supervision, and
- Investigation of the possibility of including a capacity building programme for small and medium sized contractors as part of the construction programme.

### **3.10 Water, Sanitation and Hygiene Promotion**

#### **Issues**

The provision of safe water and sanitation facilities in schools is the first step towards a healthy physical learning environment benefiting both learning and health. However the provision of physical facilities alone does not make them sustainable or produce the desired impact. It is the use of technical facilities and the related appropriate hygiene behaviours of people that provide health benefits. In schools, hygiene education aims to promote those practices that will help prevent water and sanitation-related diseases as well as promoting health behaviour in the future generations of adults. Improving child health in schools is as important as provision of classrooms to learning outcomes.

School sanitation and hygiene education (SSHE) refers to the combination of hardware and software components that are necessary to produce a healthy school environment and to develop or support safe hygiene behaviours. The hardware components include drinking water, hand washing and excreta disposal, plus solid waste disposal facilities in and around the school compound. The software components are the activities that promote conditions at school and practices of school staff and children that help prevent water and sanitation-related diseases and parasites.<sup>10</sup>

Investing in school water supply, sanitation and hygiene education has many benefits including:

- *Promoting effective learning:* Children perform better when they have a hygienic and clean environment;
- *Increasing enrolment and retention of girls:* the lack of private sanitary facilities for girls can discourage parents from sending girls to school and contributes to the drop out of girls, particularly at puberty;
- *Reduction in incidence of diseases and worm infections:* children who are ill attend school less often and learn less effectively when they are there;
- *Improve teachers attendance;* teachers who are ill are at school less often and less effective when they are there;
- *Environmental cleanliness:* presence and proper use of facilities will prevent pollution of the environment and limit health hazards for the community at large, and;
- *Implementation of children's rights:* poor sanitation and hygiene undermine children's right to education as well as health.

<sup>10</sup> UNICEF and IRC, 1998

Schools can also be a key factor for initiating change by helping to develop useful life skills on health and hygiene. Additionally, it has been shown that school children can influence the behaviour of family members, thereby positively influencing the community as a whole.

There is a high prevalence of diseases in Kenyan school children, particularly worm infections, diarrhoea, and malaria, which are related to inadequate drinking water, sanitation and poor standards of hygiene and environmental health. This morbidity, associated with poor nutritional status is associated with children starting school late, dropping out and generally under achieving in education. Many of these problems are associated with lack of adequate information of proper sanitation and hygiene practices<sup>11</sup>.

Currently components under SSHE are split between the Primary School Infrastructure and the School Health and Feeding Investment programmes. In order to have any major impact it will be important that the two programmes are implemented in partnership, that suitable hygiene educational materials are developed (and used) and that taught messages are reinforced by implementing them in the school environment. There is an Interagency Co-ordinating Committee which has been formed between the Ministries of Health and Education, through which a school health policy is currently being developed. Once finalised this policy may highlight further the importance of SSHE.

Given the importance of SSHE it is proposed that as a principle all schools included in the programme should be provided with adequate water and sanitation facilities, if they do not already exist.

#### **Activities Required in the Programme Design Stage**

Improving school health is crucial to improving educational outcomes and therefore the programme design includes a dedicated activity to assess the way forward for SSHE initiatives. This would need to be agreed with and undertaken in partnership with the School Health and Feeding Investment Programme, the Interagency Coordinating Committee and other stakeholders. Typical activities may include the following:

- Determination of the most efficient way of ensuring integration of the School Health and Nutrition and the Primary School Infrastructure Investment programmes;
- Review of existing approaches to SSHE in use in Kenya and their appropriateness and feasibility for integration with the proposed investment programmes;
- Review existing designs/options for sanitation facilities (latrines, urinal and washing facilities) and if required develop a range of appropriate designs that can be constructed at the same time as other infrastructure upgrading, including special requirements for ECDE;
- Determine what support and capacity may be required to operationalise the SSHE components of the School Health Policy currently under preparation.

### **3.11 School Furniture**

#### **Issues**

The provision of school furniture is a challenge at the majority of schools. It is often inadequate both in terms of quantity and quality. Once furniture is not replaced, the remaining furniture becomes overused, thus reducing its useful life further. Where there is insufficient furniture, this can create discrimination between those who sit at a desk or on the floor.

There are no minimum standards or standard designs currently in use. Furniture should be designed to be:

- Durable and long lasting;
- The right size for the pupils;
- Flexible enough to fit in with teaching methods such as group work, and

<sup>11</sup> School Health and Feeding Investment Programme

- Sensitive to any prevailing cultural traditions.

Furniture lends itself to being locally produced, as long as it is constructed to an appropriate minimum standard.

Where possible, furniture items should be incorporated into the building fabric. For example, pinboards, bookshelves and seating can be built into walls, and teaching murals, numbers and letters boards and so on can be painted onto walls or incorporated into tiles and attached to walls. These are simple approaches that can improve the classroom environment at low cost.

#### **Activities Required in the Programme Design Stage**

The following main tasks are required during the programme design stage to ensure that the issue of school furniture is adequately addressed:

- Development of minimum standards for different elements of school furniture;
- Construction of sample set of school furniture for comment, and
- Incorporation of furniture items such as shelving, reading corners, cupboards etc into the fabric of the classrooms by including them in standard designs where possible.

### **3.12 Social Issues Relating to School Construction**

Many development partners require a social assessment of proposed programmes to be undertaken. If such an assessment can be undertaken during the early stages of design it can provide useful recommendations to inform the rest of the process. In this case typical issues to be addressed may include gender, HIV/Aids and labour standards and effect on indigenous peoples, among others.

One issue of particular importance will be that of labour standards, and particularly health and safety. The construction industry employs a large number of temporary and casual workers and is a major source of employment for poor people. It is also one of the most dangerous and insecure forms of employment. For the poor and vulnerable, death or disability of wage earners can have major consequences on dependants. Often health and safety is not adequately catered for, either for workers, or the general public in the vicinity of the site, which is particularly important in the school environment. In the case of community contracting, or where communities are labouring for free these issues are equally as important. Other possible issues include fundamental rights of workers, such as being paid at least the minimum statutory wage, protective clothing, and periods of rest during the working day and clean water, sanitation facilities and first aid being available on site.

#### **Activities Required in the Programme Design Stage**

The main tasks that are required during the programme design stage so that social aspects relating to the construction process are adequately addressed:

- Undertake a strategic social assessment study, which would include a review of issues such as gender, HIV/Aids, health and safety, labour standards, effect on indigenous peoples, support and capacity building required so on, and
- Make recommendations for minimising any negative social impacts of the programme (such as spread of HIV/Aids, unwanted pregnancy) and for maximising social development potential.

### **3.13 Environmental Issues Relating to School Construction**

#### **Issues**

In order to ensure that environmental issues are fully incorporated into the programme design a *strategic environmental assessment* will need to be undertaken. It will represent best practice for development partners and should be designed to ensure compliance with national environmental management legislation.

Typical impacts arising from a school infrastructure programme may relate to the amount and type of materials used in construction, land allocation, impact on surrounding land uses, health and safety issues, public safety, impact on the ecology of the area and the human environment within the school. It is important that the environmental assessment is undertaken at the early stages of project development, so that strategic decisions are made with full knowledge of the potential environmental impacts.

#### **Activities Required in the Programme Design Stage**

The following activities are required to ensure that environmental issues are adequately incorporated into the programme design:

- Undertake a strategic environmental assessment study that makes environmental recommendations for the programme design, and;
- Production of guidelines and procedures for environmental screening and assessment at school sites, if this is required under national legislation or development partner rules.

### **3.14 Communications and Power**

#### **Issues**

Telecommunication linkages are extremely poor or non-existent in many districts (other than teachers and officers using mobile phones at their own expense). For remote schools (and particularly those with low enrolments) this is particularly onerous - much time and money is spent travelling to the nearest town. Improved communications would reduce time and money spent travelling, allow better liaison with suppliers, encourage competition, and ensure that school teachers, heads and officers do not have to spend their own money on expenses that should be covered by government.

Most rural primary schools have no electricity supply, thus restricting their useful working day to daylight hours. This results in not only inefficient use of the buildings, but it is a restriction on children studying in the evenings, especially in boarding schools. The use of solar power for lighting may be a cost effective innovation, as would offering a subsidy or easy payment terms (for the connection charge) for schools wishing to connect to mains electricity, where this is available.

#### **Activities Required in the Programme Design Stage**

It is recommended that Terms of Reference for a feasibility study looking at the costs and benefits of improving the school communications infrastructure, and for solar power are developed as a starting point for taking this issue forward. It is recommended that the possibility of including this in the study currently being developed to develop the ICT and Education Investment programme be investigated.

### **3.15 Recognising Regional Differences**

#### **Issues**

The proposed school building programme covers both urban slums and rural areas (including ASAL areas), which have very different challenges. For example, institutional arrangements, barriers to access for children to attend school, land tenure, security, the amount of community participation possible, provision of water and sanitation, building standards and so on are all likely to be different, and these need to be reflected in the design, procurement and maintenance of the facilities.

#### **Activities for the Design Stage**

The aim of the programme design is to develop one system for school infrastructure provision, which although relying on a set of common guidelines and procedures is flexible enough to be used in most situations. The programme design will review existing procedures in both rural and urban situations to ensure that the differences are recognised and incorporated. For example in urban areas there may be a case for channelling money through NGOs – in the ASAL areas the existing organisational infrastructure set up under the Arid Lands

Management Project could be the most appropriate vehicle for coordination of school infrastructures.

### **3.16 Infrastructure for Early Childhood Development and Non Formal Education**

#### **Issues**

Whilst standards of school facilities at the primary level are at best average, the infrastructure for early childhood development, which caters for the youngest children, is worse. Often children are sitting on rudimentary benches or on the floor. There are normally no dedicated sanitation facilities for the youngest children. This is recognised in the ECDE Investment Programme which includes an ECDE Centre Support Grants Programme which will support 4,000 ECDE centres with Ksh.100,000/year over 5 years, which can be used for upgrading of infrastructure (as well as supplementing teachers salaries). This grant will be allocated directly to the school.

Due to various challenges such as the HIV/Aids pandemic, child labour, nomadic livelihoods and prevailing cultural practices not all children will be able to enrol in formal schools, and the non-formal sector provides an important role for those children who are not reached by the formal system. In recognition of this MoEST plans to support community/needs based Complementary Non-formal Education (NFE) through the NFE Centre Support Grants Programme which will support 3,000 institutions with Ksh.100,000/year over 5 years, which can be used, among other things, for upgrading of infrastructure. This grant will be allocated directly to the school.

#### **Activities Required in the Programme Design Stage**

Further coordination is needed with the ECDE and NFE programmes to work out practical details of how the grants to these institutions will be disbursed, what guidelines and procedures are needed and how these can be incorporated with those that will be developed under this programme. Additionally, coordination of districts and schools prioritised under the different programmes will be important, and particularly between the ECDE and school improvement grants programmes.

### **3.17 Expanding Educational Opportunities in ASAL Areas**

#### **Issues**

In order to respond to MoEST policy goals for education in ASAL areas an investment programme relating particularly to these areas has been developed, the overall aim of which is to provide children living in ASALs, especially girls, with access to quality education at various levels. This will be achieved through implementing an integrated education investment programme which enables children to progress from mobile primary schools to low-cost upper primary boarding schools, and then on to boarding secondary schools and upwards. Any primary school construction in the ASAL area will be included under the primary school infrastructure programme and specific targeting to ASAL areas will be investigated during programme design.

#### **Activities Required in the Programme Design Stage**

All studies, assessments and subsequent guidelines and procedures produced will be designed to be applicable to all school infrastructure within Kenya, and will therefore be applicable to infrastructure improvements in ASAL areas. However, details of implementation may be different from other geographic regions.

### 3.18 Monitoring, Evaluation and Research

#### Issues

Monitoring and Evaluation (M&E) will be an important element of the infrastructure investment programme, and can be split into two sections, progress M&E and impact M&E.

Progress M&E will need to be implemented to monitor construction costs, quality, overall progress of the construction of physical facilities and so on. This function would be best included in the work of the School Infrastructure Management Unit.

Impact M&E will be required to make an assessment of the impact of the infrastructure programme on the schools, and in particular how they have contributed to children's learning conditions and outcomes. It will be particularly important that the large financial investment in school construction can be related to learning outcomes, rather than just the physical construction of facilities. This impact assessment is proposed to be undertaken under the KESSP Coordination and Impact Research Investment Programme, which is charged with the task of measuring the overall impact of the KESSP. Although impact monitoring would be undertaken outside the Infrastructure Investment Unit, impact (as well as progress) M&E needs to be fully integrated into the programme at the design stage.

There is likely to be a demand for further research on specific issues as the programme design progresses and as the infrastructure programme is rolled out. Any specific research would be carried out under the School Performance and Standards Investment Programme.

#### Activities Required in the Programme Design Stage

During the programme design stage the following activities will be required to ensure adequate monitoring and evaluation is integrated into the programme design:

- Development of targets for the provision of infrastructure under the KESSP;
- Design of progress and impact monitoring and evaluation systems;
- Clarification of responsibilities for monitoring and evaluation, and
- Development of any initial proposals for action research related to the infrastructure investment programmes.

### 3.19 Resource Centre

#### Issues

During the programme design stage much information regarding school infrastructure provision will be generated. It is important that this information is stored in such a way that it is quickly and easily accessible.

#### Activities Required in the Programme Design Stage

During the programme design stage a resource centre will be set up which will be a repository for all information relating to the school infrastructure development programme. This will be set up in collaboration with the existing Resource Centre within MoEST.

## 4. DEFINING WORK ACTIVITIES

The work activities proposed for the programme design can be split into 4 categories as follows:

- *Key Studies:* Based on the issues and activities described in Section 4, five key studies have been developed that will provide the necessary evidence base for the programme design.
- *Design Packages:* Based on the information generated by the key studies four design packages have been developed to produce the necessary outputs to operationalise the infrastructure programme.
- *Review and Quality Assure:* to ensure quality of the outputs.
- *Finalise Design:* updating the design to take account of issues arising from the review and quality assurance stage.

These activities are described in outline below. **Figure 2** overleaf shows the process graphically.

### 4.1 Description of Key Studies

#### 4.1.1 Data Collection and Analysis<sup>12</sup>

This section of work will investigate the feasibility of expanding the existing GIS based school mapping system to form the school construction programme database. It will collect, verify and analyse existing school and socio-economic data that will form the basis for identifying and planning priority areas for investment, monitoring programme progress and for management of assets. It will develop the most appropriate way for collating, storing and analysing information relevant to school construction and maintenance planning at both district and national level. Data will be analysed to make projections of school infrastructure capital and recurrent costs required over coming years, and to model the impact of multishift and multigrade schooling on infrastructure needs.

#### 4.1.2 Strategic Environmental and Social Impact Assessment (SESIA)

The strategic environmental and social assessment will address the environmental and social impact of the investment programme and make specific recommendations to inform the programme design. It will ensure that the environmental requirements of major development partners, (including World Bank safeguards) as well as Kenyan national law are complied with.

On the environmental side the assessment will identify strategic environmental issues related to the programme design, assess their impacts and make recommendations for their mitigation. It will produce a environmental management framework to allow environmental impact to be managed over the project life cycle, make recommendations on any further work required and develop Terms of Reference for these if necessary. It will develop guidelines for environmental screening at each school site as required.

On the social side the assessment will ensure that the programme design maximises potential for social development and improving learning outcomes and that social issues relating to school construction are adequately addressed. The study will inform the process of district prioritisation and prioritisation of schools within districts. It will make an assessment of gender issues, HIV/Aids, health and safety and so on as they relate to the programme design and make specific recommendations on how any important issues can be incorporated into the implementation process. The study will also develop the programme communication strategy.

<sup>12</sup> This section of work is not only useful for the infrastructure programme but could provide the basic information planning needed for other investment programmes in the KESSP. This will need to be investigated further

### **4.1.3 Procurement Methods Review Assessment**

The procurement methods review study will consist of a comparison and analysis of the strengths and weaknesses of selected national and regional procurement systems and will assess issues such as the tendering process, level of community involvement and contribution, how local prioritisation will be made and so on. The study will produce and agree proposal(s) for the procurement of work under the sub programmes in both rural and urban areas and develop a list of procedures and guidelines that need to be developed to support the chosen procurement system(s). The study will also look at the feasibility of channelling monies for school construction through the NGO sector.

The study will specifically address economic, legal and institutional issues arising. It will develop guidelines for assessing capacity at a district level so that specific district based capacity building initiatives can be developed. It will identify economic and financial risks for the project and make recommendations to minimise them, including a review of existing procedures and legislation as it relates to community based construction, and advise on the most appropriate financial procedures to be adopted at each level.

### **4.1.4 Review of Standards and Development of Maintenance Strategy**

The review of school infrastructure and construction standards will produce a set of appropriate national and regional standards to promote cost effective and easily maintainable school facilities, including school furniture, which promote a stimulating learning environment. The study will also address the issue of life cycle costing and produce costed maintenance schedules for each building design and will make proposals for strengthening school maintenance procedures.

### **4.1.5 School Water, Sanitation and Hygiene Promotion Assessment**

Further discussion with the School Health and Feeding Investment Programme, the Interagency Coordinating Committee and other stakeholders is required to develop the scope of the water, sanitation and hygiene promotion assessment. However, a central part of it will be to consider the most efficient way of ensuring coordination of the school health and the infrastructure investment programmes. It will also review existing approaches to SSHE used in Kenya and if required develop a range of appropriate designs for this programme. It will assess what additional support may be required to operationalise the SSHE components of the School Health Policy under preparation and discuss options with the relevant stakeholders.

## **4.2 Description of Programme Design Packages**

Based on the studies above the following design packages will be undertaken to produce the necessary outputs to operationalise the infrastructure programme.

### **4.2.1 District Prioritisation and Phasing**

Based on the outputs of the school planning exercise and the strategic social and environmental assessment, agreement between stakeholders (MoEST, development partners) on the districts to be included in the first and subsequent phases of the project will be required. At this stage it is recommended that the programme be rolled out in three phases, with the initial phase consisting of a limited number of districts to ensure that systems, guidelines and procedures can be properly tested and assessed, and that the needs assessments and capacity building programmes can be kept manageable as the programme builds momentum.

### **4.2.2 Production of Procedures and Guidelines**

Production of approved procedures and guidelines as recommended by the procurement methods review study, which are likely to include:

- Accounting and financial procedures, including procedures for use of the general purpose account;



- Tendering, payments and supervision procedures;
- Quality control, checking and monitoring procedures;
- Procedures and guidelines for implementers at each level;
- Guidelines for district needs assessments and prioritisation;
- Guidelines for school maintenance;
- Guidelines for capacity building programmes; and
- Standard contracts, certificates, forms etc.

Where possible these items will be developed from existing materials, including the SIMBA procedures manual and numerous guidelines and procedures developed on other projects.

#### **4.2.3 Revised Standard Designs, Contract Documents and Costings**

Production of revised minimum standards for school infrastructure designs including classrooms, latrines, water tanks, school furniture etc based on the infrastructure standards review, the SSHE study and the environmental, regional and social assessments. Production of standard Bills of Quantities, specifications and so on and production of updated costs based on the above.

#### **4.2.4 Monitoring and Evaluation Design**

This will include the design of strategies for items such as:

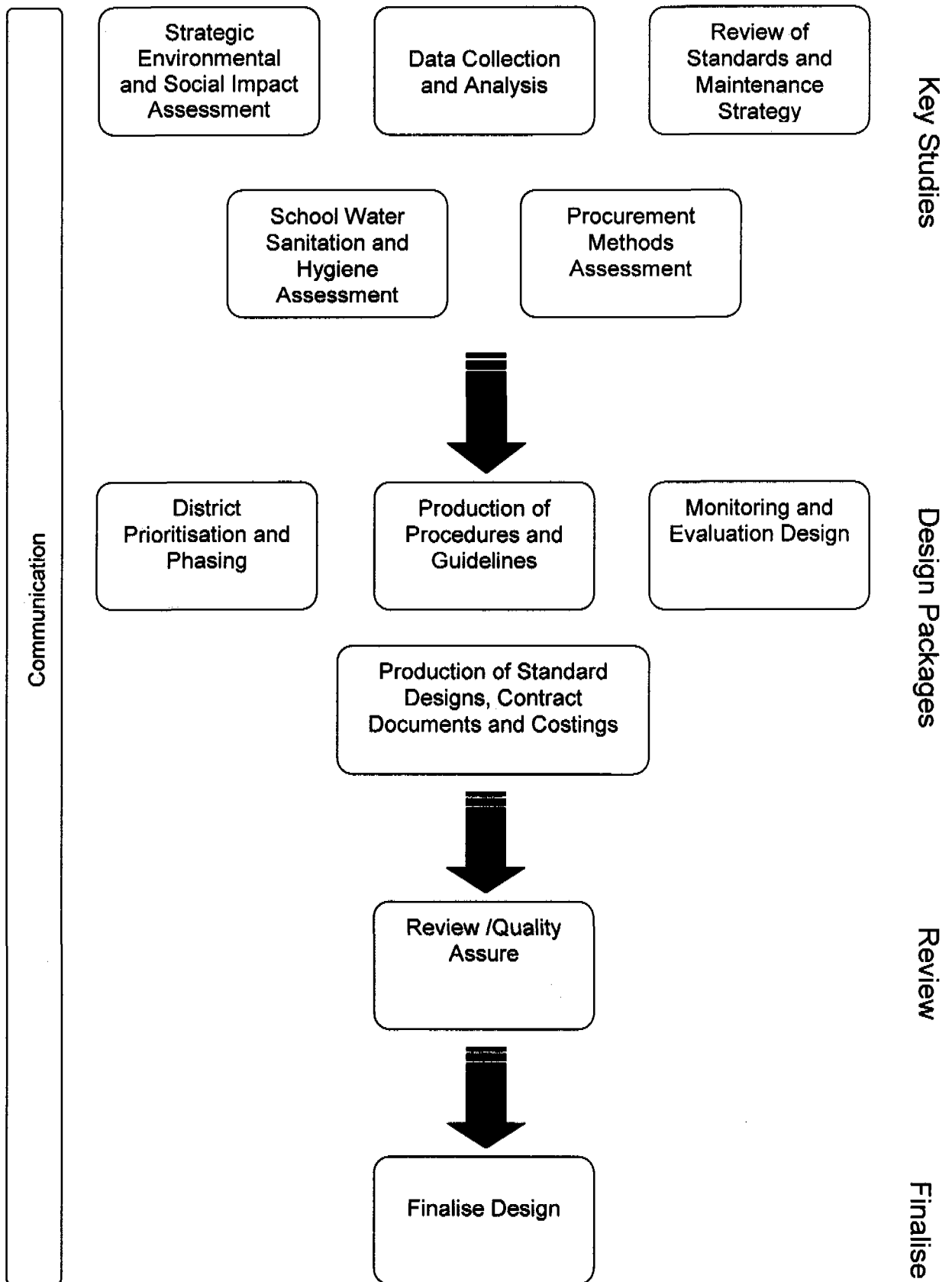
- Monitoring and evaluation of the programme process;
- Monitoring and evaluation of the impact of school infrastructure provision on educational indicators/outcomes;
- Designing a system to ensuring monitoring and evaluation outputs are used to inform policy and refine the infrastructure programmes as required, and
- Generation of topics for further research, if required.

### **4.3 Review and Quality Control**

All outputs from the design will be subject to review by senior MoEST managers and if required by parties outside the design process.

### **4.4 Finalise**

This will involve updating outputs as required based on review comments.



**Figure 2 - Activities in Design Stage**

## 5. SCHEDULING AND RESOURCING

### 5.1 Scheduling of Activities

The activities above have been scheduled and are shown in the form of a GNATT in **Figure 3** overleaf.

It is anticipated that the design of the programme will take approximately 6 months (March 2005 – September 2005) to complete if it is adequately managed and resourced.

### 5.2 Resources Required

The activities developed in the Strategic plan have been packaged into discreet sections of work so that they can be undertaken in a manageable way and in some cases simultaneously, in order to reduce the design programme timescale. The amount of work to be undertaken in the design stage should not be underestimated, and there is need for significant inputs from MoEST, as well as outside consultants to ensure that the programme is designed within the proposed timescale.

Each section of work needs to be adequately resourced - some will need to be undertaken entirely by outside consultants whereas others will be led by MoEST with specialist support where required. For all sections of work Terms of Reference will need to be developed by the project manager and agreed with MoEST and any other relevant parties before work commences.

An assessment of the human resources anticipated to be needed for each activity is given below:

#### 5.2.1 Project Management and Support

Given the volume of work that needs to be undertaken and the links with other investment programmes and initiatives that need to be developed there will need to be a project management team in place during the design stage. Preferably, members of this team will remain in place as the implementation stage gets underway, so that institutional memory can be retained.

As well as managing the process the project management team will have a significant role in undertaking design work, especially in relation to the procurement methods review, the standards review, and in compiling all the study outputs into guidelines and procedures.

It is anticipated that the following core staff would be required in the central project management team

- Project Manager (MoEST, full time)<sup>13</sup>
- Project Architect (MoEST, fulltime)

This core team would be supported by an outside consultant to provide technical support as required, a quantity surveyor (MoEST, part time), a planner (MoEST, part time, preferably with good computer and particularly GIS skills) and a secretary (MoEST full time).

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<sup>13</sup> MoEST staff could be seconded in from other line ministries as required

## 5.2.2 Key Studies

### Data Collection and Analysis

The project management team will undertake this study with assistance from an internal planner and GIS expert. Some external consultancy advice may be required in assessing the feasibility of using a GIS as the project database, and on the social side, to ensure that socio-economic data is adequately captured and analysed to inform the design and implementation process.

### Strategic Social and Environmental Impact Assessment

Due to the nature of this assessment, it will be undertaken by a specialist consultancy company (under direction of the project manager) who will be responsible for all outputs. Anticipated consultancy inputs for this study will be:

- Environmental Specialist and Team Leader (international consultant);
- Environmental Specialist (national consultant);
- Sociologist (international consultant);
- Sociologist/Anthropologist (national consultant);
- Community Development Specialist (national consultant), and
- Safeguard Specialist.

### Procurement Methods Review Study

This study will be made up of two related sections. Firstly, the project management team will undertake a review of existing national and regional systems of school construction, and based on that develop feasible options for the procurement system in this case. A preferred option may be developed. The project management team will undertake this section of work.

When this has been completed, the options will be subjected to the economic, legal and institutional assessment, which will develop the details of how the system will work in practice. This section will require support from specialist outside consultants. Anticipated consultancy inputs would be:

- Economist/team leader (international or national);
- Economist (national consultant);
- Institutional/capacity building specialist (national consultant), and
- Legal specialist (national consultant).

### Review of Standards and Development of Maintenance Strategy

This section of work will be undertaken by a small MoEST/MoPW team under the direction of the project manager, who will be supported by short and specific inputs by outside consultants with international experience of school building and furniture design and standards. Anticipated consultancy inputs would be:

- Consultant architect (international consultant), and
- Furniture designer (national or international consultant).

### School Water, Sanitation and Hygiene Promotion Study

This is a specialist study that needs to include regional and international experience. It would be undertaken under the direction of the project manager and in conjunction with the school health team and other line ministries and organisations as required. Anticipated consultancy inputs would be:

- School Water and Sanitation Specialist/team Leader (international consultant);
- School Water and Sanitation Specialist (national consultant);
- School Hygiene promotion Specialist (international or national consultant).

### **5.2.3 Design Packages**

#### District Prioritisation and Phasing

The project management team will undertake this work. Some external consultancy support may be required in GIS operation, and on the social side, to ensure that socio-economic data is adequately included.

#### Production of Procedures and Guidelines

The project management team would produce the guidelines and procedures, with support from a drafting specialist(s) (possibly from KIE) and a graphic designer. It is likely, given the number of guidelines and procedures to develop, that additional assistance, external to the project management team will be required, which could be provided either through GoK officers or consultancy inputs.

#### Revised Standard Designs, Contract Documents and Costings

The project management team would undertake this section of work, with additional assistance from MoPW architects, engineers and quantity surveyors as required.

#### Monitoring and Evaluation Design

The project management team would undertake this section of work, in conjunction with other teams within the KESSP working on monitoring and evaluation. Specialist outside consultancy may be required to assist in development of the impact monitoring system, although the basis of this work would have been completed in the strategic social impact assessment.

#### Review

Senior MoEST officials and external experts would undertake the review.

#### Finalise

The project management team will undertake finalisation of the design.