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Services for urban low income housing

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1 INTRODUCTION

This paper addresses problems and issues in the provision of infrastructure for low income families on sites and services schemes in urban areas. 'Infrastucture' or 'Services' within the context of this paper refers to:

The provision of drained land.
Stormwater drainage.
Water supply.
Sanitation and household wastewater disposal.
Roads and suitable access.
Solid waste disposal.
Power supply and street lighting.

The case study material is drawn from experience of the 'Million Houses Programme' (MHP) implemented by the National Housing Development Authority (NHDA) of the government of Sri Lanka. The approach of the MHP has been strongly community-orientated in the respect of house construction. Families are provided with loans for house construction; determining the beneficiaries' priorities in housing has helped to reduce the costs and enabled a wider coverage to be achieved, in addition to mobilising the resources of the communities and households involved.

This paper describes a project in the southern Sri Lankan city of Galle, which proposes a model for the delivery of sustainable urban services for housing programmes in centres outside of Colombo, the capital city of Sri Lanka.

2 DIFFERENT APPROACHES

Government agencies have evolved different approaches to the provision of shelter and services for low income families. Examples are: local or central government agencies provide serviced housing for rental; families build their own houses on a plot which is provided with a water tap, mains sewerage connection, and power supply;

communally serviced plots on which families build their own housing but have access only to communal toilets and public standposts. The impact on infrastructure of these different approaches is significant.

There are numerous situations in which infrastructure has been designed to provide a far higher level of service than is necessary, perhaps through arbitrary adherence to inappropriate standards and codes. Kirke (1986) quotes the case of a master plan recommending a totally unrealistic water supply of 500 litres per capita per day for a Cairo. Laquian (1983) comments that high levels of service and design standards has led to high infrastructure costs in some World Bank projects, where water supply and sanitation have accounted for 60% to 80% of infrastructure costs. The WHO (1987) quotes capital costs per person of sewerage in the range US$ 80 to US$ 150, whereas on-plot improved pit latrines are much cheaper at US$ 13 to US$ 30.

If services are to be sustainable, the key issues are:

1. Recovery of capital and maintenance costs.
2. Ensuring effective maintenance.

Keare (1987) suggests that implementing agencies have put a higher priority on service levels than have the beneficiaries; Tolley et al (1987) concluded that there is evidence to support smaller projects which respond more directly to the needs of the consumers.

Cotton and Franceys (1988) considered these implications and identified five principles -the "Five I's":

INCREMENTAL IMPROVEMENT - provide an initial level of service, which is much lower than conventional design standards imply, to meet the basic needs at reduced cost. The level of service can subsequently be upgraded as and when required.

116

INVOLVING PEOPLE - consult the community and involve them with the provision and improvement of infrastructure (in a similar fashion to their involvement with aided self help housing).

INDIVIDUAL SERVICES - the opportunity for recovery of both capital and recurrent costs of services is partly dependent on whether services are provided on a communal or individual basis.

INCOME RELATED - provide services which reflect the ability of beneficiaries to pay for those services; if it is not affordable it cannot be maintained.

INSTITUTIONAL - involve fully the urban local authorities who ultimately adopt the schemes.

Consideration of the "FIVE I's" requires alternative implementation strategies to be considered; the approach has greater flexibility than the traditional way of working to arbitrary standards which by-pass the beneficiaries.

3 INFRASTRUCTURE FOR THE MHP

Prior to the instigation of the MHP in Sri Lanka, because of the number of agencies involved in urban improvement, no coherent policy governed the quality or quantity of the physical infrastructure. Early schemes of the MHP implementing agency generally provided expensive high levels of service constructed by contractors.

Whilst priority was given to the recovery of housing loans, it is unfortunate that no consideration was given to cost recovery of infrastructure. Initial capital costs were very high, with little chance of recovery directly or indirectly; little consideration was given to maintenance.

Subsequent policy has considered an options-based, incremental improvement approach (Cotton & Franceys 1986). This defined different levels of service appropriate to particular communities at particular times.

A PRIMARY LEVEL of infrastructure is paid for by the initiating agency without cost recovery. It provides the absolute minimum level of services required before people can move on to the site to commence house construction. Capital costs are considerably reduced.

The primary level services can subsequently be upgraded during an INTERMEDIATE PHASE according to the priorities and resources of individual families and communities, financed by recoverable loans. This will eventually lead to an ULTIMATE LEVEL of service, which is likely to take many years to achieve.

4 THE GALLE PROJECT

The Galle project involves both new housing (sites and services) and upgrading of existing housing. By the end of 1988 it is hoped that about 700 families will have benefited from the programme.

Galle Municipal Council (GMC) will continue to be responsible for the provision of city-wide trunk services. On the sites and services schemes it is assumed that GMC will only be responsible for PRIMARY LEVEL services. Table 1 indicates these services and their estimated costs. The responsibility for subsequent upgrading of the level of service rests with the individual households and the community served.

There has to be a mechanism by which upgrading can occur. Community Development Councils (CDC's) have been established on the urban housing schemes in Colombo, and represent the community in dealings with the housing authority. In the Galle project, the CDC (which is effectively a new tier of management) will ascertain and implement the community's wishes regarding the level of service provision.

A "shopping list" of service improvements can be drawn up showing the effect on household finances; this will assist communities in deciding their priorities. A specific example has been worked out for a small sites and services scheme which forms part of the Galle project. Table 2 shows the cost per household in US$ of upgrading the primary level infrastructure; typical household incomes are in the range $20 to $70 per month; the monthly charges include amortization and interest.

Both the community and the individual households can determine their own priorities. Metered water and power connections can be purchased by households; the CDC will decide whether there is sufficient demand to upgrade communal services such as drain lining and road surfacing. Funds for improving the services beyond the primary level are loaned by the Municipal Council to the CDC. Repayment of these loans to the council will provide a revolving fund for further upgrading.

All too often, national agencies implement infrastructure projects in isolation from the municipal authorities who will have to adopt, operate and maintain the schemes. Keare (1987) states the need to design projects within the local public financial context; Bahl and Linn (1987) observe that "turnkey" projects can burden local authorities with facilities which they cannot operate or maintain. An important feature of the Galle project is that infrastructure work is being implemented through the municipal council, taking into account their capacity for maintenance. Whilst this may appear to slow down the implementation of new projects by involving another layer of administration below the housing authority, the long term success of the schemes is largely dependent on successful adoption by the maintaining authority.

The Galle project is funded by the UK Overseas Development Administration; the costs of primary level infrastructure and loans for service improvements are being provided. In principle, the cost of primary level infrastructure would be derived from local authority rates.

There are also significant financial advantages in the approach described above. Previous analyses by Cotton and Franceys (1986) have illustrated the large difference in lifetime cost between different approaches to infrastructure provision. For a sites and services scheme in Colombo, the comparison was made between:

Approach 1. High levels of service from the outset, constructed by the implementing agency's contractors;

Approach 2. Primary level infrastructure at the outset followed by upgrading through loans.

The lifetime cost was reduced by 52% in alternative 2; equally importantly, the cost recovery potential is increased from 12% to 52% of the lifetime cost. The total cost to the implementing agency is reduced by 77%

5 CONCLUSIONS

Implementation of sites and services schemes in Galle, Sri Lanka, involves:

1. Providing a much lower level of service at the outset with the possibility of planned upgrading in the future.

2. Involvement of the community in taking individual and collective responsibility for their priorities in improving services based on what they can afford. Community level affairs are managed by an additional tier of management, the Community Development Council.

3. Recovery of the costs of higher levels of service through the provision of loans from the Municipal Council to families and the Community.

4. Service levels which relate to the ability of the beneficiaries to pay.

5. Full cooperation of the Municipal Council in planning, design, implementation and maintenance of the infrastructure.

6 REFERENCES

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Table 1   OPTIONS FOR INFRASTRUCTURE DEVELOPMENT

	PRIMARY Grants	IMPROVEMENT Loans
GROUND PREPARATION	all ground compacted to above one in five year flood level and graded to slope for drainage average US$100/HH served	landscaping and planting in public and semi-public areas
DRAINAGE	lined sullage drains, earth storm drains average US$32/HH served	all drains lined average US$17/HH served
ACCESS	earth/gravel roads, emergency vehicle access to each house average US$8/HH served	surfaced macadam average US$60/HH served
WATER	single standpost per 30 households average US$5/HH served	household connections with informal storage average US$40/HH served
SANITATION	household toilets with on-site leaching tanks, temp. superstructure average US$50	same, but with permanent superstructure average US$67 extra
SOLID WASTE	single transfer bin per 40 households average US$1/HH served	single transfer bin per 20 households average US$2/HH served
POWER	access for future overhead line	overhead lines, street lighting, house connections average US$260/HH served
COMMUNITY	community centre building average US$33/HH served	

Table   2   HOUSEHOLD LOAN   REYPAYMENTS
             Costs in US $

ITEM	LOAN	MONTHLY CHARGE	CUMULATIVE MONTHLY TOTAL
Housing loan	333	2.9	2.9
Maintenance of house		0.8	3.7
Local Authority rate		0.1	3.8
Sanitation: pit latrine	117	2.2	6.0
plus maintenance		0.1	6.1
Water: connection	38	0.7	6.8
tariff		0.5	7.3
Road surfacing	60	1.1	8.4
Drain lining	17	0.3	8.7
Power: connection	260	5.0	13.7
tariff		3.3	17.0