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SANITATION FOR SITE AND SERVICE SCHEMES

- a technical and economic appraisal of sanitation alternatives for urban Kenya.

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2.0 INTRODUCTION

The recent national census which revealed that Kenya's population shot up by 50 percent over the last decade has caused a lot of concern to the country's planners and has underlined the clear need for an urgent review of present planning methodologies. Kenya's annual growth rate of 3.9 percent is one of the highest if not the highest figure in the world. Over the remaining years of this century capital resources will be strained to the limits, reflecting the economic and social move towards industrialisation. Natural population increase in the urban areas combined with rural-urban migration will exacerbate an already deteriorating housing situation. Particularly, the growth of families in the low-income bracket (K.Shs.200 - K.Shs.1,400 monthly) will become a serious liability for urban councils.

Official house construction for the low income population has always been a meagre percentage of actual needs. Therefore, the current trend of the Kenyan Government is to move away from actual house building to the provision of services only. The current implementation of site and service schemes and squatter upgrading programmes reflect this trend.

In the sanitation field, it is becoming clear, that conventional sewerage is both too costly and frequently inappropriate for the situation.

This study will try to identify some of the possible alternatives.

3.0 LIMITATIONS OF THE STUDY

3.1 The model layout

The study uses a simulated model housing layout adapted from (Caminos, 1978) and is reasonably typical of up-country site and service schemes in Kenya (see figure 1). The model is an area of 16 ha and comprises of 320 plots. The landuse pattern is as follows:

55.2% residential
29.7% circulation
15.1% public space

In the Second Urban World Bank Project the following design criteria are used:

60% residential
20% circulation
20% public space

In these schemes only 50% of the plots have car access.

3.2 The plot layout

The plot layout is based on the current plot sizes in site and service schemes outside Nairobi. The National Housing Corporation guidelines stipulate a plot size of 12,5 m x 23,5 m (294 m²). (National Housing Corporation 1974).

The plot sizes used in this study are slightly modified to 12,07 m x 22,86 m (276 m²) to fit into the site model. This plot size has been used to relate it to the existing situation, despite the fact that the plot ratio (width to depth) of about 1:2 is not physically efficient and should be more in the range of 1:3.