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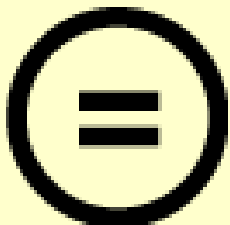
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**AN INVESTIGATION INTO THE PROCUREMENT OF URBAN
INFRASTRUCTURE IN DEVELOPING COUNTRIES**

by

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**A Doctoral Thesis Submitted in partial fulfillment of the requirements for
the award of Doctor of Philosophy of Loughborough University**

June, 1997

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Dedication

The research is dedicated to the idea that urban poor have resources and the will to improve their quality of life and the engineering profession could facilitate them in achieving so.

Acknowledgments

The research work has been made possible by the help, assistance and advice of a number of people. I am deeply indebted to my supervisor Dr. Cotton for his thoughts, guidance and kindness. The colleagues at the Loughborough university have helped to support my research. My particular thanks to Ms Jane Olley, Dr. Syed Mansoor Ali, Mr. Darren Saywell, Mr. Derek Miles and Dr. Pasquire.

A number of people in developing countries have helped me during the data collection. I am particularly thankful to Ms. Perveen Rehman, Mr. Arif Hasan, Ms. Sara Siddiqui, Mr. Ganepola, and Dr. Akhtar Hameed Khan. The names mentioned are not comprehensive as there are many more without their help the work would not have been completely.

I am also grateful to the Department for International Development, UK for funding the research.

My thanks to Mr. Howard Billam for proofreading the thesis.

Abstract

The poor in urban areas of developing countries suffer from inadequate tertiary (neighbourhood level) urban infrastructure; water and sanitation, solid waste, drainage, access pavements, street lighting and community buildings. Procurement of tertiary level infrastructure is the responsibility of the public sector. Rapid urbanisation is outstripping the already lacking resources of public sector. The involvement of private commercial sector in the procurement is through the micro-contracts. The term, 'micro-contracts', is proposed for the small and medium size contracts. In some cases a third sector like NGOs, CBOs and community groups have also played roles in the procurement of infrastructure. The processes, roles, relationships and performance of micro-contracts procured under routine and community participated strategies were explored with a view to promote the role of the community in the procurement process. The constraints to contract, relationship between public sector and community groups and ways to overcome those constraints were explored. The contract contexts were taken from India, Pakistan and Sri-Lanka. Both qualitative and quantitative techniques were used. A multiple case study approach was adopted for the research. During the research three hundred and ninety contracts, more than a hundred interviews and filed notes and more than two hundred documents related to the micro-contracts were reviewed and analysed. The concept of benchmarking was adopted in performance analysis. 'Community partnering' is proposed as a procurement strategy to facilitate the community to play different roles parallel to the roles of Client, Engineer and Contractor. The cost and benefits of community partnering were discussed. It was concluded that, for the similar conditions studied, the community partnering between the urban public sector and suitable urban communities is an appropriate procurement strategy. The recommendations include a number of actions which could be taken to promote the community role in urban infrastructure procurement. Areas of future research are proposed.

Key Words: Urban, infrastructure, procurement, developing, public sector, third sector, benchmarking, community, partnering, micro-contracts, contracts.

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Acronyms and Terms

ADB	: Asian Development Bank
BOLT	: Build, Operate, Lease and Transfer
BOO	: Build, Operate and Own
BOOT	: Build, Own, Operate and Transfer
BOT	: Build, Operate and Transfer
CBOs	: Community Based Organizations
CDC	: Community Based Organization
CMC	: Colombo Municipal Council
CPP	: Community Partnered Procurement
CSPU	: Clean Settlement Programme Unit
ICB	: International Competitive Bidding
ICTAD	: Institute for Construction Training and Development
KMC	: Karachi Metropolitan Corporation
NGOs	: Non Government Organizations
NHDA	: National Housing Development Authority
OPP	: Orangi Pilot Project
SIP	: Slum Improvement Programme
SKAA	: Sindh Katchi Abadis Authority
SMC	: Sukkur Municipal Corporation
UBS	: Urban Basic Services
UNCHS	: United Nations Center for Human Settlements
WB	: World Bank

Some of the terms defined

Public sector

This term is used to identify the Government sector at any level. It includes the national, state and local level government organizations. It also includes the specialist organization dealing with a particular service and projects with specific targets to achieve.

Commercial private sector.

This refers to institutions, firms and individuals active in different aspects of the infrastructure provision process but always organized to generate profit on the investment of their resources. A private contractor getting work from a government department comes in this sector.

Third Sector

This refers to organizations which have as their objectives the promotion of the good of the their members and to institutions which support and mediate on behalf of these organizations. The community based organization, Non-Government organizations and co-operative societies may belong to this category. Theoretically the motive of this sector is not profit making.

Community groups

For the purposes of this study community group is taken as people in low income urban communities .

That may include:

- Individual or groups of beneficiaries;
- community groups with no legal status;
- Association or groups with legal status, with or without separate legal personality as a group;

- Small-scale artisans and other local or small commercial organizations and guilds; and
- Small and local level organizations, particularly NGOs, which support and facilitate the flow of public sector funds to individuals.

Procurement strategies

These are the *mechanisms used to procure infrastructure*.

The remaining terms are defined as and when they occur in the study.

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Chapter 1 Introduction

The provision of infrastructure to low income urban communities has been a topic of research for some time. The stimulation for this work has been the increasing international interest in promoting the participation of community groups in improving access to basic services at the household and neighborhood levels. There is a substantial body of work addressing the issues of community participation and empowerment, which identifies barriers to increased community participation and suggests ideas and techniques for tackling the problems. Broadly speaking, this examines matters from the viewpoint of community members and groups; appropriate institutional responses to increase the levels of participation are also considered. However, regarding infrastructure provision, we need to discover and understand how community-based initiatives relate to and can link up with the formal procedures of government. Unless we understand how and why urban government procedures operate to procure infrastructure, even the best mobilised and participative community group can get no further in accessing the funds and other resources of urban government.

This research is concerned with improving access to basic infrastructure for low income urban people in developing countries. Cases involving works relating to water supply, sanitation, drainage, access, paving, street and security lighting, solid waste removal, and community buildings have been investigated. The focus is on the *procurement* of infrastructure; that is, what mechanisms, both conventional and unconventional, government and non-government, have been adopted in efforts to deliver improved services. This encompasses a wide range of issues, ranging from engineering to the institutional, cultural and social background. The central theme is how these issues interact through the mechanisms of *agreements, procedures and contracts* whereby things actually get done. The cases in which communities have taken a part in the planning and implementation of urban infrastructure interacting with the public sector are of particular interest.

If the processes, roles and relationships of the routine procurement strategies and community initiatives are better understood we have a better chance of assimilating community initiatives into mainstream procurement strategies.

The purpose of this research is to investigate ways to promote the role of the community in the procurement of urban infrastructure in developing countries. The focus of the study is the procurement process, in relation to small and medium-sized contracts. The processes studied relate to the small and medium size contracts. The contracts studied were procured under routine procurement and community participated procurement in urban areas of developing countries.

The hypothesis of the study is that within the similar representative conditions of this study, 'community partnering' between the urban public sector and suitable urban communities is an appropriate procurement strategy.

The study will advance knowledge about the processes, roles, relationships and performance of routine procurement strategies for small scale urban public works and community initiatives. It will provide an understanding of the constraints to, and ways to overcome problems faced by assimilating initiatives into public procurement strategies. A focused study on the small and medium size contracts related to the procurement of urban infrastructure to the poor in developing countries provides a fresh and practical angle to the wider issue of public and community partnering in development.

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Chapter 2 Procurement strategies and related issues

2.1 The urban setting in developing countries

The urban population in most developing countries is increasing extremely rapidly. Conventional approaches have proved inadequate to meet the demand for shelter and services created by this rapid urban growth. This has led to a proliferation of informal, unimproved slum and squatter settlements.

'More than 600 million people in cities and town throughout world are homeless or live in life-health threatening situations...by the year 2000, almost fifty per cent of then world's total will be living in urban areas'(UNCHS, 1996). The ability of government to provide infrastructure will be far outstripped by the inexorable increase in demand. The poorest and most vulnerable will continue to suffer from the lack of services and work opportunities.

A shift in the role of the government is advocated to improve infrastructure provision. The role of the government is to be transformed from that of sole provider to that of an enabler. The constraints faced include the lack of financial and institutional resources (UNCHS, 1996).

Currently, infrastructure typically represents 40 to 60 percent of public investment. Developing countries invest \$ 200 billion a year in new infrastructure. In spite of this, one billion people in the developing countries still lack access to clean water and nearly 2 billion people lack adequate sanitation (World Bank 1994).

The demand is not only to supplement the financial resources for the procurement of infrastructure but also to improve the effectiveness and efficiency of the procurement process.

A large proportion of a national development budget is utilised through award of contracts to procure infrastructure. Small and medium sized contracts are significantly large in numbers as compared to the large contracts. This is especially true in cases where tertiary infrastructure is provided to the urban poor. Thus understanding the processes related to the procurement of such contracts is essential to improve the procurement process

Generally, in developing countries, responsibility for infrastructure procurement rests with the public sector. Government departments have set procedures, rules and regulations which are governed by the law of the country.

2.1.1 Modes of public interventions to provide urban infrastructure

The following section briefly describes the main approaches adopted by the public sector to combat the shortfall in housing and infrastructure in developing countries.

Interventions come both from the public and the private sector. The public sector supply of land for housing, constructed houses and infrastructure is much lower than the demand. The formal private sector concentrated on the better-off classes in the society. Demand from the urban poor was acute, and the informal sector became a significant supplier of housing and infrastructure to this group. The slums and squatter settlements appeared in the cities. The public sector responded (Wakely 1988) to the situation of acute shortage of housing and infrastructure as follows:

1 Government built housing and infrastructure.

The first reaction from the public sector was to construct more houses for more poor in the shortest possible time. Mass production of housing units and related infrastructure was envisaged. Housing and related infrastructure was provided at subsidized rates. Even these rates were not affordable by the poor. It was estimated

that this type of housing could not be afforded by over half the population of most urban areas (World Bank, 1974).

Slums were cleared as these were not seen conducive to the *nice* appearance of the urban building blocks. Slum dwellers were displaced: the intentions being the they move to the newly constructed government houses. However, many of these units remained empty (Wakely 1988). The approach was top-down and did not meet the requirement of the slum dwellers. People did not want what was provided to them. The people in many cases sold the houses to the better-off and moved to another squatter settlement. Communities were not involved in the decision making process for the location, design, standard of construction and implementation.

The cost of construction was high. The approach created a burden on the scarce resource of the public sector in the developing countries. Ultimately the whole approach was abandoned.

2 Aided self-help

This approach resulted in an attempt to reduce the cost of the projects to the public sector. The approach entails the provision of labour services by the beneficiaries. As an aid the construction material and supervision was provided by the public sector. The contractors' overheads and profits were supposed to have been saved. The individual control of a householder over construction was reported to have minimized wastage (Cotton and Franceys 1988) However, some of the services which were provided by private contractors such as construction management and site supervision were also transferred to the beneficiaries and the public sector.

Wakely (1988) summarized the criticism of this approach as follows:

- The savings generated by the use of beneficiaries as labourers were minimal.
- The use of skilled manpower for the supervision of totally unskilled and undisciplined manpower was less productive.
- The householder's time available for building rarely fitted with the regular working hours of the public sector officials.

The major decision making was still with the public sector. The people were not involved in the key decision making. They were not given the choice to volunteer for the labour. Labour provision was a pre-condition of the approach.

- Obligatory nature of participation.

3 Sites-and-services

In this approach, land which has not previously been used for housing, or a site which has been cleared of shanties is prepared and the plots are blocked out. The services are provided before people moved to the plots. The people moved to the plots and started construction. It was left with the people to construct the houses incrementally according to their needs and resources.

There was a degree of recognition about the resourcefulness of the urban poor to procure and manage their shelter and infrastructure. It was also noted that only a minority of urban households actually constructed their own houses. However, in many cases they contracted local artisans like masons to do construction for them. They were involved in the control, management and supervision of the construction (Wakely 1988).

There was delegation of power to the users as far as construction of houses is concerned. However, in the provision of related infrastructure the people were not involved.

4 Slum-upgrading

Here the idea was to improve the health and environment through the provision of services to the existing settlements. This was a radical change from the policy of slum clearance. In this approach, an existing slum or shanty is gradually improved. The people are not displaced. The size and shape of some plots may be altered.

There was a greater role of the beneficiaries in the decision making. The idea was to devolve responsibility to the lowest effective level. The intended benefits were the

sense of ownership by the beneficiaries and hence improved operation and maintenance, less burden on the public sector, beneficiaries getting what they wanted, no movement from their place of living and community development .

Sites and services and slum upgrading do not in themselves imply better involvement in decision making by the people. They are alternate physical approaches. The management approach is a different issue.

5 Support approach or partnership.

There has been less debate and relatively few concrete examples of a support approach for infrastructure. Infrastructure has important parallels with housing (Cotton and Tayler 1994). The support approach advocates a radical change in the role of the public sector, away from that as the provider to the enabler. The idea was to help people to help themselves. Emphasis was given to understanding on-going practices and supporting such initiatives, and it entailed involvement of communities in planning and design. The support approach was reported to be cost effective and beneficial to community development (Cotton and Franceys 1991).

The implications of the changed role of the public sector were the introduction of supportive legislation and changes in the government regulations, procedures, attitude and behaviour. The legislation in force in many developing countries is based on the nineteenth century model of public sector as provider of urban services. The implication of the support approach includes modifying the legal, regulatory and procedural framework to accommodate the new roles of the public sector and community.

The main approaches could be classified as following either the 'provider' or the 'support/enabler paradigm'. The 'provider' approach generally advocates the mass production of housing and infrastructure through mechanization, standardization and control. On the other hand, the support approach emphasizes the means through which the participation of small builders and community members could be increased by capacity building (Hamdi and Goethart 1989) thereby, achieving the required large

scale provision of housing and infrastructure. The participation of the community appears to be the critical factor in the support paradigm. Its basic assumption is that the people are resourceful.

The support or enabling approach is based on partnership. Partnership may be between a community group and any of the following;

- 1 Public sector
- 2 Commercial private sector
- 3 Non-commercial private sector or third sector

Issues of the relationship between public and private sector are explored in subsequent sections and chapters.

2.1.2 Relationships (contracts) between public sector and other sectors

The mode of transaction between the public sector and other sector in infrastructure procurement is the contract. This research explores the agreements, procedures and contracts that are the basis for the implementation of infrastructure improvements for urban low income communities. In engineering terms, the works themselves are minor and usually of low cost, but are nevertheless complex to implement given the physical and social fabric of low income urban areas. The term *micro-contract* is adopted to refer to the countless number of small contracts for works that are the mainstay of urban improvement in the South Asian context. In this thesis, an arbitrary value of £10000 is assumed for micro-contracts, on the basis of experience of typical works in study areas where the contract value is typically less than £10,000 [1996 value].

This research is based on work carried out in India, Pakistan and Sri Lanka, where the legal framework is based on English law, and was developed during the period of British rule. During this period, the Public Works Department was responsible for the implementation of building, public health, irrigation and general civil works. Detailed procedures were made to handle contemporary problems in the procurement of infrastructure (Ali & Ali .1992 a) and (Ali & Ali.1992 b); it is interesting to review their development, and to note that they were frequently amended in response to new

situations. It was the then Superintending Engineers responsible for the works who suggested changes as and when they felt it necessary. This contrasts sharply with the present day; in the post colonial period in Pakistan, for example, there have been few changes in almost fifty years. The situation has changed and continues to change, yet there is a lack of responsiveness in the procurement procedures to reflect this.

At this stage, it is useful to consider briefly some of the basic concepts which will be central to the analysis of the findings. The *procedures* refer to the organized systems within which projects are conceived, planned, and brought into being by urban government. In the legal context *contract* is a binding agreement between parties based on an offer by one party to do something (in our case to construct the infrastructure) in return for a consideration (that is, payment). The contracts vary a great deal in their degree of formality and specificity. There are some contracts which are relatively vague and informal. In many cases no documents exist to describe such contracts. Such contracts have been termed as relational contracts (Macneil 1978) and (Williamsons 1985).

In urban government in South Asia, the most commonly used procedures for the procurement of infrastructure are those which lead to the award of contracts; these procedures are discussed in chapter four. Whilst they appear complex to outsiders (at times almost mystically so) their underlying objectives are concerned with:

- *Accountability* in the spending of public money
- *Transparency* in the steps of the decision-making processes

In relation to the actual contracts, there is a need to focus on who is involved in a contract and what their various obligations are. The most commonly used engineering contracts recognize three main actors: *Promoter*, *Engineer*, and *Contractor*.

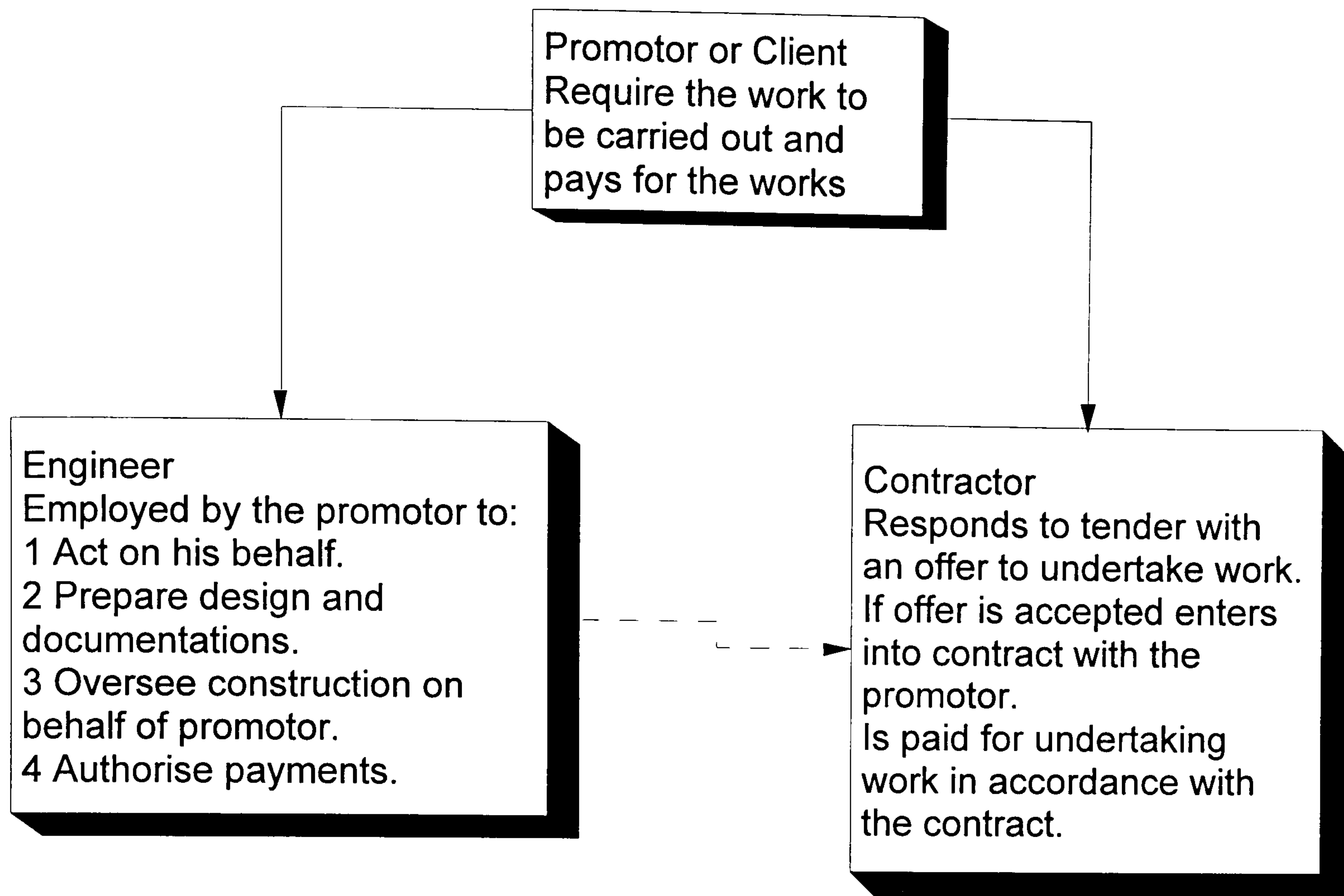


Figure 2.1 The roles in the procurement and their interrelationships.

Note: The solid lines indicate the contractual links and the dashed line indicates a managerial link. There is no direct contract between the Contractor and the Engineer.

A typical case in South Asia (and elsewhere) involves urban government letting a contract to a private sector contractor for the construction of infrastructure improvements as part of its urban upgrading program. Urban government is the *Promoter*, they have planned and designed the work, and are paying for it to be implemented. The urban government appoints an *Engineer*, who is usually in the full time employment of the relevant government department. It is rare for private sector consultants to fulfill this role for minor engineering works in South Asia. According to the procedures laid down, a *Contractor* is appointed to do the actual construction work.

The *Engineer* has the important role of ensuring that the interests of the *Promoter* are met, and that the *Contractor* is duly paid for his efforts. The promoter wants the best value for money and the contractor wants a good profit; whilst this can involve an enormous range of complex and contentious issues, satisfying the various interests often comes down to ensuring that three fundamental objectives are met. These are:

Cost: Has the work been completed within the costs agreed in the contract?

Quality: Has the work been done in accordance with what was specified?

Time: Has the work been satisfactorily completed within the time specified?

However, community groups and individual householders do not figure anywhere in the procedures, contracts and documentation used in these circumstances. It is assumed that they are passive consumers who are deemed to be satisfied if works are undertaken to the satisfaction of the urban government as promoter. This is not the universal case; this research has found that the involvement of community members and groups in the procurement of their local infrastructure is quite widespread outside the routine public sector procurement but not, at present, great in scale.

If the standard procedures, contracts and documentation do not foresee a role for community members and groups, then how have these community-based initiatives worked? If greater involvement of community members and groups as primary stakeholders is to be promoted, then there is a need to investigate to what extent existing procedures create barriers, and how these barriers can be overcome in a way which is acceptable to the existing power structures within urban government.

2.2 Organisations, objectives and roles

Different kinds of organisations may interact through contracts for the procurement of infrastructure. The following sections provide a brief overview of the issues related to organisations.

2.2.1 What is an organisation?

In organisational behaviour literature, an organisation is defined as 'a structured social system consisting of groups and individuals working together to meet some agreed-on objectives'(Greenberg & Baron 1995). This definition of organisation is broad enough to cover a range of organisations such as a neighbourhood society, contractors and bureaucracy. Procurement can be considered as a social

process. It involves interactions among individuals and organisations. The public sector organisations that deal with the procurement of infrastructure can be classified as a special kind of organisation termed as 'bureaucracy'. By definition a bureaucracy has characteristics of having; formal rules and regulations, impersonal treatment, division of labour, hierarchical structure, authority structure, lifelong career commitment, rationality (Weber 1921 as reported by Greenberg & Baron 1995). Public sector departments can be classified as bureaucracies as they have characteristics mentioned above. The implications are that any relationship involving the public sector will have to exist under a framework of the prescribed rules and regulations of the organisation. This research will argue that practices and possibilities within an existing regulatory framework are to be considered as a starting point in any desired changes in procurement procedures.

The project organisation or a web of organisations involved in a contract or project can be considered as a special kind of organisation whose objective and life are limited. A project is a web of inter and intra-organisational relationships formed for a set time.

The organisations that are formed to fulfil the ongoing objectives, like health services in general or maintaining peace and order in a country are quite different in nature to that of a very short lived project organisation. It is usual that project organisations are formed to achieve some specific objective. Project organisations may draw resources from relatively permanent organisations to achieve particular objectives.

2.2.2 Organisations for the procurement of infrastructure in the public sector

At various levels in the public sector a whole range of organisations are responsible for the provision of urban infrastructure and service. These include municipalities, state and national level departments and authorities, and specialist

project or programme organisations. To achieve their objectives, these public sector organisations also procure resources from outside. In so doing they enter into different relationships with different actors or stakeholders.

Stakeholders are defined as individuals or groups with power to effect the organisations under consideration and having a stake in the organisation's performance (Freeman 1984). It follows that to meet different objectives, organisations enter into relationships with stakeholders.

Key Points

- Organisations have well-defined objective.
- There are different kinds of organisations.
- Government departments are bureaucracies.
- Bureaucracies have set rules and procedures.
- Organisations have stakeholders.

2.3 The metaphor of contract

Assuming that project organisations can be thought of as temporary firms, we can deduce that:

- The organisation can be seen as a 'nexus of contracts' between itself and its stakeholders (Jensen & Meckling, 1976).
- The contract is an appropriate metaphor for the relationships between the organisation and its stakeholders (Eisenhardt, 1989). Contracts can take the form of exchanges, transactions, or the delegations of decision-making authority, as well as formal legal documents (Jones, 1995). Precedents exist for a broad definition of contract (Jensen & Meckling, 1976, Williamson, 1984, 1985, Dunfee, 1991).

'The contracts vary greatly in terms of degree of formality and extent of specificity. Some contracts, say between a firm and its neighbouring community, are relatively vague and informal; certainly no documents exist to describe these

contracts' (Jones, 1995). Contracts of this type have been called *relational contracts* (Macneil, 1978). In the research context, the contract could be for construction, construction supervision or financing between public sector and the community group.

Treating contracts in their broad sense would facilitate understanding informal relationships between stakeholders and bureaucracies. The theoretical perspective would also help in understanding relationships that are not formally documented or which are verbal contracts.

Jones(1995) traced the basis of such contracts to a 'common thread' in three theoretical basis; agency theory, transaction cost economics and team production.

Key Point

- Contract in its broad sense provides a framework to deal with various types of relationships.

2.4 Agency theory

A comprehensive account of the development, criticism and usage of agency theory is provided by Eisenhardt (1989). Though it is not the intention, nor within the scope of this study to prove or disprove the theory, it is considered as a useful theoretical hinge for this work. Some points of interest as highlighted by Eisenhardt (1989) are:

- 'Agency theory applies to relationships in which one party (the principal) delegates work to another (the agent), who performs that work. The agent acts for the principal'. The problems of conflicting goals and different propensities to accept risks were mentioned. Procurement is a situation where such principal-agent relationship exists.
- The central question for agency theory becomes: What types of contract best suit agency relationships of various types.

- Contracts are thought to be efficient if they minimise the sum of the following agency costs:
 - 1 Monitoring costs borne by the principal to reduce agent actions that would harm the interest of the principal.
 - 2 Bonding costs borne by the agent to guarantee that the agent will not take actions that harm the interest of the principal.
 - 3 A residual loss incurred because monitoring and bonding may not fully align agent behaviour and principal interests.

Various interest-aligning devices were mentioned such as incentive structures, monitoring mechanisms, and governing structures that will reduce 'opportunism' to an 'efficient' level for which the costs of further reduction outweigh the benefits.

- The theory uses contracts as its unit of analysis.
- The theory attempts to resolve the problem that arises when 1) the desires or goals of the principal and agent conflict, 2) it is difficult or expensive for the principal to verify what the agent is actually doing.
- The concern of the principal and agent researcher includes application to employer-employee, lawyer-client, buyer-supplier, and other agency relations (Harris & Raviv, 1978).

Key Point

- The agency theory provides a useful theoretical hinge for this research.

2.5 Principal-Agent relationship: a key in the provision of urban services

The public sector in the South Asian context is responsible for the urban services and related infrastructure. Though it is solely responsible, they do not execute all the tasks related to service provision. They buy or procure many goods and services or resources to produce goods and service. In such cases we enter into a situation that is in effect a principal-agent relationship.

Procurement of urban infrastructure involves a diverse form of contracts/relationships and diverse kinds of stakeholders or potential agents. A list of potential stakeholders is provided in Table 2.1.

Stakeholders can be defined as the entities that can influence or be influenced by Public Works procurement. Some of the potential stakeholders are listed in Table 2.1.

Table 2.1 List of Stakeholders involved in procurement of infrastructure

1 Promoter/Client/Owner	10. Local Community where the work is executed
2 Engineer	11. Government Departments concerned
3 Contractors/Constructors	12. Regulatory agencies
4 Sub-contractors	13. Insurance/surety companies
5 Suppliers	14. Banks/Financial institutions
6 Local Suppliers	15. Politicians
7 End users	16. The general public
8 Interest groups	17. Foreign Donors
9 NGOs, Cobs	

2.6 The framework in which urban infrastructure is to be procured

The organisations, especially the public sector, exist within legal boundaries. The framework of acts, bye-laws, and regulations is used to define the day to day business of the organisation. The public sector has developed procedures with a view that if these are followed the practices would deem to have been within the framework. There are volumes of rules, regulations, manuals, codes and forms to explain to government officials how to maintained accounts, how to prepare for audit and how to get the work done (Ali, 1992(a) & (b), 1993, 1994, Bhattacharya 1992, Account code 1992, General Financial rules 1992). The procedure of particular interest is Public Works procedure that deals with the procurement of works in general.

It can be deduced that for any practice to become a mainstream procurement strategy in the public sector appropriate backing is to be found in relevant procedures, regulations and laws.

2.7 Routines in procurement

It is quite understandable that a typical official is under a lot of pressure to follow wide ranging and complex procedures. The response is to make the actions and tasks as routine or repetitive as possible. If some practice had been proved to be safe from the point of view of procedure, the easiest and safest way is to keep on following it. The drawback is that any innovative approaches that differ from the routine are seen as threatening. A related effect is that the boundaries of the existing framework are not explored or modified to assimilate the innovations.

Therefore, any practice different from the routine should be within the broad framework or require only a slight adjustment to the procedures.

This research will explore the ways in which the procurement of urban infrastructure is undertaken in a routine manner and ways in which the innovations in the procurement of urban infrastructure occurred. A comparison and understanding of both kind of processes would help in assimilating one into another.

There is a dearth of studies looking into the relationships where the principal and agents are from different kinds of organisations and especially where the principal is a public sector organisation.

In subsequent chapters we will review the available literature relating to procurement.

Key points.

- Principal-Agent theory provides a framework to understand different contracts.
- Officials have to deal with complex departmental procedures.
- Existing routine practices do not encourage innovation.

2.8 A review of strategies

The development of procurement strategies in the UK provides a relevant background to the development of procedures in the ex-colonies of the British Empire. One key factor in the development of contracting systems was the relative economic power of the parties involved. The increased involvement of contractors in the development of their conditions of contract reflects the relative increase in their power. 'Over the centuries that power has been modified to the point where economic power rests with the contractor. When the contract has been delayed the contractor blames the building owner and sues for damages'(Nisbet 1993)

Salzman (1952) described the contracts used in the fifteenth century. These were short and without many attachments such as drawings or specifications. Only references were made to some drawings.

Nisbet (1993) gave an account of the development of the procurement arrangements in the UK. The standard forms of the RIBA, ICE, and of government contracts, which have influenced the national and international contract even in developing countries, had maintained the principles which dated back to 1895. The principles were:

- The general contract system applied (i.e. the whole of the works would be carried out by one person or organisation)
- The work would be completed for a predetermined lump sum price
- the design and working drawings would be complete before work started
- the administration of the contract would be the sole responsibility of an architect or engineer

The same principles were endorsed for the post war construction (Simon 1944) but with the following criticisms on the procurement strategy:

- insufficient pre-contract preparation
- extensive numbers of variation orders
- Indiscriminate competition

- Poorly defined relationship between the general and nominated sub-contractors

The remedies were also identified and recommended:

- the building owner should do his thinking in advance and see that work is not started on site until the whole of the job has been carefully thought out and that all requirements have been accurately defined in drawings, specifications and bills of quantities
- the general contractor should be selected by competitive tender from a limited and carefully selected list of builders
- the general contractor should co-ordinate and control the whole of the works on site and have under him sub-contractors with whom he knows he can work.

One dominant procurement system, traditional contracts, played a crucial role in the procurement of infrastructure in developing countries.

Traditional contracts can be described as a combination of the three components organisation structure, basis of remuneration, and selection system (Nisbet 1993). The components of the traditional contracting system is tabulated in Table 2.2.

Table 2.2 Components of traditional contacting system

Organisation structure	Basis of remuneration	Selection system
1 Construction only by one builder ↔ general contract system.	1 Lump sum with no detail.	1 Competition unlimited.
2 Construction only by two or more builders ↔ separate trade system	2 Lump sum with schedule of rates for valuing variations.	2 Competition between a selected number of firms.
3 Design, construct and equip by one builder ↔ turnkey system	3 Lump sum with priced bills of quantities.	3 Negotiation with two or more firms.
	4 Schedule of rates without quantities.	4 Appointment of one firm.
	5 Schedule of rates with quantities, i.e. bill of approximate quantities.	5 Two stage selection combines initial competition with subsequent negotiation.
	6 Cost reimbursement with fee that may be fixed, a percentage or combination of both.	6
	7 Cost reimbursement with maximum limit and with variable fee.	7

'↔' indicates the comparison between the categories.

Banwell (1964) and Latham (1994) were other reports that dealt with the procurement in the UK context. The problems that were highlighted in the Simon report were revisited in terms of conflict and the loss due to the conflicts. The emphasis on a team approach is the response to combat conflicts within the construction industry.

The choice for a client has increased considerably in recent times. Different strategies have come forward with the claims of meeting certain requirements. The strategies include; traditional, construction management, management contracting, 'design and manage' and 'design and build' (CUP 36 1992). The list is not exhaustive as different financing arrangement could generate the

strategies like 'Build Operate and Transfer'(B.O.T) or 'Build Operate Own and Transfer' (B.O.O.T) or Private Finance Initiatives (PFI) (HM Treasury 1995).

The key in classifying the different strategies is the role of the stakeholders. In traditional strategy the role of the contractor is restricted to construction while in design and manage the contractor gets involved in the design process as well. In construction management the contractor's role is to manage other trade and design contractors on behalf of the client without having any direct contractual link with the other contractors. In management contracting there are contractual links with the trade contractors. In option like BOT or BOOT , the contractor is involved in the operation. In PFI the contractor is providing the finances.

One could generate different strategies by selecting the role of the contractor in different ways. One can see the Principal-Agent relationships in all the arrangements. However, the roles of the stakeholders may be different in different situations.

Some of the advantages and disadvantages of the different contract strategies are provided in HMSO CUP 36 (1992). Table 2.3 provides a summary of the factors /variables affecting the selection of strategies.

Table 2.3 Summary of advantages and disadvantages of contract strategies

Parameters	Objectives	Traditional	Construction Management	Management Contracting	Design & Manage	Design & Build
Timing	early completion		√	√	√	√
Cost	price certainty before construction starts	√				√
Quality	prestige level in design and construction	√	√	√		
Variations	avoid prohibitive costs of change	√	√	√	√	
Complexity	technically advanced or highly complex building		√	√		
Responsibility	single contractual link for project execution				√	√
Professional Responsibility	need for design team to report to sponsor	√	√	√		
Risk Avoidance	desire to transfer complete risk					√
Damage Recovery	ability to recover costs direct from the contractor	√		√	√	√
Buildability	contractor input to benefit the department		√	√	√	

Source: Adapted from HMSO Cup 36

Note the factors in the table above do not include the socio-economic factors such as poverty alleviation and empowerment of communities which are increasingly becoming objectives of the new generation of urban development projects in developing countries. It is to be noted that if such factors are to be included, the selection criteria would need to be modified. Currently the main performance criteria are time, cost and quality.

Key Points

- Traditional contract is the dominant mode of procurement
- Time, cost and quality are the main considerations
- Introduction of new factors may change the criteria of strategy selection criteria.

2.9 Risks and contracts

It is important to explore the concept of risk in relation to contracts, particularly with respect to situations in which community groups rather than conventional contractors are to be given the opportunity to procure infrastructure.

Once the procurement strategy is chosen according to the objectives of the client the next step is to choose the conditions of contract. There are many standard conditions of contract available. However, in the public sector only prescribed and approved conditions of contracts are used. In South Asia it is found that the Public Works Departments are still following the same conditions as were used during the colonial days prior to 1940's apart from some very minor changes made to the conditions. The result is that the choice for public sector works in developing countries is restricted. The database index in the appendix provides a listing of conditions of contract available, including the ones used in developing countries and the ones used in the community-participated procurements. There is a recent trend in developing countries to use the international conditions of contract, like FIDIC(Federation Internationale Des Ingenieurs-Conseils), for the domestic procurements. The examples are conditions of contract developed by ICTAD, Sri Lanka and the Pakistan Engineering Council. However, there is still a need to develop appropriate conditions of contracts for minor and micro works.

The conditions of contract apportion the various risks among the parties involved. Risks are uncertainties where a numerical value for probability could be assigned (Fellow & Langford 1980). The other decision scenarios are certainty and uncertainty. In practical terms the risks and uncertainties could be considered as same.

There are many ways in which the risk could be classified in the context of construction, for example physical, financial, performance, and legal and political risks (Liu, 1994). Another classification was by Clamp (1993) in relation to shorter forms of contract such as:

- 1 Fundamental risks-war damage, nuclear pollution, supersonic bangs
- 2 Pure risks-Fire damage, storm
- 3 Particular risks-collapse, subsidence, vibration, removal of support
- 4 Speculative risks-ground conditions, inflation, weather, shortages and taxes

The classification of risks can be used to analyse risk-apportioning in different contract strategies and in different standard conditions of contract.

Typical risks include:

1. The project failing to be built within the stipulated design and construction time.
2. The failure to obtain the expected outline planning, detailed planning or building regulations approvals within the time allocated in the design phase.
3. Unforeseen adverse ground conditions delaying the project.
4. Exceptionally inclement weather conditions delaying the project.
5. Strikes by the labour forces.
6. Unexpected price rises for labour and materials.
7. The project failing to be let to a tenant upon completion.
8. Accident to an operative on site causing physical injury.
9. Latent defects occurring in the structure through poor workmanship.
10. Force Majeure (for example flood, earthquake.).
11. A claim for loss and expense from the contractor caused by the late production of design details.
12. Failure to complete the project within the client's budget.

Rationale of sharing risks

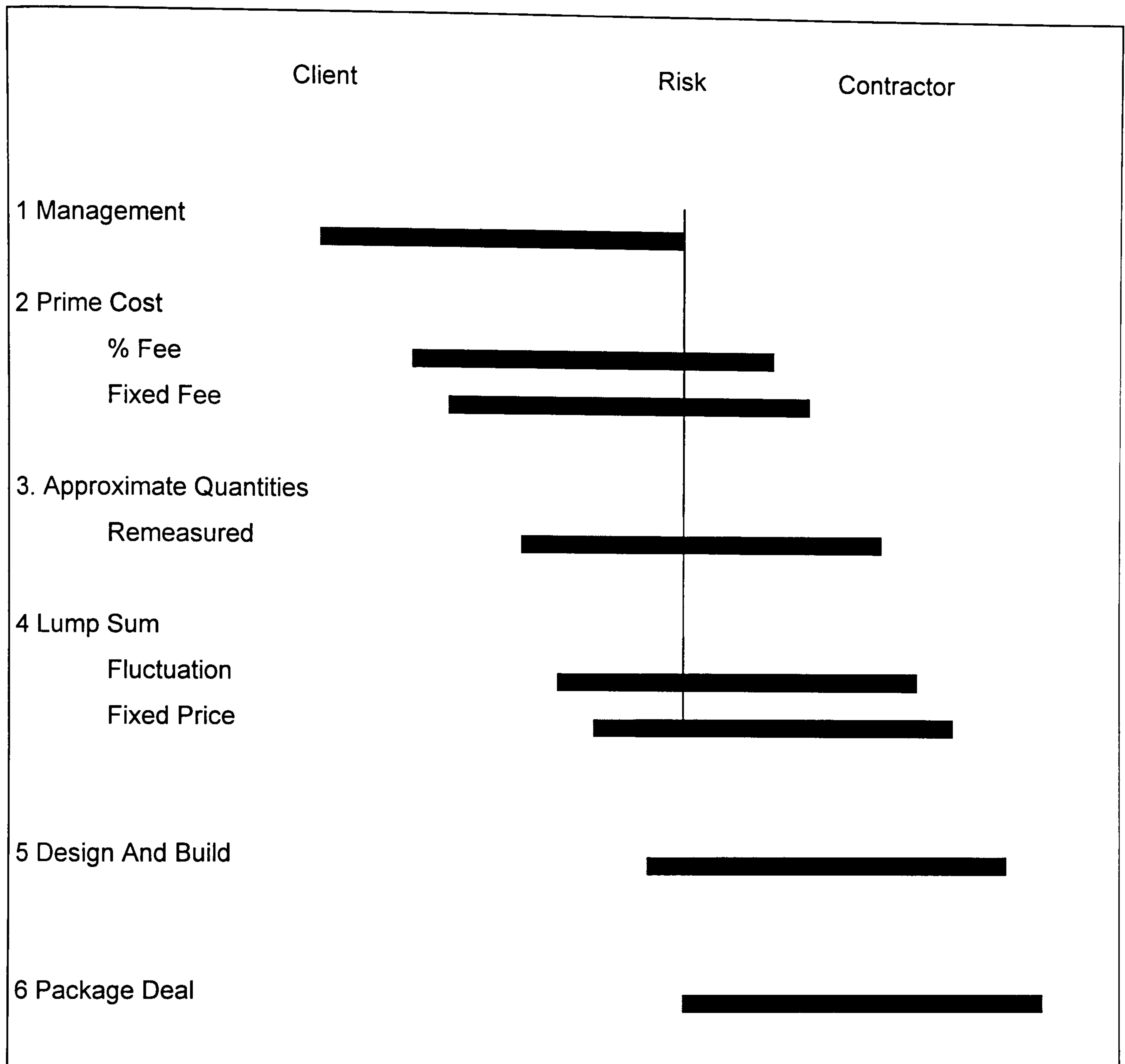
The recommend principles for sharing of risks are as reported in Liu (1994):

- All risks are rightfully the owner's unless transferred, transferred to or assumed by another party for a fair compensation. When the risk is so transferred, consider where the receiving party has the competence to fairly

assess the risk and expertise necessary to control or minimise it (Casey 1979).

- If a risk is imposed upon a party, an opportunity for the reward to the party should exist for properly dealing with the risks.(Nadel 1979).
- A risk should be best allocated to the party that is in the best position to control it (Nadel 1979).
- Steps should be taken to assure that risks are actually allocated as intended (Nadel 1979)

Figure 2.2 Qualitative risk apportioning in different contract strategies



Source: Clamp (1993)

The strategies 1, 2, and 3 in figure 2.2 do not put disproportionate risk onto the contractor. If the community group lacks the capacity to undertake the major proportion of the risks as contractor then strategies similar to those above could be adopted. On the other hand if the community is playing the role of client and not in a position to take the risk then the strategies 4,5 and 6 may be considered. The above strategies should be taken only as guide and many combinations of strategies are possible.

Figure 2.2 is intuitive; it could also be noted that the admeasured contracts are considered to allocate the risks equally. The fundamental risks are generally the

risk of the client. In the context of the minor and micro works, because of the low cost and the shorter duration of the works, the risks in general will be lower as compared to the major works. If the overall risks involved are relatively small the proportion of the risks to different parties would also be relatively small.

Since a) the risk which needs to be apportioned are minimum and b) the capacity of the client (public sector) to manage the risks in relation to small contractors is high, it can, therefore, be argued that the client may be able to assume higher risks without losing any additional benefits.

It seems that apportioning the speculative risks will have a cost impact on the tender cost. Any contractor who would assume risk would in turn include the cost of managing or transferring such risk in the tender. Such cost include the premium to the insurance companies. The premiums charged from the contractors would in turn depend on the evaluation of the contractor by the insurance company. If the public sector is more capable of handling the risk then insurance cover taken by the public sector instead of the contractors may be more cost effective.

Key points

- Contracts apportion risks among stakeholders.
- Different strategies apportion risks differently.
- Different parties may have different capacities to carry risk.
- Risks should be transferred to the party which can control them.

2.10 Enforcement of contracts

Legal contracts are in general enforced by the court of law. Llewellyn (1931) distinguished between 'iron rules' and 'yielding rules' and advocated the concept of contracts as a framework (after Williamson 1985). However, there are many matters in contract such as conflict resolution, that are resolved without recourse to a court of law. Such mechanisms are called private ordering. In relational

contracts such concepts could be quite useful in understanding how the contract works in such situations.

The other concept is that of the 'self-enforcing' contract. Telser (1981) described a self-enforcing contract as one that if one party violates its terms the only recourse of the other party is to terminate the agreement.

Key Points

- Contracts can also be enforced outside a court of law.
- Court ordering is one way of enforcing contracts.

2.11 Selection of appropriate procurement arrangements

In the conventional construction related literature the underlying assumption was that the contractor would be a professional contractor.

Though the classification of the procurement strategies could be found in the literature, there is little work which traces what actually happened in term of adopting a particular strategy to achieve objectives. The literature remains inconclusive to relate a particular strategy with success in a particular context. The tone of many studies is prescriptive or normative.

After reviewing different contracting systems, Warszawski (1975) concluded that the traditional contracting system suffers from two main drawbacks 1) the contractor cannot contribute to the design and 2) the construction work cannot be started before the design is complete. The conclusion was not very different from that of Simon (1944).

Smith et al. (1975) pointed out that the different terminologies, like construction management, management contracting, used in the procurement systems need to have a legal backing. The contractual relationship occurring under different

procurement strategies was also classified. However, there was no conclusion as to what relationship was suitable in what conditions.

Gore (1980), proposed a rationale for awarding the contract. The context used was the Indian public sector. This paper is unique in that it deals with the procurement systems of a developing country. The systems discussed were

1. Lump sum contract (LSC),
2. Percentage rate contract (PRC),
3. Item rate contract (IRC).

In the LSC system, the contractor agrees to execute a complete work, with all its contingencies according to the drawings and specification, for a fixed sum. The merits were reported as having:

- less administrative work.
- less work in measurement and billing.
- ease in planning and monitoring.
- The client has fewer worries that the contractor side would claim for additions and deletion of work
- quick decision in award of work.

The limitation of the system reported was the completion of the design before the invitation to tender.

In the two other systems, PRC & IRC, the contractor undertakes the execution of the work at fixed rates. In the PRC system the bill of quantities and schedule of rates, as worked out by the department, is attached to the tender indicating the anticipated value of the work. The contractor has only to quote an overall higher or lower percentage of value for which he is prepared to execute the work.

This system reduces the administrative work of computation of tenders. Note that this is different from the item rate system of bidding commonly used in the UK.

In IRC the contractor quotes independently for every item.

The 'merits' of both IRC & PRC include;

- the tolerance in variation

- reduction in overpayments
- modifications in design in context of the major work
- rigid control over consumption of material

The promoter's ease and convenience were a major factor in the elaboration of the merits and demerits of the systems.

The rules for the choice of the system were proposed as :

1. adopt LSC system when constructions are of repetitive and standard type and those wherein variations or deviations are not likely
2. to adopt PRC or IRC when the aforementioned conditions do not exist, however, preference may be given to PRC. The main reason given for the preference was the less administrative work in tendering process.
3. to adopt more than one system when a project is a combination of standard and changeable designs in different parts thereof.

The examples for the use of PRC were also provided; parking areas, roads, compound walls, water supplies, drainage.

As evidence, performance of one hundred building contracts was reported. The criteria [dependent variable] used were the variation in completion time, variation in completion cost, and incidence of disputes. The system of the contract was treated as the explanatory variable. By using very basic descriptive statistics it was concluded that the priorities would be '1) LSC; and 2) PRC or IRC'.

The 'splitting up' of the project was suggested to 'encourage keener competition as contractors other than large firms will also enter the competition'. It implies that at the time of writing the paper the author felt that only large firms had been able to compete for the contracts. One could argue that there would be a loss of economies of scale if projects are reduced in size. However, no such discussion was offered.

It is to be noted the systems of contract or contract-strategy like turnkey or management contracting were not considered. One reason could be that, in the public sector, the traditional contracting systems were the major option. In traditional contracting system the main contractor role is to construct only. It remains to be seen whether the passage of time will allow the public sector to include in their 'menu' of choices for contract strategies other than the three conventional ones mentioned above.

The difficulties in devising a method to choose an appropriate system can be summarised as:

- 1 No single person or body is fully conversant with all the main procurement arrangements (Hamilton, 1987). Even if we assume that there is such a body the next stage would be what to do with such knowledge.
- 2 There is no general overt consensus between the experts to systematise the procurement selection (Nahapiet and Nahapiet, 1985 and Hamilton, 1987).
- 3 No mutually exclusive sets of criteria uniquely and completely determine the appropriate procurement arrangement (Ireland, 1985).

Skitmore & Marsden (1988) attempted to develop a universal technique for selection of appropriate procurement arrangements using a multi-attribute technique and discriminant analysis to tackle the problems mentioned above.

A modified version of the National Economic Office's(1985) procurement path decision chart was used. The procurement options consisted of:

- negotiated traditional contracts
- competitive traditional contracts
- develop and construct [competitive]
- negotiated design and build
- management contracting
- turnkey contracting

The criteria consist of:

- speed, pre-construction and post construction

- certainty, original price, estimated time, and how much a client has to pay for a period of time
- flexibility, accommodating the changes
- quality level
- building complexity
- risk avoidance and responsibility
- price competition, value of money, maintenance cost and competitive tendering

Though it was demonstrated that the techniques could be applied if someone could assign the scores, the reliability and validity of the method was unknown.

Gordon (1994), provide another prescriptive and classificatory study. He described the choices available, 'Contracting methods have four parts: scope, organisation, contract and award'. He contended that the improvements could be achieved by:

- 1 Shortening the duration of the project by overlapping design and construction and /or eliminating the bidding.
- 2 Providing flexibility for changes during the construction time.
- 3 Creating more designer/contractor teamwork by reducing the adversarial relationship.
- 4 Allowing the contractor to participate in the design process.
- 5 Providing incentives for the contractor to save the owner money.
- 6 Providing alternative financing methods.

It was contended that 'the use of groups of drivers will guide the owner in choosing the correct method.'

'Drivers-The three drivers were described as: project drivers, owner drivers and market drivers. The project drivers include; 1) time constraints, 2) flexibility needs, 3) design process interaction. The owner drivers include; 1) construction sophistication, 2) current capabilities, 3) risk aversion, 4) restrictions on methods, 5) other external factors. The market drivers include; 1) availability of appropriate contractors, 2) current state of the market, 3) package size of the project' (Gordon.1994)

'The risk we are most concerned about when choosing the contract type is financial risk-the risk of what the final cost of the project will be. Optimising the cost of a project depends on properly assessing the risks, allocating the risks, and ensuring that each party manages the risks allocated to them' (Gordon 1994).

The possibility of shifting the risks completely to either owner or contractor was mentioned. The author further added that 'the risk should be sought between the owner and his contractor or designer to use the value of bearing the risk while minimising a contingency charged for accepting the risk'. It was argued that 'most owners put as much financial risk as possible on the contractor. What they do not take into consideration was that some risks may be less expensive to be borne by the owners themselves. A company's efficiency in handling risk is based on its power to control risk, its possible reward for controlling the risk and its financial position. An owner must choose a contract, or series of contracts, that most efficiently allocates the financial risk of the various parts of the project'. It was further reported that negotiating a contract can produce a better relationship, but, if only one contractor is involved. It is very difficult to determine the market price for the work. The client may get the contractor and relationship they want, but might pay too much for the project.

Two perceptions of construction were mentioned. These regarded construction as 'commodity or a service'. Gordon (1994) argued that 'construction involves both'. He suggested that the 'key to determining a successful award method is isolating the two types of products-commodities and services-and awarding each in an appropriate way: commodities should be awarded by bidding, while services, if needed, should be awarded with multi-parameter bidding or negotiations, both of which value contractor's qualifications'.

The paper suggested that in the last thirty years the menu of choices for the selection of contracting methods has increased. The description has become more systematic. Consideration of commodities and services is also important in the linking of construction related activities with some other subjects. The

shortcoming of the traditional system is systematically highlighted. The desired objectives have included the lack of adversarial relationships. As can be seen the issues are becoming more and more broad and one can feel that the implication of having a choice of procurement system is still to be explored.

One logical result of accumulations of such heuristic rules was to develop knowledge systems. One such example is an expert system developed by Sodipo (1993). The approach was to use the same heuristic rules in decision-making processes in contract strategy.

Among very few studies related to developing countries are those done by Ofroi (1991) and Aniekwu & Okpala (1987). The studies are related to the construction industry and its problems in general.

2.12 Performance improvement

Improvement in performance has been the main concern of the branch of management literature termed Total Quality Management (TQM). It is described as 'management process of continuous internal improvements throughout an origination that ultimately results in improvements in the finished product' (Kubal 1994). The theoretical developers among other include: 1) Edward Deming (after Kubal 1994), teacher of Japanese manufacturing industry, 2) Phillip B. Crosby (1979), advocate of 'zero defects' approach, 3) Taiichio Ohno (1988), famous for the 'Just in time' method (Kubal 1994). Strange and Vaughan (1993) critically view the applicability of TQM in construction.

The two approaches, TQM and participation, which have a relevance to the research are briefly described:

- 1 To encourage innovation the quality programs should empower employee.
- 2 In a totally different context of development, Chambers (1997) advocates empowerment of the community for development. Empowerment is a key in

the process improvement may it be business, construction or community development.

Key points

- Process improvement is important.
- Empowerment is recommended in management and development sciences.

2.12.1 Partnering

The *partnering* approach seeks to go beyond the details of contracts and seeks a partnering attitude, or at the least lack of an adversarial attitude among the stakeholders to achieve mutually agreed objectives. Kubal (1994) argued that partnering 'is not a legal or contractual obligation'.

Partnering can be defined as a long term commitment between two or more organisations for the purpose of achieving specific business objectives by maximising the effectiveness of each participant's resources. The relationship is based on trust, dedication to common goals, and an understanding of each other's individual expectations and values. Expected values include improved efficiency, and cost effectiveness, increased opportunity for innovation and the continuous improvements of quality products and services (Hancher 1991).

A working definition after Cowen et al. (1992) of project partnering is that it is a method of transforming contractual relationships into a cohesive, project team with a single set of goals and established procedures for resolving disputes in a timely and effective manner.

Hellard (1995) gives a comprehensive account of how partnering could be implemented. However, the tone remains prescriptive. Similar ideas are advanced by Mosely et al. (1991), NEDO (1991) and Harback et al. (1994).

Abudayyeh (1994) reported partnering experiences and their success in the USA context. He emphasised the importance of relationship between owner and contractor and argued that new attitudes and behaviour patterns need to be developed. The importance of the changing attitude and behaviours for partnering is worth noting.

Larson (1995) performed an empirical study to explore 'the relationships between the project success and partnering'. The success of the project was measured in terms of 'controlling costs, meeting schedules, the technical performance, avoiding litigation and satisfying customers'. 'Partnering is based on the realisation that the traditional adversarial relationship between the owners and contractors often degenerates into a 'lose-lose' relationship for everyone except the lawyers' The key themes behind partnering are teamwork, collaboration, trust, openness, and mutual respect'.

Research (Larson 1995) was designed 'to consider alternative approaches to managing contractual relationships on construction projects'. Four 'fundamentally different approaches to managing the owner-contractor relationships' were described as 'Adversarial', 'Guarded Adversarial', 'informal partners' and 'project partners'. The two central questions tackled were '1) What is the relationship between the four different approaches to managing owner - contractor[principal-agent] relationship and various indicators of project success 2) what effect does the bid status of the project have on these relationships'?

A qualified conclusion was reached; 'partnered projects achieved superior results in controlling costs, technical performance, and in satisfying customers compared with the projects managed in adversarial, guarded adversarial, and even informal partnering manner. Further, whether the contract was awarded on a low-bid or non-low bid basis did not effect the relationship between partnering and project success'.

Contrary to the general belief, Bates (1994) argued that the partnering approach could be equally useful for small contracts. He argued that the benefits of partnering are desirable for small projects. The benefits included:

- avoidance of litigation and claims
- control of cost growth
- control of schedule
- quality
- safety
- developing a problem solving strategy where consensus dominates and 'win-win' solutions are always the goals.

He further elaborated the principles which are equally applicable to the small contracts. These were:

- Shared goals arrived at through consensus
- Mutual trust and respect among stakeholders
- New attitude and behaviour patterns
- New methods and means of effective communication
- Total commitments from top to bottom of all stakeholders

It is important to note that the thrust is on the relationships by which the stakeholders could trust each other. Warne (1994) described creation of 'trust-culture' fundamental to partnering process.

The concept of partnering will be explored further in relation to community involvement in infrastructure procurement in subsequent chapters.

2.12.2 Benchmarking

'Benchmarking is the practice of being humble enough to admit that someone is better at something and being wise enough to learn how to match and even surpass them at it. A benchmark is a measured 'best-in-class' achievement recognised as the standard excellence for those business practices'. (after

Anderson and Peterson 1996). Some of the important works related to benchmarking include Jackson et al.(1994) and Anderson and Peterson(1996). Lema & Price(1995) explores the definition, scope and applicability in the context of construction industry. It was defined as a 'Systematic search for best practice that lead to superior performance'. Kubal (1994) defined it as 'measuring, recording, and evaluating a firm's progress towards a particular quality goal'. Internal, external and third party benchmarking has been described (Fisher et al. 1995). However, the main approach is as follows:

- study and understand one's own process
- find the best Benchmarking partners
- study the partner's process
- analyse the difference between ones' own and ones' partner's process.
- implement improvements based on what is learned from the benchmarking partner.

Some of these concepts will be applied to the performance of the of micro-contracts for procurement of infrastructure.

2.13 Parallel developments

It was noted earlier that the theme of empowerment and partnering in business management and community development has a common theme of trust. Some of the relevant concepts of participation in general and in construction in particular are described below.

2.13.1 Participation

There is an extensive literature relating to social and anthropological aspects of community participation (Cohen & Uphoff 1977, Korten 1980, Paul 1987 & Ghai & Hewit de Alacantara 1990). Participation may mean different things to different people. Shades of community participation were represented by Sherry Arnstein's ladder of participation: co-optation, manipulation, therapy, informing, consulting & placation (reported in Hamdi 1995). Many scholars have attempted to define

participation. The common theme was that of contributing, influencing, sharing redistribution of power, control, resources and benefits. The pioneering work came from the rural development area. The ideas in urban development work follow similar concepts. Paul (1987) described different levels of participation namely; information sharing, consultation, decision making and initiating action.

Participation engenders financial, social and psychological cost and benefits (Narayan 1995). She described the main reasons for participation as; project effectiveness, project efficiency, empowerment and equity. Project effectiveness is defined as the degree to which the project objectives are achieved. Efficiency measures the relationship between the inputs and the outputs . Empowerment is the transfer of power to those lacking it. Equity is the measure of the fair distribution of the benefits to disadvantaged groups. Oakely et al. (1991) included sustainability, coverage and self-reliance to the list.

There is still a difference of opinion on the role of participation as a mean or an end. (Hamdi 1995 and Picciotto 1992). Community participation could be seen as a desired end in itself from the point of view development of the community. However, another outlook could be to see community participation as a mean or a tool to achieving other objectives. For example, the financial contribution by the community to tertiary infrastructure may reduce the cost to the public sector. Another example could be that due to the participation process the community developed the sense of ownership and thus better care of infrastructure and less maintenance.

Hamdi (1995) gave an account of the historical and theoretical development of the community participated or enabling approach for housing. The work of Turner & Habraken, both non-engineers, was considered to be of a critical nature in community participated approaches (Hamdi 1995). There is a stream of literature, mainly in planning related activities, advocating participation.

UNCHS (1996) emphasised the role of the community as a partner. The role of the public sector is advocated as an enabler and not a provider. Again it is to be noted the partnering relationship between the public sector and other sectors was emphasised.

Cohen & Uphoff (1980), observe that 'with all these activities the disturbing fact is that there is little agreement on what participation is or on its basis'. They went further; 'there is little systematic knowledge to draw on in the social sciences concerning development participation'. The suggestion was to regard participation as generally denoting the involvement of a significant number of persons in a situation or actions that enhance their well-being, for example their, income, security or self esteem'. The dimensions of participation were described as '1) what kind of participation is under consideration; 2) who is participating in it; 3) how is participation occurring'.

The paper relates to a rural setting. For implementation, it was argued that 'rural people can participate in three ways: 1) resource contribution; 2) administration and co-ordination efforts; 3) programme enlistment activities. Resource contribution can take a variety of forms, such as the provision of labour, cash, material goods and information'. In administration and co-ordination efforts the people can participate 'as either locally hired employees or as members of various project advisory or decision -making boards. They can also be members of voluntary associations who are playing a role in co-ordinating their activity with those of the project'.

The paper concluded with the generalisations: 1) participation has many connotations; 2) participation for development is not the same thing as participation in politics; 3) participation is not just an end in itself, 4) participation is not a panacea; 5) there is a connection among different kinds of participation; 6) participation even in 'development' terms is inescapably 'political'.

2.13.2 Community participation in procurement

Taylor and Norval (1994) advocated the development of appropriate procurement systems for developing communities. Use of non-formal contracts was considered to be a major factor in the construction sector. Some socio-economic objectives were discussed in the context of South Africa. The concept of community participation and community contracting was described. However, the roles described for community was limited to the labour contractors. That is the role of community was limited to the suppliers of labours.

Gopal & Marc (1994) and Gopal (1995) have advocated the use of community participated procurement strategies in the context of World Bank procedures, highlighting problems and proposing solutions. However, the study did not take any account of the existing procedures in developing countries.

The World Bank (World Bank 1995) realised that community participation in procurement was one of the alternative methods in procurement strategies. The other alternatives include; limited international bidding, national competitive bidding, shopping, direct contracting, force accounts procurement under BOT and similar private sector arrangements. There is little detail given of how to use the alternative methods and why to use them. The term 'alternative' gives a feeling that, unless it can be shown that the international competitive bidding is not feasible, the alternate methods are only theoretical possibilities and as such are not used.

Kent & Rimarachin (1994) attempted an empirical study of public work in rural Peru. 'About 17% of the respondents reported using a combination of family labour and hired labourers to satisfy the project labour requirements'. 'More than eight per cent of all project beneficiaries reported using hired labourers exclusively'. This finding highlighted that that the people are not simply volunteer and paid labour.

It was reported that 'an average of 20% of all project costs were borne by the community. On the smaller-scale projects this might represent a total value of US \$4,000-5,000, whereas for larger-scale projects, notably roads, community contributions can come to US \$100,000'.

The 'issues of equity and the incidence of levels of indirect taxation on those typically least able to contribute - the rural population and the urban poor' were also hinted. 'The distortion of benefits from public works construction is also a concern. For many projects, the benefits to the households are clear and direct, that is, irrigation canals, potable water, and sewerage systems. However, for major projects like roads, the benefits to individual households and even many communities are difficult to measure and arguably small'.

Three recommendations were made: 'community participation in the construction of public works is most effective when the project is of a local character, only requires the participation of one, or at most a few, co-operating communities, and when the benefits are direct'; the state institutions implementing the project should work with previously constituted and respected local organisations with a democratic character; municipal governments, as the government institution closest and most responsible to local residents, should receive greater resources which would allow them to take a more active role in the mobilisation and direction of local and provincial public works'.

More empirical work was advocated to find out how 'the community participation works in a wider range of types of projects and in other social and environmental contexts; at what levels of administrative, political, and geographic aggregation can reasonable generalisations about participation and its role in the financing and implementation of public works construction be reached and public policy decision made; more in-depth analysis needs to be conducted on individual projects to establish more specifically the social and economic impact of the projects and the distribution of project benefits to different community members

and groups'. Another empirical study was reported by Narayan (1995). The study considered the contribution of community participation but again in rural contexts. In an urban context, Cotton & Tayler (1994), provided an overview of infrastructure provision in developing countries. Community management was advocated. The desired effects of the approach include some socio-economic factors, prospects for employment generation and income generation.

It is worth noting that in both rural and urban settings in less developed countries it is hard to find reported incidences of popular participation where the project was financed by the local government. There is little work on the interaction of public and participatory procurement of infrastructure.

Slums, shanties and informal settlement created new problems for the urban managers especially in the public sector. The paradox is that legally there should be no informal settlements. In reality in some cities a high proportion of population live in some form of 'other than formal settlements'. It is difficult, in the domain of the public sector, to deal with the non-legal entities and with the groups who are not 'registered contractors'. The relationships or contracts studied were mainly between the public sector and the commercial private sector. There were few cases of contracts between the public sector and third sector or community groups.

The most important case reported is that of 'community contracting' by the NHDA in Sri Lanka (Pathirana & Sheng 1992). They studied sixty three community contracts. 'NHDA awards contracts, similar to commercial contracts to local residents[Community Development Council]'. It was 'decided to bypass the commercial contractors not only to reach more communities at the same time, but also to improve the quality of the infrastructure produced' 'Profit making is the main objective of the commercial contractors who have a tendency to minimise the cost by reducing the quality'.

It was further mentioned that the work was 'good or very good'. cost 'less' and the overall implementation took less time. The reduced margins of profit for the contractors[from 35 to 15%], and the by passing of tendering procedures were reported to be the main cause of the reduction in cost and time.

The status of the completion of the contracts was classified into: 'completed within time and cost; completed with time overrun, within cost estimate; completed within time, within cost overrun; completed with time overrun and cost overrun; incomplete /not started'. It was further argued that 'most of the community contracts[45%] were completed within the time allowed for the work'. 55 percent were not completed in time. It is very difficult to relate the cost, time or quality performance to an approach like community contracting without comparing it with other types of contracting under the same conditions.

It was concluded that 'community contract systems are good methods for providing basic services in low- income settlements: they can provide basic services of good quality at lower costs within a set period of time. As the communities are generally satisfied with the results, it is likely that they will feel more responsible for the management and maintenance of the services'.

The literature reviewed is not conclusive in answering the question how and why to select a particular procurement method to achieve defined objectives. The question how and why to assimilate the community participated initiatives in the procurement strategies has rarely been asked.

Furthermore, the literature lacks the description of what happens, and what would happen if a certain method is adopted. This is especially so in the context of the developing countries. for which evidence from the literature is quite limited. However, the message is that the people are not completely satisfied with the traditional competitive bidding and there are alternative methods to be used.

In the light of the previous discussion, the use of the benchmarking approach may be quite useful in understanding the process and performance of both routine and non-routine including community participated procurement. Partnering is a desirable concept between the stakeholders in procurement. However, it remains to be seen how the partnering could be achieved especially between the public sector and community groups.

Partnering is another promising approach where a deliberate attempt is made to avoid adversarial relationships between the principal and the agent.

Key Points

- There is convergence of management and development thinking on partnering and empowerment.
- Benchmarking is a way to understand, measure and compare performance.
- Participation in procurement of urban infrastructure is an area of importance where there is a major gap in reported experience.
- Few empirical studies have been done in community procurement.
- How and why to assimilate the community participated initiatives in the procurement strategies is a question worth pursuing.

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Chapter 3 Research Methodology

3.1 Introduction

The chapter outlines the overall methodology adopted for the research. The research question is stated. The overall design and unit of analysis are described. The choice available for the research methodology and the reason for choosing a methodology is provided. The questions regarding the reliability and validity of the study are discussed. The sources of data, the reasons for choosing these sources, the methods of collection and analysis are described. The methods used to collect and analysed the data are described.

3.2 Research question and strategy

The research question could be stated as: *How to promote the role of community in the procurement of urban infrastructure for poor in developing countries at tertiary level?*

The research question directs the researcher to investigate the processes, roles relationships and perceptions of stakeholders in procurement of infrastructure where community involvement is potentially present and where it is not present.

In this work no single method was selected beforehand. Appropriateness of method in relation to the research question was given prime consideration when selecting the research methodology.

There are many methods cited in the texts dealing with research design. The main methods are experiments, surveys, histories and the analysis of the archival information (Hakim 1987). The main advantages and disadvantages of the

methods have been covered in literature (Nachmias and Nachmias 1992) and as such these are not repeated here. Different strategies have advantages and disadvantages depending on:

- The nature of the research question
- The control the investigator has over actual behavioural events
- The focus on contemporary or historical phenomena.

A summary of situations relevant for different research strategies was reported by Yin (1994). The table is reproduced as below as Table 3.1.

Table 3.1 Relevant situations for different research strategies

Strategy (1)	Form of research question (2)	Require control over behavioural events (3)	Focus on contemporary events. (4)
experiments	how, why	yes	yes
survey	who, what, where, how many, how much	no	yes
archival analysis	who, what, where, how many, how much	no	yes/no
history	how, why	no	no
case study	how, why	no	yes

The different strategies are not mutually exclusive and variations within one strategy may occur. One such variation in experimental strategies is the 'quasi-experimental' approach. These are the occasions where the experimenters cannot manipulate the variable but the logic of the experiment design can be followed (Campbell and Stanley 1966, Cook and Campbell 1979).

In this research the situation under study was of a contemporary nature. The research was about phenomena occurring in the present or having occurred in recent past but with a link to the present. Consideration of column 4 of the above table guided that the 'history' is not applicable in this research.

The phenomena under study like many social phenomena involved many variables. Some of those variables may not even be identified. There was no control possible over the phenomena under study, unlike the laboratory situation. Consideration of column three guided that 'experiment' is also not feasible.

The main emphasis of the question was on 'how' and not on 'how much'. Furthermore, the phenomenon of community participation in the procurement is not frequently occurring and little is known about it; this indicates towards a case study being more appropriate as compared to the survey method.

Within the framework of the case study, survey techniques were also used to do some preliminary research. However, because of the uniqueness of the phenomenon and depth of the study required for research purposes, the overall design selected remained the case study. It is to be noted that during research various techniques for the data collection and analysis are used.

3.3 Case Study

Yin (1994) defined case study research as 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. The case study enquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulation fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis.'

It is quite evident from the above description that emphasis on the study of the contemporary situations and uncontrollable variables has brought the case study and quasi-experimentation approaches quite close together. Therefore, the choice of the research method comes out to be case study with the logic of quasi-experimentation.

3.3.1 Validity and reliability

In any research method the key consideration is objectivity, which can be divided into two components: reliability and validity (Kirk and Miller 1989).

- Reliability is the extent to which a measurement procedure yields the same answer however and whenever it is carried out.
- The validity is the extent to which it gives the correct answer. Yin (1994) has described the concepts of construct validity, internal validity, external validity and reliability as they apply to a case study.

Much attention has been given in design and conducting of the research to ensure its reliability and validity. In this research, the use of multiple sources and forms of data, triangulation, preparation of an accessible database and use of qualitative and quantitative techniques have greatly helped in achieving the target.

3.3.2 Logical replication and statistical replication

It is worth mentioning that a distinction is made between *logical replication* and *statistical replication*. This distinction is the key to answering questions related to the external validity or the generalisation of the case study. Yin (1994) has reminded us that the 'case study, like an experiment, does not represent a 'sample' and the investigator's goal is to expand and generalise the theories, analytical generalisation and not to enumerate frequencies, statistical generalisation.'

A major insight is to consider multiple cases as one would consider multiple experiments-that is, to follow a 'replication' logic. This is far different from a mistaken analogy in the past, which considered multiple cases to be similar to the multiple respondents in a survey or to the multiple subjects within an experiment - that is to follow a 'sampling' logic.

The replication logic is analogous to that used in multiple experiments. Thus if one has to assess only three cases of a rare, clinical syndrome in psychology or medical science, the appropriate research design is one in which the same results are predicted for each of the three cases , thereby producing evidence that the three cases did indeed involve the same syndrome. In each of these situations, an individual case or subject is considered akin to a single experiment, and the analyst must follow cross-experimental rather than within-experiment design logic.

The logic underlying the use of multiple-cases is the same. Each case must be carefully selected so that it either 1) predicts similar results (a literal replication) or 2) produce contrary results but for predictable reasons (a theoretical replication).

3.4 What is the overall research design?

Research design is considered by some as an action plan to reach from the initial set of questions to the conclusions (Yin 1994) and by other as a logical model of proof that allows the investigator to draw logical inferences(Nachmias and Nachmias 1992).

The overall research methodology in this research is multiple case study. The research design for the multiple case study comprises of five important components (after Yin 1994):

1. Study questions

How to assimilate the community initiatives in the public sector procurement strategy for urban infrastructure in developing countries at tertiary level?.

2. Its propositions

Partnering between the community group and public sector is an appropriate procurement strategy. The strategy would assimilate the community initiatives in the public sector procurement of tertiary level urban infrastructure.

3. Its unit of analysis

The unit of analysis in our study is the relationships or a set of contracts. The contracts between the public sector, private sector, community groups in a particular organisational context are included in this research. A contract is the main mode of relationship between the parties involved in the procurement. The Contract gives an indication to the stakeholder involved in the procurement process.

4. The logic linking the data to the propositions

This is the link between data and hypothesis. It is a guide to the kind of data to be collected and later how to analyse the data to reach to the conclusion.

5. The criteria of interpreting the findings.

This refers to the analytical framework to handle the data collected.

3.5 Source of Data

The rationale of the study has been to investigate the processes, roles, relationships and performance of routine procurement strategies and community participated ones. A brief outline for the sources of data is represented in the following flow chart in Figure 3.1

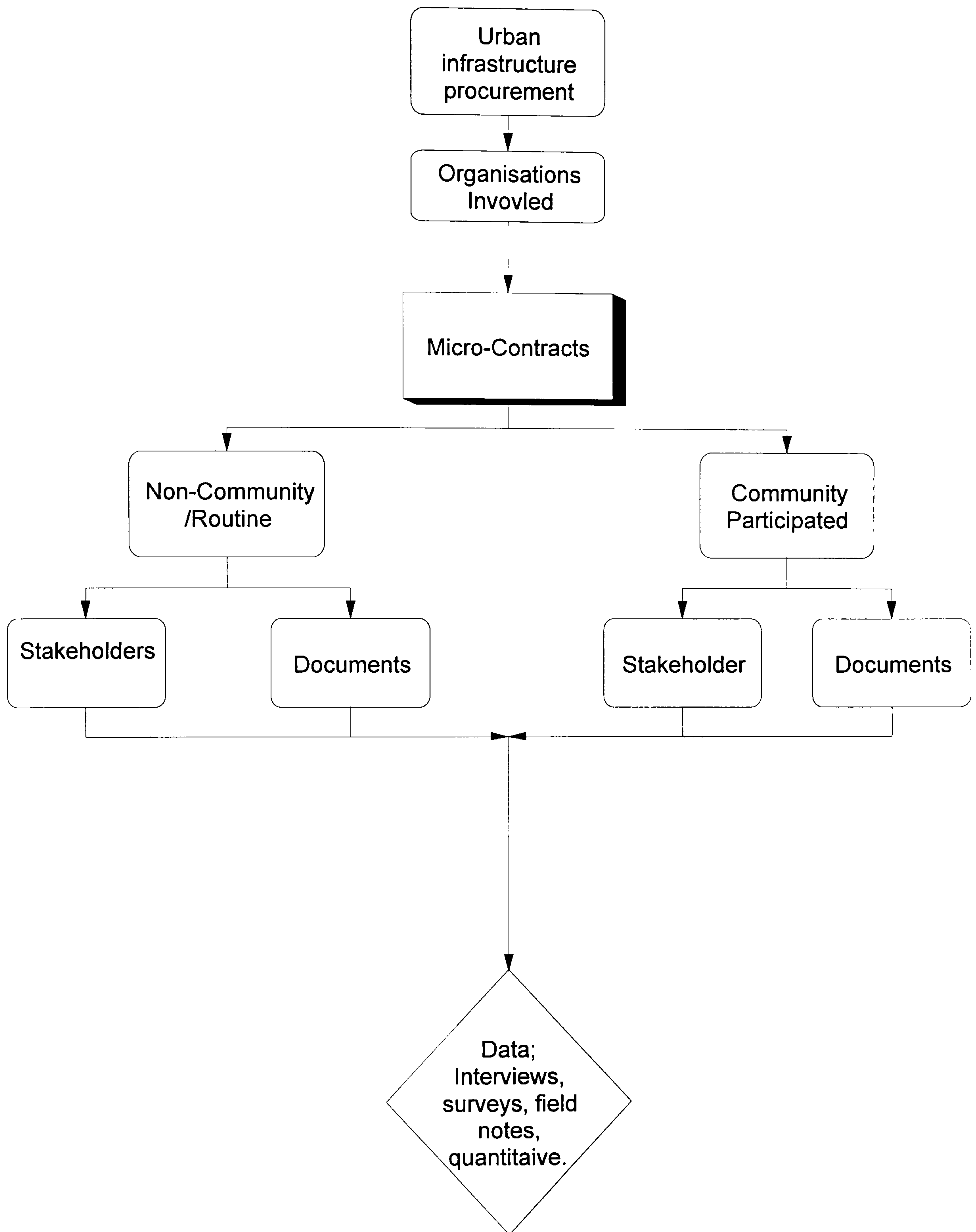


Figure 3.1 Chart outlining the sources of data.

The organisations involved in the procurement of tertiary infrastructure were identified in the countries under consideration, that is, India Pakistan and Sri Lanka.

These three countries in South Asia were selected based on some known initiatives in the region and existing links with the organisations involved in community participated procurement. The main organisations from where the data was collected are listed in the data base index. The contracts selected were micro-contracts, as those contracts were the main contracts used in the procurement of urban infrastructure at tertiary level.

The contracts studied were selected under two main criteria, namely:

- 1 The situations where community groups played a role in the procurement.
- 2 The situation where community groups did not play a role in the procurement.

In terms of the organisations there were basically: public sector, commercial private sector and the third sector (please see list of acronyms and terms) including end-users. The review of literature including unpublished literature, personal links and initial investigations were all used to identify the case contexts for the detailed study.

The following sections include a brief description of the organisations from where the data for this research was collected. All of the public sector organisations mentioned below have the legal framework based on English Law.

3.5.1 Sindh [name of province] Katchi Abadi [squatter settlements] Authority, Pakistan(SKAA)

Sindh Katchi Abadi Authority, is an autonomous body was formed in 1987 by an act of the State Government. Sindh is one of the four provinces of Pakistan. The country's largest city, Karachi, is located in the same province. The act defines the responsibilities and the authorities of the organisation. In short the purpose of

the organisation was to regularise the katchi abadis(squatter settlements) and upgrade them. The organisation is the leading authority in dealing with matters related to the regularisation and upgrading of the katchi abadis.

The authority is located within the Ministry Of Local Government along with Public Health Engineering Department; Department Of Local Bodies, Rural Development And Municipal Corporations.

The director general is the chief executive of the organisation. The Governing body comprises of members, the Mayors of all the four corporations, four members of parliament, the Finance Director of SKAA, the Director General of SKAA, the commissioners of Karachi, Hyderabad and Sukkur divisions, a member board of Revenue, the secretary of the Local Government Department and the Minister of Katchi Abadis. The formation of a separate authority and positioning of the organisation with all the relevant organisations shows that the Government was concerned and serious about the provision of an instrument for dealing with the problems of the katchi abadis. It reflects the government's recognition of the importance of the distinctive needs of the katchi abadis. Earlier the responsibilities for regularising the katchi abadis rested with the concerned municipal authority. SKAA was given the status of authority which is higher than a municipal or metropolitan corporation. Furthermore, the jurisdiction of the authority comprises of the province.

It does remain a question whether the functions of the katchi abadis overlaps with the existing organisations or not. How do the old organisations adjust to the new organisation? The creation of the new organisation also reflects the dissatisfaction of the Government with the overlapping functions and lack of trust within old institutions. The creation of the new authority gives freedom to deal relatively independently on matters related to raising finance. The old institutions, like the municipal corporation, have become agents of the authority in addition to their defined roles. The authority also refrains from dealing directly with the workings of the municipal corporations.

[Sources for the previous section included data base entries: 37, 38,39, 40, 129,145,147,250.]

3.5.2 Faisalabad Area Upgrading Project

The project is located in the City of Faisalabad the third largest city in Pakistan. The project is funded by Department for International Development, UK. It was proposed as a community-based katchi abadi and slum upgrading project. The project included development works related to urban infrastructure. Two main aims for the project were envisaged.

- 1 Improving the economic and social welfare 240,000 people in katchi abadis and slums.
- 2 Improving infrastructure

The project is to be implemented in phases. In Phase 160,000 people are to be covered in pilot area in two years. The second phase will serve 180,000 people over a period of four years.

The project proposed to adopt the community participation approaches. The work was to be carried out in partnership with the local communities. The project management unit (PMU), an agency of Faisalabad Development Authority (FDA) was established to implement the project. A management consultant was hired by the Donors. The PMU comprises of the personnel hired particularly for the project, people transferred from the mainstream FDA and the foreign consultant. The main function of the PMU was the smooth execution of the project activities. It was intended that at the end of the project the best practices developed by PMU will effectively absorbed by FDA. PMU undertook some of the activities undertaken by the NGOs in SKAA like community organisations. Unlike SKAA, FDA is not a dedicated organisation for regularisation and up-grading of the Katchi Abadis.

The community was to contribute 50% of the project cost for tertiary level infrastructure while the remaining cost is borne by the government.

[Sources for the section above included data base entries:137, 256,257,253.]

3.5.3 Karachi Metropolitan corporation, Pakistan (KMC)

The Karachi Metropolitan Corporation(KMC) is the Municipal authority for Karachi. The municipal system in Karachi had gone through many changes due to the politically unstable situation in the last five years. According to the Sindh Local Government manual a two tiered local body's system was introduced in 1987. A metropolitan corporation was set up in 1988 along with the four zonal committees in four districts; Central, East, West and South. The Mayor is the chief executive of the corporation. The Mayor is to be elected by the councillors from each local council area. The local councils have the powers to levy taxes. The salient compulsory functions of the corporation include provision and maintenance of urban infrastructure including water and sanitation, drainage, street lighting and solid waste management.

There are approximately 600 katchi abadis with an estimated population of 3.0 million. This means that approximately 30 % of the city population lives in Katchi Abadis. A special bureau, the Katchi Abadi Bureau deal with the problems of development in squatter settlements within municipal areas. Until the establishment of SKAA in 1987, KMC was the sole developing agency concerned with the katchi abadis in the municipal areas. The Asian Development Bank(ADB) funded a development project to improve the condition of selected squatter settlements. The KMC Katchi Abadi Bureau handled the project. Orangi Pilot project (OPP), an NGO, acted as an advisor to KMC.A project director was appointed to run the projects under loan.

[Sources for the section above included data base entries: 58, 62, 84,90,120, 245,246,264.]

3.5.4 Orangi Pilot project-Research and Training Institute, Pakistan.(OPP-RTI)

This well-known Non-Governmental Organisation is based in Orangi township, Karachi, Pakistan. The organisation was established in 1979 by Bank of Credit and Commerce to develop a model of social welfare. Doctor Akhtar Hameed Khan undertook the project. The programmes included the urban sanitation,

health, education and credit. OPP supported the activities of building sanitation systems in Orangi on a self-funded basis. OPP has also acted as consultant to the public sector and donors in procuring infrastructure for low income urban communities. The model for sanitation developed by the OPP (Khan 1992) has been given much attention in urban context and has been advocated by the government authorities as well (Hasan 1993).

OPP pioneered the ideas of internal and external works. Internal works mean neighbourhood or tertiary level works. It is contended by OPP that the internal works were to be completely financed by the community. External works are non-internal works including secondary and primary infrastructure which is necessary to support the tertiary level. OPP is one of the few NGOs who is acting as a consultant to public sector. It provides a linkage between public sector and the and the private sector.

[Sources for the section above included data base entries:37, 38, 39,250,252,261.]

3.5.4.1 Slum improvement programmes (SIPs) in India

The programmes are funded by the Department for International Development of the UK in the cities of Hyderabad, Vishakapatnam, Vijayawada, Indore, Calcutta, Cuttack, and Cochin to improve the living conditions of the urban poor. Slum improvement programmes (SIPs) are integrated urban development projects. The projects incorporate physical improvements in water and sanitation, drainage, access, solid waste and street lighting. They also included programmes such as pre-school, non-formal education, adult literacy, primary health care, community and economic development. SIPs promote community participation as a key to self-realisation by developing community level organisations. In the recent SIPs like Cochin and Cuttack the emphasis is on poverty reduction.

In Cuttack the project aims to improve the access of 143,000 slum dwellers from 106 slums to urban services. A project management unit(PMU) is set under the Administrator of Cuttack Municipal corporation.

The Cochin Project aims to secure better access for the poor of Cochin to 'improved services and livelihood opportunities by improving the capacities of all the stakeholders to identify needs and to plan for and implement solutions.'

The project is considered to be a new breed of SIPs. It proposed to 'increase participation by the primary and secondary stakeholders; integration with other government programmes; better targeting of vulnerable groups and those living outside the recognised slums; and capacity building for beneficiaries, service delivers and planners.' The implementing agency is Corporation of Cochin. A co-ordination committee was to oversee the activities of the project.

There is no cost sharing in SIPs from the beneficiaries in terms of finances.

[Sources for the section above included data base entries:32,33.]

3.5.5 National Housing and Development Authority. (NHDA)

NHDA is a national institution which deals with the issue of housing in Sri Lanka, including the 'One Million Housing Programme'. It is in this authority that the community contracting was pioneered by a major authority in South Asia. The background of the NHDA, million housing programme and development of the community contracting in NHDA is provided by Pathirana & Sheng (1992) and UNCHS (1994).

Housing for poor had been a politically sensitive issue in Sri Lanka. The governments at different time tried to address the issue. A summary of the interventions is as follows.

1971 to 1977-Public sector housing programme to provide houses to target groups.

1978 to 1983-Hundred thousand houses programme included construction of 36000 urban housing units. 85 % were targeted towards poor.

1979 to 1984-Slums and shanty upgrading programme to implement 53 low income settlement projects in Colombo benefiting 40000 people.

The Million Houses Programme included the settlement upgrading and provision of basic services and development of community organisation. The role of the government subsequently changed from provider to enable. The Million housing project was implemented within the supportive framework.

Community Development Councils (CDCs) are community organisations which played a significant role in the execution of the community contracts. This research will look in detail at the roles and nature of these community organisations.

Among other activities, the authority also lends money for housing purposes. Currently they are involved in another projects where housing is provided on the basis of political constituency.

The officials of the authority have very close links with some of the NGOs and the clean settlements programme.

[Sources for the section above included data base entries: 157,338,340,344,358]

3.5.6 Clean settlement programme (CSPU).Sri Lanka

The aim of the programme is to 'improve the quality of the life of the people in urban low income settlements'. This programme follows on from the programmes developed under NHDA. The project was integrated in nature as it was to deal with the sustainable environmental infrastructure, income generation, health and education. The community participated approach was to be adopted.

A unit, Clean Settlement Programme Unit (CSPU), was created in the Ministry Housing Local Government and Construction to implement the project. Many officials who are working in the unit have worked on the NHDA's programme. The

project is currently in the pilot phase, working in six areas. Ultimately the project aims to covers 200 low income settlements covering 20,000 families. The project is funded by the World Bank.

A significant of the project is the involvement of NGOs, CBOs , and other government organisations. The other radical change was that the community was to provide a twenty percent (20%) cash contribution towards the cost of internal works while the remaining cost is to be borne by the government.

[Sources for the section above included data base entries: 156,157,309,359.]

3.5.7 Sevanathe

Sevanathe is a Non-Government Organisation which aims to 'fulfil the need for community approach in urban planning and environmental management, particularly in low-income areas of Colombo'. It was established in 1989. The organisation was to act as an urban resource centre 'for information sharing, networking, leadership training, technical assistance, skill development, and systematic data collection'

Sevanathe is acting as a consultant in the Clean Settlement Programme.

The other work included the works under Metropolitan Environmental Improvement Programme (MEIP) funded by the Japanese embassy and community contracting in Kandy in central Sri Lanka. The organisation advocates community action planning and promotes community contracts.

[Sources for the section above included data base entries: 213, 234, 321]

3.5.8 Colombo Municipal Council (CMC)

The corporation of Colombo is involved in provision of urban infrastructure for the city of Colombo. The role of CMC is quite critical in relation to the subsequent operation and management of the assets constructed by any agency within municipal areas. Officials from CMC are often invited to participate in the co-ordination of upgrading projects like that of CSPU.

They have many departments responsible for different activities like drainage, solid waste, water and project implementation. The data for the process and performance of the contract was collected from drainage and project divisions. The Municipal Corporation of Colombo has not been directly involved in community contracting but provides a good comparison of an organisation involved in routine procurement through micro-contracts. The Community Development Councils that played a vital role in the community contracting were initially introduced by the CMC under a UNICEF funded Urban Basic Service (UBS) programme.

[Sources for the section above included data base entries:204, 205, 310, 349, 357]

Table 3.2 gives a breakdown of the contract's contexts.

Table 3.2 Twelve contract contexts classified under the dominant potential role the community played in procurement of urban infrastructure for low income communities in developing countries.

Dominant role of the community groups	Contract context	Countries
1 Non community participated. No Role of community except as passive consumers.	<ul style="list-style-type: none"> • SKAA-Conventional. • KMC Small contracts. • NHDA Conventional. • CMC Drainage Division. • CMC Project. • SIP Conventional. 	<ul style="list-style-type: none"> • Pakistan • Pakistan • Sri Lanka • Sri Lanka • Sri Lanka • India
2 Community participated <ul style="list-style-type: none"> • Community as Client. • Community as Engineer. • Community as Construction contractor. 	<ul style="list-style-type: none"> • OPP • FAUP • KMC/ADB. • SIP community contracts. • CSPU contracts. • FAUP • Departmental works in SKAA. • NHDA Community contracts. 	<ul style="list-style-type: none"> • Pakistan • Pakistan • Pakistan • India • Sri Lanka • Pakistan • Sri Lanka • Sri Lanka • Sri Lanka

The data relates to the processes, relationships, roles and performance of contracts.

Key Points

- Research question was established before the data collection.
- A hypothesis was formulated.
- Unit of analysis identified.
- Research methods were considered and a research methodology selected.
- Sources of data identified.

3.6 How was the data collected and why?

Multiple techniques for data collection were used. A sample of factual information provided was triangulated with the documents or with other informants to build a degree of confidence on the source of information. For example if a figure is reported by an informant in an interview, that figure was triangulated either with the documents or with the information provided by the other informants. If two informants were talking about a same situation a similar account adds to the reliability of the information. The main reason for doing that was to increase the reliability of the evidence. The other factor was the appropriateness of the technique in relation to the nature of the data. Both quantitative and qualitative techniques were used for data collection. A index is provided in Appendix 1. The main techniques that were used to collect the data were as follows:

3.6.1 Questionnaire survey

Surveys used to get the opinion of the officials, contractors and consultants related to the contracts used mainly in routine procurement. That was done in the initial stage of the research. A typical public sector municipal organisation was selected. The advice provided in the standard texts for survey research (Fink and Kosecoff 1985) was followed. Purposive sampling was used to get the basic

information related to procurement process and the perception of the stakeholders involved. The questionnaire was intended to be exploratory nature in . The purpose of the questionnaire was to:

- 1 Cross check the awareness of the respondents regarding the procedural issues with the information gathered by the initial review of documents.
- 2 Get some base line factual information.
- 3 Explore the perception of the respondent with respect to the contractual procedures in routine procurement and the community participated procurement.
- 4 Provide guidance for the further research.

Both post and face-to-face meetings were used to fill the questionnaires. Any additional information observed or told during such questionnaire surveys was also noted and used in the analysis. Table 3.3 shows the breakdown of the questionnaire surveys done. The surveys were completed by the beginning of 1995. In total fifty three (53) questionnaires were completed by the respondent.

Table 3.3 Breakdown of the questionnaires-Stakeholders and country.

Stakeholders	Numbers	Organisation and Country
Officials related to tertiary infrastructure provision	5 18	Urban Local Government, Pakistan Urban Local Government, India
Micro-Contractors	25	Urban Local Government, Pakistan
Consultants /Engineers	5	Urban Local Government, Pakistan

3.6.2 Semi- structured interviews

Detailed interviews were used to get the in depth understanding of the attitudes and perceptions of the people involved with micro-contracts.

In semi-structured interview the questions were not set before the beginning of the interview. No standard questions were prepared before the interviews. A checklist was used. (see Appendix 2)

There are certain steps involved in an interview research: (Kvale 1996).

Thematizing and Designing

In the light of the research scope certain themes were listed. The themes were:

- Process in the procurement. Who does what? And which actions follow what?
- Roles and relationships in the procurement process
- Performance of the contracts.
- Perceptions and attitudes about the other stakeholders.

The themes acted as a guiding framework. In case of semi-structured interview checklist were used to make sure that the themes have been covered during interview.

Interviewing.

This is the stage where the actual interview takes place. Special care was taken in the choice of word, the tone and the way in which the questions were asked to make sure that there is no significant influence of the interviewer on the respondent. Leading questions were avoided.

Knowledge of the local language in Pakistan and India had proved to be very useful. For example in some case the special words are used for bribery as in Karachi; one such term is 'Chai Pani' which literally means 'tea and water' but meant that someone wants bribes.

The processes were viewed from the standpoint of the people related to the contracts. The process description was greatly facilitated by the interviews. The key informants were interviewed more than once and in some cases with a long gap of one year. These statements provided a clue to the changes, or otherwise, during the gap.

Transcribing.

Tape recording and key notes taking were used simultaneously in most of the cases. In the initial run the notes taken by the author and an independent person

were compared to check the accuracy of the transcription. Almost all the interviews were personally conducted by the author to minimise the variation in the ways the interviews were conducted, although it was quite time and resource consuming. The time lag between the interviews and the actual transcription was restricted as far as possible to not more than two days.

Six visits were made to Pakistan, India and Sri Lanka for data collection including interviews between October 1994 and present. Details of the people interviewed are provided in the data base index. In total one hundred and twenty five (125) interviews were conducted. The people interviewed were all related to the procurement of urban infrastructure at tertiary level.

Analysing

A limited use of QSR.Nudist software for qualitative data analysis was made. The software helps in dealing with the unstructured data including interview transcripts and documentary information. The narration and the researcher's comments were kept separate to clearly show the linkage of the researcher's comments with the respondent statements. A particular attention is paid during analysis to the notes related to the gestures and the way the words were used during interviews.

Verifying

Initially, for some key informant, during follow up meetings the analysis along with the transcription of the previous interview was shown to the interviewee for their comments.

3.6.3 Field observations

A limited number of sites were visited to see the on-going and completed works. Field notes were taken recording the observations of the author and conversations with the people on site. Some use of an interpreter was necessary in cases where language was a barrier. When an interpreter was used care was

taken that the interpretation explained what was said by the respondent and not what the interpreter thought about the topic.

3.6.4 Focus group discussion and opinion writing exercise

A Focus Group discussion can be described as a form of group interview where the reliance is on the interaction within the group based on the topic (Morgan 1988). The technique is particularly useful in the exploration of a phenomenon of which little is known (Stewart and Shamdasani 1990).

A group of people related to the procurement of infrastructure were used to get a clear understanding of the process, to verify the direction of study, and to build performance indicators.

The participants, twelve in number were, all practising engineers in a developing country dealing with the procurement of urban infrastructure. They had the experience of working in both the low income settlements and in other localities. The average experience of each expert in general procurement was 14.5 years and in low income procurement 4 years (see Table 3.4). They reportedly had handled directly more than 200 contracts in recent past and up to approximately 800 contract in the last five years. All had worked on the projects funded by the International donor agencies as well as the local government projects.

Table 3.4 Table Experience of focus group panel

Participant number	General Professional experience (years)	Experience specific to low income urban communities (years)
1	7	4.5
2	21	7.5
3	28	4
4	10	0.5
5	13	2
6	25	2
7	29	0.5
8	22	7
9	15	4
10	14	4
11	13	2
12	12	8
Total	209	46
Median	17.42	3.83
Mean	14.5	4
Standard Deviation.	7.3	2.6

The opinion-writing exercise was used to explore the wishes and apprehension of the officials likely to undertake the community participated procurement. The panel was also asked to write a note to the higher officials proposing a procurement procedure to promote community involvement at the end of the session. The expert group was revisited after approximately six months, one member was absent and one additional member joined in. The additional member was of equivalent professional experience. They were asked to re-write the note to the higher officials.

The exercise was done in a group as well as individually. The notes were compared to identify any peer influence on the opinion. Twelve participants wrote the note. The statements included suggestions as well. An analysis on the notes was performed. The salient features of the outcome of written notes is reported in chapter six.

3.6.5 Analysis of documents related to the contracts.

The researcher was particularly fortunate to get access to some of the confidential documents related to the contracts besides the published and unpublished literature related to the contracts under study. Some of the internal correspondence, memos, and file notes gave a very useful insight into how the process worked and why things were done in a particular way. Approximately two hundred and fifty (250) such documents were reviewed. Details of such documents are also provided in the data base index.

In addition to the above documents, quantitative and qualitative data was collected from the files related to three hundred and ninety micro-contract. The performance indicators were developed mainly on the basis of this information.

3.7 Data base-Summary of data records

During research a substantial amount of both quantitative and qualitative data were analysed. It was not possible to present all the data in its raw form. However, it was considered important that a clear summarised record be kept in a form that is accessible by anyone. That resulted in the data base index presented in the Appendix 1. A summary of data is presented in Table 3.5

Table 3.5 Summary of data base

Data items	Quantity analysed
Questionnaire	53
Individual micro-contract Quantitative data Qualitative	390
Interviews and filed notes	125
Documentary records it (including confidential contract notes)	246

3.8 How was the data analysed?

The analysis provides the link between the data and the conclusion.

The data was primarily analysed using SPSS for Windows (Norusis 1993) and QSR.Nudist software for qualitative data analysis. Non-parametric and parametric (Siegel 1956 & Meddis 1984) tests were used. Non-parametric tests unlike parametric tests, do not rely on the assumptions that the population comes from the normal distribution and equality of variance. Non-parametric tests are in general, less powerful but they are most useful in situation where the data is in ranking scale or when data are from non-normal distribution. The tests are suitable for smaller size samples (Norusis 1993). Multiple regression was used in exploring the relationship between the performance indicators and the value and duration of the contracts. The detail is provided in the sections dealing with the analysis, mainly chapter seven.(see Appendices 4 to 9).

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Chapter 4 Procurement process in developing countries

4.1 Introduction

The chapter outlines the process of procurement which are used routinely. The issues related to the evaluation of contractors, contractor selection criteria and contract documentation are discussed. It described the legal requirement of a party to enter into a legal contract with the public sector in the context of urban government in Pakistan, India and Sri Lanka. The alternatives available in the procurement process are also discussed, relevant literature is cited.

4.2 Procurement of urban infrastructure. An outline of process.

This section presents a series of boxes to describe the process involved in the procurement of urban tertiary infrastructure in the study countries of South Asia. The Text Box 4.1 describes the main steps involved in the process. Text Box 4.2 gives an overview of the possibilities in procurement strategies. Text Box 4.3 describes the steps in contract award process. Comments are provided along with the narration in the boxes.

The boxes are based on the information collected from documents and interviews with stakeholders.

Text Box 4.1 What is the procedure which Engineering Departments of Urban Government use to procure infrastructure?.

This procedure stems from the Public Works Departments (PWD), and its principles are used by most government implementing agencies

Narrative	Commentary
<ol style="list-style-type: none"> 1 Formulation of a scheme and its requirements need not necessarily be done by the Engineering Department (ED); the ED procurement procedure starts once the requirements of the scheme have been put before it, regardless of their origin. 2 Preliminary cost estimates are prepared. 3 These estimates are approved by the ED; this is termed administrative approval. 4 The necessary surveys, plans and designs are drawn up by the ED engineers 5 Detailed cost estimates are prepared on the basis of these plans (see Text Box 4.4). 6 These estimates are approved by the appropriate officials in the ED; this usually involves the Chief Engineer; this is termed technical sanction. 7 The work is awarded; there are a number of options available for implementing construction of the infrastructure; (see Text Box 4.2). 8 Completion of construction and finalisation of work. 9 Completion and end of the defect liability period. 	<ul style="list-style-type: none"> • In general, the basis here is 'rule of thumb' and past data. • The basis of these cost estimates is the government approved Schedule of Rates (SoR) and approved details. PWD is the main source of reference. • The preference is always for competitive bidding. • Marked by the last entry of the measurement book, as reflected in the completion certificate.

Source: Interviews and documents, for example data base entries 91, 92, 245, 283, 285

Text Box 4.2 What are the different procedures which urban government can use to implement construction of infrastructure?

Narrative	Commentary.
<p>1. Award of the work to a private sector contractor using the system of competitive tender; see Text Box 4.3. The most commonly used method for micro-contracts is for tenders to be submitted on a 'percentage plus' basis; that is, rather than fill in his own rate for each item of work, the contractor takes the engineers' estimate as per the government schedule of rates and adds on a percentage of the total. This percentage has to include his profit, but more importantly it must also allow for the difference between the schedule of rates and the actual market rates for materials and labour.</p> <p>2. Departmental Works in which work may be executed directly by the ED through employing daily skilled and unskilled labour. A muster roll of the labourers has to be maintained. The materials required are issued from the government store by indent or purchase directly chargeable to an authorised agent.</p> <p>3. Piece work agreements and Work Orders are strictly 'contract types'; they are included here as they can be used for very small works, up to about RS 2000-3000. They can be undertaken at the discretion of the Engineer and do not have to be submitted to such lengthy procedures as larger contracts.</p> <p>4. Entrustment of Works by Negotiation; registered voluntary organisations or co-operatives engaged in 'social service' or 'local improvement efforts', or one or more 'beneficiaries of works' may be entrusted to carry out the works. The ED negotiates rates.</p> <p>5. Co-operative Societies can be formed for the purposes of undertaking minor works. These exist in India; examples are 'unemployed engineers' and 'labour' co-operatives. In some cases the ED is empowered to award a certain quota of work at a discount which can be as much as 10% on the tender price.</p> <p>6. Labour Contract: the ED arranges for construction materials to be available at the site; the labour contractor hires the necessary labour and undertakes to carry out the work. Payment is based on the measured quantity of work carried out.</p>	<ul style="list-style-type: none"> • This is the routine method of procurement used in almost all situations. • The wordings of the items are standard; experienced contractors know what is and is not included in the SoR, and often do not consult it. • This now generally limited to maintenance work. • This has very limited use. The responsible Engineer must show that: by adopting negotiation, the cost of work is not more than it would have been in tendering; and that unusual circumstances warranted such a procedure.

Source: Interviews and documents, for example data base entries 30, 91, 92, 245, 283, 285, 345

Text Box 4.3 How does an Engineering Departments arrange contracts through competitive tendering?

Narrative	Commentary
<ol style="list-style-type: none"> 1. ED issues a tender notice, either by advertising in the press or placing a notice on a notice board, which invites a sealed tender for the advertised works. For larger contracts, provincial government may do this on behalf of municipalities. 2. This notice specifies the earnest money deposit, security money (see Text Box 4.7), estimated cost, date and time for the submission of tenders. Text Box 4.6 describes the requirements for prospective tenderers. 3. Tenders are opened at the specified date and time by the officer inviting tenders or by his authorised agent, in the presence of the contractor or their agents. 4. Tenders are serially numbered, signed by the officer opening the tenders and the rates are read out. 5. A comparative statement is prepared. 6. The tenders together with the comparative statement with the recommendations of the Assistant Engineer or Sub-Divisional Engineer or Executive Engineer are sent to the competent authority for accepting the tender. Usually the lowest tender is accepted but the lowest tender may not be accepted if the capacity of the contractor is doubted or his record of previous work is not satisfactory, or due to other valid reasons. Depending upon their rank, government engineers and officials have the authority to accept tenders up to a certain amount. 7. After the tender is accepted and the contractor deposits the requisite security money. 8. A work order authorising commencement of the works is given to the contractor and all the tender papers are page numbered and indexed. 9. A contract bond or agreement is prepared and sealed and kept in safe custody. 	<ul style="list-style-type: none"> • The decision is based on the value of the work. Beyond a certain value the tender has to be advertised. The advertisement has to be processed through a central body, which takes time. • 'Tender boxes' are still used in some departments. • A board which generally includes a representative from the accounts section is responsible for opening the tenders. • Rejecting the lowest bidder puts the onus on the rejecting officer. The main issues are to explain why, in the absence of mistakes in the contractors' offer, the department should be deprived of the benefit of the lower cost. • The case for rejection becomes very hard to make, if it is done subsequent to enlistment or prequalification of the contractor, who is thereby deemed suitable to bid.

Source: Interviews and documents, for example data base entries 245, 247, 283, 285

4.3 Methods of ascertaining the value of the work

The idea is that the market determines the prices or the value of the work. The methods could be classified into two broad categories;

1 Competitive

2 Non-competitive.

The classification is only indicative. There is an element of competition in the negotiation and there is an element of non-competitiveness in the selection of bids after the pre-qualification. The form of competition that is routinely used is

invitation of sealed bids. The sealed bid system is considered to be transparent and audit friendly (refer to data base entries 254, 247 and 285).

Professionals make estimates which are used as a base line and the final contract value is determined by the offers. In many developing countries the Public sector develops a schedule of rate which becomes the basis of all engineering estimates (PWD 1982). Text Box 4.4 described the basis of cost estimation in a public sector of developing countries.

Text Box 4.4 The problem with Cost Estimates: who uses which cost ?

Narrative	Commentary
<ol style="list-style-type: none"> 1. Government engineers prepare detailed cost estimates for technical sanction. 2. These estimates have to be based on the latest edition of a Schedule of Rates (SoR) provided by the Public Works Department. 3. The SoR is updated periodically; the problem is that in practice many years may elapse between updates. 4. The cost estimates which are given technical sanction do not reflect the actual cost of procuring the works unless the SoR is up to date. 5. The market rate for doing the work is therefore nearly always greater than the engineers' cost estimate. 6. Prices tendered for work have to reflect the market rate. 	<ul style="list-style-type: none"> • This provides a standard basis for tendering (see Text Box 4.1). • High construction cost inflation means that the estimates rapidly become unrealistic. • If the actual cost of a contract increases beyond a certain limit then the approval process (see Text Box 4.1) has to be repeated. • In one extreme case, the SoR was over 15 years old, with tender prices coming in at many times the estimated value. • These estimates serve no purpose in terms of managing the work for the contractor

Source: Interviews and documents, for example data base entries 57, 202, 245, 255, 283, 285

<p>Key points</p> <ul style="list-style-type: none"> • There are set procurement procedures which are used in the public sector. • Competitive tendering is routinely used. • The registered contractors are used. • The estimation of cost is not based on the current market rates.
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4.4 Status of Documentation in procurement

There is a range of routine practice. In some cases only work orders with some outline plans would suffice and in some cases, especially in large contracts a series of documents is used. In general the documents could be classified according to function. One set of documents specifies what is to be done, another giving the conditions of bidding, and whilst another highlights the conditions under which the work is to be executed.

The bidding document is a very important element in the contractual procedures. In the most formal set up and for the conventional contract strategy the bid document includes the following (Guidelines For Tender Procedures-ICTAD 1990) :

- 1 Invitation For Bids
- 2 Instruction To Bidders
- 3 Bidding Data
- 4 Part-1 General Conditions Of Contract
- 5 Part- 2 Conditions Of Particular Application
- 6 Technical Specifications
- 7 Form Of Bid, Appendix To Bid, Bid Security
- 8 Bill Of Quantities
- 9 Form Of Agreement, Forms Of Performance Security
- 10 Advance Bond payment guarantee
- 11 Drawings
- 12 Explanatory Notes

The purposes of the bidding documents are manifold. They form the basis for the legal contract between the contractor and the contractee, providing financial sureties and technical information to execute the work. The above documents provide information to help the contractor work out a reasonable offer. Standardisation is necessary to provide each bidder with equal basis for bidding. In some cases contractors visit the site and have pre-bid meetings. The

information provided to one bidder is circulated to all bidders so that there is no element of favouritism. Some or all of the documents become the contract document. In some cases the document relates to the post-bid negotiation which then becomes part of the contract.

The elements in the bidding document vary according to the contract strategy adopted. For example, in BOT, the set may not include the specifications and drawings but broad requirements. Each of the elements varies according to the details required by the client. In some cases the method specification is considered enough while in some cases the performance specification is provided. Different professional bodies related to the particular type and nature of the work has developed standard specifications, conditions of contract, drawings, details and form. In general the contract manager compiles and synchronises the documents with minor amendments. It is rare that the tender document has to be written from first principles.

The client decides the level of details to be provided to the contractor. In developed countries the contractor, through their associations, has a say in the bidding procedure. FIDIC is the favourite condition of the donor agencies. The World Bank, except for some amendments, has the same basic conditions of contract as the FIDIC (Guidelines Procurement Under Loans and IDA Credits World Bank 1995). In developing countries the whole process is one sided and it is the Public sector who dictates the process [date base entry 285].

Demands put on the contractor in the documents could be classified into two broad classifications.

A) Directly related to the provision of work.

B) Complementary to the works which are required to be provided by the contractor in compliance with the general conditions of the contract.

Some of these demands are as follows:

- Provision of security bonds and guarantees.
- Provision of performance bonds.

- Provision of insurance for property, material, and works at site.
- Provisions of third party insurance.
- Provision of insurance against accidents and injury to workmen.
- Provision of stamp duty in accordance with the regulations.
- Provision of fees, taxes, octroi.

In some bills of quantities these are costed separately and are classified as *preliminaries (ICTAD)*.

The community groups are again excluded in the sense that the demands of the process to even comprehend the details of preliminaries are, in general, beyond their capacities.

The other interesting aspect about the documents used for bidding and contract formation stages are their *use for management purposes* (Pasquire 1991). The relevant question is; how much of the documentation could be used for the management of the works?. The proportion of the documents not used as management tools or where some rework has to be done before it could be use for management purposes is wastage. The message is that documents or the information should be in such a form that it could be a) utilised or at least b) used with the minimum of rework and c) should not lead to demands beyond the capacity of the contractor.

The literature is quite silent on the issues related to the contract between the public sector and the non-commercial private sector including community groups. Even the literature related to private commercial sector is restricted to relatively large contractors.

Key points

- The documentation used in contract procedures may not be appropriate for the small and medium size contractors.
- Current documentation could be a constraint to the involvement of community groups.
- Documents do not help contractors in managing the contract.

4.5 Selection of the bidders

The public sector requires its contractors to be of demonstrable legal status. In general, some sort of registration as a company or as a registered co-operative society, is required to be a government contractor.

The firm can enter into a contract with the public sector as a registered organisation, company or society to undertake commercial or non-profit based activities. The registration is generally done by the registrar at district level. The registration has its own requirements and a set procedure. This registration is different from the registration with a department as a contractor.

Later the contractor may be registered with the concerned department to undertake certain a class of work. In some relatively large projects there is an additional requirement that the contractor has to be pre qualified. When pre-qualification is used the restriction of being registered with the department is generally waived.

There is a considerable body of research concerned with assessing contractor's capacity and prices. Diekmann (1981) advances a multi-attribute utility theory for the selection of contractors. Nguyen (1985) proposed 'fuzzy set' as a method of evaluating the bids. The contractor-qualification procedures and decision factors

were discussed (Wright 1986). A formal evaluation of parameters such as reputation, past performance, financial stability, experience record, firm capacity, current work load, and technical expertise were proposed (Russel. 1990). Russel, et al. (1990) proposed a knowledge based system for pre-qualification of contractors.

Russel & Jaselskis (1992 a) concluded, after a survey, that owner-performed contractor evaluations and subsequent monitoring would reduce the chances of contractor failure. The owner evaluation consists of similar consideration as described in section 5.2. The failure was defined as 'a breach of the contractors' legal responsibilities to the owner sufficient to permit the owner to terminate the contract'.

Jaselskis & Russel (1992), applied the technique of risk analysis to the same data using the theoretical basis of Decision Theory, and came up with very similar conclusions. 'The evaluation methods available include owner-contractor pre-qualification, surety bonding, or owner-contractor pre qualification along with surety bonding. Method selection is important because it strongly effects the subsequent project outcome'. It was further contended that 'A 'good' amount of owner-contractor evaluation leads to the smallest per cent increase in the project schedule'.

Russel & Jaselskis (1992 b), went on to develop a mathematical model 'to aid owners in predicting the chance of construction contractor failure prior to contract award'. This concentrated on the relationships between the failure of construction contractor and the pre-award activities.

Tam (1992) proposed a model to predict the contractor performance in Hong Kong Construction Industry.

Hatush and Skitmore (1997) tried to explore the links between the contractors' selection criteria and the project success factors of time, cost and quality.

The registration of contractors is generally taken by a particular department but in some countries the registration of contractors has been centralised. In Sri Lanka, for example, a national organisation by the name of Institute of Construction Training and Development register the Public sector contractors. The process of registration requires the demonstration of specific capacities in certain areas similar to one described in Text Box 4.5.

Text Box 4.5 Central registration of contractors in Construction Training and Development in Sri Lanka.

Who is eligible to apply for registration in ICTAD?

How a contractor gets registration in ICTAD.?

How is the application for registration evaluated?

Narrative	Commentary
<p>1. The registration of contractor for public works is done centrally by ICTAD. They have nine categories of construction contractors. The lowest three cover the works up to 1, 2 and 5 million respectively. The contractors pay annual registration fees. For the lowest three it is RS 500, RS 1000, and RS 1500 respectively</p> <p><i>Eligibility for applicants is restricted to:</i></p> <p>2. Those registered in Sri Lanka for the purpose of carrying out the business of Building and Engineering construction either Registrar of Companies <i>under the Companies Act or with the provincial secretariats.</i> In addition the applicant needs to have at least 60% ownership by Nationals of Sri Lanka and not to be among the contractors recorded on the government blacklist. Also they should not be legally insolvent or declared bankrupt</p> <p><i>Process of registration</i></p> <p>3. The three kinds of documents involved in the registration are as follows:</p> <ul style="list-style-type: none"> • Registration scheme, this is covered in the guideline. • Application. • Client guide, this is instruction to the clients regarding the registration. <p>4. Steps in the registration of the contractors</p> <ul style="list-style-type: none"> • Submission of application • Officials go through the documents and see if the required documents are there. If found adequate the application is accepted. <ul style="list-style-type: none"> • Another officer examines the documents and evaluates and 	<ul style="list-style-type: none"> • The contractors who are paying have to pay as the registration in ICTAD is mandatory for the public works. • Registration in ICTAD is not the first step. ICTAD deals only with organisations which are registered as prescribed. • Could be restrictive to the international bidders. • Getting blacklisted in the public sector has serious repercussions for the contractors. • The process of registration is governed by documents. • Implication is that if the required documents are not there the application would be rejected right away.

<p>verifies them. The verification is on sample applications. The verification may include contacting previous employers or the organisations issuing the documents.</p> <ul style="list-style-type: none"> • If found in order the application is approved. • If not found in order the application is sent back with a list of the deficiencies and a further submission is requested. • Summary of the application is prepared and send to the NCCASL for any objections from the members. The time provided is 14 days. • If no objection is received the registration is issued. <p>5. The applicant has the right to appeal and re-appeal against the decision.</p> <p>6. A contractor record book is planned to be kept for each contractor.</p> <p><i>Evaluation of application.</i></p> <p>7. The point system is used. The points are allocated according to the prescribed rules.</p> <p>The points allocated are compared with the minimum requirement of the category of the contractors. The lowest three contractors require 1.25, 4 and 20 points. The top three required, 85 135 and 215 points.</p> <p>8. The main considerations are:</p> <ul style="list-style-type: none"> • Financial abilities-Assessed on the basis of the one year old bank statements, working capital, net worth and overdraft facilities. For the lowest three categories[M7-M9] assessments could be on the basis of fixed deposits, saving accounts, current accounts or a wealth certificate. • Technical abilities-Assessed on the basis of human resources, plant and equipment work experience and organisation. • Some other considerations like employment of trade-tested people, implementation of quality management systems are taken into account. <p>9. Factors which governed the assessment of the categories are:</p> <ul style="list-style-type: none"> • For M9- Financial ability and supervisory staff. • For M8-As above plus plant and equipment. • For M7 as in M8 plus professional staff. 	<ul style="list-style-type: none"> • Not all applications are verified. • Contact with the referee is optional. • The deficiencies are pointed out. • No objection from the Contractors Association is obtained. This could be taken as a cross check. • Basically six steps in the process of registration. • A record book for each contractor's performance. • Apparently objective method as the rule to assign the points are prescribed. • There is no justification of these numbers. The objectivity is based on the subjective decisions. The lower point in the lowest three categories provide some ease to smaller contractors. The M9 category is equivalent to the community contractors. • It is not the factors but the ways in which they are assessed which will govern the access of the newcomers such as community groups to the system. The established CDC may be able to enter the system of registered contractors if the initial requirement related to the legal status of the applicant is modified or interpreted sympathetically. • Standard factors in capacity evaluation. • Incentives to certain actions. • Note as the category gets higher, the factors for consideration increase. However, the barriers remain in terms of having to demonstrate capacity in a particular form.
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Source: Interviews and documents, for example data base entries 221, 221, 223

In some cases this registration is so difficult that even to attain the required status requires considerable resources of time and money. The process becomes relatively more severe if the contractor is a new-comer in the business. For large contractors such competencies are routine.

These requirements *effectively exclude the community groups* from the procurement process. The result is that *access to the procurement process is effectively reserved for private commercial contractors.*

There is a screening mechanism adopted by many public sector organisations. The idea behind screening or evaluation of contractors is to reduce the risk of contractor's failure. The evaluation of contractor is complemented by sureties that the successful contractor needs to submit to the client. Text Box 4.6 describes briefly how the bidders are selected in developing countries. Text Box 4.7 describes the financial demand made on contractor for surety purpose.

Text Box 4.6 Who is allowed to bid for Engineering Department work by submitting tenders?

Narrative	Commentary
<ol style="list-style-type: none"> 1. The Engineering Department operates a system whereby only those contractors who are enlisted can submit tenders 2. The contractors are enlisted within a particular class (usually four or five) which specifies the financial limit of the works for which they are deemed competent to bid. Text Box 4.7 describes the administrative requirements. 3. The requirements of enlistment are to demonstrate capacity in terms of experience, financial credentials, tools and equipment owned and personnel employed. 4. The contractors are enlisted for a particular duration and are required to pay an enlistment fee. 5. In general if a contractor is already working in one department it is relatively easy to work in another department. Conversely, if a contractor does not perform well in one department then he can be banned from other departments. In Sri Lanka, contractors may be required to attend training courses. 6. In large scale works, potential bidders are selected for the one project only; this process of prequalification is similar to that of enlistment. 	<ul style="list-style-type: none"> • The requirements are demonstrated by submitting relevant documents. • Litigation against the department is one of the reasons for 'blacklisting' a contractor.

Source: Interviews and documents, for example data base entries 72, 91, 92, 165, 245, 255,283,

Text Box 4.7 What administrative and financial demands are made on a contractor who bids successfully for Engineering Department work?

Narrative	Commentary
<ol style="list-style-type: none"> 1. Earnest money (2%-3% of the tender value) must be deposited. 2. A performance bond for small works may or may not be required. A typical bond is 10% of the contract value and is released after the end of the defect liability period. 3. Insurance is not usually required for very small works. 4. On acceptance of the tender, the contractor has to deposit typically 10% of the tendered amount as security money with the department. This is inclusive of the earnest money already deposited. In some cases the money is deducted from the running bills. All money is released at the end of the defect liability period. 5. Liquidated damages can be imposed if there is serious time overrun. 	<ul style="list-style-type: none"> • For micro-contractor this could be an additional financial burden. • • No recourse to easy and fast compensation in case of an accident. • No study has been carried out on the frequencies of accidents or claims for small works. • These demands have high associated costs which may reach over 25%; this can create serious problems in arranging finance. • .The ultimate cost of this is borne by the client; it is reflected in the tender prices.. • Generally used as a bargaining tool. Actual incidences of imposition are rare.

Source: Interviews and documents, for example data base entries 62, 74, 91, 92, 153, 155, 245, 283, 285

Sureties are used to provide an additional safety net for the client. An evaluation of the capacities of the contractor is generally done to ascertain that the contractor is capable of undertaking the work.. In some cases this review takes place simultaneously with the price offer. But generally it is done before the offers are invited. The criteria (Client Guide and Explanatory Hand Book-ICTAD 1995) include but are not limited to:

- 1 Experience of the contractor in the relevant field.
- 2 Financial stability.
- 3 Numbers and credentials of the people employed in the firm.
- 4 Current work load.
- 5 Plant and tools owned.
6. References from previous employers. This is to make sure that the contractor is not a troublesome entity for the public sector.

In some cases only documentary evidence is required but in other cases interviews are also held to ensure that the contractor can give a responsive and

reasonable offer to carry out the work. Documentation could take the form of the audited balance sheets for three years as evidence of financial stability.

The criteria favour the already established commercial contractor. As previously stated, they effectively deny access of community groups to the infrastructure procurement contracts. The underlying question which needs to be answered satisfactorily before the contract is awarded is can the contractor perform successfully.

The message that the contractor evaluation is important to predict contractor failure is quite clear in the literature. The methods used are prequalification and surety bonds or both. The time spent in evaluation is worthwhile in term of the benefits. However, when tackling the three questions of how to do it, what factors to be considered, and which among the long list of the factors is the significant one, the feeling is that the process is still an art rather than an exact science. Sophisticated techniques have been used but the basic assumptions have not been challenged.

Key Points

- Public sector clients are protected against the non-performance of the contractors screening methods and sureties.
- An organisation wishing to be a contractor has to pass many screening stages.
- Only organisations with demonstrable legal status could enter into a legal contract with the public sector.
- Criteria for evaluating the capacity of the contractor are established.
- There is little empirical evidence supporting the assumption that the screening of contractors does protect client from non-performance of the contractors.
- The legal and procedural requirements are designed for the commercial private sector.
- The requirements *effectively exclude the community groups* from the procurement process. The result is that *access to the procurement process is effectively reserved for private commercial contractors*

4.6 Selection of contractor

In practice the criterion for selection of the contractor is the lowest bid. The lowest bid can be rejected but in practice this is seldom done. The argument put forward in support is that if the contractor has fulfilled the basic criteria that indicate capacity to give a reasonable and responsive bid, the only concern left is that of a mistake being made.

The argument against the award to the lowest bid is that if the bid is too low as compared to estimated made by the professionals then there is no way that the contractor could deliver the work to the quality specified (refer to data base entry 285). Different opinions exist. One solution is to have a threshold below which the bid should be rejected. Some think that this should be the Engineers estimates, some think that the average of the bids should be used and some have gone into detail analysis after reference to a data base of similar bids.

Merna & Smith (1990), outline the bid evaluation regarding the public sector civil construction contracts. This study, among others raised the issue that there are some factors besides the cost that needs to be considered. However, current practice in South Asia local government is still the acceptance of the lowest bid given by the selected bidders.

Key Point

- Contractor is ultimately selected on the basis of the lowest bid.

4.7 How does the routine procurement work in practice?

This section provides text boxes, Text Boxes 4.8 and 4.9, to trace the contracting and billing process in a typical public sector authority.

Text Box 4.8 Conventional contracting and billing process in Colombo Municipal council for small contracts, not exceeding 150,000 rupees.

The quotations are called through notice on the board.

These findings are based on a review of files and semi-structured interviews with the officials. The public department is legally represented by the Engineer/Manager, the end user is the client and the conventional contractor is the constructor.

In this scenario the Public Sector is effectively the user's agent or Engineer.

Narrative	Commentary
<ol style="list-style-type: none"> 1. There are three categories of contractors in drainage section of CMC. One category could undertake work of up to 10,000 rupees, the second category could take care of work up to 10-50,000 rupees and the last up to 50-150,000 rupees. Beyond this it goes to the project division. 2. It was reported that, in general, it takes one month for payment and if it goes to the Mayor then it could take 2-3 months. 3. As a rule for the time estimates the factors considered are the value of the work, place of the work, that is, whether access would be restricted like in high traffic roads. It was reported that for the work of up to 10,000 rupees, 7 days are taken, for 10-50,000 rupees, 10 days and for the work of above 50,000 rupees it takes 14 days. 	<ul style="list-style-type: none"> • Work is categorised according to the cost of the work. • Payment for even such small scale work could take three months. The higher the rank of the officials involved the longer the delays. • There are heuristic rules but no systematic methods to estimate the duration of contract.

4. *Steps of the process.*
5. Document along with the application submitted.
6. Inspection of the premises and report by the inspector.
7. Approval by the Connection Engineer.
8. Call for quotation from registered contractors.

9. Documents are prepared including the B.O.Q..
10. Quotations invited. The notice board is used for the invitation. Normally it takes 7 days but in urgent cases it can be opened in 3 days. Specific date and time is given for opening.

11. Quotations opened in the presence of Engineer, tender clerk and head clerk.
12. Tender evaluation report is prepared by the technical staff assistant after checking by the clerk. Department estimations are also prepared and if the quotation is below 23% or above 17 % of the department estimates they are not accepted. This range, as we were told, is based on what is regarded as the reasonable profit to the contractors.

13. Quotation got approval depending on the selected quotation value. ME [Municipal Engineer] can accept up to 25,000 rupees, MC [Municipal commissioner] up to 75,000 rupees, and Mayor up to 150,000 rupees. Beyond this it goes to the approval of the council.

14. In the contract amount, the standard fees for the connection and the departmental charge at the rate of 15% of the contract value, are added and the applicant is informed and asked to pay.
15. The applicant pays the amount, the CMC provides the sketches of the road cutting if required for the contractor to get permission from the other agencies.
16. Contractor submits the documents like insurance, all risks, third party and workmen compensation policies.
17. Agreement signed by the contractor and sent to the Mayor through the municipal commissioner.

- In this case the work was the house connection of drainage .

- Note the approval is to be obtained from the Municipality regardless of who is constructing. Absence of such permission could results in delay the other services from municipalities.

- Use of the notice board will restrict the notice to the people who come and see the board regularly. The practice of using notice boards is existing and could be used or extended for community participated procurement. The standard designs and specifications make it possible for the contractor to submit the bids in such a short time span.
- No outsider, tender opening committee is internal.
- Heuristic rule for rejecting the 'unworkable' bids.
- This range also indicates the accuracy of the Engineer's estimates. The benefit of having a pre-defined range is that the onus is not directly on the person who is rejecting as in the case where the range is not defined. It is implied that the work will not be workable for the contractor out of this range as he will not be making a reasonable profit. How could a contractor make a reasonable profit if the bid is below 23% of the estimates, which may be outdated. The explanations could be that the estimates are higher than the cost of the work to the contractor or the contractor is not giving the quality as specified.
- Effectively beyond the RS. 25,000 the matter goes out of the technical set-up. Beyond the RS. 150,000 mark the approval is dependent on the meeting of the council. It is very hard to give a time for such arrangements. The time taken for the approval of the tender could be as long as the construction time or even more.
- Effective connection and management charges are 15 % of the contract value. The end users directly pay for the work managed by the Municipality.
- Contractor to co-ordinate with the other agencies.

- The procedural demands are high on the contractor even in such a small value contract.

- From Municipality it is the mayor who finally signed. It may take a long time. Delegation is not exercised in the execution of this duty.
- Without waiting for the signatures on contract as this may take long time.
- The work may start but the payment can only

<p>18. Site handed over to the contractor.</p> <p>19. Contractor informed about the commencement date and the supervision starts.</p> <p>20. Work note issued to the overseer by the TSA [technical superintendent assistant] for the supervision of the work.</p> <p>21. On completion the overseer informs the TSA.</p> <p>22. Inspector measures and prepares the bill.</p> <p>23. Head clerk checks the accuracy.</p> <p>24. Inspector checks for the quantity and quality.</p> <p>25. On receiving from the inspector TSA certifies and send it to the Engineer</p> <p>26. Engineer certifies the quality and quantity and recommends</p> <p>27. S.E recommends and certifies.</p> <p>28. DME recommends for payment.</p> <p>29. Authority approves for the payment. The authority for payment is double the authority of accepting tender.</p> <p>30. Bill comes back from the authority</p> <p>31. Vouchers prepared</p> <p>32. Goes to accountant</p> <p>33. Payment made 5 % retention and 5% security is kept and released after defect liability period. Which is in general 3-6 months</p>	<p>be made once the agreement is signed. This may take months. The risk of delayed payment due to non-signature of the contract is borne by the contractors.</p> <ul style="list-style-type: none"> • The Overseer is the main link between the contractor and the department. • Measurement and pay. Note the long chain of officials. • The authority of payment would be RS. 50,000 for the M.E, Rs.150,000 for the municipal commissioner and RS. 300,000 for the Mayor. • There are approximately <i>thirteen</i> links or steps in the process of paying even the smallest of the bills. If a higher official is involved then the time at one stage could be significantly longer as compared to the overall time of the process. • Procedural barriers. Even of the small contracts the 10 percent money would be blocked for some months.
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Source: Interviews and documents, for example data base entries 196,310, 315,352

Text Box 4.9 Trails of Events in the process of contracting and billing process- CMC Conventional contracts.

The works included water & sanitation, drainage, roads and footpath and landscaping.

Narrative	Commentary
<p>Typical file1</p> <p><i>Contracting process</i></p> <p>24-9-91-Application received. 8-10-91-Inspector recommended.</p> <p>9-10-91-Application approved</p> <p>9-10-91-Quotations invited.</p> <p>16-10-91-Quotations opened. 23-10-91-Evaluation prepared.</p> <p>5-11-91-Approval of authority.</p> <p>15-11-91-Send to the authority in Town Hall for signature. 20-11-91-Contract date.</p> <p>6-1-92-File came back.</p> <p>6-1-92-Site handed over.</p> <p>9-1-92-Work completed.</p> <p><i>Billing process</i></p> <p>21-1-92-Prepared by the inspector.</p> <p>21-1-92-Check by the inspector. TSA forwarded. 22-1-92-Engineer forwarded. 23-1-92-SE forwarded, DME forwarded, ME forwarded. 28-1-92-Voucher prepared. 28-1-92-Accountant signed. 28-1-91-Payment made</p>	<p>It took 14 days to get recommendations from the inspector. One day for the connection engineer to approve. The same days as the application approved. In seven days the quotations were opened. The evaluation report took another seven days.</p> <p>Thirteen days to approve the bid. But the contract was not signed. Ten days to send the file to the town hall. The contract dated 20-11-96, that is five days after it reached the Town Hall.</p> <p>It took 47 days to come out of the hall after signatures. The site was handed over to the contractor the same day that the contract is received. The delays were in the higher offices. It took only three days to complete the work once it started. It took ninety days before the work could start. There is a need to have an idea of the overall delivery time as compared to just the contract time if the urban services are to be improved for the urban areas.</p> <p>Four days for the voucher preparation. Same day. It took only seven days as the file did not go to the higher offices. However, if the time is calculated from the day that the work was completed it took 19 days for payment for the three days work. The time for payment is quite reasonable in general but if we consider the duration of contract it is approximately six time the contract duration.</p>

<p>Typical file 2 <i>Contracting process.</i></p> <p>8-4-94-Application received. 11-5-94-Inspector recommended.</p> <p>12-5-94-Application approved. 13-5-94-Quotations invited. Quotations opened. 26-5-94-Recalled. 3-6-94-Opened. 3-6-94-Evaluation prepared. 28-6-94-Approval of authority.</p> <p>1-7-94-Site handed over 4-7-94-Work completed. 4-7-94-Send to the authority. 24-8-94-File came back.</p> <p><i>Billing process</i></p> <p>14-9-94-Prepared by the inspector. 14-9-94-Checked by the inspector. 21-9-94-TSA forwarded. 21-9-94-Engineer forwarded. ME forwarded after SE and DME. MC approved on-date not clear. 12-10-94-Voucher prepared. 12-10-94-Accountant signed. 12-10-94-Payment made.</p>	<p>It took thirty three days to get the recommendation. One day for the Engineers approval. In one day the quotations were called. The quotations were called twice and it took ten days and eight days respectively to open them. On the same day an evaluation report was prepared. It took twenty five days to get the approval. Three days to hand over the site. Three days to complete the work. Four days to send the file. It took fifty one days to come back after sending it for signature. <i>It took eighty four days to reach to the stage of the site handover after which the three days work could start.</i> The lead time is an important consideration in overall delivery of infrastructure.</p> <p>Seventy two days after completion of work.</p> <p>Six days for TSA to forward.</p> <p>Seven days for the ME to forward.</p> <p>It took twenty eight days as compared to the seven days in the previous bill, as another step, reference to the of Municipal Commissioner, was now included. MC was the authority. <i>It took one hundred and eight days to get paid for the three days work.</i> Very often, the payment time is roughly the same regardless of amount of bill.</p>
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Source: Interviews and documents, for example data base entries 196,310, 315,352

The above text box indicates the atmosphere in which the new contractors would have to survive unless the process is changed radically.

Key Points

- Even for very small contracts the procedural requirements are stringent.
- Time taken for fulfilling the procedural requirements is more than actually doing the work.
- Involvement of many signatories is seen to be a way of increasing accountability.
- Delay in payments could influence the performance of contractors who are short of up-front capital.
- No advance provided to the small contractors.
- Only contractors with some capital could survive in the public sector contracting.

4.8 Recognised alternative routes to the procurement of infrastructure

The literature describe a wide range of options available, but in general the urban government in the study countries routinely adopt the traditional contracting through competitive tendering procedure. Some of the alternatives to the competitive bidding have now been recognised at international level (World Bank 1995):

- 1 Limited international bidding.
- 2 National competitive bidding
- 3 Shopping[national and international]
- 4 Direct contracting
- 5 Force accounting
- 6 BOT and similar
- 7 Community participation in Procurement within existing regulatory framework.

Recognising that there are some other routes available for infrastructure procurement other than international or domestic competitive bidding is a valuable first step. It was acknowledged by the World Bank that community participation in procurement is also a valid route for the procurement of

infrastructure. In the context of developing countries Text Box 4.10 shows some of the alternatives in an Indian state.

Text Box 4.10 Alternatives in procurement strategies An example of Alternatives

<p>Govt of Kerala Procedures</p> <p>The Govt of Kerala procedure's allow the following in addition to the standard procedure of requesting tenders from enlisted contractors</p> <ul style="list-style-type: none">• <i>Departmental Works</i>; the concerned department can directly undertake the work and purchase the material and labour. Estimates are made and approved for the materials and labour required to undertake the (usually minor) works. Labour can be recruited specifically for the works. A daily muster role of labourers used has to be maintained, which can be supervised by an overseer.• <i>Entrustment of works by negotiation</i>; any recognised voluntary organisation engaged in 'social service' or 'local improvement efforts', or one or more 'beneficiaries of works' may be entrusted to carry out the works. The proviso is that the agreed cost of execution does not exceed 75% of the estimated cost of the works. One of the objectives is clearly to try to cut the cost compared with that of conventional contracting.• <i>Petty works</i>; these are classified as being up to Rupees (RS) 3000 (approx. £65), and can be undertaken without going through the full procedure described under 'preparation of plans and estimates' in the 1990 Government Rules. This may be useful in some cases, particularly for minor rehabilitation or improvement of existing facilities; however, one does not get a lot for RS 3000 <p>Engineer's co-operative</p> <p>In India, to combat the un-employment of Engineers, the Government has encouraged the formation of Engineer's co-operatives</p> <ul style="list-style-type: none">• The co-operatives have a fixed quota in the public works, in some cases up 20%.• These co-operatives are given exemption from submitting the earnest money.• It is reported that the experiment is successful and the targeted group has benefited.• Registration is to be under the same procedures as that of the other co-operatives. <p>Labour co-operative societies</p> <ul style="list-style-type: none">• Labour in some of the states of India can form labour co-operatives.• A quota is fixed for them in public works.• If they do not want to do the job themselves they can hire someone else to do the job for them

Source: Data base entry 13

1 Kerala Gazette extraordinary published by, Government of Kerala, 1990.

2 Kerala Municipal Corporations(Public works and supplies) rules, 1990.

It is pertinent to note that there are certain alternatives to routine competitive bidding that are allowed at both international and national levels.

Against the impression one gets if only the routine processes of procurement are observed, there is an element of flexibility available within the current procedural framework to allow for deviations from the routine procurement. The implications of the Kerala and similar rules, as we will see in chapter six, are wide ranging.

They not only allow other than competitive bidding but also allow the entry of non-registered contractors.

4.9 Role of community in procurement

Can community play any role in planning, design(advice), and construction phase in the routine procurement of urban infrastructure? If we imagine a typical informal community group it will not be able to enter into any legal contract with public sector as it has no legal status (refer section 4.5).

It is worthwhile to examine what roles the community groups and small and medium size private contractors are playing currently in the routine procurement of infrastructure. Table 4.1 provides a summary of the roles of the key stakeholder in routine procurement. These roles are discussed in more detail in chapter six and seven.

Table 4.1 Role Matrix of key stakeholders in routine procurement of infrastructure

Project context	Stakeholders	Roles		
		Client	Constructor	Engineer/Advisor/Supervision
PWD and related procedures.	1 Community/CBO	None	None	None
	2 Public sector	√	None	√
	3 Private contractors	None	√	None
	4 NGO	None	None	None

Source: Interviews and documents.

In a routine procurement of infrastructure there is effectively no role for the Community, CBO or NGO.

If a group does attain the legal status the criteria for contractor evaluation, surety requirements and other procedures are so complicated that in practice, such group would be excluded from the process. This is an important finding and, influences the direction of this research in the following ways The potential direction of enquiry is to explore:

- 1 Mechanisms used in the community initiatives along with alternative procurement strategies and investigate whether there are opportunities to be gained from the non-routine situations, such as Entrustment of Works (see Text Box 4.10).
- 2 The small scale contractor already in the procurement process and their capacities to see how the community groups could attain such level.

It is worth reminding ourselves that the desired participation of community faces constraints from the procedure adopted as routine in procurement of infrastructure.

Key Points

- Existing routine procurement procedure is a constraint to the community participation in procurement.
- Alternative routine procurement processes are available in the existing legal and procedural framework.
- Contracting with non-commercial private sector including community groups is possible under some special rules.
- Role of community in the routine procurement process is negligible.

Chapter contents

CHAPTER 5 OPINIONS OF KEY STAKEHOLDERS IN PROCUREMENT OF URBAN INFRASTRUCTURE. RESULTS FROM INITIAL SURVEY. 5.2

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Chapter 5 Opinions of key stakeholders in procurement of urban infrastructure. Results from initial survey.

5.1 Introduction

In the procurement process, the key stakeholders included the officials playing the role of Client, their consultants/Engineer and micro-contractors. It is uncommon in public sector departments in the study countries to hire an independent consultant for micro-contracts. In the beginning of the research a detailed questionnaire survey was conducted on a limited number of the client, consultant, and micro-contractors' representatives. The respondents were selected from a typical urban local organization in study countries. Some very basic questions were asked from the officials to see if they are aware of the procedural issues and to corroborate the findings from the document reviews and interviews. Non-parametric tests were run to see the goodness of fit. The non-parametric tests were considered to be relevant as they do not require certain assumptions required by the parametric tests (Siegel 1956). The tests are particularly useful when dealing with relatively small samples. The significance level was set at 0.05. The tests are described in Appendix 3.

5.2 Key findings related to the Public sector officials and their consultants working in developing countries.

5.2.1 Basic factual information

Some of the key basic information is tabulated in Table 5.1. This indicates whether the officials and their consultants associated with the public sector procurement of infrastructure are aware of the issue listed. The breakdown of the

respondent is given in Table 3.3 in chapter three. Unless otherwise mentioned the results were supported by the binomial and/or chi-square test.

Table 5.1 Awareness of procedural issues in public sector-officials and their consultants.

Issues	No		Yes	
	Count	%	count	%
1. Enlistment of contractors	0	0	10	100
2. Contracting out the work	0	0	28	100
3. Classification of contractors	0	0	5	100*
4. Financial procedures	2	7.1	26	92.9
5. Legal regulations	1	3.6	27	96.4
6. Standard conditions of contract	0	0	28	100
7. Selection and pre-qualification	1	3.6	27	96.4
8. Classification of works	1	3.6	27	96.4

Source: Questionnaire survey

* The calculated P-value is more than 0.05, hence it can not be statistically said that the difference in the percentage is not by chance.

Evidently the awareness regarding the current procurement procedures was quite high among the officials and their consultants. They seem to be an appropriate source to get more information regarding the routine procurement process. The other set of questions was aimed at obtaining their perceptions about the way in which the process worked.

5.2.2 Perceptions of officials and their consultants in public sector procurement.

The key opinions of the officials and their consultants related to the procurement process on routine procurement procedures as well as on issues related to involving communities in procurement is tabulated as Table 5.2. The 'Statement' column contains a summary of the questions to which the informants were asked to respond. The 'Concurred' column indicates the percentage of responses which the informant deemed to be in agreement with the question posed. The 'Comments' column includes a statement synthesized by the researcher from the range of responses to the question.

Table 5.2 Perception of officials and their consultants in developing countries-Key results of questionnaire survey.

Statements	Concurred By %	Comments
More than 60% of the infrastructure development budget are contracted out.	74	Contracting is the perceived to be main method of procurement. This ties in with the literature and document review.
Managing one contract is easier than dividing it into smaller packages.	74	Favours dealing with a single party.
Small scale contracting is beneficial to local community.	81	Community has better chance to get a small scale contract. Only one respondent had the experience of working with the community.
Majority (75-100%) of the work is of repetitive nature.	87	The work is standard hence of less risk. The work involved tasks which are standard. The contractors are habitual of such tasks.
A fair share of work, up to 50 % is sub-contracted out by the contractor.	78	This is happening where the sub-contracting is not permitted. Sub-contracting is common even in small scale contracting. The officials know and accept it. The implication is that this mechanism must have some appeal to all the parties concerned. Another implication is that the 'real' contractor is the sub contractor who does not have a direct contractual link with the public sector. The third sector contractors may have been denied the access to the procurement process. This also highlights that there are indirect mechanisms available which may also be explored for the community groups.
The conditions of contract should be understandable to all the parties involved.	96	The implication is that some stakeholders do not understand the conditions of the contract used. This supports the interview finding where some contractors are illiterate and who admit that they cannot understand the conditions (see data base entries 316, 317 and 318) or conditions of contract is English.

Statements	Concurred By %	Comments
Modification is required in conditions of contract to involve communities.	50	This implies that some of respondent may have thought the existing conditions have the scope to accommodate the community participation or they have not thought enough about it.
The majority of interviewees thinks that 36% of the clauses is not used.	60**	There are some redundant clauses in the conditions of contract. One way to simplify the contract documents it to make it shorter.
Separate modified contracting procedure is required to encourage community participation	81.5	The consensus is that as far as the overall process is concerned it needs modification.
There will be audit observations (queries) if the work is awarded to the community instead of enlisted or pre-qualified contractors.	95	The perception is that the community contracting is irregular and may raise objections. There is a fear of audit objections.
The work cannot be awarded to any body without competition.	81	The perception of majority of respondents is that the routine method of competitive bidding is the only available method.
A bid bond is essential even for tertiary level contracts.	82	The perception about the importance of the financial surety. They do not conceive of any situation where the requirement may be relaxed.
Security deposit is essential even for tertiary level contracts	89	Even where the bills are paid in arrears the security is considered to be critical.
All the interviewees think that financial and legal back-up is essential for the success of any new procedures.	100	The procedure needs to link with the overall financial and legal framework similar to one that exists for the existing procurement procedures. This may be in the shape of the directive from their finance and legal department. The implication is unless that happens the things would not change.
Community, contractors, and engineers need to be consulted for the evolution of the procedure for community contracting.	89	Proper consultation is desired. Realization that one sided procedure will not work in the community contracting is worth noting.

Statements	Concurred By %	Comments
The majority(77%) of the interviewees consider the low skill of the community and the procedural requirements to be the barriers for involving the community as contractors.	77**	The key barriers or classes of barrier perceived were the procedural and capacity of community. The perception is that the community will have difficulty in executing the work. The similar concerns were raised by the officials in interview who had not executed community contracts (see data base entries)
The majority of the interviewees (67%) reported that 0-10 % of the contracts exceeds the initially approved budget. None reported excess beyond 30%.	67*	The cost control is perceived to be tight. This could be comparison what happens in the completed contract. The quantitative performance related data are presented in chapter eight.
All reported the range of a contract as 0-2 million rupees.	100	Fairly small size contract. The concept of micro contracts covers the bulk of contract used in the procurement of urban infrastructure.
According to the 78% of the interviewees 50 % of the local contractors are involved in the government works.	78**	The perception is that the public sector is a big client in construction.
Contracts completed on time 0-30% 70-90%	** 26.1 39.1	There is no clear message about the time performance. The implication is that as many as 70 % of the contact may have time over runs. This indicates a very inferior time performance as compared to the cost performance.

Source: Questionnaire Survey

“*” The calculated P-value is more than 0.05, hence it can not be statistically said that the difference in the percentage is not by chance

(**) chi-square statistic is questionable here, cells have expected frequencies less than 5.

Key points

- Competitive bidding is the main procurement strategy.
- The works involved at tertiary level is generally of low risk.
- Sub-contracting is practice in spite of being 'not allowed' in the procedures. The working relationship between the parties of the contract may not be exactly in line with the legal contract between the parties.
- Contract clauses could be simplified and made in a way that the contractors could understand them.
- Community capacity to undertake the work is questioned.
- Surety for the Client is perceived to be crucial.
- Procedural barriers exist to the community involvement in the procurement.
- A modified procurement process with a proper legal framework is required to involve community in the procurement process.

It is important to note that the subcontracting is seen to be acceptable by the respondents. This reminds us of the existence of some relational contract (see chapter 2) in parallel with the legal contract. The overall attitude of the respondent is sympathetic towards the relationship or contacts between the public sector and community group.

It is to be noted that the findings, in general, are in line with the issue discussed in chapter four in relation to the procurement process and constraints to the community involvement. The research will further explore the linkages in the findings presented in the chapter six especially the outcome of the focus group discussion.

5.3 Opinion of the public sector small scale contractor involved in the procurement process

Twenty five micro-contractors in Karachi Municipal Corporations were surveyed. The forms were filled while speaking to the contractors. Two assistants were used in tracing and interviewing the contractors. In many cases the contractors do not have a permanent office. Basically the contact point was the office from where they get the work. The information provides a picture of the kind of organisations and people involved as micro-contractors in the procurement of infrastructure at tertiary level infrastructure procurement. It was quite difficult to get hold of the people as many of them had not permanent offices. Some of those proprietors were quite busy as they had to do many tasks like purchasing, hiring of labour, and organising site by themselves. There is no parallel of similar studies in the literature reviewed. The study also indicates the benchmarks or the requirements to become a micro-contractor in a local urban government department. The survey also provides an introduction of people acting as micro-contractors in the procurement of infrastructure in an urban local authority. Table 5.3 provides a summary of the key finding of the survey.

Table 5.3 Key finding of survey of public sector micro-contractors.

Statements	Concurred By %	Comments
The contractors have one or two levels of organization. The numbers of permanent personnel, including managerial personnel, are 0-3.	84%	The organization is very small. The chain of command does not go beyond two levels. The reliance on permanent staff is very low. It seems of be mainly one man show who hires people as and when required. This support the findings that the sub-contracting is at a large scale than is allowed theoratically.
The contractors have no geographical preferences to work.	96%	The contractors can work wherever the work comes up in the city. There are many divisions in a city and contractors have no preference for a particular division. The contractors are quite small but have capacities to go beyond one division.

Statements	Concurred By %	Comments
Contractors do not own plant and machinery but own tools and equipment.	84	This is quite interesting as on paper it is one of the factors or criteria of enlisting the contractor in a department. But in practice it is not enforced. This also tells that some of the requirements could be met by many only as far as the papers are concerned. Tools and equipment are owned. The work is not of the nature which require mechanisation.
Facilities of hiring tools and plants are available.	100	It adds to the flexibility of the organisations. It lowers the capital investments and overhead. The rental charges could be charged to the project directly.
There is no facility for institutional loans	100	The door of formal credit is closed on the micro-contractor even if they are a registered contractor. The reliance on informal finance market or private resources is high.
They have bank accounts	100	That is a necessary condition. A bank account would be required from the community group if they want to become a micro-contractor of the local public sector.
They are registered contractors and are enlisted with a governmental organisation.	100	Same as above..
The majority contractors have experience of 4-6 years	60	The micro-contractors have experience of many years of work. This again is something that would be expected from any new comer in the procurement process.
The annual turnover of the micro-contractor does not exceed RS 1.0 million. The most frequent range of turnover is RS 0.5 to 1.0 million [The exchange rate is approximately £1= RS 65].	84 52	If a micro-contractor could get contracts of RS 1.0 million, assuming the profit margin of 20% the monthly income comes out to be around RS 16666. This is fairly decent income for the micro-contractor. Micro-contracting is a good source of income.
No verbal contracts were used All the contracts were written.	100	In informal sector and in many community groups there were no written contracts used, see Chapter six. This again in something required from the community groups.
The contractors also act as a sub-contractor.	64	The role of micro-contracting is not restricted to the micro-contracts. The link to the larger contracts is through sub-contract. This also highlights the frequent use of sub-contracts and indirect entry of relatively smaller contractor in the process of large contracting.
Getting private sector work is easier than public sector work.	96	This indicates that in public sector there may complex procedural requirements.
The majority of contractors have the capacity to undertake the works not exceeding RS 500000 at one time.	60	This indicates the financial and managerial capacities of the micro-contractors to handle the contracts.
The majority of contractors perceive the work costing than Rs.25,000 as of minor nature.	80	This highlights the relative nature of the meaning of the term 'minor work.'

Key Points

- Micro-contractor in the public sector know how to satisfy the procedural requirements.
- In fact many of them are one man show.
- They do not have the plant and equipment as required by the procedure but can arrange those.
- They have bank accounts but no facility for institutional loans.
- They have experience in the kind to work they undertake.
- They act as sub-contractors as well.

The interesting point is that the micro-contractors in the public sector are not very well equipped, but are well experienced. They have also demonstrated their capacities to meet the procedural requirements, and have good connections in the market to fill in the gaps as far as the logistics are concerned. They know how to; get registered, get enlisted in the department, open bank account and to deal with the public sector. They are, in short, small entrepreneurs. They could act as a model for any new comers in the contracting business including the community groups.

5.3.1 Factor perceived to be important in becoming enlisted.

As discussed in Chapter four, routine procurement of infrastructure requires certain conditions to be met by the potential contractors. This section explores the perception of the contractors who have gone through the enlistment process. The micro-contractors were asked in the questionnaire to identify the factors which they think were instrumental in getting them enlisted in the to public sector organisation. Some of the factors were quite sensitive and the contractors were assured of their anonymity. A set of factors was provided to them with an option to add any factor if they so wish.

The factors could provide a guide to new-comers. These also highlight that becoming enlisted in a public sector department is a complex process. It is not so simple as some of the official documents report it to be (data base entry 146). The factors are shown in Table 5.4. The factors were considered important in getting access to the public sector works were categorised by the respondents as 'very often', 'often', 'occasionally', 'never' important.

Table 5.4 Factors perceived by the public sector micro-contractor to be important in getting them enlisted.

Factors	Response	%	Comments
Reading the notices of tenders /pre qualifications.	very often	100	It triangulates with the documentary evidence that there is a set procedure for the enlistment(see data base entries for example 247 & 283)
Technical competency of the contractors.	Very often and often	88	Very often by the majority to be of importance
Managerial competency of the contractors	very often and often	52	Fewer people perceived it be important as compared to the technical competency.
Legal status of the contractor.	Very often and often	80	Important. Triangulate with the discussion presented in Chapter 4
Political background.	Occasionally and never	92	Only few perceived to be important.
'Relations' with the officials.	Very often and occasionally.	100	It was not reported by anyone as 'never'. It is an important factor.
Experience of the contractor.	Occasionally and never	96	Interestingly the contractors do not perceive experience as an important factor. The message is having experience is not a guarantee to get enlistment in the government sector. This view completely denied by the officials (for example base entry 247).
Competency of the contractor's staff.	Often and occasionally	56	Again it is not the critical factor.
Bribery.	very often or often	100	<i>No doubt about that! Bribery is the factor perceived to be important by all.</i> This tells us a lot about the working environment of the public sector. It is not just the factors which are written in the documents which govern the enlistment of the contracts but many of which are unwritten and may be more important. But this is the environment where the community group need to survive. Understanding what is not written is also important in understanding aspects of the procurement process.

It is noteworthy that how factors, which are not all mentioned in the any documents are perceived to be so influential, for example bribery, politics and

relationship with the officials. Reading the notice board for tender, technical competency and experience are all important. It could be envisaged that an organisation wishing to enter into a legal contract with the public sector in the study organisation under existing situation is expected to have the characteristics of the public sector micro-contractors mentioned above. How can we promote the community involvement in such situation? The direction would come from the study of the processes where the community did participate in the procurement. It is also noteworthy that the existing agency relationship between the micro-contractors and the public sector can hardly be classified as participatory or partnering (see section 2.12 & 2.13).

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Chapter 6 Initiatives-community participation in procurement.

6.1 Introduction

In previous chapter, it has been seen that there is apparently little scope for involving community groups in infrastructure procurement in terms of the routine processes adopted by urban government in the study countries.

However, there are several examples of situations in which community groups have participated in the procurement process. As concluded in chapters four and five, it is important to review cases and to analyse the process which has been occurring in order ultimately to relate this to public sector procurement procedures.

A series of text boxes is presented in this section to describe the processes, roles, relationship and opinions on performance of community participated procurement.

In preparation of the boxes a variety of evidence was used. The evidences included interviews, documents and field notes. The evidences are listed in data base index. The text boxes are grouped together according to the focus of the description. The boxes represent a series of short stories with a common link-the community participated procurement process. In the Text Boxes both narration and commentary is provided. The sample of sources are listed at the bottom of each Text Box.

6.2 Community participated procurement

6.2.1 Text boxes focusing on the variety of roles played in the procurement process.

Text Box 6.1 Community and contractor: the community works with a private sector contractor.

The use of local labour in a donor-funded programme implemented by urban government: Cochin, India.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Under a contract won by competitive tender, the contractor has made use of some local unskilled labour for landfilling operations 2. The contractor was specifically requested to do this by the Municipality 3. Wages paid so far amounts to RS 2,500 in total; it is low because machine-based methods are necessary for the much of filling work. 4. Discussions are in hand about future work on formation of access ways amounting to RS 33,500 	<ul style="list-style-type: none"> • The contract was won in the normal way through competitive bidding. • The contractor is satisfied so far with the community labour supplied

Source: Interviews and documents, for example data base entry 3.

Text Box 6.2 Community and urban government: the community as a labour-only contractor for government.

A donor-funded programme implemented by urban government: Cochin, India

Narrative	Commentary
<ol style="list-style-type: none"> 1. In two separate communities, labour contracts between the Municipality and the Community Management Group (CMG) have been used for the formation of lanes by placing gravel fill. Material was supplied by a government department (the Municipality). 2. Initial efforts did not produce satisfactory quality work because of lack of technical support and supervision. 3. The negotiated labour rates were lower than the current market rates. 4. A total of RS 12,300 has gone into the communities in the form of waged labour. 5. Negotiations with the community are underway for an additional RS 78,600 of work pertaining to cleaning and renovating the drainage system and concreting some lanes. 	<ul style="list-style-type: none"> • The use of negotiation is a key issue here; the communities agreed to rates below the current 'market rate', that is the rate at which unionised labour is available. • There is an important element of local capacity building, however small, which cannot be neglected. • This represents good value for money for the Municipality which is very important for the officials responsible for promoting these non-standard ways of working.

Source: Interviews and documents, for example data base entries 3, 30.

Text Box 6.3 Community and urban government: the Community manages a government contract.

A donor-funded programme implemented by urban government: Cochin, India

Narrative	Commentary
<ol style="list-style-type: none"> 1. A contract has been awarded by the Municipality to one CMG for the construction of a new septic tank 2. The contract was awarded through negotiation with the CMG, following a general call for tenders, whose purpose was 'market testing'. 3. The CMG has taken responsibility for procurement of materials and construction. 4. The value of the works is RS 50,000. 5. The major problem was in obtaining credit for materials purchase. 6. A mason and a carpenter teamed up to provide skilled labour and construction management inputs for the contract. 7. Work is in progress. Depending upon performance on this contract, work for the remaining septic tanks will be negotiated with the community. The value of the works will be RS 385,000, with a further RS 71,200 available for drainage related works. 	<ul style="list-style-type: none"> • Negotiation plays an important role; the final price was 10-20% lower than a typical contractor's tender. • The CMG was unable to secure credit for materials purchase; the problem was resolved by an official advancing a government loan taken out in his name. A commendable gesture, but clearly a risky and unsustainable approach. • This problem arose because government procedure operates on a cost reimbursement basis. • The 'market testing' served the purpose of demonstrating value for money; however, contractors are unlikely to tender if word gets round that it is the intention to offer the contract to the community. In addition to income generation, enterprise development is evident through the teaming up of a mason and a carpenter.

Source: Interviews and documents, for example data base entries 3,30.

Text Box 6.4 Community as advisers: urban government, its contractors, councillors and the community.

Over twenty years the Calcutta Metropolitan Development Authority (CMDA) has evolved a system which involves the communities in a variety of ways in the slum improvement schemes funded by government and donors.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Project formulation involves consultation between the community, the CMDA and the Municipality about what facilities are to be provided within the budget. Clearly understood agreement is obtained before work starts 2. The contractor is required to have a sample of his construction work (paving, pipe laying, concreting, etc.) approved by both the engineer and representatives of the community together. This sample of work becomes the yardstick against which the quality of the rest of the work can be judged. All parties, that is the community, the engineer and the contractor therefore have a point of reference against which future disagreements can be discussed and resolved. 3. CMDA places great emphasis on completion testing, for example of pipelines. Certificated testing is incorporated into the contract and it is important that the contractor knows that it will be carried out in every case. Community representatives are invited to witness the testing so that they can see that it has been done. 	<ul style="list-style-type: none"> • The consultation involves the community, key local politicians and the engineering department. • CMDA places and enforces quite strict requirements on its contractors. Whilst this will be reflected in tender prices, they are getting added value in the form of improved overall management of the jobs. • The quality of work is excellent. • The community does not have a formal contractual role.

Source: Interviews and documents, for example data base entries 2,12, 16.

Text Box 6.5 Community as labour sub-contractor to private contractors-A contractor's perspective. SIP Context.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Many contractors have their own direct labour force that they keep on the books and pay even when there is no work available. 2. For the recruitment of additional unskilled labour, the contractors turn to one of the many labour agents in the area. These agents recruit on a daily basis from gatherings at known meeting places, that is, the traditional method of hiring casual labour. 3. The rates paid for unskilled labour, known locally as 'market rates', appear to be controlled by strong union activity and are always higher than the Schedule of Rates specifies. 4. Contractors are ambivalent about being required to employ labour from the community. 5. On the positive side, they believe it helps in overcoming potential and actual hostilities with the community. 6. The downside for the contractors is a concern that they cannot exercise sufficient control over the performance of the workers, "who get the job by right" especially if local organisations have strong political influence. 	<ul style="list-style-type: none"> • There is a two-way loyalty; the contractor maintains a core work force, even during lean times, which enables him to respond rapidly using workers whom he can trust to deliver. Labourers who are retained in this way are reluctant to take part in community-based works which their contractor might otherwise bid for. • Good relations with the community are essential for completing work on time and within budget. In extreme cases the community may deny the contractor access to the site.

Source: Interviews and documents, for example data base entries 3, 4, 5, 6,7,8,9.

Text Box 6.6 Community and government: the Community manages a government contract.

The first time a contract was awarded by government to a community management group (CMG) in Cuttack was for the construction of a community latrine, an open drain and some paving. The finance was entirely from the government. A chronological series of exhibits have been abstracted from the project file which reveals how matters developed.

Narrative	Commentary
<p>7/5/94: Letter signed jointly by the residents of Pattapol to the Collector & District Magistrate requesting the municipality to do the improvement work.</p> <p>26/5/94 Document entitled 'resolution no. 16', signed jointly by residents formalising the CMG.</p> <p>2/7/94 A letter from the secretary of the CMG; the two other signatures are not clear, but a stamp pad is used by the secretary. The letter is addressed to the Project Management Group (Footnote: the Project Management Unit in Cuttack is responsible for implementing a city-wide slum improvement programme for the ODA). The letter 'allows' the 'persons sent by you'(i.e. your officers) to do the job. It also promises to provide labour.</p> <p>Undated:</p>	<ul style="list-style-type: none"> • Demand from the residents to start things moving. • The CMG establishes itself as the means of communication between residents and the government. • The CMG is becoming much more formal. • An indication that the work was to be sub-let to the CMG on a labour only basis.

<p>A letter to the PMU from the CMG expressing interest in doing the work.</p> <p>14/9/94 A letter from the CMG to the Director PMU, requesting an extraordinary meeting to discuss progress. The letter was typed in English on CMG-headed paper with the names and designations of 28 office bearers (six of whom are female), a phone number, and a reference number. Copies were sent to councillors, Municipal Health Officer, Project Officer, Community Organiser, Executive Officer of Cuttack Municipality and an Architect.</p> <p>23/8/95 A letter from the CMG to the Collector, Mayor and the Director of the PMU regarding the problems of the area and referring to the previous correspondence. Alongside the Secretary's stamp is a larger stamp with a registration number on it. Hand written in English.</p> <p>18/9/95 A formal letter to the Project Director PMU with proper references, signed by the president and stamped; a copy was sent to the Engineering Manager. The letter was concerning a call for tenders and indicates the interest of the CMG in the execution of the work in their area. There is a reference to the 'unemployed youths of the area' as a justification to give them the construction work.</p> <p>22/9/95 A letter from the CMG agreeing to execute the work; reference is made to a verbal discussion. A request is made to give details of the works, the Schedule of Rates and the contract agreement. This suggests that the matter has to be passed by the executive body.</p> <p>28/9/95: A letter from the CMG stating that the forms which were sent by the PMU were lacking some details. The CMG had been requested to fill in the form in type in a non-judicial paper. Apparently, the contract was also sent.</p> <p>7/10/95 A letter from the CMG challenging the PMU on its decision to re advertise the tender for the work which they have already consented to carry out. There are some criticisms on the 'Skeleton form' of the 'community contract'. It also states that the previously requested details were not sent.</p> <p>17/10/95 A letter from the Engineering Manger to attend his office within 7 days for the 'perusal of the relevant' and 'signing the agreement'.</p> <p>18/10/95 & 12/11/95 Letters showing the current impasse.</p> <p>15/11/95 A letter from the CMG Secretary stating that they are starting the work.</p> <p>7/12/95 A letter from the CMG requesting design changes.</p>	<ul style="list-style-type: none"> • The CMG shows a surprisingly good understanding of bureaucratic needs and channels. • Increasing formalities the CMG's dealings. • Guidance may have been provided to the CMG. <ul style="list-style-type: none"> • Tenders were invited from the conventional contractor as well. From the files it is not clear as to whether they actually received the bids or not. <ul style="list-style-type: none"> • A verbal agreement is reached in principle without any documentation; this does not happen within conventional procedures. A relational contract is developing <ul style="list-style-type: none"> • The CMG was sent the forms of contract to be signed without giving them any details. These they demanded. For them, dealing with the Government seems a serious business. Nevertheless, it seems that the contract was already agreed; the actual documents may be formalities. <ul style="list-style-type: none"> • An indication of empowerment; the CMG is no longer just a passive receiver. <ul style="list-style-type: none"> • Some discomfort on the part of the Engineering Manager, who is being questioned by the CMG. <ul style="list-style-type: none"> • A verbal deal was struck to resolve the impasse.
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<p>14/12/95 A letter from the CMG demanding confirmation of the changes.</p> <p>14/12/95 A separate letter claiming for the resulting additional expenditure.</p> <p>Undated A note from the CMG on the number of the beneficiaries of the community latrines in terms of gender.</p>	<ul style="list-style-type: none"> • The CMG is involved in some form of monitoring & evaluation.
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Source: Interviews and documents, for example data base entries 4, 11, 30.

Text Box 6.7 Community and government: communities manage 150 government contracts.

During the late 1980's the National Housing Development Authority (NHDA) of Sri Lanka pioneered a system known as community contracting. The NHDA promoted the development of Community Development Councils (CDC), through which the program operated. This remains one of the most important programs of its kind anywhere.

The box is based on the published literature and interviews with the relevant officials. Further data is used to analyse the process and performance of community contracts in their present context.

Narrative	Commentary
<ol style="list-style-type: none"> 1. The CDC identified community requirements with the NHDA and sometimes NGO support. 2. Over a three year period 150 contracts were awarded. 65 were awarded to 27 communities; 32% of the contracts were awarded to two particularly active communities. 3. Most of the work involved sanitation and water supply. 4. Some communities provided labor themselves whilst others hired it in through informal subcontracts. 5. 93 contracts between 1986-89 amounted to RS 4.7 million, of which about RS 1.7 million was for labor. 6. The quality of work was good; the cost was about 20% less than conventional contracting, with less than 10% of contracts overrunning their cost. 7. NHDA engineers and accountants had reservations about this approach. 8. The CDC's experienced problems in obtaining advance payment. 	<ul style="list-style-type: none"> • CDCs [Community Development Councils] have legal status, equivalent to that of an 'approved registered society', to undertake specific works. Making such choices are themselves experiences in empowerment. • It is not just the labor money that circulated but the money used for the local purchase of the material. That has an important impact on the local market for building materials. • The time performance was not as good as the cost and the quality. There was no systematic method to determine the contract duration. • Questions were asked about the legality of the contracts and the lack of formal accountability in the process adopted. In some cases the CDC managed to obtain finance privately; the officials also co-operated in advancing the money before

<p>9. The Municipal Council is officially responsible for maintenance.</p> <p>10. It is not clear to what extent the NHDA schemes are actually having maintenance works carried out or by whom.</p>	<p>the work was completed. This was a risk, as cost reimbursement is made on certification of completion.</p> <ul style="list-style-type: none"> • The Municipal council has not adopted the system of community contracting.
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Source: Interviews and documents, for example data base entries 218, 308, 363, 366. Information also taken from Pathirana and Sheng (1992).

Text Box 6.8 Conventional contractor working for the NGO and supervised by CBO. The context of Sevanathe.

The following is based on the review of the contract and semi-structured interviews with the NGO's representative.

Narrative	Commentary
<ol style="list-style-type: none"> 1. External donor agency provided the funds to NGO 2. The estimates were provided informally to the NGO by the government authority. 3. The provision of funds took a long time and the price of construction increased. 4. The donor refused to pay the escalated cost. 5. The community paid the difference. The difference came to about 20% of the contract value. 6. NGO negotiated the contract with the conventional contractors with the assistance of the government authority. The community was consulted at every stage. 7. The conditions of contract used were similar to the one in the community contract. 8. A copy of the contract document was provided to the community. 9. Community participated in the supervision of the work. <p><i>Review of the contract between the NGO and the conventional contractor.</i></p> <ol style="list-style-type: none"> 10. The parties to the contracts were the NGO and the contractors. Reference to the authority to provide the plans. 11. The contractor to complete the works for a certain amount. 12. The work to be started within a certain time period. 13. If part of the work is found to be of inferior quality the payments would be suspended for the whole section. 14. The contractor to take the third party risk. 15. The contract is of a 'measure and pay' kind. 16. 10% security deposit is to be released after the end of the six month defect liability period. 17. Liquidated damages would be charged at the rate of Rupees 100 per day. 	<ul style="list-style-type: none"> • Funding direct to the NGO. • Informal relations existed as the NGO official was an ex-public sector official. • The longer the procedures the larger the risk of the price escalation • Community as partial financiers and client. • NGO as partial Engineer along with the public sector. • The process was transparent. • CBO as partial Engineer. • The authority as the partial Engineer. • Emphasis on quality. • The risk to be transferred away from the NGO. • Standard government attitude adopted by the NGO. • Standard provision. • The contractor may encounter cash flow problems.

<p>18.No claim for the price escalation.</p> <p>19.Extension of contract to be mutually agreed in case of unavoidable circumstances.</p> <p>20.Changes to the instructions are to be in writing.</p> <p>21.First bill to be submitted after 20% of the work is completed.</p> <p>22.Sub-contracting is possible with the consent of the client.</p> <p>23.Un-satisfactory workers to be removed from the site.</p> <p>24.Reference is made to labour law for payment to the labourers.</p> <p>25.The contractor to provide the labourers employer provident fund payments.</p> <p>26.The contractor to obtain the workmen's compensation policy.</p>	<ul style="list-style-type: none"> • It can be noted the there is a strong influence of the government conditions of contract. It seems that the NGO had also adopted the typical role of a conventional client. One main difference here is that although the procurement process is apparently the same, there is no requirement for registration and enlistment. This has provided an access to the micro-contractors to work under the supervision of CBO.
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Source: Interviews and documents, for example data base entries 213, 214, 234,321, 361.

**Text Box 6.9 Working without government: community, NGO and artisans.
The context of Orangi Pilot Project internal works.**

Narrative	Commentary
<ol style="list-style-type: none"> 1. Residents collected money and paid in full for sewers along their lanes. At first this was done without any technical support from professionals. 2. Later on an NGO came and provided technical assistance in terms of cost estimation, supervision and provision of some formwork. Training was provided for masons 3. Some of these trained masons started lobbying for more works in the neighbouring lanes and started specialising in similar works. They formed their work-gangs and did a lot of lane sanitation work. 4. The rates were negotiated on the basis of the estimation provided by the NGO, which was based on the prevailing market rates 5. The estimation gives a breakdown of the labour and material for ease of ordering. 6. The material was purchased by the community. 7. For excavation work, specialist labourers were usually hired; in some cases the work was done by the people. 8. For concrete work, a mason is generally hired on either a lump sum or item rate-basis. 9. Maintenance was done by the people themselves if the problems were simple. In the case of major problems they lobby and seek help. 10. There was no written contract involved. Disputes were resolved through 'social pressure'. 	<ul style="list-style-type: none"> • A genuine demand for the service already exists. • Evidence of enterprise development • A system of estimation and breakdown of rates which suits its purpose; see Box G6. • In urban communities the assumption that the user will supply the labour may not hold good. Contracting specialisation is evident. • This leads to problems; urban government is unwilling to adopt infrastructure which it has had no part in supplying. • 'Private Ordering' as compared to 'Court Ordering' is the preferred mechanism of dispute resolution.

Source: Interviews and documents, for example data base entries 38,39,252, 261.

Text Box 6.10 Community and NGO: monitoring a large Government contract:

A loan from an international lending bank was used by urban government, who hired a well known national consultant to prepare the design and plans for slum improvement. The context of KMC/ADB project.

Narrative	Commentary
<ol style="list-style-type: none"> 1. At an early stage, the city Mayor instigated negotiations with a well-known NGO already active in the area, who were offered a contract for monitoring the works. A contract was signed by the government department, the Consultant and the NGO. 2. The Contractor signed a contract for construction with the government department. 3. The contractor was not a resident of the area; local people were not hired by the contractor who brought his own team of workers. 4. NGO provided technical assistance to the people at lane level construction. 5. Details of the work were provided to the NGO. 6. The NGO held a meeting at which community based organisations (CBOs) and local people agreed to assist; this ensured adequate coverage, with people monitoring work in their own area. 7. The NGO provided zonal managers, with area managers from the CBOs under them. Lane residents reported to the CBOs. 8. Some lane residents received daily wages from the NGO. 9. The main contractor offered inducements to government officials so that they did not create problems on the job. 10. The work was sub-contracted out into 56 contracts, with many more sub-contracts. 11. When the work started it was soon realised that the people were watching and were aware of the basic scope and the specification of the work. Their input prevented the contractor taking short cuts. 12. The NGO had good connections at senior levels in government that they used if there were problems with junior officials. 13. The finished work was of good quality. 14. The completion of the contract was slightly delayed; some claims were made by the contractor for the cost of delays caused by stoppage of the work. 15. After the work is completed the CBO hired local people to clean the drains and do minor repairs on a regular basis. 16. During the process, people benefited from informal training in the supervision of the works. Subsequently, residents from other area contacted them for help. 	<ul style="list-style-type: none"> • The political dimension is important. The Mayor of the city was shrewd enough to realise that, if the local people were not involved then, the contractor would receive no co-operation from the residents. • Contractors have mixed views on using local labour; see Figure 6.5 • NGO to be technically competent. • NGO managed to get the relevant information. • The NGO was very effective in developing a network to achieve its objectives. • This is a standard practice. • This is normally prohibited under the terms of the contracts used, but commonly occurs. • The works involved are clearly well within the community's comprehension. • The political dimension was important; a CBO does not have this sort of entrée, unless there is a particularly active councillor. • A sense of ownership is there. • Increased networking at the community level, resulting from improved skills and confidence.

Source: Interviews and documents, for example data base entries 84, 111, 261, 264, 266, 272.

Text Box 6.11 Community, NGO and State Government facilitator: changing places - no role for urban government.

The context of SKAA internal works.

Narrative	Commentary
<ol style="list-style-type: none"> 1. The state government department with responsibility to regularise and upgrade slums initially entrusted implementation to urban government. 2. Progress was slow, the quality of the work was poor and there were problems with cost escalation. 3. A new, dynamic leader changes the way the government department works. 4. All the lane level work is now done by the local people themselves with technical assistance from a NGO. The people finance the improvements themselves. 5. The NGO is paid by the government department for community organisation and technical guidance. For internal (lane-level work) works that is the only contribution from the state. 	<ul style="list-style-type: none"> • Public sector department at provincial level deals with the regularisation and upgrading of 'Katchi abadies'. • This is a rare instance of a public sector department experimenting with procurement procedures. • It has formally contracted an NGO in the capacity of similar to engineering consultant.

Source: Interviews and documents, for example data base entries 37, 39, 40, 247, 261, 291, 250.

Text Box 6.12 Community, NGO, State government: community involvement in external works:

Most of the cases relate to communities contributing to internal works, that is, to improvements to the infrastructure within the neighbourhood, lane or cluster. This case concerns external works, that is, the infrastructure outside the neighbourhood that is necessary to support the internal infrastructure. State government pays the full cost of the external works.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Initially, the conventional tender-contract procedure was adopted. 2. The contractors were not performing to the satisfaction of the NGO who was appointed to monitor the works. 3. The state government then opted to use the departmental works procedure (see Figure 4.3). 4. Materials were purchased by the department and labour contracts were agreed through negotiation. 5. Small contractors and some local artisans obtained work. 6. All the contracts were signed in the presence of NGO and a CBO representative. 7. The contract is best described as a memorandum of understanding; no standard forms or conditions were used and documents were written in the local language. 8. The final bill was not released unless the CBO and NGO was satisfied with the work. 9. The resulting quality of work was superior. 10. The cost was lower than that of the conventional contracting, as the profit of the main contractor was eliminated. 11. After construction of these external works, local people have started installing internal works. 12. The work is on-going. 	<ul style="list-style-type: none"> • The staff of the authority are unhappy as they now have to do work which was originally done by the contractor: e.g. purchase of material & delivery to the site on time; responsibility for security of materials; responsibility for quality of the work; management of workforce. • The overall responsibility for performance and maintenance of the works is being disputed among the different stakeholders. • Using PWD-based enlistment of contractors and tender process. • Despite the good quality of the work and the low final cost, officials are concerned about possible audit objections as there was no demonstrable competition.

Source: Interviews and documents, for example data base entries 37, 39, 40, 247, 261, 291, 250.

Text Box 6.13 Community and government facilitated by a private consultant: community action using joint funding.

A project management unit (PMU) was set up in the Faisalabad Development Authority (FDA) to implement an integrated development project known as the Faisalabad Area Upgrading Project (FAUP). The local PMU staff were supported by expatriate consultants appointed by the donor agency.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Local infrastructure improvements are funded 50% by the residents and 50% through the PMU, using donor agency funds. 2. A project to construct lane sewers was identified through community meetings; community mapping was carried out. 	<ul style="list-style-type: none"> • A conventional survey was also done as the information collected in the mapping exercise 'was not considered proper' for Engineering purposes.

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| <ol style="list-style-type: none"> 3. Committees were formed at area and lane levels, and for the implementation of the project. The lane (about 20-40 households) is an important unit and the lane committee typically involves 3-6. people. 4. The PMU staff designed the works partly to government standards. 5. The design was discussed with the lane committee. The main problem was the high cost; residents could not afford the specification for reinforced concrete pipes required by government. Cheaper pipes having a lower standard of reinforcement were obtained from the local market place. 6. The PMU have negotiated with the local manufacturers to try to ensure certain minimum standards in their pipe production. Modifications were made to improve the standard of manholes. 7. Cost estimates were prepared by the PMU according to both the SoR and market rates. The rates reported for the approval purposes were the rates based on the government schedule. 8. The PMU established a Project Approval Committee that has to approve all FAUP expenditure on project activities. A document entitled 'activity proposal' was put forward for approval by the committee. 9. This proposal document gives the background, cost estimates, sketches of design, and the mechanism for implementation. It also states what the project is aiming to achieve. 10. Included on the Project Approval Committee were the Municipal Engineer and officials from FDA. They expressed concern about the authority of the committee and what exactly it was empowered to do. 11. A memorandum of understanding 'agreement' is signed by the PMU, the lane committee and the project implementation committee. Another committee comprising one PMU social organiser and one person nominated by the lane committee is proposed. 12. The project activity proposal indicates that the increase of cost is to be borne by the community but the contract indicates that the increase will be proportionately shared. 13. The actual contract duration was about one month. 14. A joint account was opened to operate the cash requirements; this is a joint account of the PMU Social Organiser and a member of community acting in their individual capacities. 15. The cash flow and management of the account is not recorded. 16. The labour arrangements were varied; work was done both by lane residents and (mainly) by sub-contracted labour. 17. Typical lane sewers cost RS 12,000 to 18,000; | <ul style="list-style-type: none"> • The committees are informal and are not registered societies; there is no formal mechanism for the creation and the operation of such committees. • The OPP has lane groups of a similar size. • The residents were adamant that the high standards were unaffordable; an interesting stand-off arose when, in effect, the residents said that if the officials insisted on using government standards there would be no project i.e. no lane sewer at all. A balance of cost and quality was the prime concern for the community; they saw the importance of marginally increasing the standards for manhole covers. • Rather surprisingly, the cost estimate based on market rates was found to be cheaper than the SoR. It seems to be good practice to use more than one basis for cost estimation; the market rate gives a better idea of what the work will actually cost • The activity proposal document could be interpreted as consolidated file notes, equivalent to the technical sanction of the conventional government process (see Figure 4.2). • The benefits in terms of the employment, income generation and enterprise development were not explicitly mentioned in the objectives of the project. • According to government procedure, the authority for sanction and approval is vested with individual officers of a particular rank. Their question about the legality of the committee to grant approval is well founded. • The agreement is reviewed in Box P6 • No estimate was made for the duration of project. • This is not an official account of FDA; in fact peoples' reaction to putting their money into a joint FDA account was extremely hostile. For all practical purposes public money did not reach the community group directly, as PMU staff acted as intermediaries. • Urban communities do not do all the labour work themselves. • This implies that from all the contracts about RS |
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<p>approximately 25 % of the cost is labour and 75% materials, which were purchased from the local market.</p> <p>18. There were deviations in the cost even for such small projects. The ratio of contract cost and actual cost was in the range of 1.06 to 0.94.</p> <p>19. The project progress is reported to the Senior Engineer and the Finance and the Admin. section as well.</p>	<p>10,000 for labour and RS 29,000 for materials is circulating in the local economy; this is a significant benefit on top of those claimed in the project proposal.</p> <ul style="list-style-type: none"> • There is inherent risk involved in construction; the main reason here reflects the problem of accurate cost estimation. • At the project level the process is transparent.
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Source: Interviews and documents, for example data base entries 82, 112, 113, 253, 256,257.

6.2.2 Text boxes focusing on the contracting issues in procurement process .

Text Box 6.14 The community contract.

The following is based on the review of the simple contract used in Cuttack. SIP context.

Narrative
<ol style="list-style-type: none"> 1. The signatories are the secretary of the CMG and the Engineering manager of PMU. 2. The title of the work was given and reference was made to the drawings, specifications and the conditions of contract. 3. Stamped paper was used; there is a stamp of 'stamp vendor, D.S.R office, Cuttack' on the back of the agreement form. 4. The CMG supplies the materials, executes the work and maintains the work for a required period. 5. The payment is based on the item rates calculated from the Schedule of Rates. 6. A witness also signed the documents. 7. A Purchase committee is constituted by the PMU to buy materials; the President/secretary of the CMG are to be the members. 8. The quantity of the work done is to be measured. 9. Security money of up to 10% of the value of the work may be deducted at the discretion of the officer-in-charge of PMU. 10. The maintenance or the defect liability period is three months; the defects are to be rectified by the CMG or the security money will be forfeited. 11. Employment of persons less than 12 years of age and giving wages less than the government minimum is prohibited. 12. The officer in-charge of PMU can enquire and decide in case of complaints related to the payment of wages, quality of work and other related matters. His decision is binding and there is no reference to arbitration. 13. The CMG must furnish proper accounts. 14. A Schedule of Rates and some sketches are attached.

Source: Interviews and documents, for example data base entries 4,11.

Text Box 6.15 NHDA Guidelines

The NHDA has issued the following Guidelines for assigning small contracts to community organisations. They were written in Sinhala for NHDA District Managers for use in the '100 Homes Programme', which is a new low profile initiative for delivery of shelter on the basis of electoral area .

Narrative	Commentary
<ol style="list-style-type: none"> 1. Reference is made to Financial Circulars of 1987 and 1993. Further details can be obtained from the Deputy General Manager (DGM) Engineering Services. 2. Before assigning the contract, plans and estimates must be approved by the DGM and the Officer for Financial Grants. 3. Construction should be on 'land legally undertaken by the Housing Authority' and should be 'technically certified for suitability for consumption [i.e. usage]'. 4. Priority is given to the registered society of the colony. If no such organisation is available then some other outside area can be selected by the regional tender board. 5. The society should show written consent to accept to contract according to the respective plans, conditions and estimated cost. 6. The document should be signed by the President, Secretary and Treasurer of the society, and then by NHDA District Manager. 7. A sample letter for the award of a contract is shown. 8. The letter assigning the contract (i.e. the work order) must have: <ul style="list-style-type: none"> • Contract number. • Name of contract. • Value of contract. • Required date of completion. • District Manager signatures on behalf of NHDA. 9. The Society has to give its written consent to undertake the contract. 10. The contract has to be signed before the start of the work. 11. There is a provision for damages due to delays equivalent to 1/1600 the of the value of the work daily. 12. 15% is allowed in the estimates as institutional expenses or profit for the community council. 13. The original of the signed contract is kept by the NHDA District Manager. 14. On the contract original, a postage stamp should be attached & signed. The value of the stamp should be proportional to the contract value; 1 rupee for every 100 of the contract value. A 10 rupees stamp should be used for the contractor's copy. 15. Copies are provided to the Contractor, DGM NHDA, Auditor General, District Accountant and the District Engineer. 16. Each copy of the contract agreement should have the following attached: 	<ul style="list-style-type: none"> • The basis of the procedures is clearly mentioned. • Equivalent to Administrative Approval and Technical Sanction (Figure 4.2). • Equivalent to planning permission. • There is a clear requirement for the society to register in order to acquire the legal status necessary to enter into a contract. This clarifies the legal status of the CDC • Emphasis is on written acceptance with clear reference to the nominated office-bearers of the CDC. • It is not clear who is offering and who is accepting. It appears that the work order is accepted once the CDC formally agrees internally. • The profit element is formalised. • This serves the function of a revenue stamp; there is no distinction made between the revenue and the postage stamp. • These are the 'concerned persons'. • The requirements are very formal in nature.

<ul style="list-style-type: none"> • Appendix of the agreement. • Letter awarding the contract. • Letter of consent from the Society. • Estimates signed by officials of the society. <p>17. Every contract assigned by the district officer must be listed in a general ledger.</p>	
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Source: Interviews and documents, for example data base entries 187, 218, 308, 363, 366.

Text Box 6.16 Conditions of contract for community construction contract-NHDA.

Based on a review of the translated conditions of contract.

Narrative	Commentary
<p>1. The contract is in local language.</p> <p>2. Parties to the contract are mentioned along with their addresses.</p> <p>3. The President/Chairman, Secretary and the Treasurer are signatories on behalf of the community development council. The General Manager is signatory on behalf of NHDA.</p> <p>4. There are spaces for two witnesses to sign.</p> <p>5. A summary sheet provides the following details.</p> <ul style="list-style-type: none"> • compensation for delays. • Work to be started within 14 days of the contract. • Defect liability period. • 10 % security deposit from the running bill but limited to 5% of the contract sum. The 50% of the security to be released at the time of completion of work and the remainder at the end of the defect liability period. • Period for completion of contract. • Type of contract is 'measure and pay'. • The time limit for certificate of payment is 28 days. <p>6. There are in total 12 clauses.</p> <p>7. The scope of works and obligation of the contractors is mentioned in the first paragraph.</p> <p>8. Clause 1- Obligations of NHDA includes; funding, provision of plans, provision of technical advice and assistance to the construction committee for implementation.</p> <p>9. Clause 2- refers to the agreed estimates and states the commitment from the contractor to complete proposed work accordingly. Payments to be made on the basis of bill. The method of payment would be 'measure and pay'.</p> <p>10. Clause 3- Records to be made by the committee which then keeps them accessible to the client.</p> <p>11. Clause 4- Plans and instructions given as the basis of implementation.</p> <p>12. Clause 5- Purchasing material, storing them and keeping</p>	<ul style="list-style-type: none"> • Use of local language to increase the communication. • Standard drafting practice. • Three officials signs on behalf of the contractor. • Standard practice. Involvement of other people as well. • Useful way to provide in an abstract with relevant details on one page. • Security deposit remains in the process. • Contract period is specifically mentioned. • To expedite the payments and programme the cash flow. • Very concise with minimum of details. • Standard drafting practice • Clear definition of the client's tasks. • Contract based on the negotiated rates. Disbursement is quite similar to the other conventional contracts. • Keeping good records is important from, management transparency and accountability points of view. • Role of instruction and personal communication is important and documents do not replace such forms of communication. • Clear definition of the tasks of the contractor.

<p>store records is the construction committee responsibility. The records to be accessible to the client.</p> <p>13. Clause 6-The committee to employ trained and suitable workers and keep the record of the workers and their wages.</p> <p>14. Clause 7-Duration of the contract.</p> <p>15. Clause 8- The committee to follow the instruction of the client.</p> <p>16. Clause 9- The president/chairman, treasurer and two other members[construction committees] would be held liable for ; loss of funds or materials, stoppage of work, delays and such events. If the project is not completed the supply of funds and other services would be stopped to the area.</p> <p>17. Clause 10-The third party insurance and workmen compensation insurance to be provided. The cost of insurance to be reimbursed to the contractor.</p> <p>18. Clause 11-Breach of contract would result in termination of contract.</p> <p>19. Clause 12-Clarification that the agreement is ex-officio.</p>	<ul style="list-style-type: none"> • Emphasis on quality and accountability. • The contract is for a specified period. • Importance of the instructions emphasised. • Point of liability is defined. This is in between the purely personal liability and the organisational liability. If read in conjunction with clause 12, it seems the liabilities are on organisations and not on persons involved. • Insurance is required and paid by the client. The option could be for the insurance to be arranged directly by the client. • The contract is like a 'self -enforcing contract'. Breach simply terminates the contract. • The agreement is between the organisation and the persons involved. <p>The legal implications are that the contract is between the organisations represented by the signatories. The contract will not be affected if an official is replaced by another official for example during when transferred to another post or department.</p>
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Source: Interviews and documents, for example data base entries 152, 192,194,187, 218, 308, 363, 366.

Text Box 6.17 Process of contracting and billing in the community contracts system of the NHDA prevailing in 1996.

The findings are based on the review of 31 files and interviews with the concerned officials. Review of one file is shown as an example.

Narrative	Commentary
<p>1. Review of the files for the contract 596/95 and description by the Engineer and Administration person reveals the following steps.</p> <p><i>Contracting process</i></p> <ul style="list-style-type: none"> • Drawings approved by the DGM[Deputy General Manager], Engineering services, generally signed on the Drawing. • Estimates approved by the Manger Quantity surveying. • On query from Divisional secretary, list of potential community contractors provided. Recommendation is also provided about the potential community contractor. 	<ul style="list-style-type: none"> • Equivalent to the technical sanction in works procedure of PWD. • Same as above. • Community development council is selected in consultation with NHDA. The implication is that a list is available of the potential community contractors. • It was explained later that, in case the

<ul style="list-style-type: none"> • Quotation and consent called from the recommended community contractors. • Contractor is selected. • Approval for the contract award is taken from the Chairman. <ul style="list-style-type: none"> • Letter of award. • Contract is signed. <p>2. It was said that, generally, it takes 3 months from the drawing preparation to the signing of the contract.</p> <p><i>Billing process</i></p> <p>3.</p> <ul style="list-style-type: none"> • Technical officer helps the contractors to prepare the bill and measurement sheets. • Measurement sheet signed by the technical officer and the Contractor's representative • Engineer checks, signs and sends to the Q.S [Quantity surveyor]. • Q.S checks and sends back to the Engineer. • Engineer recommends and send to DGM. • DGM recommends and send to the DGM Finance. • DGM Finance processed and payment made <p>4. It is reported that, in general, it takes one month from the Technical officer preparing the bill before the payment is made.</p> <p><i>Some comments by the officials.</i></p> <p>5. There is now not much difference in the supervision time for the conventional contractor and the community contractor.</p> <p>6. The problem the community contractor has is that of cash flow and they wait for the payment before they proceed for the next stage</p> <p>7. The work is in some cases sub-contracted out. The labourers are, in general, from the community but skilled workers come from outside. The unskilled person earned about 150-200 rupees per day and the skilled person earned about 250 rupees per day.</p> <p>8. Generally the material is bought from the local area but in case of shortage the material may be issued from the government stores. Officials think that CDC makes more than 15 % profit and invest in some businesses.</p>	<p>contractor is from outside, quotations are called.</p> <ul style="list-style-type: none"> • Highest office bearer approves the contract award. This may be because the lower level officials are not confident about the legality of the procedure they are adopting. • Very similar to the PWD procedures. The main difference is in the selection of bidder and the contractor, non-conventional contractors and negotiation. • Lead time for signing the community contract. This may be due to the involvement of the Chairperson as the approving authority. • Bill is prepared effectively under the supervision of the officials. This could reduce the checking of bill time. • Joint measurement. Measure and pay. • For payment the bill does not go higher than DGM[approximately five steps]. • Bill processing time. • Initially there was a difference but now it is getting under control. There is not a significant difference in the management of conventional contracts and the community contract once the system is set. • Bill processing time is an important consideration for payment to the small contractors, including the community contractors as they do not have much working capital. • Income generation. • Circulation of money in the local area. <p>Enterprise development and making profit for sustaining the activities.</p>
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Source: Interviews and documents, for example data base entries 187,194, 218, 308, 363, 366

Text Box 6.18 What is the contracting and billing processes in CSPU [Clean settlement project Unit]? Community as partial Client and Contractors. NGO as partial Engineer.

The following is based on a review of files and the semi-structured interviews of the officials.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Applications come from Divisional Secretary, which is a part of the state government to CSPU. 2. Feasibility study is done by the CSPU. 3. Site is selected. 4. Inform the applicant and copy to Divisional Secretary. 5. Select SO [Support organisation] list of SOs includes about 300 names but 6 were selected for phase 1 pilot projects. 6. Agreement signed with the SO. 7. SO starts mobilisation and makes assessment of the capacity of the community. This helps in evaluating how much involvement would be required. 8. Parallel to the selection of site a CAP[community action planning] workshop is organised by SO and CSPU to work out the needs of the community. 9. SO prepares plans for relevant activities to be included in the project proposal. 10. CSPU made initial estimates. 11. CSPU, through SO initiated advocacy, to start collecting the contribution from the community. 12. At the same time the other project components like health, education, social development starts. 13. Detailed estimates are prepared with details and design. 14. People ready with their 20% contribution by showing that they have collected it in their bank account. 15. On receipt of money the assignment[Contract] is signed by the three parties. 16. Award letter to CBO issued. 17. Mobilisation advance, if required, 20 percent of the estimated cost. SO may arrange the bank's 	<ul style="list-style-type: none"> • The community has go through the Divisional Secretary for the development works. • There is no mention of involvement of CDC to this point. It is assumed that the application has come as a result of such involvement. • SOs are not just the NGOs but all sort of organisations from where the resources could be taken. • The contract is between the SO and the CSPU. • Signing contract with SO and site selection is concurrent activities. Community action planning is used. • Emphasis on use of workshops. • This is one of the first documents in the payment files of the assignments. This is parallel to the project activities proposal in FAUP. The difference here is that, apparently, it is the NGO who is doing the workshops instead of the officials. In the NHDA programme they had gained experience in such techniques. • Many activities starting at the same time. • Equivalent to the technical sanction. • CBOs like CDCs have to have the bank account. It is in the formal sector. CDCs have experience in such practices from previous programmes. • The documents are prepared but signed only when the money is received. • Parallel to the public works procedures. • Is this what is supposed to happen? Is NGO

<p>guarantee. In most of the cases they want it.</p> <p>18. Work starts.</p> <p>19. Technical officers of the NGO supervise and assist in arranging the material and assist in preparation of bills and day to day management.</p> <p>20. CSPU staff provide top level supervision and problem resolution. They also lay out the work and provide the levels.</p> <p>21. CBO have not so far subcontracted but they can. They provide the labour from communities. Skilled people are hired even from outside.</p> <p>22. CBO submits the bill, checked and signed by the SO.</p> <p>23. CSPU Engineer staff go and verify, check the measurement sheets and 'measure and pay'.</p> <p>24. A percent retention is kept but the amount is not to be exceeded 5% of the contract amounts.</p> <p>25. Completion is not certified. They are planning to issue certificates for future works.</p> <p>26. Hand over to the CBO.</p> <p>27. Maintenance period starts, it is generally six months but it depends. The defects identified to be rectified in this period.</p> <p>28. End of defect liability period and release of retention money.</p>	<p>capable and willing to arrange the bank guarantee for CBO? Note the barrier is not removed. Still the emphasis is on the bank guarantee. From interview it was clarified that the NGO did not provide the bank guarantee but a note of reference. The advance given by the community was taken as the cash guarantee as well.</p> <ul style="list-style-type: none"> • This role is parallel to that played by the officials and OPP in the case of SKAA direct labour. The officials also played a similar role in community contracting in NHDA. The role of the NGO is that of partial Engineer and partial Contractor. • Not all the technical functions could be performed by the NGO. The NGO is not capable to undertake the full role of officials of the NHDA programme. Note the laying out of work and the levels are to be done by the officials. Another tier of supervision and at what cost and benefits? • No restriction on sub-contracting. It is the decision of the CBO and SO. Empowering. • Role of NGO is that of engineer certifying the bills. • Checking of the SO's checking. Is this excessive? If the SO is not trustworthy or capable why give it the role? The basis of payment is 'measure and pay'. • Very similar to the conventional contracts. Retention money is also retained. The bills are paid in arrears and on top of it the deposit is also retained. • Completion certificates are not yet issued but would be done in the future. • This implies that the handing over is not done to some other government agencies. It also implied that the CBO is responsible for maintenance. Are they capable of it? Is the assumption that the CBO would be able to maintain it completely reasonable. CBO acts as contractor. • Retention money of the CBO would be retained until the maintenance period is finished. It also shows that the CBO or the CDCs have now attained the capacity to survive the conventional barriers of procurement. This shows the enterprise development. The next stage would be to bid against the conventional contractors.
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<p>29. Maintenance to be done by the CBO but no such agreement. There is no schedule of maintenance provided.</p>	<ul style="list-style-type: none"> An official explained that the formal contract for the maintenance was not made due to the temporary nature of the CSPU. They are not entering into any long duration agreement. The implications are that for a maintenance contract, if any, has to be between permanent or semi-permanent organisations. This implies that the project's organisations are not suitable to handle such tasks as they will be dismantled once the project is completed. This also points out the importance of having exit or completion procedures in the project design. There needs to be clear understanding as to which organisation is going to inherit the liabilities of the project. The organisation responsible for maintenance must exist for the whole life cycle of infrastructure or delegate such functions to some other organisations which could.
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Source: Interviews and documents, for example data base entries 196,308, 363, 366.

Text Box 6.19 Is the client getting the value for money from NGOs? Process of selection and dealing with the NGO. Context of CSPU.

The CBO/Community as Partial Client and Partial contractor. NGO and CSPU as Engineer. The following is based on the review of files and Semi-structured interviews with the officials.

Narrative	Commentary
<ol style="list-style-type: none"> Preliminary stage identifies some SO. NGO was prepared in consultation with the social services agencies NGOs were invited by letter.. Through the NGO consultation, criteria for selection of SO were prepared. NGOs were briefed about the CSPU. SO assessment form was developed to include experiences, financial standing registration and constitution. Offices of SO visited to 'get the feel'. Best six were selected out of 12-15 SO chooses the settlement to work in. Service agreement was signed. Three phases of project; project development, implementation, consolidation. For each phase a different contract was signed. The initial period was six months which was subsequently increased to one year. The CSPU and SO's functions are mentioned in the agreement. There are two components for 	<ul style="list-style-type: none"> A data base of potential SOs was created. Process of screening of the SO and the criteria used is prepared in consultation with the NGOs. Similar to pre-qualification of consultants and contractors. Cautious approach as the interaction with NGO is new. Fifty percent rejection rate. Choice was made by the SO regarding the area to work in. The choice is restricted to the pilot project areas. There may be some area where the NGOs will be working for the first time. Parallel to the consultancy services. Consultancy agreement with non-professionals organisations. Contracts are based on the phase of the project and separate contracts are signed for the stages with the same SO and for the same area. Parallel with the consulting services. NGO as consultant.

<p>payments one is staffing and other is outcome-based. Costs are provided for both.</p> <p>10. Two month advance was provided without any guarantee.</p> <p>11. The SO submits reports monthly and gets paid. 10 % overhead charges were agreed with the SO to start with. <i>Review of some project files.</i></p> <p>12. SO was national forum for people's organisation. It is environmental and community development NGO.</p> <p>13. Here also there are two kinds of files, one is contract and the other is payment. The contract deals with the stages of up to the signing of the contract.</p> <p>14. The contract was in Sinhala.</p> <p>15. The period of contract was six months.</p> <p>16. The value of contract for the implementation phase is Rs.158,070.</p> <p>17. A bill dated 21-05-96 show break down according to staffing and outputs. The staffing includes; Staffing, travelling and SO management. The output includes; office rent, site office maintenance, monitoring and documentation, and SO management. The SO management is at the rate of 10 %. The contract for the project development phase was that of Rs.183,070 and for six months. There is no contract for the consolidation yet.</p>	<ul style="list-style-type: none"> • Advance without the guarantee is possible to the NGO or in service contract with the NGO. • This includes the profit as well. • Similar filing system as in the conventional contracts. • Use of local language even dealing with the NGO. • Quite high in relation to that of the infrastructure value. The consulting cost is 1.79 times that of the contract cost. Is this sustainable good value for money and with what addition benefits as the officials are also playing role in the projects? The activities related to the community development have been paid separately to the NGO. The argument could be that the NGO may be providing some additional value other than what is generally provided by the consultants. Regardless of whether the cost is high or not, it illustrate that the NGO cost associated with the implementation of contract is an important consideration. • Quite high rate for management from non-professional managers. • The value of contract was 2.03 times that of the contract amount for infrastructure. The issue of value for money is also relevant for the contracts with the consultants.
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Source: Interviews and documents, for example data base entries 185, 309, 359,365.

Text Box 6.20 Contracting and billing processes in CSPU. Trail of events.

The following is based on the review of the files and semi-structured interviews with the officials

Narrative	Commentary
<p><i>File 1</i></p> <ol style="list-style-type: none"> 1. File has note sheets similar to that of other regional countries. 2. Project report by SO, Report of Activities, included: <ul style="list-style-type: none"> • Plans, • Schedule • Estimates. 3. The estimates, as informed, are based on government schedule of rates. 4. The report comes under the covering letter head of CBO. The CBO letter head includes the registration number, the name of the CBO and the office bearers. The report signed by the chairperson and secretary of the CBO and the technical officer of the SO. 5. Copy of receipts showing that amount deposited in bank account of the CBO[CDC]. Account number was 233 <ul style="list-style-type: none"> • 16-8-95-Rs. 9,000 deposited. • 27-11-95-Rs. 3,650 deposited. • 28-11-95-Rs. 5,800 deposited. <p>8-12-95 Hand written letter, in local language, asking the Director CSPU to deposit the money in CSPU account with the cheque. The letter is signed by the treasurer, secretary and the chairperson of the CBO.</p> <p>8-12-95 The assignment signed. Signatories were Director CSPU, chairperson and secretary of CBO and SO.</p> <p>11-12-95 Letter by CBO for 20 % mobilisation. The advance given against their contribution without the guarantee.</p> <p>13-12-95 Letter by CBO noting the changes in the design with the cost impact. One item reduces from RS. 39,150 to RS. 32,040 due to changes.</p>	<ul style="list-style-type: none"> • Link to PWD procedures and filing system. • Details equivalent to the technical sanction. • No deviations from the basis of the estimates. • CBOs are using the letter heads. They wanted to show that they are registered. The document was produced in consultation with the SO/NGO. The key players from CBO are the chairperson and the secretary. • Note the period in which the money was raised. It seems that the first deposit was not very recent and it was before the report submitted on 19-11-95. Rs.9,450 were deposited in two days. The CBO must be quite capable of raising the money. It not clear from the documents that all the people participated or some wealthy person made the deposit or some loan was arranged. It is a good chance for community finance initiative, equivalent to the Public Finance Initiatives for the larger projects. • Within 10 days of collection of money the letter reached the CSPU. Transaction is in cheque. Treasurer is also involved in money matters. CBO gave their share and request the CSPU to deposit their share in the bank account. Community demanded the share from the government. • CBO, NGO and CSPU were signatories. The same day as the money was deposited by CBO the assignment was signed. • Effectively within the three days the money was demanded back as the advance. A very professional dealing by the community group. Communication is in writing. Bypassing the barrier of the guarantee for the advance. It is not the SO who provided the guarantee. But the money from the community is considered as the guarantee for the advance. • It shows that they are acting very professionally. Empowerment. Within the 5 days the variation notice was issued with the cost impact. This triangulates with the

<p>2-1-96 First bill submitted under the covering letter of CBO signed by the chairperson, secretary and the treasurer. The bill recommended by Technical Officer of SO. Bill is based on item rate schedule. The bill amounted to RS. 34,024.95. The bill had an abstract looked as if some forms were provided as they looked quite standard government bills.</p> <p>8-1-96 The Engineer CSPU checked and forwarded to Deputy Director.</p> <p>9-1-96 The Deputy Director recommended and forwarded to Director The Director approved and forward to finance.</p> <p>11-1-96 The bill paid.</p> <p>6-1-96 A letter by the CBO asking for the extension of time for ten days to the Director of CSPU. The reason for the extension given was non-availability of the concrete rings in case</p> <p>1-2-96 The Director approved the extension.</p> <p>16-1-96 A letter by CBO for another variation dated.</p> <p>22-1-96 Second and final bill submitted under the covering letter of CBO signed by the chairperson, secretary and the treasurer. The bill recommended by Technical officer of SO. The bill amount to 40590.75.</p> <p>30-1-96 The Engineer CSPU checked and forwarded to Deputy Director.</p> <p>2-2-96 The Deputy Director recommended and forwarded to Director.</p> <p>2-2-96 The Director approved and forwarded to finance.</p> <p>7-2-96 The bill paid.</p> <p>6. Minutes by the Deputy Director show that the quality was satisfactory.</p> <p>7. A summary of the project was also provided. The</p>	<p>experience of the CMG in India. The CBO acts in a very professional manner. Their dealings depict the power they had assumed. There may be some informal link with the official to fulfil the requirement of the procedures.</p> <ul style="list-style-type: none"> • Bill was raised within a month, 25 days. This also show that with less capital, the cash flow management is critical. CBO did manage for a month with the 20 percent mobilisation advance. • The work of RS. 34,024 was done in 25 days. This implied disbursement of Rs.1,361 per day. CBO is buying the material as well. The contract is not only for the labour component. • It was informed by officials that they provided the standard forms for the bill that are used by the government. They have used the government approved forms for bills and their rates. Six days taken by the engineer and one day by the Deputy Director, Director. Finance took 2 days. <i>The time taken from the bill BEING submitted to payment is nine days.</i> This is quite good as there is a margin of 14 days for payment as informed. Official informed that she used to <i>take it by hand</i> to the relevant offices. The implication is that, had the file not been taken by hand the bill would not have been paid so quickly. Can this be sustained in the case of large numbers of contracts and without personal efforts? • Again business-like working of CBO. Community learns fast if supported. • It took 26 days to give the extension of time for 10 days. • Note the variation for time in such a small scale job. • For such a small job two bills were involved. CBO is depending on the cash flow management. • Engineer took eight days to check. • Director and Deputy Director took 3 days. • Finance took 5 days for billing. • Note the frequency of billing, seems to be good cash management. It took 16 days to clear the bill. The first took 9 days. The target was 14
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<p>information about the project is as follows</p> <ul style="list-style-type: none"> • Estimated cost = RS. 89,834 • Contract cost = RS. 89,834 • Actual cost = RS. 85,742 • Contract time = 30 days • Actual time = 40 days. <p><i>File 2</i></p> <p>1-3-96.</p> <ul style="list-style-type: none"> • Similar project report as in example above. • Letter by CBO with cheque for their contribution. • Assignment signed. <p>4-1-96 Letter by CBO for mobilisation advance.</p> <p>11-1-96 Mobilisation advance given.</p> <p>15-1-96 First bill amounted to RS. 34,502.27.</p> <p>23-1-96 The Engineer CSPU checked and forwarded to Deputy Director.</p> <p>23-1-96 The Deputy Director recommended and forwarded to Director.</p> <p>23-1-96 The Director approved and forwarded to finance.</p> <p>25-1-96 The bill was paid.</p> <p>26-1-96 Second bill amounted to RS. 17,185.35.</p> <p>1-2-96 The Engineer CSPU checked and forwarded to Deputy Director.</p> <p>2-2-96 The Deputy Director recommended and forwarded to Director.</p> <p>2-2-96 The Director approved and forwarded to finance.</p> <p>6-2-96 The bill paid.</p> <p>15-2-96 Letter by CBO for extension of 16 days.</p> <p>21-2-96 Approval given.</p> <p>20-2-96 Third and final bill amounted to RS. 65,425.</p> <p>26-2-96 The Engineer CSPU checked and forwarded to Deputy Director.</p> <p>8-3-96 The Director approved and forwarded to finance.</p> <p>8-3-96 The bill was paid.</p>	<p>days. Is this increase in the process time for payment going to be a trend?</p> <ul style="list-style-type: none"> • Quality was in line with the other findings of the other community participated works. <ul style="list-style-type: none"> • Three steps in one day. All the concerned parties are becoming conversant with the process. • It is becoming routine to deposit the 20% and then ask for it back as the advance. • Took seven days to get the mobilisation advance. • The bill amount to around RS. 30,000 and much of the work would have been handled by the advance. Good cash management. • Engineer took 8 days to check. • Director and Deputy Director took one day. • Finance took two days. Bill paid in 10 days. • Engineer took six days to check. • Deputy Director and Director took one day. • Finance took four days. <i>The over all process took eleven days.</i> • Regularisation of extension. • Engineer took six days to check. <i>Deputy Director and Director took eleven days.</i> Finance paid the same day. In all, it took eleven days to clear the bill. • For an amount of approximately Rs.135,000 three bills were submitted. This again shows sensible cash management.
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<p>8. Information related to the contract</p> <ul style="list-style-type: none"> • Contract cost = Rs.135,843 • Actual cost = RS. 133,105.25 • Contract time = 40 days • Actual time = 56 days 	
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Source: Interviews and documents, for example data base entries 185, 309, 342, 359,365.

Text Box 6.21 Details of the contract among the three parties. NGO as the partial Consultant and partial Contractor.

The following is based on the review of the agreement for community participated works. CSPU context.

Narrative	Commentary
<ol style="list-style-type: none"> 1. The contract is in English. 2. The term used is 'agreement for community assignment'. 3. Parties to the contract are mentioned along with the addresses. 4. There are three parties in the contract, CSPU, CBO and SO. The CSPU is the first party, CBO is second and SO is third. 5. As an annexe the list of activities of the third party is included. The activities included the identification of the staff of the second party, supervision, assisting the community, acting as guarantor, keeping in contact with CSPU to solve problems, preparation of proposal and, later on, entering in to the agreement, providing technical advice on behalf of the first party and 'other duties and functions'. 6. The President/Chairman, and the Treasurer are signatories on behalf of the Community Development Council. The Director is signatory on behalf of CSPU 7. There are spaces for two witnesses to sign. 8. There are, in total, 19 clauses. 9. The name and addresses of the parties are mentioned. Reference is made to the project, community proposal and 'assistance' of the third party. 10. Clause 1- Obligations of first and second party, the remuneration for work and duration were mentioned. The clause relates to the remuneration for and completion of assignment by the second party. In this clause the relationship is between the first and the second party only. 	<ul style="list-style-type: none"> • The contract may have been translated later. • This is a deliberate attempt to make it apparently different from a conventional contract and a NHDA community contract. • Standard drafting practice. • Each signatory is representing the organisations. This is not a personal contract. • In short the Third party is to act as an agent of the First party to control the second party. The lists of the activities are in such a form that it is very hard to cost them. The relationship between the first and the third party in only referred to here and is to be governed by another contract. One wonders what advantage is gained by writing an agreement with three parties? • Two representatives signed on behalf of the contractor. • Standard practice. Involvement of other people as well. • Slightly more clauses than in the NHDA contract for community contracting. • Standard drafting practice. • Scope of the contact between the first and the second party.

<p>The date of completion is also mentioned.</p> <p>11. Clause 2-. There is a reference that, for billing, the third party will help the second party. Reference is again made to the community proposal. However, it is clarified that the payment would be based on measurement.</p> <p>12. Clause 3-Billing is to be done by the second party and the first party is to pay 'within fortnight'.</p> <p>13. Clause 4-Standard clause for the retention of security and release of it. 10% from the running bill but not exceeding 5% of the total. Fifty percent of security to be released upon construction completion.</p> <p>14. Clause 5- There is a reference to the other contract for payment of services to the third party by the first party. There is no mention of such payments in this contract.</p> <p>15. Clause 6-Provides mechanisms for price escalation. The price escalation is qualified by 'exceeding 5%'. The reference date is the date of contract signature and the evidence required are that of the receipts for the materials. It is implied that the labour escalation is not covered.</p> <p>16. Clause 7- The 20% advance payment could be made against; a security bond from commercial bank, insurance agency or similar security bonds provided through the third party on behalf of the second party.</p> <p>17. Clause 8- Recovery of the advance is made in instalments starting when 30% of the work cost is complete. But the recovery to be completed before 90% of the work is complete.</p> <p>18. Clause 9 & 10- Maintenance period is mentioned and the obligations of the first party. No involvement of the third party. It is mentioned that 2.5% of the retained security, would be released at the end of the period. However, if the second party defaulted in not fulfilling the requirement then the first party may get the fault rectified at the expense of the second party. The criterion to be fulfilled is the 'satisfaction of the first party'.</p> <p>19. Clause 11&12-The clock starts from the letter of acceptance and the work to be completed in the time prescribed. In case the second party could not get the extension to the contract the first party could impose the liquidated damages on the second party at the prescribed rate. The limit of the damages is 5% of the total value.</p>	<ul style="list-style-type: none"> • Inputs from the first party through the third party. The contract is 'measure and pay' in nature. • There is no mention whether the second party would be compensated in terms of a fixed rate for delays in payments. • The barrier is there. This could effect the cash flow of the small contractors. • This may be against the spirit of the three party contract. The arrangement is similar to that of conventional contracting with the NGO as Engineer. • This is quite adventurous as in none of the previous small scale contracts was this facility provided. This could be taken as influence of ICTAD and international practices. The evidence required is receipts and not the official gazette as required in large scale contracts. The question could be the acceptability of receipts. Would any retail receipt be valid of only those of government stores/corporations. So far no claims have arisen in this regard. • Options included the bond from assurance and arrangement from NGO on behalf of the CBO. Later on it was informed by NGO representative that arranging such bonds are beyond their capacity. This shows that the requirements of the contracts need to be in line with the existing capacity of the parties and not one wishes them to be. • Gradual recovery would help the constructor in cash flow management. It is a sort of interest free loan to the contractor. • There is no description as to the kind of maintenance or rectification required. • This could be seen as a redundant clause and a barrier if actually imposed. It seems that the NHDA practice of putting a clause and not intending to practise it is followed here. • Similar to NHDA project organisation with an addition of the NGO to be formed by the contract.
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20. Clause 13- Described the project organisation. The construction sub-committee to be formed with members from CSPU, CBO AND SO. Technical advice to be provided by the first party. The option is to provide such advice through the third party.
21. Clause 14- Appropriate insurance covers to be provided by the second party. The cost of insurance is to be reimbursed by the first party. The first and the third party to be fully indemnified.
22. Clause 15- The second party is to maintain transparency. They are held responsible to consult the community by this clause of the contract.
23. Clause 16- the second party is responsible to 'duly maintain daily accounts, inventories, stock books, attendance registers and reports'. These would be accessible to the first party.
24. Clause 17- Termination of the contract could be made with the 'consent of all the three parties' or in case of breach by the second party, the first party could terminate the contract and pay for the work completed 'only'.
25. Clause 18- In case of disagreement the in the interpretation of the contract, the Secretary of the Ministry would be the final authority.
26. Clause 19- ICTAD conditions are to be inferred where 'this agreement is silent'

- The cost is ultimately borne by the client. The risk is transferred to the insurance by the first party. No much detail is provided regarding the kind of insurance.
- There is a difference implied between the community and the CBO. It is a contractual obligation of the CBO to consult the community. The importance of transparency and accountability. The form of consultation for examples number of meetings or the desired result for example participation is not specified. It would be very hard to monitor where the contractor met the requirement or not.
- The power rests with the first party or all the parties to terminate.
- No provision for independent arbitration or conciliation.
- The condition to be read in conjunction of the ICTAD conditions of contract. These are a two party contract. It is made unnecessarily complicated by defining the SO as a party to the contract and using the framework of two party contract.

Source: Interviews and documents, for example data base entries 181, 173, 359,365.

Text Box 6.22 The contract used in the departmental works of SKAA in Zia-ul-Haq Colony in Karachi, Pakistan.

An example of a simple contract.

The following is based on the review of the contract between MR Behram and the Executive Engineer, SKAA.

Narrative	Commentary
<ol style="list-style-type: none"> 1. The name of the person is mentioned with the name of the father and the national identity number. 2. The paper is plain. There is no stamp paper. 3. The contract is hand-written and in local language. 4. The scope of work is mentioned; excavation, laying of pipe, jointing and testing. 5. The rates were in 'per running foot'. 6. There are separate rates for valves and bends. 7. The payments would be in stages. The stages related to the percentage of the work completed. A fixed payment, in this case RS. 7,000, is mentioned when a quarter of the work is completed. 8. A separate item is mentioned for the testing. 	<ul style="list-style-type: none"> • Some formality is introduced. • The contract is like a simple memorandum of understanding. • No separate conditions or specifications were provided or referred to. • Use of item rates. • The payment is related to the physical progress benchmarks. • Importance of the testing. Now it is a separate line item.

Source: Interviews and documents, for example data base entry 46.

Text Box 6.23 The contract used in the FAUP lane sewer projects.

Narrative	Commentary
<ol style="list-style-type: none"> 1. This particular agreement is typical of several used. 2. The date of contract is 29-11-94; it is written on plain paper. 3. The implementation committee is responsible for supervision of the work. The responsibility of 'running the project' rests with the PMU social organiser and one other member of the committee. 4. The signatures were made without mentioning designations. 5. The national identification of the signatories was mentioned. 6. Stamp of FAUP is on both pages. 7. Out of six names mentioned as the neighbourhood committee only three signatures were there. There was no signature against the names of the 'supervisory committee'. 8. The signatures are generally not dated. 	<ul style="list-style-type: none"> • This contrasts with the 'stamp papers' used in India and Sri Lanka. • It is more like a mutual understanding between different individuals. • No standard wordings or structure was used. However, there is a close similarity among the agreements used with regards to the issues discussed. • There seems to be a very flexible atmosphere in the signing of the agreement. The message is quite clear that it is not intended to be used in the court of law. • It is not clear who are the parties to the contract; neither are the procedural steps of 'offer' and 'acceptance' clear. • There is overlapping responsibility with the PMU sub-engineer, who in the eyes of the government would appear to retain responsibility. • There was no mention about the duration of the project. • There is no clarity in the 'agreement' on what is to be done and for how much. It does describe what the different groups of people are supposed to do. It is not clear whether the agreement is supposed to serve any managerial purpose.

Source: Interviews and documents, for example data base entries 82, 112, 113, 253, 256,257.

Text Box 6.24 Modified process of using conventional contractors with NGO as consultants.

OPP is the name of the NGO and SKAA is the local authority. Community as an agent of the NGO involved in supervision. The context of SKAA procuring external works through routine procedure.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Plans are given to OPP for verifying the existing situation. 2. OPP involves students to do the identification. They are paid daily stipends. 3. OPP talks to community to get the input from them as to the most critical needs of the community. Usually the outcome is water and sanitation. Mainly sewerage. 4. OPP then talks to SKAA and makes estimates for the external works. 5. SKAA technically verifies the designs and estimates. 6. Appropriate design strategy is adopted to lower the cost in terms of depth, thickness of the manhole etc. 7. Tender is then invited for the external works. 8. Open competition apparently. Reasonableness and workability of rates are checked by the officials. 9. Public Health Engineering Department 's schedule of rates is used for estimation. 10. Before starting the work, the, contractor, SKAA, and OPP go to the community. The contractor is introduced. Drawings and plans are posted on walls in Urdu (local language). The community is told that the work is being done using their own money. 11. The supervision is jointly done by SKAA, OPP, and the Community. 12. The work is tested and, if required, dismantled to force the contractor to achieve the required standards of workmanship. 	<ul style="list-style-type: none"> • Involvement of NGO. As the official records may be out of date or not even existing as the areas were not regularised. • This makes them competitive and provides a good link with the academic institutes. • Is this because of OPP's speciality in the field or the genuine need? But the process of consultation with the community is done by the NGO. This is even in the areas where they are not based. • Role of NGO as that of the consultant in collaboration with the in-house technical persons.? Are they as much professionally liable as a conventional consultant would be? Does that mean that the liability transfers to the department? Deviation from the standard specifications. Is this institutionalised? • Conventional tendering procedure is used. • No deviation from the estimation practice. • Joint effort. • This may create the sense of ownership and may urge them to look after the work. • Partnering in supervision.

Source: Interviews and documents, for example data base entries 37, 39, 40, 78, 247, 261, 291, 250.

Text Box 6.25 Modified process of Departmental works in SKAA with NGO as consultants.

OPP is the name of the NGO and SKAA is the local authority. Community acts as an agent of the NGO in supervising the works. In some cases they also act as contractor.

Narrative	Commentary
<p>1. Departmental work is used for the procurement</p> <p>2. The estimation is made on the basis of market rates by the SKAA using rates jointly developed by SKAA and OPP.</p> <p>3. The language of the items has been simplified.</p> <p>4. The petty contractors are consulted by SKAA for the estimation of rates. After consultation the rates are fixed.</p> <p>5. The work is identified in consultation with the community and the NGO. The scope is restricted to the external works.</p> <p>6. A plan is made. After this, either the Department or OPP makes a plan and exchanges with each the other party.</p> <p>7. Estimates are prepared in consultation with the NGO. The NGO checks the design and estimates.</p> <p>8. A note sheet is prepared by the Executive Engineer writing that the identification was done, estimates were prepared, and NGO was consulted and asked for the approval. The money was requested as an advance. The note was send to D.G through DKFO.</p> <p>9. The D.G. approved.</p> <p>10. The file then goes to the Director of Finance.</p> <p>11. The Director of Finance then provides the money asked for as an advance. The departmental work can not proceed without the money.</p> <p>Then officials and the NGO go to the community and ask if they know someone in the community who could do the work. If there is no one then they find some petty contractors who could do the work. Officials then negotiate the work and explain the scope to the contractor.</p> <p>14. In the agreement the mode of payment to the contractor is mentioned. For example after one third or one fourth of work is complete, corresponding payment is made. The payment is</p>	<ul style="list-style-type: none"> • An alternative to the competitive bidding. • This is a deviation as the rates used are not the government approved schedule rates. • The line items in the B.O.Q have been simplified. • The rates were developed using consultation of the contractor as well. Negotiation started. • Plans are made with the concurrence of the community. • Close working of NGO and department. • Estimates are approved by the NGO. Role of the NGO as consultant. Empowerment of NGO in public sector. • 'Note sheet' is the tool of communication between the officials. • The movement of the project file. The D.G approves. This is a safeguard. • Finance provides money as an advance to the Executive Engineer. There is a critical need of advance money in the departmental work. In this way the payment is made before the work is done. This is unlike the contracting system where the work is done before the payment is made. However, the advance is internal. But for all the further disbursements the Engineer is responsible. • Community was given the option to do the work themselves or to arrange the contractor. Role of community contractor as partial contractor and partial consultant or management contractor. • Personal verbal communication is important. Negotiation is the method used.

<p>made in stages.</p> <p>15. The material is supplied by the department. The material is delivered to site.</p> <p>16. The payment for the material is made through the bank draft.</p> <p>17. Once the material reached the site, the contractor starts the work.</p> <p>18. After the work is completed and tested the final payment is made to the contractor.</p>	<ul style="list-style-type: none"> • Payment is an important topic to be included in the contract. • Procuring material is a departmental responsibility. This may cause problems in the co-ordination. This may also involve costs in terms of time and money to the people. This in effect is labour-only contract. • The payment to the manufacturer is through the bank draft.
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Source: Interviews and documents, for example data base entries 37, 39, 40, 46, 78, 247, 261, 291, 250.

Text Box 6.26 Opinion on performance of the Departmental work in SKAA.

The following is based on an account of an official. The official was quite critical about the legality of the new process but admits the benefits as well.

Narrative	Commentary
<p>1. The work done through direct labour is 30% cheaper than that of contracting. 20% is the contractor profit as no agency will do work on less than 20% margin as they can get 10-16 % by putting capital in the banks. Our rates of schedules are also made in such a way, with some less and some more, that the contractor can save some money.</p> <p>2. One factor is that the cost is lower and the other is that the time is less. When we give work to the contractor we keep some margin to allow for as for the delay of payments, shortage of materials etc. For example, for the work of one month we keep one month margin. Even then the contractor takes three instead of two months. Time estimates are not [in departmental work] made but we can judge that the work [for example] of one month is completed in less than one month.</p> <p>3. The third factor is quality. Our quality is better than the contractor. The reason is that if we are not there the contractor can do something [cheating]. We can not be there for twenty four hours. We depute people but they can go for drinking tea and they can also do some cheating. The other thing is that not all our people are angels, if contractor offers tea then some will accept. Now here [departmental works] when we are supplying the materials the petty contractor do not have any incentive to steal materials There is no benefit to the petty contractor.</p> <p>4. The other thing is that we have to stand there too as that is our own work. Our visits are more frequent and OPP also</p>	<ul style="list-style-type: none"> • The contractor's profit was in-built in the rates. • What is the cost of extra tasks that the client is performing now? What functions were performed by the contractor to justify the profits The capacity of the client is also to be considered. How much concurrent work can the department handle whilst ensuring the high standards of departmental works? • Departmental work is superior in time and cost performance. • The contractors take three times the estimated time. This linked the quantitative data. • No formal time period is given in the departmental work. • Even quality is also superior. • Conventional contractors need full policing as they are not trustworthy. The people who do the policing cannot be there all the time and some time deals could be made. • The incentives or the benefits of cheating are controlled in the departmental works. • Sense of ownership of the work in the Government officials. This is no

comes. But the most important factor is the presence of community. Since the contractors were provided by the community, they[community] tell them[contractor] that it is their work and money, so it must be done correctly.

5. In the other case[conventional contracting] the contractor does not let the community go near the work.
6. The local people are not only satisfied with the work but are very happy. The community thinks that the work is very good, it is according to their wishes and has been done after their consent. In other departments if someone[community] asks what is happening[work] the officials will not tell them[community]. They will say '*jao jao apna kam karo (Urdu)- 'Go away and do your work'*'.
7. The petty contractors used so far are very small businesses which could not get the enlistment in the department otherwise[in normal enlistment]. The petty contractors do not receive cheques.
8. They[contractor] say that they want cash. They do not have a bank account. They do not have any letter head. The agreement is made on simple paper[typical conditions of small contractor]. They can not even sign their name properly. They can not read or write. They write their name in Urdu [like a child-showed shaky signature]. They ask somebody to read it for them and then they sign the agreement.

longer the contractor's work. More supervision time. But here the nature of supervision is different. Here they are supervising their own work as compared to the contractor's work.

- NGO is also present but the critical factor is that of the end user and the sense of the ownership. Even if the community is not doing the work they own it as they provided or participated in the procurement process. The contractors also know that the community has power as it is through them that the contractor was hired. Though the money is not going to the community directly the role of consultant has empowered them.
- In conventional contracting the community does not have any power, even to 'go near the work'. Access is denied.
- End user satisfaction.
- In the conventional setting even the information is not shared with the community, telling them that the work does not belong to the community.
- Through departmental works the access of the non-registered and non-enlisted contractors is possible.
- The contractors do not have a bank account. The payment is made in the cash. They do not have the normal formal communication. The communication is personal.
- They can barely sign their name. The factor of literacy is important. Again the personal verbal communication is important.

Source: Interviews and documents, for example data base entries 37, 39, 40, 78, 247, 261, 268, 269, 291, 250.

6.2.3 Text boxes tracing the assimilation of community participated procurement.

Text Box 6.27 How and why the versatile Community development council was created. This story narrated by the official involved in the process for the last 17 years.

The following is based on the account of Chief Medical Officer Colombo Municipal Council which triangulated with other sources.

Narrative	Commentary
<ol style="list-style-type: none"> 1. In 1979, Community Development Councils were introduced by Colombo Municipal Council. Earlier there were no community organisations in the slums and shanties. 2. Most of the shanties garden belongs to the private owners. 3. Through the Housing Ceiling Act in 1974, most of the houses were acquired by the government and handed over to the residents. 4. With the Housing Ceiling Act the houses belong to the residents but the common area and common facilities did not belong to them. These are owned by the National Housing Development Authority or Urban Development Authority (UDA). 5. During that time the government suggested a new set-up, called Common Amenities Board. 6. The facilities were provided but it was not owned by the municipality. It was assumed that the people would take care of the common amenities but they did not. 7. The government realised that it is useless to provide these types of facilities to slum people without community organisation. 8. An initiative was taken with a donor agency to organise and improve the conditions of the slum people. Then we organised the people and that organisation we called the Community Development Council. In 1979 we formed the first community development council. 9. 'The first phase of the UNICEF assisted project was called Environmental and Community Development Project[on slums]. It started in 1979 and ended in 1983. Then second phase, 1984-1988, in which we gave concern to the conditions of shanties in particular then slum people. Then we organised the shanty people to form the Community Development Council. The third phase of UNICEF project was from 1989 to 1994 and now they are, little-by-little, 	<ul style="list-style-type: none"> • The organisation lasted for approximately 17 years. The community organisations started by the support of the municipality and the donors. • Assets belonged to private individuals. • Houses were nationalised and given to the residents. Issue of ownership of the common areas. • A set-up was created to provided the facilities to the slum people. CMC was not used. • Though the facilities were provided it was not maintained as it was not owned by the municipality and the community did not have the organisation to do the maintenance. • It is not a new realisation that the community needs organisation. The organisation to be purpose specific and not just for the sake of it. In this case it is taking care of the infrastructure. • Donor with the municipal agency. A direct link with the municipalities was used during that time. • The emphasis of the first, perhaps, was on slums, in the second phase the emphasis was on shanties.

<p>withdrawing. Now their main concern is outside the Colombo like Galle, Kandy’.</p> <p>In those days it was very difficult to organise as the people were not willing to organise. Even the other people like the local leaders and the politician did not know and we faced so many difficulties to mobilise the communities. Now people themselves suggest us to register their organisation.</p>	<ul style="list-style-type: none"> • Implying that now it is easier. Pioneering work is difficult but gradually it became easier.
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Source: Interviews and documents, for example data base entries 346,353.

Text Box 6.28 How the CDC gets registered, What is the process of registering CDCs in CMC?. What is the legal status of the CDC?

People are capable of fulfilling the procedural requirements if they are made accessible and simple for them.

Narrative	Commentary
<ol style="list-style-type: none"> 1. Grass root officers of the health department of CMC visit the community and mobilise and community and decide the day and the time for the formation of the Community Development Council. 2. The officer visited and we allowed the community to elect their leaders on the same day. People elect their office bearers and a small report is prepared. The report is basically base data of the area including the number of households, existing facilities, and problems. 3. Along with the report there are few forms to be filled in by the officers in consultation with the community. 4. The Medical Officer of Health, Assistant Chief Health Officer and the newly elected Chairperson and the particular Health Inspector sign the forms and bring them to the Chief Medical Health Officer with the report. 5. The documents are checked and, if found adequate, the CDC is registered. A register is maintained in the office and on completion of the process the name of the CDC is entered in the register. 6. Letter posted to the secretary [of CDC] and copies to the area MOs[medical officers]. 	<ul style="list-style-type: none"> • It is a democratic process. The leaders are not imposed. Presence of the CMC at the time of election. Importance of base data. The accumulation of such data could be as asset in the long term for any programme. • Officers deputed to the area help to fulfil the procedural requirement. Documentation is handled by the officer with the help of the community. Documents are functional and simple. • Involvement of many people in an open environment. Transparency. • The concerned parties are informed about the formation of any new CDC.
<ol style="list-style-type: none"> 7. <i>Legal status of the CDCs</i> 8. A bylaw is passed to cover the CDC. 9. A constitution is developed with the consultation of the CDC office bearers. 10. District representatives of the CDC are sought in preparation of constitution. For example there may be 100 CDCs in a particular district. So those 100 CDC leaders elect one leader. While preparing the constitution, we involved the six leaders as there are six districts in Colombo. 11. The constitution was passed by the Mayor at the Housing and 	<ul style="list-style-type: none"> • Municipal by-law. • Use of constitution similar to that used in registration of companies or societies. Increasing normalisation after 17 years of less formal practises and experience. • There is a range of degrees of legal status, ranging from the registration

<p>Community Development Council meeting[HCDC]. The constitution was passed by the Mayor and the members of the meeting. They have <i>some</i> legal status and they are not registered outside here.</p>	<p>made under companies act or co-operative societies act to people acting in personal capacities. The registration under some national act is perceived to be 'more legal' as compared to registration under municipal by-laws.</p> <ul style="list-style-type: none"> • CDCs are not outside the legal boundary. Their registration is under municipal by-laws. Outside municipal legal boundary they may not be as strong an existence.
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Source: Interviews and documents, for example data base entries 155, 346, 353.

Text Box 6.29 Treasury Circulars relating to Community-based works

Based on a review of the following sources.

Treasury circular letter No. Finance 227 dated 1984.

Treasury circular letter No. Finance 255 dated 1988.

Treasury circular letter No. Finance 322 dated 1993.

Narrative	Commentary
<ol style="list-style-type: none"> 1. The subject of the correspondence is the award of small scale contracts to: <ul style="list-style-type: none"> • rural development societies and Gramodaya mandalayas • Rural development societies and similar societies • approved societies 2. The government had also approved some societies to undertake work; examples are School Development Boards (up to RS 1 million) and youth clubs affiliated with Youth Services Councils (up to RS 37,500) 3. The scope of 'approved societies' has been broadened in practice by the use of the terms 'rural development societies and similar societies'. 4. An exemption is granted to approved societies, which can award small scale construction work on a negotiated basis without resorting to public tender procedures. 5. The Committee on Public Accounts noted that in order to enable approved societies to take on as much as possible, major jobs had been split into smaller parcels in order not to exceed the upper financial limit. The Ministry communicated its concern on this matter. 6. The approved societies must 'provide all necessary superintendence during execution'. 7. The numbers of contracts per society are restricted to 5 and the total expenditure to RS 750,000. 8. There is a strong emphasis of reporting on the physical and financial targets of the works. 	<ul style="list-style-type: none"> • The circulars were signed by the Deputy Secretary to the Treasury, who is a very senior civil servant. • Provisions are made to enter into contracts with legally approved societies. <ul style="list-style-type: none"> • This is a crucially important waiver offered to approved societies • This emphasises that the use of public money is open to scrutiny, and that there are 'watchdogs' whose duty it is to draw attention to procedural irregularity of any sort. The underlying assumption is that 'unpackaging' of contracts is not appropriate; conventional wisdom is that there are economies in procurement if the opposite occurs, i.e. packaging of many small contracts into one larger one

Source: Interviews and documents, for example data base entries 184, 190, 191, 193, 24, 241.

Text Box 6.30 Treasury Circulars relating to Community-based works

Based on a review of the following source.

Treasury circular letter No. Finance 345 dated 1996.

In 1996 the financial regulations were revised. This is to be read in continuations of the Figure 6.17.

This box along with the Figure 6.17 show how the community contacting was expanded and institutionalised.

Narrative	Commentary
<ol style="list-style-type: none"> 1. The subject of the correspondence is the award of small scale contracts to: <ul style="list-style-type: none"> • approved societies • The government had approved some societies to undertake work; • Registered with Samurdhi. • Multi-purpose co-operative societies. • Co-operative labour societies. • Rural development societies. • Former organisations in major irrigation schemes 2. An exemption is granted to approved societies, which can award small scale construction work on a negotiated basis without resorting to public tender procedures. 3. Number of contracts is restricted to four per society and the total cost is 1.0 Million rupees. 4. The work is not awarded to the society for works 'outside the area of authority'. 'Where the area of authority is not defined the Divisional Secretary of area should be regarded'. 5. 'Concession does not dispense with the requirement of the executing agencies having to enter into a <i>formal contract</i>'. 6. 'Undertaking of <i>negotiated contracts</i>does not debar any approved societies from tendering for other projects' 	<ul style="list-style-type: none"> • The circular was signed by the Deputy Secretary to the Treasury, as before. • Provisions are made to enter into contracts with legally approved societies. Samurdhi is present government programme. A degree of interpretation is left for the practitioners to exercise. • The crucial waiver offered to approved societies is maintained. • The confidence in the societies has increased. Previously the limit was 750,000 rupees. • Note that the society is not restricted to the locality where it exists. In some cases it may be the whole division. The societies are not restricted to the slums and poor areas but they act in a defined jurisdiction. • Importance of entering into a formal contract. • There is a difference in how the contractor is selected, here by negotiation, and the way the contract is formed, here it remains a formal contract. This effectively permits the societies becoming the conventional contractors. On the other hand the conventional contractors may also get the society approved and get the work without tendering. There is no mention that the provisions are only for poor areas. Negotiated contracts with the approved societies are supported by the circular.

Source: Interviews and documents, for example data base entries 184, 190, 191, 193.

Text Box 6.31 Assimilation process of the initiatives.

Based on a review of the following source;

Letter from Ministry of Finance to Secretary Ministry of Housing, construction and Public Utilities dated 21-6-95.

Joint letter from Ministry of Housing, construction and Public Utilities to NHDA, ICTAD, Director of Buildings and National water supply and Drainage Board (NWS & DB) dated 26-6-95.

Letter from Secretary Ministry of Housing construction and Public Utilities to Ministry of Finance dated 6-7-95.

Narrative	Commentary
<ol style="list-style-type: none"> 1. A large scale enquiry by the treasury was held to 'review the entire system[negotiated contracts to the societies]' The concern was; <ul style="list-style-type: none"> • 'the public funds are squandered by the interested parties'. • Lack of transparency 2. The suggestions from all the authorities who have used the system were asked for: <ul style="list-style-type: none"> • The upper value of the limit of contracts • Type of suitable work. • Defining the capability of the societies. 3. NHDA rebuttal was based on; <ul style="list-style-type: none"> • The system is effective in utilisation of local and foreign funds. • The community contract is a key tool for community participation. • The system was acclaimed internationally. • The system has been audited and 'have not revealed any adverse comments'. • The benefits are; speed, quality, user satisfaction and the 'benefits of profits being passed to the user communities'. The shorter delivery time was also emphasised. 4. The proposed action to improve the situation is to register the societies taking into consideration their capability. 5. A committee of technical and administrative staff was appointed to recommend to the Divisional Secretary the societies to be enlisted. 6. The list of the registered societies is to be made available to all the Government institutions. 	<ul style="list-style-type: none"> • The enquiries could be seen as positive. The Government is not seeking to abandon the practice but to overcome its shortcomings. The concerns are quite standard. • The will is there from the top to assimilate the on going process but to mould it in to a shape which fits the Public Processes. • Better performance as defence. • Mean to the wider objectives. This is not available in the conventional contracting option. • Good reputation is used as a defence. • Getting the initiatives audited may turn out to be an advantage. • Clear understanding of the benefits of the system. It is not only the construction time but the time including the preparation time for the contract that is to be counted. • Capacity of the community is an important consideration. Mechanism is required to evaluate the community capacity. • Equivalent to the registration of the contractors. • There is no need to do the enlistment by each institution. Societies could undertake the work from more than one institution.

Source: Interviews and documents, for example data base entries 184, 190, 191, 193, 358.

Text Box 6.32 Audit observation on the community contracts and replies.

Based on the audited files, audit observations and conversation with GM NHDA.

Note it is the Engineering services, who were not considered to be in favour of the community contracting, who justified the actions before the auditors' meticulous scrutiny. The auditors were reasonable and in principle accepted the use of the system. There were no objection to the use of negotiations and non-registered contractors as the backing of the financial circulars was available.

Narrative	Commentary
<p>1. The community contracts have been audited.</p> <p>2. The auditors were informally told by the previous Government [During 1986-1989] not to audit.</p> <p>3. There are two kinds of audits. One is the internal audit and the other is the government audit. The files reviewed were audited by the government auditors.</p> <p>4. GM mentioned that the main cause of many observations related to the community contracts is the misconception and <i>wrong ideology of the auditors that the 'community contracts are also a conventional contractor'</i>. 'They do not realise that the objective of the community contracts is to make the community act together for their betterment'.</p> <p>The issues raised by the auditors are as follows.</p> <p>5. The work starts before signing the contract. <i>Thrust of reply</i> The signing of contract requires procedure to be followed like signing by the G.M, that take time. Since the award letter was given the signing of the contract was only a formality.</p> <p>6. Excessive delays and the liquidated damages not charged <i>Thrust of reply.</i> Community contract is not to victimise the community. The community contractors are weak financially and the liquidated damages will not serve the objective of the community contracting, which is to strengthen the community for their betterment. Furthermore, they are different from the commercial contractors as they are basically non-profit making.</p>	<ul style="list-style-type: none"> • Passing the audit is one of the difficult but crucial step for the innovation to be assimilated in the mainstream process of procurement. • The auditors were avoided as they were considered as an opponent not as a helper. • The contracts are not only internally audited but by the government auditors as well. • The main defence was to make the community contractor distinguishable from the conventional contractors. Community contracting as explained to the auditor is for the wider objective of the development and that they should not be treated as conventional contracts. The line of defence worked. The auditors are reasonable if the communication is open and relations good. • Issue of authorisation of the contract. The letter of award is the authority for the work to start. • Recourse to the objective of the community works. They are different from the conventional contractors and no use of liquidated damages in such situations. The clause of the liquidated damages, if removed, could have avoided the objection but changing the conditions may have raised more objections as compared to justifying the actions within the conditions. Time performance related.

<p>7. In Kirulapure the work is being going on FOR the last 2 years. Why were no actions taken? <i>Thrust of reply.</i> There are some practical reasons for the delays. The main thing is the capability of the community. The community is still motivated and working and any action against them would be to de-motivate them.</p> <p>8. Delay in submission of the insurance certificate. <i>Thrust of reply.</i> The work was started only when the certificate was received.</p> <p>9. In timber shed, the specification was not clear in the B.O.Q. <i>Thrust of reply.</i> The specifications were for the temporary structures and they were clarified at the site.</p> <p>10. Award letter given on 9-5-94 and the agreement signed on a later date. No insurance provided. <i>Thrust of reply.</i> The community is about 50 Km away from office and after the award letter they went back and came after completion of the work. There was no reason to ask for insurance.</p> <p>11. Final payment exceeds the contract value. <i>Thrust of reply</i> The contract is based on measurement and pay. The variations were under the reasonable limits.</p> <p>12. GM also mentioned that there were <i>no allegations of fraud and nepotism</i>. However, he mentioned in some remote areas the contractor, local administration and local politicians joined together to channel government money into their own pockets.</p>	<p>It is quite debatable whether in fact the community contractors are different from the commercial contractors and why should they be?</p> <ul style="list-style-type: none"> • Capacity of the community. Towards the open ended contracts, process oriented. • Insurance was provided before work started. • Related to the clarification of the specification. • The work was completed before the contract was signed and they came after finishing the work. No risk to cover hence no insurance. • Variations within the limits and justified. • No objection on the cost escalation and the quality. The time performance was noticeably bad. • No allegation on the accountability and transparency issues. • Some allegations of misuse of money but in general the whole affair was cleared by the audit.
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Source: Interviews and documents, for example data base entries 184, 188, 189, 190, 191, 193, 355, 358.

6.3 External Validation of the direction of findings.

As has been described in chapter three that external validation of the findings was sought from the expert panels of officials. Text box 6.33 presents the outcome of the focus group discussion in relation to the procurement process.

Text Box 6.33 Outcome of the focused group discussion

Summary of the framework for the procurement procedure to promote the community role in the procurement of urban infrastructure.

Narrative	Commentary
<ol style="list-style-type: none"> 1. The role of the community could be that of contractor. It could also be partial or full client, Engineer or contractor. There could be a combination of the roles. 2. Clearly define the role, responsibilities and tasks of stakeholders. 3. Widen the objectives of procurement. Emphasise the factors like sustainable development. 4. The factors of transparency and accountability are of prime importance. 5. Clear guidelines to the officials to be provided in terms of the contractual, account and financial rules and codes for community-partnered approaches. 6. A certain quota of work related to the infrastructure can be reserved for the community groups. The quota could be 10-20 % of the number of contracts awarded in a year. 7. Other stakeholders like CBO, NGO and Politicians are also important and may be recognised in the process. 8. No need for pre qualification 9. Item-rate or percentage rate contract to be continued. 10. Procurement process to be in local language. The tendering document and the conditions of contract to be in local language. 11. Legislation to enlist the community groups as the contractor. 12. Community groups are to be registered in the registrar's office. They should work through the elected body and should have the bye laws. Each slum should have one community group. Officials deal with authorised representatives only. 13. Enlistment of community should be made on appropriate and flexible terms. 	<ul style="list-style-type: none"> • Roles of community could be many. • Implication is that the roles and responsibilities of the stakeholders in community-partnered approaches are not clearly defined. • Wider consideration than that of time, cost and quality. • Money belongs to public. • An authenticated procedure so that the individuals are not blamed for irregularities. • Like that of the Engineers' Co-operatives and Labour Co-operatives in India. Societies provide popular hinges for innovations. • Realisation of other stakeholders in the community-partnered approach. • Pre-qualification is perceived to be a barrier and redundant in the situation under consideration. • Preference for the on-going practices. • Language that the contractors can understand easily to be used. • Legislative backup is required. • Some kind of formal registration is considered useful. Well-defined contact point with the community is important. • The enlistment of the community contractors may be on a different basis. The factors considered for the enlistment needs changing. The idea of enlistment is considered useful.

<p>14. Incentives to be provided for the early and timely completion of the project. Bonus to be considered for better performance.</p> <p>15. Incentive for the officials and the required logistic work-force supports to be provided.</p> <p>16. Micro contracts are suitable for the community groups. If they are successful then the Minor Works could be given to them.</p> <p>17. Community group capacity to be assessed on the following factors:</p> <ul style="list-style-type: none"> • availability of the skilled labours. • occupation of the community. • greediness of the community. • integrity among the community. • managerial capacity of the community. • Financial status of the community. • Behaviour of the community. <p>18. Conventional contractors may be used as trainers if community is the sub-contractor.</p> <p>19. Community to monitor the works.</p> <p>20. Technical Support to community is important.</p> <p>21. Sub-contracting may be allowed through the community.</p> <p>22. Negotiation, on the basis of market competitive rates, is the mechanism to select the contractor.</p> <p>23. Discussion and negotiation are the main tools as the recourse to the legal route will not be appropriate. Legality is to be used as the last resort.</p> <p>24. Regular meetings between the officials and the community groups and the related parties like trade unions.</p> <p>25. Delegation of powers is important to run such contracts.</p> <p>26. Attitudes and perceptions of the stakeholders are important and will need adjustment as the practice community partnered approaches develops.</p> <p>27. Earnest money is not required from the community groups if they are bidding.</p>	<ul style="list-style-type: none"> • Positive actions as compared to the negative ones like threat of penalties. • Stakes of officials are also important. Some forms of incentives are to be provided to officials to undertake such works. • The use of community is to be gradual. If they are successful in a particular size of work only then may they be given work of larger size. Risk management. • Capacity evaluation of the community is important. It is neither a necessary nor a sufficient condition for a successful procurement to give the work to community without consideration of the capacity of the community. • It is not the intent to demolish the conventional contractors. Their role could be utilised in favour of small contractors. One such role is that of trainer. On-the-job training from the people who are in the field. • Role of community as Engineer. • Importance of technical support to the community. It is not mentioned that the support is to be from the Government. Implications are that this could be from other stakeholders like NGO or CBO as the case may be. • Role of community could be that of Managers as well as partial Engineer and partial Client. • Use of multiple basis of pricing the work. Negotiation as compared to routine tendering. Value for money could be achieved by negotiations as well. • Private ordering of the contract as compared to the court ordering. Emphasis is not on the potential legal actions. Similar to the concept of 'self-enforcing contract'. • Frequent use of conversation is an important tool. • Delegation and empowerment. • The present attitudes towards each other and the role that they themselves play needs changing. • Barrier which needs to be removed. • Same as above.
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<p>28. Security deposit may be reduced to a token level and this be released as now i.e. at the end of the defect liability period.</p> <p>29. In lieu of the bank guarantee, personal or community guarantee to be considered.</p> <p>30. A large numbers of small contracts packages to encourage the small contractors.</p> <p>31. Administrative approval and the technical sanction to be left as they are now.</p> <p>32. The lowest bidder to be awarded the work.</p> <p>33. Simplified and flexible conditions of the contract are required.</p> <p>34. Monitoring and trouble-shooting team, including adjudicator, to be introduced.</p> <p>35. No need for the performance bond.</p> <p>36. No need for insurance in the contract.</p> <p>37. No place for penal action and damages to be claimed from the community.</p> <p>38. Clear instruction and procedure to be provided to the officials in dealing with the community groups. Relaxation in the existing rules to be provided.</p> <p>39. Categories of main conditions of contract to remain the same; dealing with the time of completion and payment. Some conditions of contract to be relaxed.</p> <p>40. Logistic support to the officials like that of proper transportation allowance as it is likely that their additional time and resources will be required.</p> <p>41. Officials are a stakeholder in the process and they should not be exposed to any more personal risks than they are exposed to now.</p> <p>42. There is a need for training in the changing roles and relationships.</p> <p>43. Additional work up to 10 percent of the cost of the contact to be executed at the same rate.</p> <p>44. Better quality of work is likely to be achieved as compared to the conventional contractor by the involvement of the community groups. There is no incentive for the community groups to go for cut throat profits at the expense of quality.</p> <p>45. Community participation in procurement will generate employment and facilitate enterprise development thus leading to poverty alleviation.</p> <p>46. Community partnering will generate the sense of ownership and this will help in community</p>	<ul style="list-style-type: none"> • Concept of the guarantor is to be retained but the form may be different. • Shift in packaging. Implications are that more management resources would be required. • Structure of the approval system to be retained. • Best deal for the client is the main criteria. Lowest bid is apparently such a deal. • Self explanatory. • Specialist provision in time of trouble. • Barriers are to be removed. Procedural barriers are not justified in the interaction with the community. • Threat of liquidated damages and penalties are to be removed. • This is important. It is not good enough to demand community participation from the officials without telling them clearly what is required from them. Procedure of similar authority and details such as works procedure is desired. • Changes required in the conditions but the basic structure to be retained. • Stakes of the officials are important. Implications of the changed procurement strategy to be implemented if the proper support is also provided. • Why should an official take any personal risk? For sustainability of the process it is important to see what extra efforts are required and how this will affect the personal risks of the stakeholders. • It is not sufficient to desire the changes but the stakeholders need to be trained for their changed role in changed relationships. • So that there is some flexibility in the implementation. The implication is that, beyond the 10%, the contract to be re-negotiated. • There is no difference in the goals of the community as contractor or as the end user. • The feeling based on the experience of community- partnered procurement. • Ease for the departments in the maintenance of the infrastructure. But there may be some tasks which could be beyond the capacity of the community and for that the department will have to play the role. In any case the involvement of the departments in maintenance
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<p>participation in maintenance of the infrastructure.</p> <p>47. Mobilisation advance to be provided suggested figure is about 100,000 rupees.</p> <p>48. An advance to be given for material at site of up to 80%.</p> <p>49. Labour intensive technologies more suitable.</p> <p>50. Officials to provide the technical and managerial support.</p> <p>51. The work to be given to the community should not be of high risk and complexity.</p> <p>52. Grace period of 1-2 months to be provided for the completion period.</p> <p>53. The time estimation for the community partnered contracts to be realistic.</p> <p>54. Payments to be made immediately and part payment be made on the basis of the item rates.</p> <p>55. Community groups to be established and gradually introduced in the community in contractor roles.</p> <p>56. Partnering as compared to adversarial relationships. <i>Partnering is to empower the community.</i></p>	<p>may be reduced.</p> <ul style="list-style-type: none"> • The financial capacity of the community is assumed to be weak. • Advance against material. Standard practice. • But in some cases the mechanical or automated means may more appropriate and efficient. • Managerial support is also important • Risk as criteria for selection of the work to be given to community. Not all local infrastructure work is suitable for the community to perform. • The feeling is that the time performance may not be so great. The reasonable estimate is an important factor. • Implication is that current practice does not give a realistic estimation. • Payments are crucial for the financial management of small contracts. • It is a gradual process and patience to be exercised. • Importance of the partnering relationship as compared to relationships resulting from conventional contracting.
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Source: Focus group discussion.

Chapter contents

CHAPTER 7 LESSONS FROM EXPERIENCE IN COMMUNITY PARTICIPATED

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Chapter 7 Lessons from experience in community participated procurement.

7.1 Roles and Responsibilities

One of the most interesting findings is the wide variety of ways (see chapter six) in which community groups become involved in the development of local infrastructure and service provision. They take on and adapt to many differing roles, ranging from informal advisers (see for example Text Boxes 6.4 & 6.10), through to formally appointed micro-contractors with legally binding contracts to construct the works, for which they receive cash payment (see for example Text Box 6.7). The research had found examples of community groups participating in all of the roles within the contractual triangle described in chapter two (refer Table 2.1 & section. 2.2)

Table 7.1 summarises the roles played by the community which parallel that of Promoter, Engineer and Contractor (see chapter two). This shows that communities have a range of capacity and that they could play different roles accordingly.

Table 7.1 Role Matrix of community participation in some contract contexts

Project context	Stakeholder	Roles		
		Promoter	Contractor	Engineer/Advisor/Supervisor
1 OPP-Internal works	1 Community/CBO	√	√	
	2 Public sector			
	3 NGO			√
2 SKAA-Internal works	1 Community/CBO	√	√	
	2 Public sector			
	3 NGO			√
3-SKAA External works	1 Community/CBO		√	
	2 Public sector	√		√
	3 NGO		√	√
4 FAUP Internal works	1 Community/CBO	√	√	
	2 Public sector	√		√
	3 NGO			
KMC/ADB	1 Community/CBO			√
	2 Public sector	√		√
	3 NGO			√
1 NHDA	1 Community/CBO		√	
	2 Public sector	√		√
	3 NGO			
2 Clean settlement	1 Community/CBO	√	√	
	2 Public sector	√		√
	3 NGO			√
SIP community partnered projects	Community/CBO		√	
	2 Public sector	√		√
	3 NGO			

In some cases the relationship is between organisations (Text box 6.7), in some cases it is between individuals (Text Box 6.9) and in more complex cases between an organisation and an individual (Text Box 6.22). However, a principal-agent relationship governs all the cases (sections 2.4 & 2.5). The nature of the relationship differs in terms of the organisations involved and in terms of the delegated work. In case of OPP internal works (Text Box 6.9) the principal and agent were both from the community. The delegated work was construction of drains. In case of the KMC/ADB (Text Box 6.10) the principal was a Municipal

Authority and the agent was the community group. The delegated work was supervision of construction.

In some cases their role is easily identifiable and in other cases it is more complex. For example in Sri Lanka (Text Box 6.7), Pakistan (Text Box 6.25) and India (Text Box 6.6) we have situations where community groups act as contractors who are paid agreed rates for carrying out items of work; in the case of Sri Lanka, this led to the term *community contracting* (see chapter three) being used to describe that particular part of the Million Houses Programme. In Pakistan (Text Box 6.9 & 6.11), there are cases where for a particular scheme both the promoters and the contractors are community-based. In India (Text Box 6.4), Sri-Lanka (Text Box 6.8) and Pakistan (Text Boxes 6.10 & 6.11) community groups perform the supervisory role of the engineer. The tasks associated with the roles are hard to distribute neatly among the stakeholders in terms of the clear distinction of roles which characterised formal contracts. There is an overlapping in the tasks performed.

Another important finding is that it cannot be assumed as a matter of course that urban low income communities will do the construction labouring work themselves (Text box 6.8). These approaches, often favoured in the rural context cannot automatically be lifted into the urban milieu. The research has found evidence of community groups engaging in sophisticated sub contracting. For example: specialist trenching work in Pakistan (Text Boxes 6.9 & 6.13); major sub contracting of management and labour in Sri Lanka (Text Box 6.7). On the other hand, some communities are mainly interested in the opportunities for waged employment as a means of boosting their very low incomes.

To be able to decide which role a stakeholder would take in a procurement process assumes power. It is generally the promoter who decided the outline about the work and the agents that would be used to achieve the project objectives. As was noted in chapter five, sections 5.2.2 and 5.3 a micro-contractor constitutes a very simple organisation. It is not likely that such

contractors would have any significant power over the running of government departments (see section 2.2.1).

The perceived power relationship among the stakeholders (community groups and urban government) about roles is that power rests in descending order with Promoter, Engineer and then the contractor. The community perceived itself to be the most powerful as it moved nearer to the role of the client (Text Box 6.10). On the other hand, if the existing relationship is changed so that more power is given to the contractor's role, greater benefits of empowering and partnering could be achieved (see sections 2.12.1, 2.13.1).

In summary, with respect to community groups adopting the roles and responsibilities within the contractual triangle of promoter/engineer/contractor, the developments observed are: (Text Box 4.2).

- Participation in the identification, planning and design of improvements.
- Involvement in the supervision and quality control of works undertaken by a government contractor appointed through the standard tendering procedures.
- Use of waged local labour in Departmental Works; materials are procured either by the community or by the government department.
- Use of community labour engaged and paid through labour-only contracts.
- Community-based labour employed by a private sector contractor appointed under the tender-contract system.
- Entrustment of works by negotiation, where the community group has management control of the construction and chooses whether it uses local labour or hires in labour from outside.
- Formation of local societies with the view to undertaking work in a number of slum communities.
- Capacity building and skills upgrading of micro-contractors and community groups with the assistance of NGOs.
- Improvements financed partly by the community and partly by government.

- Improvements which are fully financed internally by the community who develop procedures specific to their needs without any government involvement but with NGO support.

7.2 Community Partnering

All the indications (for example see section 5.2.2 and 5.3) are that urban infrastructure at the local (tertiary) level is not 'too complicated' for ordinary people and local artisans to get to grips with (see section 6.2.1). Urban infrastructure *is* complex, but nevertheless community groups in different situations demonstrate their ability to play a positive role. They are neither well-equipped with construction plant nor are they large organisations. Associated risks are not high (section 2.9 and section 5.2.2).

The key point to emerge is that there is no single identifiable role model for participation in urban infrastructure procurement. The reason is inherent in the varied nature of community organisation and their varied capacity. Sometimes they are formed for very short duration (for example lane organisations in OPP, Text Box 6.9) and in some case they live longer (Text Box 6.27). In some case they have a single objective and in some cases they have multi-objectives (section 2.2).

The issue of complexity is quite serious in situations where the public sector enters into a formal relationship with a community to participate in procurement (section 2.1.2 & 4.2). Such relationships are effectively non-existent outside the remit of donor funded projects where the normal regulations are waived formally or informally.

Using the framework of *Partnering*, *Agency Theory*, and *Participation* the term *Community Partnering* is proposed to embrace this variety of roles and responsibilities in a relationship or contract (sections, 2.1, 2.3 2.4, 2.12, 2.13 & 6.2). In its broadest sense, it reflects both the continued involvement of people

with the planning, implementation and sustenance of local infrastructure and service improvements, and with income generation, enterprise development and skills training. A key aspect in the community participated procurement was the achievement of 'goal alignment' thus producing the efficient contracts (see section 2.4 and 6.2) of promoter and the contractor. If an organisation is constructing or monitoring infrastructure for its own use, there is no reason for them to produce a lower quality, high cost and longer duration work. However, it is possible that some factors other than the intentions of the community may effect the work, for example lack of skill and management. The performance of micro-contacts is the subject of chapter eight.

The underlying implications of the community partnering are:

- Full acceptance of the urban poor as primary stakeholders in local infrastructure provision.
- The development of longer term more open-ended relationships, encompassing joint financing, planning, design, implementation, hand-over and maintenance.
- Promoting co-operation both formally and informally with government agencies and NGOs.
- The potential to target groups of the urban poor, rather than solely area-based dwellers in specific slums. This is relevant because local inhabitants do not necessarily carry out improvement works themselves because of lack of both time and relevant skills.

7.3 Transparency and Accountability: Whose Money Is It?

Transparency in decision making and accountability in the spending of money are crucially important to any process for infrastructure procurement, whether it involves urban government, community groups, or both. Three different situations regarding sources of finance were encountered.

1. Government money is used to finance the works; community groups are paid for services which they provide. This injects money into the local economy (see for example Text Box 6.7).
2. Government money is not involved; the finance is raised internally by community groups and existing money re-circulates in the local economy (see for example Text Box 6.9). The matter is explored further in chapter eight.
3. Split funding with contributions from government and community groups (see for example (Text Box 6.13)

The source of finance is the single most important factor in relation to the procedures and rules which are adopted for infrastructure procurement. If government finance is involved, whether in full or in part, its rules and procedures must be adhered to. This includes money from other sources such as bilateral agencies which is channelled through government. It has a powerful influence on the behaviour and attitudes of officials, particularly engineers, who have a pivotal role in community partnering schemes (Text Box 6.33). If the finance is raised by the community, then they [community] are at liberty to define and use whatever mechanisms they feel confident with; relatively little reliance is placed on the written word.

The procurement of infrastructure is complex and expensive regardless of how or by whom it is done; yet the means by which the twin goals of transparency and accountability are achieved could not be more diverse. On the one hand, government has its rules and procedures which run into volumes of written words; (Text Boxes 4.1 & 4.2). On the other hand, community groups who finance their own infrastructure (Text Boxes 6.9 & 6.11) develop systems which have minimal written documentation and are enforceable by social pressure.

In Faisalabad, Pakistan (Text Box 6.13) a hybrid situation had arisen where the FAUP, which is an arm of urban government, provides 50% of the financing (which originates from a bilateral donor agency) for internal works, thereby matching the 50% contribution from residents. The present method of the FAUP

is part way between a NGO and a government department. The difficulty which is immediately apparent is that within the same project, the community groups on the one hand and government agencies on the other are going to require completely different procedures to satisfy their own perceptions of transparency and accountability. For example, a problem arose from the outset with residents being hostile to the idea of depositing money in a joint account with government. No formal contracts are on file for the construction of the lane sewers. The FAUP has set up its own project approval committee, whose purpose is to grant sanction to specific project activities. Its membership includes officials from other urban government agencies. These members have (quite appropriately) questioned the legitimacy of the actions of the committee. However, the FAUP procurement strategy for lane sewers has been successful as measured by cost and quality, which are themselves key objectives for *government* procurement. The irony is that if the FAUP system were subject to scrutiny by the government's Central Audit and Account Organisation, in all probability questions would be raised about the procedures used to demonstrate value for money. Here, then, is the archetypal problem whereby successful community partnering develops away from the mechanisms of urban government; yet looming on the horizon is the apparent inability of government to assimilate these successful processes and procedures

Government rules are creating barriers and problems for community based activities; ideally, this can be avoided if community groups are able to finance the work themselves (Text Box 6.9) and the Government intentionally or unintentionally lets the activities happen. Permitting 'irregular' activities to continue very closely resembles the kind of relationship described by informal partnering (section 2.12.1) and relational contracts (section 2.3). However, in the broader context of South Asia, the extent to which these works can be fully financed internally is limited and there are many situations in which government financing is essential.

7.4 Transparency and Accountability: How are Decisions Reached?

In the routine tender-contract procedures, the relationships between promoter, engineer and contractor are clearly defined and understood by the parties involved (sections 2.1 & 4.2). Everything is set out in the contract and its accompanying documentation (section 4.4). When problems arise, formal mechanisms specified in the contract for dispute resolution are invoked. The formal contracts which are run by the engineers of urban government have a high standard of documentation and record keeping. The researcher had access to many working project files and, almost without fail, all of the procedural stages are clearly identifiable (Text Boxes 6.2, 4.8 & 4.9). In these files are the records which demonstrate that the concerned officials have followed the rules and procedures; some day, they might have to answer to procedural queries raised by the Central Audit and Accounts Department and, by these files, will be called to account for their actions. This happened in Sri-Lanka (Text Box 6.29).

The cases in which community groups are involved, continuous negotiation (for example Text Box 6.7 and 6.8) and dialogue are more in evidence. In a number of cases this is because the parties are working in a genuinely experimental situation in which there are no hard and fast rules. Informal negotiation emerges as a key element in successful initiatives involving community groups; it provides mechanisms for agreeing costs and resolving disputes. There was an element of trust and respect unlike the adversarial relationship of routine procurement (section 6.2). The trust and avoidance of the adversarial relationship are the key themes of Partnering (section 2.12.1).

The case of Cuttack, India (Text Box 6.6) is instructive; for both the community group and urban government it was the first attempt at a partnering approach. A verbal agreement for carrying out the work was struck between the Project Management Unit of urban government and the community group. An impasse arose when the work was subsequently readvertised even though the community group was under the impression the work had already been awarded to them.

This situation (which would be most serious in the context of a conventional procurement contract) was sorted out by negotiation. The real business was done by negotiation; some of the actual documents and file notes have the appearance of 'after the event' formalities. The 'relational contact'(section 2.3) supercedes the written contract.

Although negotiation was the principal means of reaching agreement, the community group was clearly affected by its transactions with government. The file reveals an increasingly formal tone to their communications; for example, the appearance of headed note paper, the copying of correspondence to all and sundry, and use of the English language. More importantly, they developed sufficient confidence to question the actions of government through the official channels. This instance highlights the intricacies and complication of the relationship between public sector and community (see section 2.2) and the ability of the community group to learn how to handle the government. The community is developing into a state closer to that of the public sector micro-contractors (see section 5.3).

In India (Text Box 6.2 & 6.3), Pakistan (Text Box 6.30) and Sri-Lanka (Text Box 6.7), negotiation was carried out between urban government and the community group to agree a price for the work. This again shows a degree of teamwork and trust, which are the common themes of Partnering, among the parties involved. (section 2.12.1). This resulted in a lower price than conventional tendering would have produced, a fact which is very important for the officials of urban government.

An interesting contrast is provided by a case in Pakistan (Text Box 6.9) where people get on with things themselves, with the support of a NGO, but without the involvement of urban government. Agreements between residents and micro-contractors are negotiated; there is no written contract because it would serve no useful purpose. The system is well established, and disputes are resolved through negotiation without recourse to any written agreement. A cost estimate is

prepared on the basis of market rates and in a form which is useful to the residents in managing the work; this contrasts with standard government procedure (Text Box 4.4) where even for a formal contractor the methods are not helpful in managing the work.

This draws attention to the importance of the local micro-contractors who play a crucial role, but who are rarely the focus of discussion. These masons, carpenters and plumbers provide the skilled labour input and often manage the micro-contracts for local improvement works. Their importance has emerged in Pakistan (Text Boxes 6.9, 6.12, 6.13 and data base entries 263, 268), in Sri Lanka (Text Box 6.7) and in India (Text Box. 6.3). The ability and experience of the micro-contractors provide a crucial link in the chain leading to a successful outcome. They are key players in any negotiations about price, and their ability and skills are important determinants of the quality of the work produced. The other aspect is that these stakeholder are able to deal successfully with the risks involved in procurement (section 2.9).

7.5 Government Procedures: a surprising amount of scope

In response to these difficulties it is necessary to explore in detail exactly what scope exists within the confines of government procedure to see if the chances of an impasse can be avoided, or at least minimised. Local government procurement procedures are described in Text Boxes 4.1 & 4.2; whilst these vary in detail between and within the individual countries, they broadly represent the way things work. Text Box 4.10 presented some alternatives available in procurement in the existing procedural framework.

The most significant finding (Text Box 4.2) is that some of these procedures allow a surprising degree of flexibility. Negotiation is acceptable, and it is even possible to offer works at a discount to certain registered societies and co-operatives. Section 6.3 presented a situation where such options were used to accommodate the community in the procurement of urban infrastructure.

It is noteworthy that a distinction needs to be drawn between what is done as a *matter of routine* and what *could be done* within existing procedures. The routine is to use competitive tender (section 4.2) to award the contract to the lowest bidder. The procedures even allow for the lowest tender not to be accepted; however, it appears that few engineers are willing to subject themselves to the consequent need for justifying such a decision and the possibility of litigation against the government, even though they know that the quality of work and value obtained would be better if this were done (section 4.6).

The officials of urban government negotiated satisfactory arrangements with the community along the lines of the systems operating in Orangi (Text Box 6.9). The outcome is of mutual benefit firstly to the community through empowerment (section 2.12) and income generation and secondly to urban government who get better value for money and better quality work (Text Box 6.26). Yet these officials are struggling to provide file notes and documentary support which mirror the formally sanctioned procedures, but which in themselves are of little significance to the success of the partnership with the community. An important issue for these officials is not the cost or the quality *per se*, but an ability to prove *in accordance with procedure* that the cost was advantageous to government; this is essential to protect themselves from the unwelcome attention of the Central Audit and Account Organisation (section 5.2.2 & Text Box 6.33).

The reluctance to do anything other than accept the lowest tender (see section 4.6), regardless the appropriateness or likely outcome, is due in no small part to the system of financial auditing which has developed. The following points are central to this vexing problem:

- The money flowing in and out of government departments at all levels is controlled by the Central Audit and Account Organisation; this is a powerful organisation in terms of the power and influence it wields (Text Box 6.32).
- It can (and sometimes does) act in a malign way; officials can be called to account for the minutest deviation from arcane rules. Government Engineers

are vested with the authority of sanctioning different stages of the procurement process. They can subsequently be held personally liable for over-spending, and in extreme cases face the possibility of personal ruin (data base entries 283 & 284).

- The key concern is to *demonstrate* value for money and that rules have been followed to the letter. This does not necessarily equate with probity and efficiency in the spending of public money.
- Audit requirements, or more accurately fear of the audit, can be taken as the governing factor in the use of what this thesis describes as 'non routine' procedure in the public sector. The Engineer remains a key actor in community partnered works undertaken with public money and any changes to the means of procurement to promote community partnering must not increase their personal risk (data base entries 247 & 260).

The problem is that procedures designed to try to eliminate malpractice also stifle genuine innovation; without high level backing (Text Box 6.6), relatively few of the middle ranking engineers interviewed would be prepared to adopt anything other than the competitive tender (Text Box 6.33) , as this provides them with a solid alibi against potential audit questions. Competitive tendering is automatically assumed to guarantee value for money (section 4.5 & 4.6). If any other procedure is adopted, the engineer may have to explain how he or she has ensured equal value for money. Deviations from the norm have to be justified, and for many officials the risks are not worth taking.

It was observed that in India (Text Boxes 6.3 & 6.6) situations where officials who adopted procedures other than competitive tender, in order to develop community partnering, spend time trying to provide documentary proof of value for money. Problems arose from an advert which called for tenders when the community believed the work had already been entrusted to them. Other calls for tenders were made without any intention of awarding the work to the contractors who bid, which clearly did not please them. Such moves appear puzzling, because they hinder negotiations and other relationships, but it appears that they

are necessary precautions against potential audit questions. The actions taken by the government engineer also highlighted that fact that compared with the contractor, the promoter has in the end more power. Yet within the existing procedures we have mechanisms which can afford at least some of the flexibility necessary to develop community partnering. In Pakistan (Text Box. 6.11 & 6.12) we have a case where Departmental Works Procedure (Text Box 4.2) has been adopted on a large scale with the involvement of a NGO. External works have been procured in this way, with the subsequent result that community groups financed and installed internal lane-level works. The motivation for this comes from the leader of the organisation in response to problems with poor quality, cost overruns and time overruns which plagued work carried out under the routine tender contract system. This is one of many indications of an inherent danger in the way the tender-contract system is used, whereby it offers cheapness as opposed to value for money.

7.6 Assimilation of Community participated procurement

One of the most important innovations the research has found in government procedures is contained in the Treasury Circulars of the Sri Lankan Government which relate to community based work (Text Boxes 6.29 & 6.30). They have assimilated lessons of the 'community contracting' experience, in particular the crucial role which negotiation plays; it specifically grants an exemption for awarding work to 'approved societies' through negotiation *without resorting to public tender*. The regulations are in fact an endorsement of the Partnering (section 2.12.1) approach in public sector procurement in Sri Lanka. This recognises the fact that very advantageous cost terms can be obtained by negotiation with community groups. The findings support this conclusion, which is discussed in more detail in a later section. This exemption should free officials from the continual worry about how to demonstrate value for money without a call for tenders, and should give them more opportunity to concentrate on issues central to community partnering negotiations.

The NHDA of Sri Lanka has issued supporting guidelines for assigning small contracts to community groups (Text Box 6.15). These are important not only in themselves, but because they advertise the fact that assigning work to community groups is part of the standard procedure of the organisation. This is crucial to the way in which officials behave and should increase their confidence in adopting new approaches. Much of the experience reported from within government concerns small groups or individuals who have to some extent gone out on a limb in order to promote community partnering; there is a distinct sense of struggling against the prevailing flow. The existence of clear procedural rules and guidelines indicates the commitment of the organisation to these new approaches.

The audited community contacts of Sri-Lanka provided the evidence that the initiatives along with the other benefits can also survive the central audit (Text Boxes 6.31 & 6.32). An organisational culture is developing which is making positive efforts to include these alternative ways of working into the mainstream (Text Box 6.29, 6.30 & 6.31).

In Pakistan, SKAA started using Departmental work (Text Box 4.10) as a mean to involve the community in the procurement of infrastructure (Text Box 6.25). The approach was supported personally by the Director General of the Organisation (data base entries 247, 250, 259 and 260). No separate procedural framework was provided for the community involvement. When the Director General was transferred from the organisation for a short period of time the concerned Engineer stopped the innovative approach and reverted back to the routine procurement. It so happens that the same person was re-appointed as the Director General. He confronted the Engineer and asked the reason why the innovative practice was stopped. The Engineer replied that there was no legal framework for such practice and he could not have continued the practice in the absence of the Director General. The Authority had to issue an amendment to their official Gazette to incorporate the change (personal communication dated 10/4/97 & data entry 147).

It noteworthy that assimilation of community initiatives in the public procurement process is essential if such practices are to be sustained.

7.7 Benefits of Community Partnering: addressing the poverty agenda

The provision of basic infrastructure benefits residents in a number of ways, including improved environmental conditions, lower environmental health risks, and convenience afforded by better access to services. These traditional benefits are essentially independent of the mode of procurement of the infrastructure i.e. through the tender contract system or by community partnering. However, with community partnering we have observed (some benefits would be further discussed in chapter eight) additional benefits stemming from

- the participation process as a means of offering empowerment and greater control to households and community groups;
- actual and potential income generation for low income groups who are paid for undertaking work associated with government funded infrastructure improvements;
- enterprise development as local micro-contractors develop and exploit the niches created;
- other benefits to the local micro-economy such as increased business for building materials suppliers.

The Sri Lankan experience Text Box 6.7 offers the main evidence for demonstrating the way in which community partnering can be used to inject substantial amounts of new money into the local economy of low income communities in a way which is not welfare-orientated. Different community groups respond in different ways, and micro-contracting enterprises develop; two community groups undertook 32% of the work in the NHDA community contracts in Sri Lanka. The pilot projects in SIP, India (Text Box 6.1, 6.2 and 6.3) are showing good potential. In these cases, government is either providing or acting as a channel for the funding. In situations where communities themselves fund the work internally (Text Box 6.9 & 6.11), existing money is recirculating.

However, whilst direct income generation is not a benefit here, there is evidence of sustainable enterprise development through the strengthening of local micro-contractors.

There is evidence of greater empowerment and control in the cases reviewed. As noted in section 2.13, transfer of power and delegation of authority are the common themes of empowerment. The community took greater control and exercised greater authority in the community participated procurement as compared to the routine procurement (Text Box 6.26). This is particularly noticeable where there has been the involvement of a strong NGO (Text Box. 6.9, 6.10, 6.11 & 6.12). There are also a number of relatively minor instances which are nevertheless important indicators of future potential. For example in Cuttack, India, (Text Box 6.6) the community management group soon ceases to be a mere passive receiver of ideas and instructions from the project management unit of government.

Some of these additional benefits, in particular income generation and enterprise development, are not necessarily area-based; experience from Pakistan and Sri Lanka supports this, although a more detailed impact analysis which is beyond the scope of the current work is desirable.

7.8 Costs of Community Partnering: the Problems

Two distinct situations exist in the cases explored

1. Community based actions outside of government which are supported by NGOs
2. Community based actions within the framework of a government programme

Both have similar problems in terms of developing a participation process. However, in the first case, there is more or less total freedom in terms of subsequent processes and procedures to move ahead with actions (in our cases, infrastructure initiatives) which are outcomes of the participation process (Text Box 6.9). In the second case, an additional set of problems stems from attempts

to develop these subsequent actions within the context of urban government, whose procedures and ways of working are not conducive to change. This creates problems for community groups and government officials alike, and the following discussion focuses on these problems. A recurrent difficulty is the actual and potential lack of capacity of the middle ranking engineers within urban government, who have a central role in community partnering schemes.

There are likely to be considerable costs involved. Community groups invest a lot of their resources including time during the development of the participation process, and in gaining sufficient confidence to become involved in infrastructure procurement. This has been recognised by earlier work; what has been less clearly stated is that during the early stages of implementation, a lot of effort also has to be put in by government officials, in complete disproportion to the engineering work in hand.

The processes of explaining the concepts, assessing the capacity of community groups, entering into negotiations and providing technical support during construction, are all resource consuming activities. This is evident in Cochin and Cuttack, India and NHDA, Sri-Lanka (Text Boxes 6.1, 6.2, 6.3, 6.6 & 6.7). Once the initial stages are over and the programme develops further, serious time constraints arise for the officials (Text Box 6.12). This is particularly important for government engineers who usually have a quota of work (in financial terms) which they are expected to handle in a particular year

However, using the framework of Agency Theory (section 2.5), it can be argued that in the case of community participated procurement the *monitoring cost* (*policing cost*), *bonding cost* and *residual loss* would be much less due to 'goal alignment' and some or all of the initial increase in cost associated with resource requirements of community partnering may be compensated. The other aspect is that the initial high cost of community is not going to be constant. Experience in Sri-Lanka has indicated that once the process is understood by all the stakeholders there would be less inputs required from the officials (data base

entries 363), hence the additional resource requirements would diminish if community partnering becomes an established procurement strategy.

The cost of enforcing the relational contracts would be less than the legal contracts in case of disputes. The benefits associated with socio-economic aspects like enterprise development is also not accounted for in our normal analysis.

An important benefit of the tender contract system is that urban government buys in the management capacity of the contractor as well as his construction capacity. In Calcutta, the CMDA specifies uncommonly strict requirements on its contractors as a means of buying in additional management to ensure better quality control. Under Departmental Works Procedure (Text Boxes 4.2 & 6.12), engineers and technicians experience difficulties in devoting time to the supervision of labour and in ensuring that the correct materials are available when required.

The financial capacity of the contractor is also important because government operates on a cost reimbursement basis; this means that any group acting in the capacity of a contractor must have access to 'money up front' in order to purchase materials and pay the labour force. This created problems in Sri Lanka and in India, where there were cases of government officials taking out advances in their own name in order to provide pre-financing to community groups. This situation is neither sustainable nor desirable.

The quality of work resulting from community partnering arrangements is generally perceived to be better than using conventional contractors. However, good quality work is not an automatic outcome; community groups and micro-contractors alike need some form of on-the-job training and skills upgrading. The apparently simple task of placing earth fill to form access ways initially failed because of lack of experience and inadequate supervision (Text Box 6.1). It is not reasonable to entrust community groups (or anybody else for that matter) with

tasks of which they have no previous experience, and expect a quality product. In Pakistan (Text Box 6.9 & 6.10) NGO support for the capacity building of community groups and micro contractors has been a very important component of success. Cost effective methods for community and client development are needed to sustain the community participated practices.

The problem of levels of service and standards has been discussed in relation to Faisalabad in Pakistan; community initiatives at the lane level, particularly sewerage and drainage, need to link into the secondary and trunk infrastructure of the city. There is a strong tendency for government engineering departments to refuse to adopt any infrastructure which has not been constructed by themselves. The unique situation in Faisalabad (Text Box 6.13) meant that problems were eventually resolved through dialogue between the project and the engineering departments. Partnering helps in dispute resolution.

Community partnering initiatives are relatively new experiences for urban government. It involves doing things in a non-routine way, which clearly creates problems for the officials involved. Evidence of their discomfort and concern, largely as a result of fear of the audit and account organisation were noted during the research.

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Chapter 8 Micro-contracts in procurement of urban infrastructure for urban poor in developing countries.

8.1 Introduction

In chapter two benchmarking was described as ‘the practice of being humble enough to admit that someone is better at something and being wise enough to learn how to match and even surpass them at it. A benchmark is a measured ‘best-in-class’ achievement recognised as the standard excellence for those business practices’ (after Anderson and Peterson 1996). The main approach described is reported again for easy reference

- Study and understand one’s own process
- Find the best benchmarking partners
- Study the partner’s process
- Analyse the difference between own and partner’s process.
- Implement improvements based on what is learned from the benchmarking partner.

The concept of benchmarking is used to analyse the performance of community participated (section 2.12.2) and non-community participated micro-contracts. The main difficulty was that there were no indicators defined related to the process of procurement in developing countries. The concept of benchmarking deals with the improvement of the process and the product. The emphasis is on understanding and improving the process and if someone is performing better, learn from that experience. In dealing with the assimilation of one process (community participated procurement) into another (routine procurement process), it is pertinent to define the performance indicators and then compare the performance on such indicators. In the absence of any ready made benchmarks, the indicator developed could be used to develop benchmarks for further studies.

8.2 Process of procurement in public sector.

The processes involved in the procurement of infrastructure through micro-contract in the contexts of the community participated contracts and conventional public procurement have been described in chapters four and six. The community participated process has not yet been standardised, however, a parallel process can be developed for the comparison purposes. The routine procurement process has the defined milestones (Text boxes 4.9, 6.17 & 6.20) in the procedures and practices as follows:

1. Administrative approval: Approval authorising initiating the work.
2. Technical sanctions: Technical and financial feasibility authorisation
3. Notice inviting tender: A notice to the potential contractors to give offer for the notified work.
4. Tender opening: Offers are opened in the presence of a committee.
5. Work order: This signifies that start of the contract.
6. Actual start of the work: The work start on site.
7. Completion of the work.
8. Start of use of facility.
9. End of defect liability period.

The associated costs are:

- Technical sanction cost is the cost on which the approvals of the project are based.
- Engineer's estimate is the cost on which the tenders are called and later evaluated.
- Tender/Contract letting cost is the cost on which the contract was awarded.
- Completion cost is the final cost of the contract including variations and changes

Executive officials consider quality control their responsibility. The criterion is either acceptable or unacceptable. If the work is not rejected it is perceived to be of acceptable quality.

8.2.1 Pre-Contract Preparation Period

The clients' performance (that is urban local government in the countries concerned) in the procurement has generally been neglected. The underlying reason may be that the self evaluation or evaluation by ones' contractor is a difficult task.

It is important to consider the time taken for contract award along with the contract duration. For the end user, the importance is of the prompt delivery of infrastructure. It is not just the contract period that matters but the time taken in preparation for the contract and relevant approvals as well.

8.3 Analysis of the Micro-contracts

A total of three hundred and ninety(390) contracts was analysed. These were divided into two main categories: community participated and routine procurement. Each category was subdivided on the basis of the organisational context as shown in Table 8.1. The contexts of NHDA, SKAA, KMC and SIP had contracts both of community and routinely procured categories.

Table 8.1 A summary of the contracts studies

Categories	Contexts	Number of contracts	Roles of community			Country
			Client	Engineer /advisor	Constructor	
Routine	SKAA.	53	None	None	None	Pakistan
	KMC.	30	None	None	None	Pakistan
	NHDA.	54	None	None	None	Sri Lanka
	CMC Drainage.	42	None	None	None	Sri Lanka
	CMC Project.	42	None	None	None	Sri Lanka
	SIP.	37				India
Community Participated	OPP.	32	✓	✓		Pakistan
	FAUP	2*				Pakistan
	KMC/ADB.	56			✓	Pakistan
	SIP community contracts.	7		✓		India
	CSPU	4	✓	✓		Sri Lanka
	Departmental works in SKAA.	10	✓	✓		Pakistan
	NHDA community contracts.	42		✓		Sri Lanka

* Not included in the quantitative analysis

8.3.1 Description of the contracts studied.

The contracts studied were used for the procurement of urban infrastructure. The majority of contracts were awarded from 1991 to 1996.

SPSS for Windows was used for statistical analysis: a description of its main feature and output is given in Nourusis (1993). SPSS outputs are provided in Appendix 4. Table 8.2 shows selected statistics related to the average contract cost and duration.

Table 8.2 Some selected statistics related to contract cost and duration in different contexts.

Contract contexts	Numbers of Contracts	Mean Local currencies	Equivalent UK Pounds	Mean Calendar days
1. Routine Procurement				
SKAA Conventional. (Pk.Rupees)	53	404,724	5782	93
KMC SMALL contracts. (Pk.Rupees)	30	21,930	313	NS
NHDA Conventional. (Sr.Rupees)	54	10,254,182	128,177	229
CMC drainage division. (Sr.Rupees)	42	15,259	190	9
CMC projects. (Sr.Rupees)	23	553,796	6922	76
SIP conventional. (Ind.Rupees)	37	557,550	8578	161
Sub-Total	239			
2. Community participated				
OPP. (Pk.Rupees)	32	8,308	119	NS
KMC/ADB. (Pk.Rupees)	56	3,761,196	53731	228
SIP community contracts. (Ind.Rupees)	7	48,500	746	39
CSPU contracts. (Sr.Rupees)	4	390,669	4883	62
SKAA Departmental works. (Pk.Rupees)	10	250,790	3583	NS
NHDA Community contracts. (Sr.Rupees)	42	347,794	4347	77
Sub-Total	151			
Total	390			

NS The value is not specified

Notes: For conversion:

1£ = 80 Sri Lankan Rupees

= 65 Indian Rupees

= 70 Pakistani Rupees

Some observations

- The routinely procured contracts include the works ranging from Sr.RS 15259 [£190] to Sr.RS 10,254,182 [£128,177]. On the other hand the range for community participated contract is; from Pk. RS 8308 [£119] to Pk RS 3761196 [£53731].

- The mean cost of the contract context where the community was playing the role of Engineer (£53731) was larger than the maximum mean where the community played the role of the Contractor (£4883) or the Client (£119).
- The largest mean cost of the contracts where the community was the contractor was £4883. In the other contexts where the community played the role of the contractor, the mean cost remains less than £5000.
- The community has played the role of the Client where the contract size was quite small, less than £ 120.
- The largest mean duration of the contracts in the routine procurement does not exceed one year. Since the work is of shorter duration there is relatively less exposure to the uncertainties of the market like inflation.
- The contracts in routine procurement also include very short duration contracts like the case of CMC contracts, where the contract is of only nine days on average. There is a precedence of contracting out very short duration contracts in routine procurement.
- In some of the very small contracts, the duration of the contracts is not mentioned at the time of the award. The intention is that the work is to be completed as 'soon as possible'.
- The contexts where the community played the role of the Engineer, the contract duration was relatively longer, 228 days.
- The contexts where the community played the role of the client the duration of the contract was not specifically mentioned. Again the intention was to complete as soon as possible.
- Where the community played the role of the construction contractor the average duration was varies from 39 to 228 Calendar days. This indicates the community contacts are on average less than one year.
- Overall the contracts involved work which was to be completed within one year.

The question arises as to whether there is any statistically significant difference between the community contract and non-community contracts cost and duration

or are due to chance. To answer that question, more detailed statistical tests were used.

8.3.1.1 Is there any statistically significant difference between contact cost and duration of the routinely procured and community participated contracts?

T-test (see appendix 3) for independent samples were performed on the contract cost and duration of the community and non-community contracts in NHDA and SIP contexts. In both the contexts the community played the role of the contractor.

The results are provided in the Appendix 5. The key results are reported in Tables 8.3, 8.4, 8.5 and 8.6.

Table 8.3 T-test for contract costs in routinely procured and community participated contract-SIP context.

Mean Difference = 509049.0355					
Levene's Test for Equality of Variances: F= 11.293 P= 0.002					
t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.15	41	0.003	161510.037	(182797.7, 835300.3)
Unequal	7.78	38.12	0.000	65416.704	(376589.2, 641508.9)

Table 8.4 T-test for contract duration in routinely procured and community participated contract-SIP context

Mean Difference = 122.4685					
Levene's Test for Equality of Variances: F= 6.793 P= 0.013					
t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.82	41	0.007	43.386	(34.829, 210.108)
Unequal	5.74	27.49	0.000	21.346	(78.661, 166.276)

Table 8.5 T-test for contract cost in routinely procured and community participated contract-NHDA context

Mean Difference = 9921863.9019					
Levene's Test for Equality of Variances: F= 22.606 P= 0.000					
t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.81	94	0.000	2601390.964	(4755582, 15088146)
Unequal	4.33	53.03	0.000	2291648.049	(5324352, 14519376)

Table 8.6 T-test for contract duration in routinely procured and community participated contract-NHDA context

Mean Difference = 151.7643					
Levene's Test for Equality of Variances: F= 47.705 P= 0.000					
t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	5.76	83	0.000	26.346	(99.352, 204.176)
Unequal	6.23	62.25	0.000	24.347	(103.083, 200.445)

Some observations

- In all case the significance reported was less than 0.05, therefore, the null hypothesis can be rejected. On further consideration on one-tailed significance it can be concluded that the mean cost and duration of routinely procured contract is greater than mean cost and duration of community participated contracts($P < 0.05$).
- The result of Levene’s test presented ($P=0.13$) in the Table 8.4 indicated that the assumption of uniformity of variance may be violated. The t-test was based on the assumption of equality of variance. To corroborate the results a non-parametric test, Mann-Whitney U- Test, was used. The results are presented in Appendix 5. The non-parametric test also confirms the results that the mean contract cost and duration are greater in routinely procured contracts as compared to the community participated contracts.

- In both the SIP and NHDA the community played the role of constructors. It seems that the within the micro-contracts the size of contracts where the community act as constructor is relatively smaller. However, the average cost of community contracts reported by Pathirana and Sheng (1992) was RS. 49,663 [£ 621] based on the contracts awarded to that date. In the sample for this research the majority of contracts are from later period (1992 to 1996). Now the average contract cost for community contracts is RS 347794 [£ 4347]. If we also consider the average cost of community participated contracts used in CSPU context, £ 4883 (Table 8.2), it can be seen that the communities are becoming involved in relatively larger contracts in NHDA. It also ties with the government permission to increase the ceiling for community participated contracts from RS 0.75 to 1.0 million (please see chapter six).

8.4 Performance Indicators

A number of performance indicators were proposed and validated through the focused group discussions as described in section 3.6. The purpose of these indicators is to provide a measure of common ground to compare the community and routinely procured micro-contracts' performance.

8.4.1 Time lags between the procedural steps

The performance of the process can be measured in terms of time. The basic enquiry was to investigate the time taken to complete different tasks. The time lags are defined as the time taken to reach one event from the another event. The time lags are defined in Figure 8.1

Figure 8.1 Time lags in procurement process.

Time lags	Description
TL1	The time in days, from Administrative approval to notice inviting tender (N.I.T). This indicator is intended to provide the measure of time taken to reach to the NIT stage
TL1A	The time in days from Technical sanction to and notice inviting tender (N.I.T). This indicator also intended to provide the measure of time taken to reach to the NIT stage.
TL2	Time lag in getting the tender approval from the date of NIT.
TL3	Time lag from tender opening to issue work order.
TL4	How long it takes to actually start the physical work after the issuance of the work order?
TL5	Time lag between the work order and the actual completion of contract.
TL6	Time lag between Administrative approval and the work order.
TL6A	Time lag between Technical sanction and the work order.
TL7	Time lag between physical start and actual completion
TL8	Time lag between the Actual start and work order.
TL9	Time lags between end of defect liability period and formal take-over.
TL11	Time lag between tender opening and tender approval.
TL12	Time lag between tender opening and work order.
TL13	Time lag between Work order and N.I.T.
TL14	Time lag between tender opening and Technical sanction
TL15	Time lag between the Actual completion and the technical sanction.
TL16	Time lag between tender opening and NIT.

8.4.2 Time performance of procurement process

Different time lags for the contract contexts of SKAA and SIP, as defined above are presented in Table 8.7. The calculations presented below are based on data in the engineering files of the government department. The factual information obtained from the interviews was cross-checked during review of the files as well. The mean contract duration for SKAA and SIP contexts was 93 and 161 calendar days respectively.

The data was analysed using SPSS for windows using the 'explore command. The output is shown in Appendix 6. The mean values of the time lags are provided in Table 8.7.

Table 8.7 Time lags in procedural steps in the contexts of contracts

Time lags	SKAA (Routine) n=53	SIP (Routine) n= 37
	Mean	Mean
TL1	N.C	125.19
TL1A	-27.90	N.C
TL2	41.58	101.43
TL3	6.10	6.64
TL4	8.64	-2.4
TL5	165.39	300.94
TL6	N.C	250.30
TL6A	13.15	N.C
TL7	164.67	366.91
TL8	10.93	N.C
TL9	N.C	33.74
TL11	32.23	N.C
TL12	39.35	N.C
TL13	48.60	108.17
TL14	-7.67	N.C
TL15	198.52	N.C
TL16	7.4	N.C

N.C Not calculated.

Observations

- The negative values indicate that in some case the sequence of activities that was assumed in the definitions of time lags has not been followed. For example in TL1 negative values indicate that on average the notices for tender were issued before or congruent to the approval process.
- It could take as many as 125 days from the administrative approval to reach the stage of tender invitation. The duration of contract was on average 161. This also highlights the importance of monitoring the pre-contract period in relation to the contract duration if the improvement is to be targeted for the overall delivery time. There is a need for considerable reduction of this time if the overall delivery of the infrastructure time is to be improved.
- Time to get the approval of the tender from invitation could be as long as 101 days.
- The issuance of the work order is quite efficient as the it takes on average only 6 days after approval.

- Overall time for administrative approval to the issuance of work order could be as long as 250 days.
- On average it took 10 days to start the physical work on site after issuance of work order.
- It is noted that in the contexts of SKAA the practice was to invite the tender before the technical sanction. That may be procedurally irregular but it had on average saved 27 days in the process. The Engineer in-charge used to take verbal assurance and proceed to the tendering (see data base entries). Such informal practices could be streamlined to save the time in procurement.

There is a need to improve the overall delivery time of the urban infrastructure. The improvements are particularly required to improve the efficiency of the process of converting the established need into a work order.

8.4.3 Quality

It was discussed in section 2.1 that the three main objectives in procurement are time, cost and quality. Within the contexts of the public sector, the quality criteria are assumed to have met if the work is not rejected. The other measure was the perception of the officials regarding the quality of the works in the micro-contracts. Unanimously, the officials interviewed and who had the experience of community participated works expressed the opinion that community participated contracts were superior in quality as compared to the routinely procured contracts (for example Text Box 6.7, 6.26 & data base entries 308 & 309)

It is difficult to measure quality of work in a quantitative way. However, some of Text Boxes presented in Chapter six also indicates the importance of quality performance. For example Text Box 6.11 describes how poor quality of work was a key contributing factor in abandoning the tender contract system in favour of Departmental Works. Supervision of work by community groups is reported to be successful (Text Boxes 6.4, 6.18 & 6.10); this benefited from setting down a clear structure for their involvement. The Sri Lankan experience reports improved

quality. One of the reasons for such results could be explained within the framework of principal-agent theory (sections 2.4 & 2.5). The goals of principal and agents were aligned. There was no difference in the goal of obtaining the good quality as the work was managed by the users. Conversely, it can be argued that the only goal of the conventional contractor is to maximise its profit, and this may be done at the expense of quality of work. There are no reported cases of the quality of the work being worse with community partnering. It can also be conjectured that the monitoring cost would be lower as compared to the routinely procured contracts because of the goal alignment (section 7.9).

One indication related to the perceived quality by the user is their satisfaction with the services and the products. The community partnered contracts produced better satisfied end users (Text Box 6.26) Clearly, cost and quality are closely inter-related.

8.4.4 Dimensionless performance Indicators of micro-contracts related to the cost and time.

In order to simplify cross comparison between cost in different currencies, dimensionless indicators are proposed and defined in Table 8.8. Based on the work described in section 8.4.2 dimensionless indicators for time performance are also described. Time is measured in Calendar days as that was used in the award of the contract. Contract cost is the award cost.

Table 8.8 Dimensionless indicators of time and cost performance.

Indicators	Comments
R1=Actual cost /contract cost	The ratio will reflect on the cost control used in the project. There may be many reasons for the high or low cost growth like political situation, inflation, climate but here we are focusing on the magnitude and not the reason.
R2=Actual duration / contract duration	This indicates the control of time schedule. Again the reasons for delays are not explored.
R3=TL6 or TL6A / contract duration	This provides the time required to award the contract as a proportion of contract duration. The lead time is important in the overall delivery time of infrastructure. This indicator along with the time lags indicates the performance of the procurement.
R4=Technical sanctions cost/Engineer's estimates	This reflects on how good or bad is the preliminary estimates. This estimate is important as this dictates the approved cost of the project.
R5=Estimated cost /contract cost	The ratio tells how close or otherwise is the estimate from tender price. This government approved schedule of rates is the basis of the Engineer's estimates. This in turns also reflects how relevant is the government rates with the market rates.
R6=Estimated cost/ completion cost	The ratio intends to reflect the accuracy of the estimates regarding the completion cost. This complement the idea of cost growth and ratio defined in five above.

Suggested indicator and benchmarks related to the socio-economic impact are reported in section 8.5.

8.4.5 Time and cost performance indicators of micro-contracts

Indicators R1 and R2, deal with the performance during the implementation stage of the contract. The remaining deal with the pre-implementation stage. R3 gives the lead time to contract award as a proportion of the contract duration. The indicators R4, R5 and R6 relate to the accuracy or otherwise of the estimation at feasibility and contract stages. The statistics like mean, median, minimum and maximum values and standard deviation were calculated. The detailed results of the data analysis are presented in Appendix 7. The mean of the indicators for different contract contexts are given in Table 8.9. Other statistics are referred to where required. All the values are dimensionless.

Table 8.9 Performance indicators of different contexts of contracts

Contract contexts						
Indicators	R1	R2	R3	R4	R5	R6
Means						
1. Non community participated						
SKAA Conventional	1.07	1.58	0.12	1.24	0.78	0.77
KMC SMALL contracts.	0.94	N.C	N.C	N.C	0.91	0.96
NHDA Conventional.	N.C	N.C	N.C	N.C	N.C	N.C
CMC drainage division.	1	0.60	N.C	N.C	N.C	N.C
CMC projects.	N.C	N.C	N.C	N.C	1.67	N.C
SIP conventional.	1.05	2.35	1.96	1.00	1.07	1.08
2. Community participated						
OPP.	1.08	N.C	N.C	N.C	N.C	1.01
KMC/ADB.	N.C	N.C	N.C	N.C	0.87	N.C
SIP community contracts.	0.97	2.06	2.40	1.00	0.98	1.02
CSPU contracts.	0.97	1.37	N.C	N.C	N.C	N.C
SKAA Departmental works	0.67	N.C	N.C	N.C	1	1.49
NHDA Community contracts.	0.88	1.89	N.C	N.C	N.C	N.C

N.C Not calculated.

Observations

In routine procurement

- The lowest mean R1, ratio of actual cost to contract award cost, in the routinely procured contracts was 0.94 and the highest was 1.07. The best average performance related to cost control comes from KMC small contracts with ratio equal to 0.94 and the worst was from SKAA contracts with ratio of 1.07. However, the lowest individual R1 value was from one SIP contract with ratio of 0.43.
- The lowest mean R2, ratio of actual duration and contract duration, in this category was from CMC drainage division with a value of 0.6. The largest R2 was 2.35 from the SIP. That seems to be the worst schedule control performance in the category. In SKAA the ratio was 1.58 indicating that on average the contracts exceed the contract duration by 58%, not a very desirable situation but better than the delays of 235% in SIP.
- In terms of time to reach the contract award stage, the best performance came from SKAA with value of 0.12. This may be due to the informal practices the

officials adopted to speed up the process (please see section 7.4.2). The worst case was 1.96 in SIP. That indicates the on average it takes 96% of the contract duration to reach to the stage of contract award. For example, for a contract duration of 90 calendar days it may take 86 days to award the work. Assuming that the contract is completed on time (that is, keeping R1 constant at 1), the delivery time would be 176 calendar days. If somehow the performance of SKAA is introduced in the SIP context the delivery time could be reduced by 75 calendar days [$176 - (90 + 0.12 * 90) = 75$]. The implication is that the urban infrastructure would reach to the poor 75 days earlier. This is an example of how performance benchmarking could be used to demonstrate that a better level of performance is achievable.

- It is indicated that the cost estimates at the feasibility stage could out by as much as 24 % from the Engineer's final estimate. That was the case in SKAA with R4 at 1.24. The difference between the Engineer's estimate and contract award figure could be as large as 67% as was the case in CMC projects with R5 on 1.67. In terms of anticipating what the completion cost of the contract would be, performance varies from only 4% to as much as 23 %. That was the case with KMC small contractors at R6 of 0.96 and SKAA with R6 of 0.77.

Community participated contexts.

- SKKA performed best in cost control performance with R1 at 0.67.
- CSPU even with the delays of 37% came as the best schedule control performer with R2 at 1.37. SIP performed the worst with R2 at 2.05. Even in the NHDA context the average delay of 89% was indicated with R2 at 1.89.
- Only one figure of 2.4 was available for the R3. That was the case of SIP. It indicates that even if the community acts as contractors during the implementation stage, the overall delivery time could be as large 240% of the contract duration. The delivery time for our hypothetical example of 90 calendar day's contract would still be 306 calendar days. The key here is the improvements in the pre-implementation stages of the procurement process. It is important to note that these delays were due to the fact that the cases reported were the first attempts at community partnering in the SIPs. This

meant that the procedures were being explored and developed, in addition to time spent on community mobilisation.

- The community contracts were based on negotiation. The negotiated contracts are closer to the estimates. In CSPU the estimated cost is the contract cost with R5 on 1. In community contracts the scheduled and market rates were often used as the basis of the negotiation (see chapter six). The client benefited in terms of more accurate estimates and cheaper cost.

An overview.

- Cost performance of the micro-contracts studies is very good with a value of 1.07.
- In cost related performance the best performance was from the community context. That was SKAA departmental works with R1 at 0.67. The best schedule control performance was from routinely procured contract contexts that is from CMC with R2 at 0.6. However, the remaining contexts in the routinely procured contexts were worse than the community participated contexts.
- Comparison of lowest and the highest in the non-community and community contract indicate that the cost control is a lot better than the time control. The worst case scenario of the contract exceeding the contract price was by only 7%. The contracts exceed the contract duration by as much as 235%. The reason could be the fault and slow work of the parties to the contract or the unrealistic estimation of the contract duration. The research reveals (for example Text box 6.13) that there was no systematic method of the duration estimates adopted in the current procurement practises of the micro-contracts. The other reason could be that there is a strict requirement to keep the contract cost within the stipulated margins and in the case of going beyond such limits, fresh approvals are required. This can be difficult and time consuming. However, justifying the variation in the duration of the contact does not require any special action.

- The key area of improvement in the procurement process for micro-contracts seems to be in the estimation of cost, estimation of contract duration, pre-implementation stage and schedule control.

An interesting question is whether there is any difference in the overall mean of the R1 and R2 in the routinely procured contracts and community participated ones.

8.4.6 Comparison of R1 and R2 for the micro contracts where community acted as contractor.

A more detailed enquiry was conducted in the overall R1 and R2 of the community and non-community contracts. A Clustered bar chart is shown as Figure 8.2.

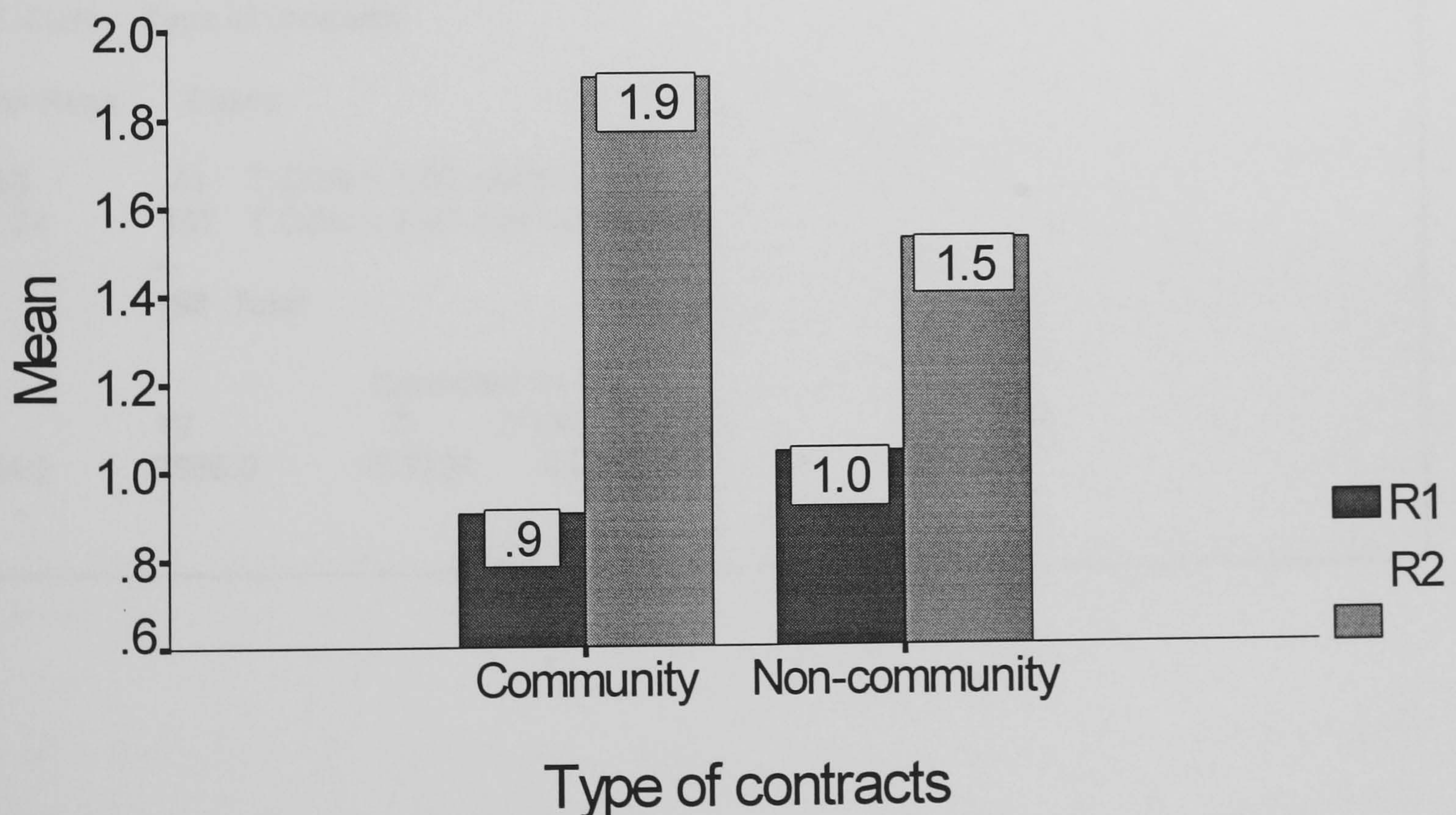


Figure 8.2 Mean R1 and R2 of Micro-contracts

R1, which indicates the cost control for community and non-community contracts are within 10 %. The scheduled control in the community contracts seems to be less effective. The difference is approximately 22%. But it is hard to say whether the high R2 in the community contract is due to the relatively inferior performance of the community contractor or unrealistic estimates of the contract duration. The procurement process were also different.

The question arises as to whether the difference in the mean R1 and R2 of the community and non-community contracts are statistically significant, or are due to chance. A Non- parametric, Mann-Whitney U, test was used to see whether the difference in the R1 and R2 of the community and non-community contract are statistically significant. The SPSS output is reproduced as Tables 8.10 and 8.11

Table 8.10 Difference between R1 of community and non-community participated contracts

Mann-Whitney U - Wilcoxon Rank Sum W Test				
R01-Ratio of contract completion and contract by T.CON Type of contracts				
Mean Rank	Cases			
69.88	41	T.CON = 1.00 community		
107.24	157	T.CON = 2.00 non-community		

	198	Total		
		Corrected for ties		
U	W	Z	2-Tailed P	
2004.0	2865.0	-3.7294	0.0002	

Table 8.11 Difference between R2 of community and non-community participated contracts

Mann-Whitney U - Wilcoxon Rank Sum W Test				
R02-Ratio of actual duration to contract duration by Type of contracts				
Mean Rank	Cases			
93.69	31	T.CON = 1.00 community		
73.42	123	T.CON = 2.00 non-community		

	154	Total		
		Corrected for ties		
U	W	Z	2-Tailed P	
1404.5	2904.5	-2.2637	0.0236	

Observations

- The tables indicate that the difference between the community and non-community R1 and R2 (section 8.4.4) is significant at significance level of 0.05.
- The question to ask is whether the statistically significant difference has any practical significance as well. If we refer to the Table 8.9 it could be noted that comparing the worst cases in respective categories; 2.35 and 2.06, practically they are similar. However, if we compare the best cases; 0.6 and 1.37, the best in routine procurement is better than the best in community participated context.
- Similarly, for all practical purposes, the performance in terms of cost control for both the community and non-community contracts is similar

8.4.7 Variations of R1 and R2 within the contexts of community and non-community micro-contracts.

Do R1 and R2 vary within the category of community and non-community contracts. To answer the question non-parametric Analysis of Variance(ANOVA) was used. Analysis of variance is a suitable tool when the samples are three or more. The SPSS output is reproduced as Tables 8.12 and Table 8.13.

Table 8.12 Kruskal Wallis One way analysis of variance (ANOVA) of R1 by contract contexts for community and non-community participated contracts.

Community					
Kruskal-Wallis 1-Way Anova					
R01					
by Contexts of contracts					
Mean Rank	Cases				
28.67	6	CONTEXTS =	1	OPP	
25.67	6	CONTEXTS =	2	sip community	
25.00	2	CONTEXTS =	3	cspu	
6.00	4	CONTEXTS =	4	dw skaa	
20.04	23	CONTEXTS =	5	nhda community	
	41	Total			
Corrected for ties					
Chi-Square	D.F.	Significance	Chi-Square	D.F.	Significance
10.0096	4	0.0403	10.0131	4	0.0402

Non-Community					
Kruskal-Wallis 1-Way Anova					
R01					
by Contexts of contracts					
Mean Rank	Cases				
95.03	49	CONTEXTS =	6	skaa non-community	
31.83	30	CONTEXTS =	7	kmc small contracts	
78.30	42	CONTEXTS =	8	cmc drainage	
97.31	36	CONTEXTS =	9	sip non-community	
	157	Total			
Corrected for ties					
Chi-Square	D.F.	Significance	Chi-Square	D.F.	Significance
44.2233	3	0.0000	44.6769	3	0.0000

Observations

- There is a statistically significant difference ($P < 0.05$) among the R1 of respective community and Non-community contracts. Not all the contexts within the community or non-community categories have the same mean R1.

Table 8.13 Kruskal Wallis One way analysis of variance (ANOVA) of R2 by contract contexts for community and non-community participated contracts

Kruskal-Wallis 1-Way Anova

Community					
R02 by Contexts of contracts					
Mean Rank	Cases				
18.67	6	CONTEXTS = 2	sip community		
11.50	2	CONTEXTS = 3	cspu		
15.70	23	CONTEXTS = 5	nhda community		
	31	Total			
			Corrected for ties		
Chi-Square	D.F.	Significance	Chi-Square	D.F.	Significance
1.0318	2	0.5970	1.0339	2	0.5963

Non-Community					
Kruskal-Wallis 1-Way Anova					
R02 by Contexts of contracts					
Mean Rank	Cases				
68.00	53	CONTEXTS = 6	skaa non-community		
26.51	35	CONTEXTS = 8	cmc drainage		
88.40	35	CONTEXTS = 9	sip non-community		
	123	Total			
			Corrected for ties		
Chi-Square	D.F.	Significance	Chi-Square	D.F.	Significance
55.3697	2	0.0000	55.4467	2	0.0000

Observations

- Due to the higher Significance value, 0.596, it is not evident that there is a statistically significant difference for R2 between the contexts under the

category of non-community contract. This indicates very similar R2 within the community contracts undertaken in the different organisations.

- For non-community contracts the difference between R2 is significant($P < 0.05$).

8.4.8 Larger the contract the larger the R1 and R2?

The possible relationship between the R1 (cost growth) and R2 (Duration growth) was explored to see whether the control gets less effective as the size of the contract increases. This could provide indirect indication of the capacities of the contractor involved in the micro-contracts to handle larger contracts.

Figures 8.2 and 8.3 show scatter diagrams with regression lines imposed on the data. The value of the square of the correlation coefficient(Rsq) between the two variables is shown. The value of Rsq is also termed the coefficient of determination, and is used as indication of goodness of fit. The cost is given in equivalent UK Pound sterling(1996 conversion rates as given above) and the duration is calendar days.

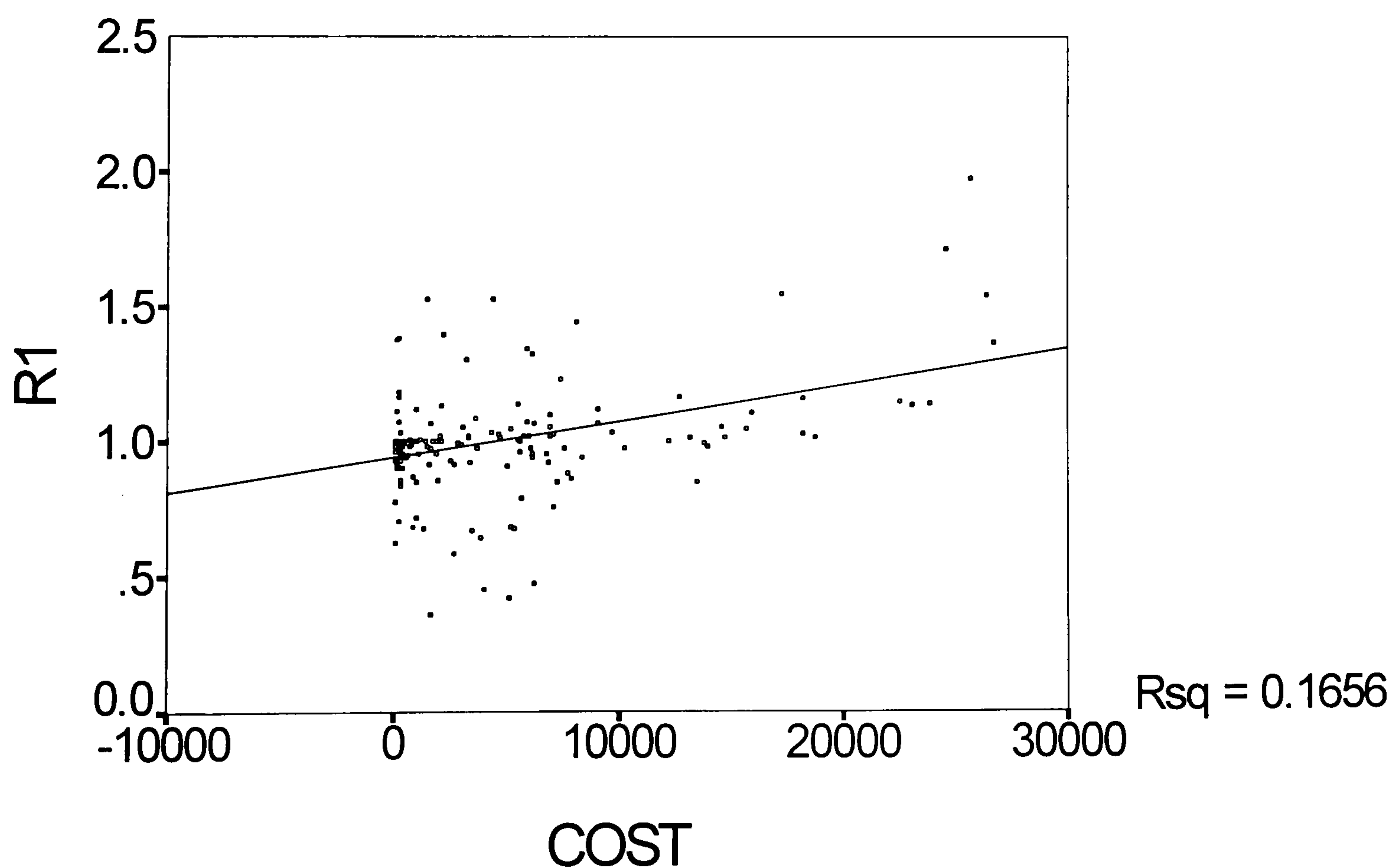


Figure 8.3 Relationship between cost and R1

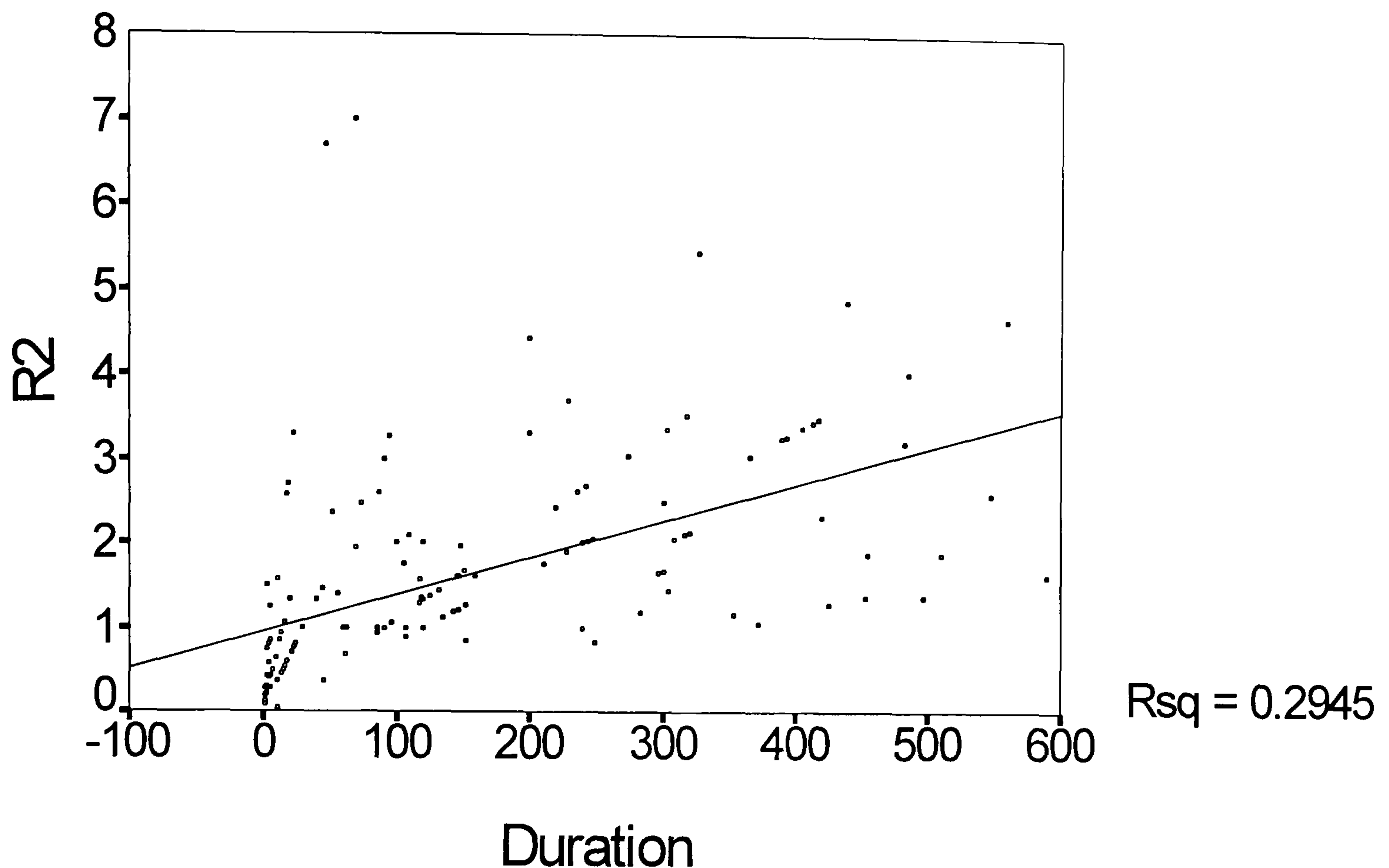


Figure 8.4 Relationship between duration and R2.

Observations

- Both the correlation lines in Figures 8.3 and 8.4 show a slight upward trend. This does indicate that as the cost and duration increase, R1 and R2 would also increase.
- The indications are the shorter (less than 150 days) the duration the tighter was the schedule control of the micro-contracts.
- The less the cost of the micro-contracts the better was the cost control.
- The R-square value for the relationship between the cost and R1 was 0.1656.
- The R-square value for the relationship between duration and R2 was stronger at 0.2945.
- The cost control performance is relatively less sensitive to the cost of the contract. While the schedule control is relatively more sensitive to the duration. This ties in with the finding that overall cost control performance is superior to that of schedule control.

It was also observed that there was no proportional increase in the cost for the increase in duration. This is at first sight an unusual finding. The rationale is that

if time is money then any additional time of contact should be proportionately reflected in the cost. Statistical analysis was used to see whether the correlation for contract cost and duration holds for variation in the cost and duration as well. The correlation coefficients for the contract cost and duration and for the variations in the cost and duration are presented in Table 8.14. See Appendix 8 for SPSS output.

Table 8.14 Variation in Correlation coefficients of cost and duration

Tests	Coefficients	P Value
Contract cost-contract duration	0.8433	0.000
Actual cost-actual duration	0.8636	0.000
Change in cost-change in duration	0.1471	0.000

Observations

- There is marked reduction in the coefficient of correlation between change in cost and change in duration as compared to either contract cost and duration or actual cost and duration.
- Assuming a typical relationship (for example, Kaka and Price 1991),
Duration = Function of cost,

$$T = f(C)$$

Where,

T = Duration

C = Cost

f = a function

The relationship between the change in cost and change in duration could be expressed as;

$$\Delta T = \phi(\Delta C)$$

Where, ΔT = Change in duration

ΔC = Change in Cost

ϕ = a function

- Assuming that the basis on which the initial contract duration was estimated and the basis on which the time extension is estimated are similar, it can be

argued the relationship between the variation in cost and variation in duration would be similar to that of relationship between the contract cost and contract duration at the time of award. The observed change in the correlation coefficient indicates that the relationship has changed. The change could be due to some other variables which have an influence on the relationship between the cost and duration. One possibility could be that the quality for which the contract was awarded had changed so that the time taken now for doing the job may be more, but it does not cost more.

- The other implication is that the initial contract duration was not realistic and time extensions were given without giving the cost associated with the time.
- However, the most serious implication could be that the additional cost is incurred by the contractor but it was borne by him by lowering the quality of the work. It is to be noted that if the additional time is not costing as such as in the main contract for the similar works then the situation may not be beneficial to the work. Due to non quantitative measurement of the quality it is quite hard to model relationship between cost and duration including quality.

8.5 Socio-economic performance indicators.

The administration of contract and procurement in general seeks to ensure that the objectives of time, cost and quality are attained. During the course of research and the interaction with the relevant people it became evident that there are some other impacts occurring where the community partnered procurement is adopted (section 7.8)

Some of the impacts were:

- The participation process as a means of offering empowerment and greater control to households and community groups.
- Actual and potential income generation for low income groups who are paid for undertaking work associated with contracts.
- Enterprise development and local micro-contractors develop and exploit the niches created
- other benefits to the local economy such as new or increased business opportunities for construction related and construction generated activities.

The micro-contact appears to offer means to address the urban poverty agenda. However, certain indicators were developed in consultation with the field workers and the social development experts in a group discussion (section 3.6 and 6.3). Some preliminary testing of indicators was done on the SIPs micro-contracts in India.

It is difficult to desegregate the impacts that are due to the micro-contracts and the one that would have occurred even if the micro-contracts had not been implemented. The judgement was made by the officials involved in the contracts in ascertaining that the impacts are in fact due to the micro-contracts. The data is based on the contract files and official notes. Some of the indicators were:

1. Number of meetings with community at pre-implementation, implementation and post implementation stage of the contract.

This indicator was to see whether there was interaction between the officials and the group. The interaction is taken as a first step of empowerment. However, that the holding of meetings does not mean good interaction. The quality of interaction is important, and is not mentioned by this indicator.

2. Number of skilled and un-skilled training days provided.
3. Number of formal and informal training provided.

Some of the training may not be formally termed as training but being provided as on- the job-training. The cases of apprenticeship could come under this class.

4. Number of incidence of small enterprise development.

This is to indicate that the micro-contract provided the opportunity for the entrepreneurs. The activities could include such economic activities as opening of a canteen or hardware shop due to micro-contracts.

5. Money circulation due to the micro-contract in the local economy.

The circulation of money is seen as a sign of economic health especially if the money is coming from out side the local economy and is remaining with the local economy.

Table 8.15 presents the numbers of formal and informal meetings between officials and community. It is emphasised that this work is of preliminary nature only, and was undertaken in an attempt to explore possible avenues for developing *poverty impact analysis* for further studies.

Table 8.15 Meetings of officials and community at different stage of micro-contract. SIP context.

Stages	Meetings Means (N=44)	
	Formal	Informal
Pre-implementation	5.95	8.63
During implementation	3.75	14.06
Post- implementation	1.15	1.85

Observations

- The frequency of the meetings varies with the stages of the contract. Most meetings were of informal nature.
- There were a relatively low frequency of meetings after implementations. This indicates that either there was no requirement for interaction between the officials and the community or the participation was gradually abandoned.
- The figures do indicate that during the implementation stage there was a high degree of interaction. But the figures do not reflect what happened in each meeting. Further qualitative data needs to complement the figures. However, as compared to the non-community strategies, there was an increased interaction throughout the procurement stages. This is based on the finding that in non-community contracts there is no interaction with the community. The chances of having situations where the empowerment could be encouraged are therefore greater in the community partnered procurement.
- The interesting finding is that there is more informal interaction than formal. It is crucial to explore this fully in any impact assessment work.

Table 8.16 presents the finding related to the indicators 2,3, and 4 above. Appendix 9 provides more statistical information. For the calculation, mean values have been used.

Table 8.16 Indicators related to socio-economic factors. SIP context of Micro-Contracts.

Some indicators	Means (N=44)
Number of skilled labour days.	314.90
Number of un-skilled labour days.	841.93
Number of formal training days.	0
Number of informal training days.	53.18
Number of incidence of small enterprise development	2.77

Observations

- Approximately 1157 labour days were generated on average by a micro-contract in the local economy.
- There was no formal training provided but approximately equivalent of 53 training days were provided informally.
- On average approximately three incidences of small enterprise development were observed for each micro-contract. The financial and economic impact of such incidences could be very short term or could lead to a chain of economic activities. However, further studies are required to capture such impact.

Tables 8.17 and 8.18 present the money circulation in the local economy due to micro-contracts. 144 calendar days is the mean contract duration for overall SIP micro-contracts. The relevant data is presented in appendix 9.

Table 8.17 Estimated money influx due to labour component for a micro-contract. SIP context.

	(N=44)
1. Money influx in local economy due to skilled labour.	$314.9 * 100 = \text{RS } 31,490.$
2. Money influx in local economy due to unskilled labour.	$841.93 * 60 = \text{RS } 50,518.5$
3. Per-day money influx in the local economy due to labour component of the micro-contract.	$(31490+50518.5)/144 = \text{RS } 569.33$

Note: Rate for one skilled labour day was approximately rupees 100 and for one unskilled labour day is rupees 60.

Table 8.18 Circulation of money in the local economy due to micro-contract. OPP context.

		(N=32)
Contribution per house. (Pk. Rupees)	Average actual cost /Numbers of houses	$8906.16/14.56 = \text{RS } 612$
Circulation due to labour and material. (Pk. Rupees)	Average labour and material cost	$2854.19+5903.53=\text{RS } 8,758$
Per-day financial transaction in the local economy related to micro-contract. (Pk. Rupees)	Labour and material cost / duration	$8758/17.57 = \text{RS } 498$

Observations

- People in a low income community could afford to contribute, as a client, up to a sum of RS 612 [£ 9].
- A micro-contract could generate circulation of money of the order of RS 8758 per micro-contract.
- On average approximately 500 rupees per could be circulated in the local economy due to a micro-contract.

The calculation is quite conservative as this is based on only labour and material component estimations. If we also included the profits and overhead and assume that the contractor is located in the local economy, as much as 50%(30-40% profits and overheads at different stages) of the contract cost could circulate in the local economy. The benefits of such circulation would be in addition to those associated with the infrastructure provision.

- In the case of OPP the money did not come from outside but only circulated from households to the service and goods' providers in the local economy.
- The indications are that the micro-contracts procured through community partnered arrangement could be a powerful mean to increase the influx of money in the local economy and /or increase the circulation of the money within the local economy.

8.6 Entry of community contractors in the mainstream public sector works.

This section examines whether the possibilities exist for a community contractor to develop into a mainstream contractor. To answer the question the existing system of ICTAD was taken as an example. The reason is that In Sri Lanka there is a national system of registration of contractors. The processes had been described in chapter four.

Table 8.19 provides the scores of the contractors already enlisted in ICTAD.

Table 8.19 Capacity related scores of the 90 contractors in the lowest three categories of the contracts in ICTAD registration scheme.

	(n=30)	(n=30)	(n=30)
Factors	Category-M7 Mean	Category M8 Mean	Category M9 Mean
Financial capacity	2.93	1.89	0.40
Experience	2.53	1.67	None
Plant and Equipment	3.35	1.45	0.91
Professional and technical staff	2.03	None.	None
Supervisory staff	2.25	1.23	1.03
Total	12.21	5.32	1.51

Observations

- To enter into the lowest category the dominant factors are financial capability, supervisory staff and plants and equipment (section 4.2, 4.5 & 5.3). A typical community group lacks the demonstrable financial capability and they do not keep plant and equipment except if they are professionally related to construction. Since the community group may not be a full time constructor they would lack the supervisory staff.
- The experience becomes important in the category dealing with the works of more than a million rupees.
- With the present registration system it is not easy for community entrepreneurs to enter the system.
- However, it has been reported that some of the community development councils after experience of many years were able to get registration as contractors in ICTAD.
- With the better understanding of the community partnered approaches it is quite feasible that the authorities may feel confident to register experienced community contractors into the mainstream contracting system. If and when that happens more frequently, and there is no reason why that should not happen, the avenues for micro-enterprise development would be increased.

Chapter contents

CHAPTER 9 CONCLUSIONS AND RECOMMENDATIONS..... 9.2

Chapter 9 Conclusions and recommendations

The hypothesis of the study, that within the similar representative conditions of this study, 'community partnering' between the urban public sector and suitable urban communities is an appropriate procurement strategy, has been supported by the study. The following conclusions have been drawn from this programme of research into the procurement of tertiary level infrastructure for urban poor communities in the developing countries of the South Asia region.

Roles and responsibilities

- 1 The research has developed a clear understanding of how community-based initiatives for the procurement of infrastructure relate to and can link up with the formal procedures of urban government. The communities involved in the micro-contracts studied have demonstrated their capacity to participate in the procurement of infrastructure.
2. Community groups take on a wide range of roles and responsibilities which correspond to those of client, engineer, and contractor in routine procurement.

2.1 Community as promoter. The community fully or partially finances the infrastructure at tertiary level. This is restricted to small value contracts, as illustrated by the Orangi Pilot Projects (OPP) works, Sind Katchi Abadi Authority (SKAA) internal works, Faisalabad Area Upgradation Project (FAUP) and Clean Settlement Programme Unit (CSPU).

2.2 Community as Engineer. The community undertakes planning, monitoring and supervision of the contract. Examples are Karachi Metropolitan Corporation (KMC) /Asian Development Bank (ADB), CSPU, and Sevanathe.

2.3 *Community as construction contractor.* The community undertakes construction related tasks, partially or fully, such as material purchase, labor works or management. The examples are SKAA internal works, OPP, National Housing and Development Authority (NHDA), Slum Improvement Programme (SIP), CSPU.

2.4 In both the cases of community as promoter and/or engineer, the community needs to be supported technically by either an NGO or the officials of the urban government. The requirement on the part of urban government is to encourage what is happening at the grass roots level and support the community in improving its performance. Changes in the regulatory framework, or alternatively not exercising the controls of the current framework, are implied if this process is to be developed.

3. Innovation in the procurement process is required if the community acts as the contractor but this may well be possible from within existing government procedures which allow for alternative procurement strategies. These include Departmental Works and Entrustment of Works. The government of Sri Lanka has sustained innovations for over ten years and has started to assimilate them in its rules and procedures.

4. The key conclusion to emerge is that there is no single identifiable role model for participation in urban infrastructure procurement; this diversity had not previously been identified.

Community partnering

5. *Community Partnering* is proposed to embrace a variety of roles and responsibilities in a relationship or contract (sections, 2.1, 2.3 2.4, 2.12, 2.13 & 6.2). Community partnering is an approach which emphasises a relationship among the stakeholders that is not adversarial for achieving mutually agreed objectives. This exhibits a clear parallel between the partnering in the

management and development disciplines (see section 2.13). In its broadest sense, it reflects both the continued involvement of people with the planning, implementation and sustenance of local infrastructure and service improvements, and with income generation, enterprise development and skills training. A key aspect in the community participated procurement was the achievement of 'goal alignment' thus producing the efficient contracts (see section 2.4 and 6.2) of promoter and the contractor. If an organisation is constructing or monitoring infrastructure for its own use, there is no reason for them to produce a lower quality, high cost and longer duration work. However, it is possible that some factors other than the intentions of the community may affect the work, for example lack of skill and management.

6. The underlying implications of the community partnering are:

- Full acceptance of the urban poor as primary stakeholders in local infrastructure provision.
- The development of longer term more open-ended relationships, encompassing joint financing, planning, design, implementation, hand-over and maintenance.
- Promoting co-operation both formally and informally with government agencies and NGOs.
- The potential to target groups of the urban poor, rather than solely area-based dwellers in specific slums. This is relevant because local inhabitants do not necessarily carry out improvement works themselves because of lack of both time and relevant skills.

7. Community partnering promotes the role of the community in the procurement of tertiary urban infrastructure. Where community initiatives succeeded, with communities adopting the roles discussed previously, a similar approach was in operation. It is concluded that to reflect such relationships between the community and urban government, the term *community partnering* is justified.

8. Community partnering addresses the socio-economic factors making it further appropriate for the procurement of urban infrastructure. Through community partnering it is possible to look beyond the physical slum into different groups of the urban poor, where the skilled and unskilled labour pool necessary to contribute to the infrastructure improvements almost certainly exists. Implementing works through community partnering provides opportunities for targeting interventions in a way which integrates into wider strategies of urban poverty reduction.
9. Community Partnering offers an opportunity to address the poverty agenda through income generation, enterprise development and creating employment opportunity. The case for community partnering in its broadest sense is strong. Not only does it compete favourably in terms of the traditional contractual performance measures of time, cost and quality, it offers a whole range of other potential benefits which can be targeted at low income groups to assist their empowerment and improve their economic conditions.
10. Government procedures offer a surprising amount of flexibility if applied appropriately, and the community partnering approach has been shown to be possible within the contexts of urban government programmes.
11. Costs associated with the community partnering approach influence project management. There is a need for government and donor to allow for additional time and increased flexibility especially in the initial stages of the projects which involves community partnered procurement (CPP). This research has shown limited qualitative evidences to support this conclusion but further work to explore the wider impacts is warranted.

Performance of Micro-contracts

12. Community partnering in procurement performs well in terms of the conventional performance contract performance objectives of the time, cost and quality. The performance is comparable in terms of time and cost with infrastructure procured through the routine tender contract process.
13. There is indicative secondary source evidence that the quality of the infrastructure procured through community partnering is of superior quality as compared to that procured through the routine tender contract process.
14. Important indicators for performance have been developed in this research. These can be measured relatively simply from existing information contained in typical contract files, and hence are readily usable. The key indicators are cost growth (ratio of actual and contract cost) and time growth (ratio of actual and contract duration). The research has found that the best average cost and time growths for the CPP and conventionally procured infrastructure are 0.67, 1.37 and 1.07, 0.6 respectively.
15. Benchmarking is now a widely used management tool for guiding improved performance, and it is appropriate to apply the concept to improve the performance of micro-contracts. The benchmarks for cost growth could be initially taken as 1.05, while for time growth a value 1.58 is appropriate for the region.

Recommendations

16. Further benchmarking needs to be performed on micro-contracts using the indicators and benchmarks developed in the research (Note: The Department for International Development, UK has agreed to fund a research project in line with this recommendation).

17. A framework and tools should be developed for the appraisal, monitoring and evaluation of micro-contracts for the procurement of local infrastructure. Such tools need to capture the wider impact of community partnered procurement, particularly socio-economic impacts. As part of this impact analysis, the process and actors involved in procurement through the micro-contracts could be further explored using stakeholder analysis techniques. It is important to investigate the effect of procurement strategy and community partnering on the performance of operations and maintenance of the tertiary level infrastructure and urban services at the neighbourhood level.

18. Safety and risk involved for community groups need further exploration. This is particularly important should the community undertake relatively large contracts.

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237. United Nations Centre for Settlements (Habitat) (1993) Strategies for The Provision of Facilities, and Services and Housing Improvements in Ghana, Uganda and Zambia Nairobi.
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252. Wint, E. (1993) Micro-Enterprise Support and the Double Bind of Gender in Jamaica, Labour, Capital and Society, 26(2).
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APPENDIX 1

Data base index

It is to be noted that each item may represent more than one record. For example if thirty files were reviewed in an office set-up the notes related to the review was entered as an item. Therefore, the actual documents reviewed were many times more than the serial numbers of the data base index.

1.1 Documentary Records

1.1.1 India

Entry	Items
1.	A questionnaire related to procedures containing 38 questions filled by 18 Indian Engineers of the ranks of executive Engineers.
2.	Copy of conditions of contract used in Calcutta, India.
3.	Copy of conditions of contract used in Cochin, India.
4.	Copy of conditions of contract used In Cuttack, SIP, India.
5.	Copy of conditions of contract used in Vejayawada, India.
6.	Copy of file of construction of stores shed at Raningarithota(Bhaskara Rao pet), Rev.est. RS. 949000, Original est.: RS. 779400[Copy of file, notes included. ODA related], Vijayawada slum improvement project.[Submitted as an example of deviations in design during execution of work].
7.	Copy of file of providing cc roads and drains in Greenland slum, est.: RS. 446000[Copy of file, notes included. ODA related], Vijayawada slum improvement project.[Submitted as an example delayed completion].
8.	Copy of file of Providing of NT roads and cc reads and drains in George pet, est. RS. 320000[Copy of file, notes included. ODA related], Vijayawada slum improvement project.[Submitted as an example of delayed execution].
9.	Copy of file of Providing of WBM surface and drains to feeder road second bit in Prakah Nagar, est. RS 620000 [Copy of file, notes included. ODA related], Vijayawada slum improvement project.[Submitted as an example of delayed execution and deviations].
10.	Copy of file of providing revetment to protection to protection bund-reach 5, est.: RS. 286100[Copy of file, notes included. ODA related], Vijayawada slum improvement project.[Submitted as an example tender called four times].
11.	Copy of file related project management unit, slum improvement project(ODA) Cuttack, pattapole and Hairanpor
12.	Copy of file/other documents related to Calcutta Metropolitan Development Authority, CSIP phase 1A and CMC ward No. 141, [ODA funded].
13.	Copy of Kerala Gazette extraordinary published by authority, Government of Kerala, 1990[Kerala Municipal Corporations(Public works and supplies) rules, 1990].
14.	Copy of Proceedings of the Divisional co-operatives officer, Vijayawada, Rc.no.1190/92F dated 21-4-92[permission granted to Labour contract co-operative society]
15.	File note exercise 12 participants revisited in August 1996.
16.	From Ganguly- Small 4 write-ups on the study areas for which the bench marks data was taken.
17.	From Mr. Brahamji- Copies of relevant documents from files of five contracts received from Vijayawada related to contracts for which benchmark.
18.	From Mr. Brahamji- Write up on study area with map.
19.	From Mr. Brahamji-Copy of circular related to proposed work for phase 111 slums -revised estimated by the Andhra University. [Working includes local

	language].
20.	From Mr. Gangadhara Rao-A short write up about a slum in Vijayawada for which the contract benchmark data was collected along with the map.
21.	From OM Prakash and R.Ankaiah-Copies of relevant documents from files of six contracts received from Vijayawada related to contracts for which benchmark data was collected.
22.	From OMPakash-Copy of G.O.MsNo.30. dated 17-2-94, titled 'Tribal welfare Department-Work programme for the benefit of scheduled Tribes-Allotment of Works in Tribal Sub-Plan area and other area to the local village development committees, (VDCS) Mahila Sangams/Societies/Ayacutdars/Beneficiaries-certain concession-Sanctioned' with annexe describing the procedure for such works. The order issue with the concurrence of Finance and planning (Fin.Wing) Department, vide their U.O.No.1645/44/Expr.PWD/94 dated 2-2-94. The order was issued under the name of the Governor of Andhra Pradesh.
23.	From OMPakash-Write-up on slum and works related to the benchmarking data. Map also provided.
24.	From PKGhose-Copies of documents from file including design details, calculation and correspondence. A small write up on the study area is also provided.
25.	From-K.Yedukondala Rao- Copies of relevant documents from files of five contracts received from Vijayawada related to contracts for which benchmark.
26.	From-K.Yedukondala Rao-Tender notices, three numbers.
27.	From-K.Yedukondala Rao-Write up on study area with map.
28.	Group benchmarks based on the working of groups from, Vijayawada, Calcutta, Cochin, Cuttack and Lukhnow.
29.	Notes related to focused group discussion of 12 Indian Engineers during workshop in UK.
30.	<p>Out put of workshop participated by 13 Indian Engineers held in UK. SIP 1996. It includes output of four groups from;</p> <p>1Calcutta Metropolitan Development Authority 2Cochin 3Cuttack 4A Vijayawada 4B. Vijayawada</p> <p>The output[From all 13 Engineers] included the; Worksheet-1 Analysis of process of conventional procurement Worksheet No.- 2 Analysis of the tender documents and the associated authority Worksheet-3. Analysis of requirement of sureties and insurance form contractors in conventional set-up Worksheet-4. 'What if analysis' in conventional set-up Worksheet-5. Workout the 'community partnering' features. Worksheet-6. 'What if analysis' in Community partnering set-up Worksheet-7 Identification of the area where community groups could be involved. Worksheet-8 Method of assessment of capacity A Model Note to higher authorities to institutionalise the community partnering concept[From all 5 Groups]</p>
31.	Overall proposed Benchmarks by Indian officials
32.	PEC (96): India: Cuttack urban services improvements project,
33.	PEC(96) 27: India: Cochin urban poverty reduction project.
34.	Performance related [Benchmarking] data of 44 contracts.
35.	Refuse collection contract in Banglore, India.
36.	Result of focused group discussion of 10 Indian Engineers validating the Preliminary finding and some measurements. The out put include the Worksheets [2 Nos.] containing 21 statements.

1.1.2 Pakistan

Entry	Items
37.	3rd Quarterly Report , July-September 1994, Sindh Katchi Abadis Authority, Karachi, Pakistan.
38.	62nd Quarterly Report April-June 1995, Orangi Pilot Project, Karachi, Pakistan.
39.	63rd Quarterly Report July-September 1995, Orangi Pilot Project, Karachi, Pakistan.
40.	6th Quarterly Report , April-June 1995, Sindh Kachi Abadis Authority, Karachi, Pakistan.
41.	7th Quarterly Report , July-September 1995, Sindh Kachi Abadis Authority, Karachi, Pakistan
42.	A certificate [Local language using English terms written in Urdu] issued by the president of the Pakistan people Party [ruling party] ward-7 showing satisfaction with the work completed to Executive Engineer SKAA.[Related to Zia-ul-Haq Colony]
43.	A completed form of agreement, KMC
44.	A copy of 'Completion Certificate' issued by Joint Director OPP to D.G. SKAA. [Related to Zia-ul-Haq Colony]
45.	A copy of a note sheet approving the project as demonstration, FAUP.
46.	A copy of agreement [Local language using English terms written in Urdu] between SKAA and the contractor for execution of work in Zia-ul-Haq colony[Development works].
47.	A copy of an agreement between FAUP and the committee, FAUP
48.	A copy of application for enlistment as contractors, KMC.
49.	A copy of correspondence form director and Joint Director OPP to the Director General SKAA along with the 'brief study on the experiment carried out by SKAA and OPP to compare the work between contractors and departmental method' dated 5-4-95.
50.	A copy of correspondence form director and Joint Director OPP to the Director General SKAA along with the 'brief study on the experiment carried out by SKAA and OPP to compare the work between contractors and departmental method' dated 13-5-95 [Unsigned].
51.	A copy of covering letter from Director OPP to Director general SKAA with the progress report for the month of November of 1995 titled' No supervision in early stages of work in Baloch colony has created problems'. Dated 19-11-95.
52.	A copy of executed contract, Karachi Metropolitan corporation, Corporation, general rules and directions for the guidance of the contractors, PWD-7 including additional terms and conditions.
53.	A copy of expenditures related to the Omar Baloch Goth sewerage scheme, signature dated 25-5-95.
54.	A copy of letter from Director OPP to Director Katchi Abadis, KMC related to KMC/ADB works dated 2-4-94.
55.	A copy of letter from Director OPP to the Administrator KMC regarding maintenance of KMC/ADB works and extension of model dated 31-7-94.
56.	A copy of letter from director SKAA to Director OPP to attend a review meeting regarding CKAIP.
57.	A copy of market rates collected by the Engineer KESC DATED 10-11-91 and updated by him on 29-12-95.
58.	A copy of newspaper cutting titled ' IBRD mission disappointed with slow pace of work' DAWN dated 18-7-94.
59.	A copy of paper showing the people in attendance in a project approval committee, FAUP.
60.	A copy of proposed agreement on payment arrangement for secondary works[inter-organisational working arrangement]
61.	A copy of the executed tender along with the schedule and conditions.

62.	A copy of The gazette of west Pakistan Lahore Friday, August, 29, 1969[notification no.So-11(2)/ce9/39552)/68] The west Pakistan municipal committee(work rules) 1969.
63.	A newspaper cutting titled ' Pace on Kachi abadi reviewed, Dawn, November 19, 1995.[Related to the shelter programme and HMC].
64.	A Note from the Manager to the Director mentioning the work that had been checked by him and the work performed, dated 10-6-94[in local language related to KMC/ADB-SPA-1].
65.	A questionnaire containing 32 questions filled for 25 local small contractors of KMC [94-95]
66.	A questionnaire containing 32 questions related to the procedures filled for 4 local consultants related to KMC.[94-95]
67.	A questionnaire containing 71 Questions related to procedures filled by the Executive Engineer of SKAA[1994-95].
68.	A questionnaire related to procedures containing 71 questions filled for the officials of KMC, 2 Engineers and 2 Accountants.[94-95]
69.	A report on OPP credit programme by sarhad rural support corporation[An NGO].
70.	A sample copy of file including plans, estimates and description of the projects
71.	Access to credit for rural women in Pakistan, proceeding of a two day workshop, February 2-3, 1994, Islamabad, organized by UNDP/UNIFEM/SUNGI.
72.	Application Form For Enlistment Of Contractor, Sindh Katchi Abadis Authority Pakistan[Photocopy Provided By The Executive Engineer, Sindh Katchi Abadis Authority Pakistan]
73.	Brief on Karachi Abadis, Directorate of Katchi Abadis, Karachi Metropolitan corporation, March 1995.[Copy].
74.	Completed Application form, Enlistment of contractor's rules, Faisalabad Development Authority along with the correspondence showing the enlistment of the contractors and requirement
75.	Contacts to the sources of the case studies to IIED study related cases.
76.	Copies of two Gallop tender notice signed by the Executive engineer SKAA[send for publications and posting on the board].
77.	Copy of conditions of contract used in KMC, Pakistan.
78.	Copy of conditions of contract used in SKAA, Pakistan.
79.	Copy of conditions Of Contract, Karachi Electric Supply Corporation, Pakistan.
80.	Copy of corrigendum to tender notice dated 8-1-95 by SKAA Signed by the Executive Engineer..
81.	Copy of Gallop tender notice published in the newspaper Dawn dated 20-10-93 related to HMC Works, Hyderabad Municipal corporation.
82.	Copy of informal Contracts in FAUP, Pakistan.
83.	Copy of minutes of review meeting held on 14-3-95 regarding Collaborative Katchi Abadis Improvement Programme conveyed to the Director OPP through letter from Director SKAA dated 9-3-95.
84.	Copy of minutes of review meeting held on 25-10-95 regarding Collaborative Katchi Abadis Improvement Programme conveyed to the Director OPP through letter from Director SKAA dated 1-11-95.
85.	Copy of minutes of review meeting held on 29-8-95 regarding Collaborative Katchi Abadis Improvement Programme conveyed to the Director OPP through letter from Director SKAA dated 3-9-95.
86.	Copy of minutes of review meeting held on 3-10-95 regarding Collaborative Katchi Abadis Improvement Programme conveyed to the Director OPP through letter from Director SKAA dated 9-10-95.
87.	Copy of non-standard contracts used in SKAA, Pakistan.
88.	Copy of pages from document stating powers of different officials.
89.	Copy of pages related to the water supply scheme at wahid colony and Zia-ul-haq colony signatures dated 18-8-95 and 1-8-95.

90.	Copy of Public notice published in a newspaper inviting objections and suggestions and invitation to see the plans, dated 12-1-94, Karachi Abadis and Evaluation, Karachi Metropolitan Corporation.
91.	Copy of PWD conditions of contract, Government Of Pakistan , Pakistan Public Works Department, C.P.W.D.-7, Pakistan.
92.	Copy of PWD conditions of contract, Government Of Pakistan , Pakistan Public Works Department, C.P.W.D.-8, Pakistan.
93.	Copy of schedule of rates for materials and labours and some tasks agreed upon by OPP and SKAA for estimation of the works.
94.	Copy of tender notice by Municipal committee West, KMC, published in newspaper dated 29-7-92.
95.	Copy of tender notice by, KMC, for published in newspaper dated 20-10-93.
96.	Details of 34 works related to the internal works procured by the community the actual expenditures and description of work and community group.
97.	Details of 6 contracts related to the internal works procured by the community , estimates provided and the actual expenditures and description of work and community group.
98.	Directory Civic agencies Karachi- 1994-95, Karachi administration women welfare society.
99.	Draft of case study for IIED, 'Lyari, Karachi.
100.	Draft of case study for IIED, 'Manzoor Colony, case study of Anjuman-e-Falah-e-o-Behbood I sector, Manzoor Colony, Karachi'.
101.	Draft of case study for IIED, 'Welfare Colony, Karachi.
102.	Draft of case study for IIED, Ghaziabad, Karachi.
103.	Faisalabad Area Upgrading Project PC-1Report, Faisalabad development Authority, Faisalabad , Project Management Unit, 1992.
104.	Form B-1 Public Works Department Circle Division Percentage Rate Tender And Contract For Works General Rules And Direction For The Guidance Of Contractors[Photocopy Provided By The Executive Engineer, Sindh Katchi Abadis Authority] Pakistan]
105.	General Directions and conditions of contract for works on percentage tender[central PWD code paragraph 89] CPWD-7, Pakistan Public Works department, Government of Pakistan.
106.	General rules and directions for the guidance of the contractors, The Karachi electric supply corporation limited(Civil and works department), Karachi Pakistan.
107.	Government of Sindh housing town planning, local government and rural development department, notification Karachi dated 16-4-1980.[sindh council (contract) rules, 1980.
108.	International seminar on development of construction industry 25th -27th September 1990 organised by Pakistan Engineering Council in Association with World Bank-UNDP-USAID
109.	Introductory Note About Sukkur Social Welfare Association, Sukkur, Pakistan.
110.	Item rate tender ad contract for works[Central PWD code, paragraph 89] CPWD-8, Pakistan Public Works department, Government of Pakistan
111.	Katchi Abides Upgrading KSDP-Scheme, A.D.B-793 Pak SF., Progress report up to may 1993, Directorate of Katchi Abadis, Karachi Metropolitan corporation[Copy].
112.	Laying of sewer line and re-laying of brick soling(street code No. 4.) Neighbourhood 2-A/1, Rasool Nagar, Project No. 3, Activity proposal Team - A, project management Unit(PMU), Faisalabad area upgrading project(FAUP), FDA [Copy]and copies of related receipts
113.	Laying of sewer line(street No. 8. Part-1) Neighbourhood 2-c/4, Noorpura, Project No. 4, Activity proposal Team -A, project management Unit(PMU), Faisalabad area upgrading project(FAUP), FDA [Copy].
114.	Leaflet- Good news for residents of Katchi Abadis Sindh Katchi Abadis Authority[local language]
115.	Leaflet Related To The Purpose Of The Lease Camp, Sindh Katchi Abadis Authority[local language]

116.	Leaflet-Instruction For Lease, Sindh Katchi Abadis Authority[local language]
117.	Leaflet-Lease Rates Sindh Katchi Abadis Authority[local language]
118.	Minutes Of Meeting Held On 8th January, 1995 Under The Chairmanship Of Additional Chief Secretary (P & D) To Discuss SKAA's Social Programme And Devise An Integrated Approach For The Development Of Katchi Abadis In Sindh, Pakistan
119.	Mohsin Ali report on the reorganisation of Pak. PWD (1961-67), Government of Pakistan file No 196, GPPK-111/56-2/H(66)DCS7F-27-9-67-1500000.[Got from the archive record of PWD], Islamabad Karachi.
120.	Municipal Directory, Karachi administration women welfare society.
121.	Note Sukkur is an example of community involvement and international donor agency
122.	Notes Related To The UNDP-UMP Sukkur Workshop Options For Poverty Alleviation Actions At Municipal Level For Sukkur, Dec.6-7, 1994, Pakistan.
123.	Orangi pilot project NGO profile, Environment and Urbanisation, Vol., No. 2, October 1995.[Copy].
124.	Orangi pilot Project, 60th quarterly report October -December 1994,.
125.	Pakistan engineering council Act, 1976[Published in the gazette of Pakistan Extraordinary dated the 14th January, 1976]. Pakistan Engineering Council Islamabad.
126.	Pakistan Standard Conditions of contract for Civil Engineering Works in Pakistan(PSCC CIV), First Edition December 1992, Pakistan Engineering Council, Islamabad
127.	Pamphlet -Katchi Abadis Of Karachi And Procedure For Leasing Sindh Katchi Abadis Authority[local language]
128.	Pamphlet-Regularisation Of Katchi Abadis In Sindh Katchi Abadis Authority[local language]
129.	Part 1 Sindh Katchi Abadis Authority Notification, 20 the Nov. 1993, The Sindh Government Gazette, Pakistan
130.	Performance related data of 10 contracts of SKAA through Departmental works.
131.	Performance related data of 30 small contracts of KMC.
132.	Performance related data of 53 contracts of SKKA through conventional procedures
133.	Performance related data of 56 contracts of KMC/ADB funded projects related to Katchi Abadis in Karachi.
134.	Photocopy of newspaper cutting titled 'NO, thank you, says SKAA to donors', dated 11-6-94, Dawn Karachi.
135.	Proceedings Of The National Workshop On UNICEF's Urban Basic Services Project, Sukkur, January 19-21, 1994 Partnership In Development (An Alternative Development Approach), Sindh Katchi Abadis Authority.
136.	Proceedings Of The Workshop On The Role Of Sindh Katchi Abadis Authority/Local Councils/NGOs/Community In The Regularisaton And Upgradation Of Katchi Abadis, June, 12, 1994, Sindh Katchi Abadis Authority & UNICEF.
137.	Project proposal for construction of a drain in Neighbourhood A street 7 of chak 7(punjward), FAUP[Copy]
138.	Siddique. S. & Hasan A., 1994[Draft Paper]Options For Urban Poverty Alleviation Actions At Municipal Level For Sukkur, Pakistan, Arif Hasan And Associates, Architects And Planning Consultants, Pakistan.
139.	Siddiqui, A.G.[Administrato Sukkur Municipal Corporation], 1994, SMC And Poverty Alleviation, UNDP-UMP Workshop, Pakistan.
140.	Siddiqui, S. 7 Hasan, A., Report on The UMP Sukkur Workshop on Poverty Alleviation Sukkur, December 6-7, 1994(Draft, December 21 1994), Arif Hasan & Associates, Architects and Planning Consultants, Karachi Pakistan.
141.	Siddiqui, T.A., Nov.,1995, Katchi abides the problem and the ways to a solution.
142.	Some necessary instruction for lease[Leaflet], Sindh Katchi Abadis Authority[local language]

143.	Tender/Contract Document,
144.	The Gazette of Pakistan extraordinary published by Authority, Islamabad, Sunday, August 24. 1986.
145.	The Gazette of Pakistan extraordinary published by Authority, Islamabad, Wednesday, July 8. 1987.
146.	The purpose of lease camps, [Leaflet], Sindh Katchi Abadis Authority[local language].
147.	The Sindh Government Gazette, 1997, Published by Authority, Sindh Katchi Abadis Authority (Regularisation, Improvement and Development) Regulations 1977.
148.	The Sindh Katchi Abadis Act, 1987 Sindh Act No.11 Of 1987, Government Of Sindh , Pakistan
149.	Workshop on Collaborative Katchi Abadis Improvement programme (CKAIP) pilot project in Hyderabad, February 14 1995.[Copy].
150.	Yeh Bastian A Magazine On Problems Of Katci Abadis, Oct.-Dec. 1994, Sindh Katchi Abadis Authority, Pakistan.

1.1.3 Sri-Lanka

Entry	Items
151.	Advance payment Bond, cylinco insurance Co. Ltd, Colombo Sri-Lanka.
152.	Agreement form on community contracts[in sinhali], NHDA, Sri-Lanka.
153.	Bid Bond, cylinco insurance Co. Ltd, Colombo Sri-Lanka.
154.	Blank summary sheet used for information regarding contractors
155.	Break down of the registration of the CDC year wise since 1979.
156.	Clean settlement programme pilot project no.1[Photo copy] from report Siddharthapura, kirillapone Colombo.
157.	Clean settlement programme unit, [pamphlet] Ministry of housing, construction and public utilities, Sri-Lanka.
158.	Client guide and explanatory hand book National grading and registration system, September 1995, ICTAD.
159.	Community Action Planning: Formation Of Community Development Councils, December 1994, CAP Workshop Module Guidelines Series, , UNCHS/DANIDA Community Actions Planning Training Programme, National Housing Development Authority Sri-Lanka
160.	Community Actions Planning: Maintenance Of Common Amenities, December 1994, CAP Workshop Module Guidelines Series, December 1994, UNCHS/DANIDA Community Actions Planning Training Programme, National Housing Development Authority Sri-Lanka].
161.	Community Actions Planning: Making Micro-Plans For Community Improvement, November 1994, CAP Workshop Module Guidelines Series, December 1994, UNCHS/DANIDA Community Actions Planning Training Programme, National Housing Development Authority Sri-Lanka.
162.	Community managed sewer disposal system process and progress[pamphlet],1993, Sevanathe
163.	Community-Based Monitoring And Evaluation Of Settlement Improvement, August 1994, CAP Workshop Module Guidelines Series, December 1994, UNCHS/DANIDA Community Actions Planning Training Programme, National Housing Development Authority Sri-Lanka
164.	Conditions of contract[in Sinhali], Sevanathe, Colombo, Sri-Lanka.
165.	Constitution used in the registration of the CDC[local language]
166.	Contract between CSPU and community group, Sri-Lanka.
167.	Contract between CSPU and the Support organisation, Sri-Lanka.
168.	Contractors all risk policy, cylinco insurance Co. Ltd, Colombo Sri-Lanka.
169.	Contractors record book National registration and grading of construction contractors, ICTAD.

170.	Copies 30 evaluation sheets of M7 contractors
171.	Copies 30 evaluation sheets of M8 contractors
172.	Copies 30 evaluation sheets of M9 contractors
173.	Copies from files about the criteria of SO assessment procedure and selection criteria. CSPU
174.	Copies from files related to the women banks
175.	Copies from the project files of B.O.Q. CSPU
176.	Copies from the project files of the Bank payment receipts. CSPU
177.	Copies from the project files of the contract conditions[local language]. CSPU
178.	Copies from the project files of the drawings. CSPU
179.	Copies from the project files of the schedule. CSPU
180.	Copies of minute notes of a project file.[Local language and English]. CSPU
181.	Copy agreement for community assignment [to be used for contractors or the organisations], Form No.CSPU/IF/CONS/1, Ministry of Housing, Construction and Public Utilities. CSPU
182.	Copy from the contract register of the contracts from 1992. NHDA
183.	Copy of conditions of contract used in CMC, Sri-Lanka
184.	Copy of contract agreement [to be used for contractors or the organisations], Form No.CSPU/IF/CONS/2, Ministry of Housing, Construction and Public Utilities.
185.	Copy of contract between CSPU and the Support organisation[Local language].
186.	Copy of executed agreement[local language]
187.	Copy of guidelines for small scale contracts to community organisations[in sinhali], NHDA, Sri-Lanka.
188.	Copy of letter 2/Gen/176 dated 6-7-95 by General Manager NHDA to Secretary Ministry of Housing, Construction and Public Utilities titled 'Award of small scale contracts to societies at village level without following competitive tender procedures'. Along with the draft letter by the DGM dated 21-6-95 and 15-8-95.
189.	Copy of letter dated 28-6-95 by Secretary Ministry of housing, construction and public utilities to Chairman ICTAD, Director of Buildings, GM NHDA, GM NWS&DB titled 'Award of small scale contracts to societies at village level without following competitive tender procedures'.
190.	Copy of letter FIN-1085-335-7 dated 2-6-95 by Director General of Public Finance to Secretary Ministry of Housing, Construction and Public Utilities titled 'Award of small scale contracts to societies at village level without following competitive tender procedures'.
191.	Copy of letter FIN322, Treasury No: 1085-335-7(vol.-2), award of small scale contracts to approved societies dated 25-8-93.
192.	Copy of summary of contract related information dated 20-1-96[Local language]
193.	Copy of treasury Circular No:Fin-345 dated 16-1-96 titled' Award of small scale contracts to approved societies'.
194.	Data related to 96 contract out of which 42 are community contract.
195.	Details of 26 contracts from the projects division of Colombo Municipal Council.
196.	Details of 42 contracts from drainage division of Colombo Municipal Council
197.	Erection all risks policy, cylinco insurance co. Ltd, Colombo Sri-Lanka.
198.	Filled bill of quantities and schedule of prices as example, Colombo municipal council, Colombo Sri-Lanka.
199.	Form for payment vouchers, Colombo municipal council, Colombo Sri-Lanka.
200.	Form of agreement, Colombo municipal council, Colombo Sri Lanka
201.	Form of agreement, Colombo municipal council, Colombo Sri-Lanka.
202.	Form of bill of quantities and schedule of prices, Colombo municipal council, Colombo Sri-Lanka.
203.	Form of certificate to be furnished by the head of department in making payments, Colombo municipal council, Colombo Sri-Lanka.
204.	Form of payment certificate, Colombo municipal council, Colombo Sri-Lanka.

205.	Form of work note, Colombo municipal council, Colombo Sri-Lanka.
206.	Form used for recommending the acceptance of the quotation by the building surveyor, Colombo municipal council, Colombo Sri-Lanka.
207.	Form used to convey the contractors about the shortcomings of their application form.
208.	Ganepola, P., 1987, Orangi pilot project A report on a field visit to a low cost sanitation project, NHDA, Sri-Lanka.
209.	Guidelines for grading of construction of contractors, ICTAD
210.	ICTAD institute for construction training and development Supervisory and management training courses[Pamphlet] ministry of housing construction and public utilities.
211.	ICTAD profile[Brochure] Institution for construction training and development, Ministry of policy planning and implementation, Sri-Lanka.
212.	Information related to the low cost sanitation programme of IDA credit 1700 CE. CSPU
213.	Jayarathne, K.A., 1995, collaborative partnership between NGO and local Government to Establish community construction contract procedure to improve the low income Neighbourhoods in Kandy Municipal Council, Report for Habitat International coalition.
214.	Jayarathne, K.A., 1996, Community built and managed sewer disposal system in Gajapura-BO Sevana, Colombo
215.	List of publication of ICTAD
216.	List of the community contracts since 1992 and some details [Local language].
217.	Majeed, M., Solid Waste Management In The City Of Colombo, [copy of some pages].
218.	Manual for community construction contract, 1993, Hanna Nassif Community upgrading project Dar es Salaam/
219.	NHDA Conditions Of Contract For Community Contracts, Sri-Lanka.
220.	Objects and code of ethic,[Pamphlet] Association of construction contractors of Sri-lank(estb.1981) incorporated in 1989 under the companies Act No.17 of 1982, regular member of the international federation of Asian and Western pacific contractors' Association.
221.	One sample of executed application of Category M7[copies from files]
222.	One sample of executed application of Category M8[copies from files]
223.	One sample of executed application of Category M9[copies from files]
224.	Performance Bond, cylinco insurance Co. Ltd, Colombo Sri-Lanka.
225.	Profile of the NGO, National forum for people organisation
226.	Proposal for constrictor's all risk insurance Fire department, cylinco insurance co. Ltd, Colombo Sri-Lanka.
227.	Proposal for contract guarantee insurance, cylinco insurance co. Ltd, Colombo Sri-Lanka.
228.	Proposal to insure liability to Employees under workman's compensation ordinance or at common law.
229.	Questionnaires and proposal for erection all risks insurance, cylinco insurance co. Ltd, Colombo Sri-Lanka.
230.	Quotation for house drainage connections, General conditions, drainage division , Colombo municipal council, Colombo Sri-Lanka.
231.	Refuse/public place cleansing contract Cajamarca.
232.	Role Of Urban Local Authorities In Promoting Low-Income Settlement Development Programmes, Guidelines, January 1995, UNCHS/DANIDA Community Actions Planning Training Programme, National Housing Development Authority Sri-Lanka
233.	Sealed quotation notice, drainage division , Colombo municipal council, Colombo Sri-Lanka.
234.	Sevanathe Urban resource centre Its evolution and function in the context of urban low income communities of Sri Lanka, , Colombo, Sri-Lanka.
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242.	Workmen's compensation policy, cylinco insurance Co. Ltd, Colombo Sri-Lanka.

1.1.4 Miscellaneous

243.	Contract Of Allocation Of Public Places Cleansing Services, Provincial Municipality Of Cajamarca
244.	Standard Form Of Contract For Piece Work-Civil Engineering Works conditions Of Contract, Ministry Of Works, The United Republic Of Tanzania

1.2 Interviews and the field notes

Interviews[INT] conducted and Notes [NTS] taken are summarized as follows. The transcript and the tape records are available with the researcher.

Entry	Reference and Name (as applicable)	(Designation/Description)
245.	PKINT-1, Mr. Raza Ali	Deputy Director Works, KMC
246.	PKINT-2, Mr. Jafri	Deputy Director Finance/Computers, KMC
247.	PKINT-3, Mr Gul Hassan	Executive Engineer,SKAA
248.	PKINT-4, Mr.Mjeed	Petty Contractor And Worker
249.	PKINT-5, Mr.Qaiser Bengali	Research Associate, Applied Economic Research Centre
250.	PKINT-6, Mr.Tasneem Ahmed Siddiqui	Director General, SKAA
251.	PKINT-7	Bank Manage, NBP
252.	PKINT-8, Mr. Hafeez Arain	Joint Director, OPP
253.	PKINT-9, Mr Shahid Mehmood	Executive Engineer/Social Organiser, FAUP
254.	PKINT-10	Ms.Feroza And Team Members
255.	PKINT-11, Mr.Zafeer-Ul-Haq	Ex-Superintending Engineer, PWD
256.	PKNTS-1	FAUP Record
257.	PKNTS-2	FAUP Record
258.	PKNTS-3	Contractor, KMC
259.	PKINT-1, Mr.Tasneem Ahmed Siddiqui	Director General,SKAA
260.	PKINT-2, Mr.Gul Hassan	Executive Engineer, SKAA
261.	PKINT-3 , Ms. Perveen Rehman	Director, OPP
262.	PKINT-4 , Saadia Fazli And Mr. Afzal	World Bank Shelter Programme
263.	PKINT-5, Mr.Jawed	Manager OPP-RTI

264.	PKINT-6, Mr. Suleman Memon	Project Director KMC
265.	PKINT-7, Mr. Salim Cheema	Contractors, KMC
266.	PKINT-8, Mr. Ghulam Mohiuddin Shamsuddin	CBO Orangi
267.	PKINT-9, Mr. Noor Ahmed Saifi	Manager, OPP-RTI
268.	PKINT-10, Mr. Aziz	CBO Baloch Colony
269.	PKINT-11, Mr. Ayub	Sub-Engineer, SKAA
270.	PKINT-12, Mr. Arif	Construction Contractor
271.	PKINT-13, Mr. Rasheed	Welfare Colony
272.	PKINT-14, Mr. Naeem Shah	Welfare Colony
273.	PKINT-15, Mr. Ibrahim	Construction Contractor Baloch Colony
274.	PKINT-16, Mr. Muhabbat Khan	CBO, Manzoor Colony
275.	PKINT-17, Mr. Shahid Saleem	CBO, Orangi
276.	PKINT-18, Mr. Anwar Mehmood Ansari	Assistant Executive Engineer, KESC
277.	PKINT-19, Mr. Gul Ameen	Contractor KESC
278.	PKINT-20, M.Z. Karim	UNICEF
279.	PKINT-21, Mr. Imtiaz	Director Field Office, SKAA
280.	PKINT[G]-22, Mr. Liaqat Ali Mr. Ghulam Mustufa Mr. Shamsuddin	CBO Sukkur
281.	PKINT[G]-23, Dr. Ali Ahmed staff Activist	Project Director CMC Sukkur
282.	PKINT-24, Arif Hassan	Consultant
283.	PKINT-25 Mr. Masood Anjum	Assistant Executive Engineer, PWD
284.	PKINT-26, Mr. Rafi	Divisional Accounts Officer, PWD
285.	PKINT-27, Mr. Shahid Iqbal	Acting Superintending Engineer, PWD
286.	PKINT-28, Mr. Bashir Ahmed Sheikh	Registrar, PEC
287.	PKINT-29, Mr. Ijaz	Wahid Colony
288.		
289.	PKINT-30, Mr. Ahmed	Umer Baloch Colony
290.	PKINT-31, Mr. Nazeer	Sub-Engineer, SKAA
291.	PKNTS-2, Gul Hassan	Executive Engineer, SKAA
292.	PKNTS-3, Mr. Chaman	Thalla Wala Orangi
293.	PKNTS-4	Workshop, SKAA
294.	PKNTS-5	SKAA Records
295.	PKNTS-6	OPP Records
296.	PKNTS-7	OPP Records
297.	PKNTS-8	Weekly Meeting, OPP-RTI
298.	PKNTS-9	Shah Rasool Colony
299.	PKNTS-10	Meeting Consultant And NGO
300.	PKNTS-11	Monthly Meeting, SKAA
301.	PKNTS-12	Welfare Colony
302.	PKNTS-13	Manzoor Colony
303.	PKNTS-14, M.S. Sara Siddiqui	Karachi Administration Women Welfare Society
304.	PKNTS-15	Gol Tikri Sukkur
305.	PKNTS-16, Ms. Chughtai	Librarian in Library, PWD
306.	PKNTS-17	Wahid Colony And Zia-Ul-Haq Colony
307.	PKNTS-18	Baloch Colony
308.	SRINT-1, Mr. G.A.P.H. Ganepola	Deputy General Manager, NHDA
309.	SRINT-2	Ms. Dishna, CSPU
310.	SRINT-3, Mr. N.S. Jayasundera	Municipal Engineer, CMC
311.	SRINT-4, Mr. S.G.V.D.H. Gunasekara	Municipal Engineer, CSPU
312.	SRINT[G]-5, University Of Muratawa	
313.	SRINT[G]-6	Institution Of Construction Training And Development
314.	SRINT-7, Mr. Dharmashree	Assistant General Manager, NHDA
315.	SRINT-8, Ms. Kamudini Samara Singha	Construction Engineer, CMC

316.	SRINT-9	Contractor, CMC
317.	SRINT-10	Contractor, CMC
318.	SRINT-11 Siziperanium	Contractor, CMC
319.	SRINT-12, Mr. Andrew Lionel	Construction Engineer, CMC
320.	SRINT-13, Mr. George	Assistant To DGM, National water supply and Drainage Board, Sri-Lanka
321.	SRINT-14, Mr.A.K. Jayarathne	Sevenatha-NGO
322.	SRINT15, Mr.Sunil Amendra	Consultant
323.	SRINT-16, W.P.J.Prishir	District Manager, NHDA Galle
324.	SRINT-17, Mr. Tudor	Construction Engineer NHDA Galle
325.	SRINT-18, Mr. Vejaygana	Mayor Of City Of Galle
326.	SRINT-19	Community Development Officer, GMC
327.	SRINT-20, Cosedd Desilva	Executive Director, National Construction Contractor Association
328.	SRINT-21, Mr Chandre Fernando	Insurance Consultant
329.	SRINT-22[G]	Insurance Company
330.	SRINT-23, Mr.H.M. Dyanand	Assistant General Manager, NHDA
331.		
332.	SRNTS-1	Sidaradhapur, Colombo
333.	SRNTS-2	Kirulapura, Colombo
334.	SRNTS-3, Feriuvatta	Galle
335.	SRNTS-4	Mahamotra Vatr Galle
336.	SRNTS-5, Takiyouvathe	Galle
337.	SRNTS-6, Mr.Sugath Welivitigoda And M.S Gita	Community Development Officer, GMC
338.	SRINT-1, Mr.H.M. Dyanand	Assistant General Manager, NHDA
339.		
340.	SRINT-2, Mr.Susil Sri Vardhena	EX. Chairman, NHDA
341.	SRINT-3, Mr. N.S. Jayasundera	Municipal Engineer, CMC
342.	SRINT[G]-4	Clean Settlement Programme Ministry Of Housing
343.		
344.	SRINT-5, Mr.G.A.P.H.Ganepola	Deputy General Manager, NHDA
345.	SRINT-6, Mr.A.K. Jayarathne	Sevenatha-NGO
346.	SRINT-7, Mr. Gulrathne	Chief Medical Education officer, CMC
347.	SRINT-8, Mrs. Visaka Dais	Deputy Municipal Engineer(SWM), CMC.
348.	SRINT-9, Mr.Demel	Director, ICTAD
349.	SRINT-10, Ms. Kamudini Samara Singha	Construction Engineer, CMC
350.	SRINT-11, Mr.Nandasiri	President, Women Bank
351.	SRINT-12, Mr.Willie Gamagee	National forum of peoples organisation
352.	SRINT-13, Mrs Gayashekara	Deputy Municipal Engineer(Projects), CMC
353.	SRINT-14, Mr. Gulrathne	Chief Medical Education officer, CMC
354.	SRINT-15, Mr. Demel	Director, ICTAD
355.	SRINT-16, Mr.G.A.P.H.Ganepola	Deputy General Manager, NHDA
356.	SRINT-17, Dr. Ravi Prera	National programme co-ordinator, Ministry of planning, ethnic affairs and National integration
357.	SRINT-18, Mrs. Visaka Dais	Deputy Municipal Engineer(SWM), CMC
358.	SRINT-19, Mr.G.A.P.H.Ganepola and Mr.Hermal fernando Director	Deputy General Manager, NHDA and Director General Public Finance'
359.	SRINT-20, Mr. Anura	ICTAD
360.	SRINT-21, Mr.Demel	ICTAD
361.	SRINT-22, Mr.A.K. Jayarathne	Sevenatha-NGO
362.	SRNTS-1	Sidaradhapur, Colombo

363.	SRNTS-2	National Housing Development Authority
364.	SRNTS-3	Public meeting
365.	SRNTS-4	Clean Settlement Programme Ministry Of Housing
366.	SRNTS-5	National Housing Development Authority
367.	SRNTS-6	Govilaputra Colombo
368.	SRNTS-7	Public meeting
369.	SRNTS-8	Sidaradhapur Colombo

APPENDIX 2

Checklist for interviews

- **Let the interviewee talk and express**
- General background about contract, organization and person.
- Background of interviewee, is qualified to make statements that he/she is making.
- Atmosphere of the office/site and factual information.
- Procedural framework.
- How he/she talks in between to other, tone and face expressions.
- Processes involved in procurement, who is doing what and when?
- Stages in the procurement.
- Duration and sequence of stages.
- Can the documents or other evidence be shown in support of statement, ask politely and indirectly.
- Experience in community participated experience.
- Experience in routine procurement
- Justification of officials for alternative routes, if applicable.
- Attitudes/Behavior/Perception of micro-contractors and community towards officials and procurement's process.
- Attitudes/Behavior/Perception of officials towards NGOs, CBOs, micro-contractors and community.
- Performance of contracts; time, quality, cost and wider social objectives.
- Nature of relationships; adversarial or partnering.
- Nature of documentation.
- Satisfaction with the process and perceived satisfaction of other stakeholders.
- Parallel informal relationships.
- Social factors like involvement of politicians and bribery
- Suggestions for research and the procurement process, what would you do if?
- In case of person interviewed more than one try to raise issue again to see any difference and explore reasons.

APPENDIX 3

Steps in Hypothesis Testing.

The steps in the test are(Norusis 1993):

- A hypothesis was formulated that there is no difference in mean (null hypothesis) with its alternative hypothesis.
- A test statistic is chosen to evaluate the null hypothesis.
- For the sample, the test hypothesis is calculated.
- The probability, if null hypothesis is true, of obtaining a test value at least as extreme as the observed is determined, here the P-value.
- If the observed significance level is judged small enough (here less than 0.05) the null hypothesis is rejected.

Some Statistical Tests

Binomial test: It is of goodness-of-fit type. It tells us whether it is reasonable to believe that the proportions (or frequencies) we observe in our sample could have been drawn from a population having a specified value of P. In this case the specified value of P is 0.05.

Chi square: The technique is of goodness-of-fit type in that it may be used to test whether a significant difference exists between an observed number of objects or responses falling in each category and an expected number based on the null hypothesis.

T-Test: The test is used to established whether the two means are equal.

APPENDIX 4

ROUTINE PROCUREMENT

SKAA

CON.COS contract cost

Valid cases: 49.0 Missing cases: 4.0 Percent missing: 7.5

Mean	404723.9	Std Err	53020.94	Min	13445.00	Skewness	.9590
Median	321556.0	Variance	1.38E+11	Max	1293994	S E Skew	.3398
5% Trim	379254.3	Std Dev	371146.6	Range	1280549	Kurtosis	-.1601
95% CI for Mean	(298118.2, 511329.7)		IQR	505041.0	S E Kurt	.6681	

CON.DU contract duration

Valid cases: 53.0 Missing cases: .0 Percent missing: .0

Mean	92.8302	Std Err	6.3770	Min	30.0000	Skewness	.4838
Median	90.0000	Variance	2155.298	Max	240.0000	S E Skew	.3274
5% Trim	90.2201	Std Dev	46.4252	Range	210.0000	Kurtosis	.7498
95% CI for Mean	(80.0338, 105.6266)		IQR	60.0000	S E Kurt	.6444	

KMC CONTRACTS

CONCOS contract cost.

Valid cases: 30.0 Missing cases: .0 Percent missing: .0

Mean	21930.47	Std Err	596.3565	Min	9486.000	Skewness	-1.9213
Median	22447.50	Variance	10669233	Max	24985.00	S E Skew	.4269
5% Trim	22284.00	Std Dev	3266.379	Range	15499.00	Kurtosis	6.0393
95% CI for Mean	(20710.78, 23150.15)		IQR	4817.750	S E Kurt	.8327	

NHDA

C.COST Contact cost

Valid cases: 54.0 Missing cases: .0 Percent missing: .0

Mean	10254182	Std Err	2291287	Min	8050.000	Skewness	2.8977
Median	3313623	Variance	2.83E+14	Max	79066826	S E Skew	.3246
5% Trim	7429942	Std Dev	16837450	Range	79058776	Kurtosis	8.6197
95% CI for Mean	(5658443, 14849921)		IQR	10205708	S E Kurt	.6389	

C.DUR contract duration

Valid cases: 47.0 Missing cases: 7.0 Percent missing: 13.0

Mean	229.1064	Std Err	22.3310	Min	19.0000	Skewness	.3433
Median	240.0000	Variance	23437.75	Max	540.0000	S E Skew	.3466
5% Trim	223.1560	Std Dev	153.0939	Range	521.0000	Kurtosis	-.9275
95% CI for Mean	(184.1563, 274.0564)		IQR	270.0000	S E Kurt	.6809	

CMC DRAINAGE DIVISION

C.COST contract cost

Valid cases: 42.0 Missing cases: .0 Percent missing: .0

Mean	15259.23	Std Err	3631.505	Min	1740.000	Skewness	2.8793
Median	6078.500	Variance	5.54E+08	Max	114000.0	S E Skew	.3654
5% Trim	11556.42	Std Dev	23534.84	Range	112260.0	Kurtosis	8.4096
95% CI for Mean	(7925.252, 22593.20)		IQR	8942.750	S E Kurt	.7166	

C.DUR contract duration

Valid cases: 36.0 Missing cases: 6.0 Percent missing: 14.3

Mean	9.3056	Std Err	.6771	Min	2.0000	Skewness	.6265
Median	8.5000	Variance	16.5040	Max	21.0000	S E Skew	.3925
5% Trim	9.1852	Std Dev	4.0625	Range	19.0000	Kurtosis	.3768
95% CI for Mean	(7.9310, 10.6801)			IQR	7.0000	S E Kurt	.7681

CMC PROJECTS

CON.COS contract cost

Valid cases: 23.0 Missing cases: .0 Percent missing: .0

Mean	553796.3	Std Err	219410.8	Min	2970.000	Skewness	2.4720
Median	83160.00	Variance	1.11E+12	Max	4125000	S E Skew	.4813
5% Trim	396527.1	Std Dev	1052257	Range	4122030	Kurtosis	5.8114
95% CI for Mean	(98766.25, 1008826)			IQR	272665.0	S E Kurt	.9348

CON.DUR contract duration

Valid cases: 21.0 Missing cases: 2.0 Percent missing: 8.7

Mean	76.2381	Std Err	20.6922	Min	7.0000	Skewness	1.8381
Median	30.0000	Variance	8991.490	Max	360.0000	S E Skew	.5012
5% Trim	64.6190	Std Dev	94.8235	Range	353.0000	Kurtosis	2.9058
95% CI for Mean	(33.0750, 119.4012)			IQR	99.0000	S E Kurt	.9719

SIP

CON.COST contract cost

Valid cases: 37.0 Missing cases: .0 Percent missing: .0

Mean	557549.7	Std Err	64360.56	Min	36150.00	Skewness	.5823
Median	460383.0	Variance	1.53E+11	Max	1361201	S E Skew	.3876
5% Trim	542527.5	Std Dev	391490.0	Range	1325051	Kurtosis	-.6440
95% CI for Mean	(427020.4, 688079.0)			IQR	603647.0	S E Kurt	.7587

CONDUR contract duration

Valid cases: 37.0 Missing cases: .0 Percent missing: .0

Mean	161.1351	Std Err	17.1908	Min	7.0000	Skewness	.6339
Median	150.0000	Variance	10934.34	Max	360.0000	S E Skew	.3876
5% Trim	158.4459	Std Dev	104.5674	Range	353.0000	Kurtosis	-.7233
95% CI for Mean	(126.2706, 195.9996)			IQR	150.0000	S E Kurt	.7587

COMMUNITY PARTICIPATED

Contract cost

Valid cases: 6.0 Missing cases: 26.0 Percent missing: 81.3

Mean	8307.500	Std Err	1140.297	Min	4491.000	Skewness	-.2203
Median	8505.000	Variance	7801666	Max	11608.00	S E Skew	.8452
5% Trim	8336.167	Std Dev	2793.146	Range	7117.000	Kurtosis	-1.7418
95% CI for Mean	(5376.273, 11238.73)			IQR	5232.250	S E Kurt	1.7408

CONCOS contract cost

Valid cases: 56.0 Missing cases: .0 Percent missing: .0

Mean	3761196	Std Err	518040.3	Min	227000.0	Skewness	3.2567
Median	2608500	Variance	1.50E+13	Max	23122000	S E Skew	.3190
5% Trim	3183456	Std Dev	3876658	Range	22895000	Kurtosis	12.9626
95% CI for Mean	(2723021, 4799372)		IQR	2847000	S E Kurt	.6283	

DUR duration

Valid cases: 55.0 Missing cases: 1.0 Percent missing: 1.8

Mean	227.7455	Std Err	25.2232	Min	-449.000	Skewness	.9223
Median	182.0000	Variance	34991.67	Max	894.0000	S E Skew	.3217
5% Trim	215.9343	Std Dev	187.0606	Range	1343.000	Kurtosis	7.1957
95% CI for Mean	(177.1759, 278.3150)		IQR	119.0000	S E Kurt	.6335	

SIP

CON.COST contract cost

Valid cases: 6.0 Missing cases: 1.0 Percent missing: 14.3

Mean	48500.67	Std Err	11707.40	Min	24500.00	Skewness	1.1300
Median	40052.50	Variance	8.22E+08	Max	97745.00	S E Skew	.8452
5% Trim	47098.24	Std Dev	28677.16	Range	73245.00	Kurtosis	.6470
95% CI for Mean	(18405.83, 78595.50)		IQR	45201.75	S E Kurt	1.7408	

CONDUR contract duration

Valid cases: 6.0 Missing cases: 1.0 Percent missing: 14.3

Mean	38.6667	Std Err	12.6535	Min	7.0000	Skewness	.9941
Median	30.0000	Variance	960.6667	Max	90.0000	S E Skew	.8452
5% Trim	37.5741	Std Dev	30.9946	Range	83.0000	Kurtosis	.1832
95% CI for Mean	(6.1398, 71.1935)		IQR	54.5000	S E Kurt	1.7408	

CSPU

CONCOST CONTRACT COST

Valid cases: 4.0 Missing cases: .0 Percent missing: .0

Mean	390668.9	Std Err	163364.7	Min	89834.00	Skewness	.1494
Median	366047.7	Variance	1.07E+11	Max	740746.0	S E Skew	1.0142
5% Trim	387933.2	Std Dev	326729.5	Range	650912.0	Kurtosis	-4.9552
95% CI for Mean	(-129231, 910568.4)		IQR	603286.4	S E Kurt	2.6186	

CON.DUR CONTRACT DURATION

Valid cases: 4.0 Missing cases: .0 Percent missing: .0

Mean	62.5000	Std Err	16.0078	Min	30.0000	Skewness	-.0838
Median	65.0000	Variance	1025.000	Max	90.0000	S E Skew	1.0142
5% Trim	62.7778	Std Dev	32.0156	Range	60.0000	Kurtosis	-5.5181
95% CI for Mean	(11.5560, 113.4440)		IQR	57.5000	S E Kurt	2.6186	

SKAA

CONESTC contract cost

Valid cases: 4.0 Missing cases: 6.0 Percent missing: 60.0

Mean	250790.0	Std Err	81979.19	Min	87360.00	Skewness	.0437
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Median	247625.0	Variance	2.69E+10	Max	420550.0	S E Skew	1.0142
5% Trim	250438.3	Std Dev	163958.4	Range	333190.0	Kurtosis	-4.9188
95% CI for Mean	(-10104.4, 511684.4)		IQR	305905.0	S E Kurt	2.6186	

NHDA

C.COST Contact cost

Valid cases: 42.0 Missing cases: .0 Percent missing: .0

Mean	347794.1	Std Err	39759.85	Min	9936.000	Skewness	.2934
Median	276845.0	Variance	6.64E+10	Max	749623.5	S E Skew	.3654
5% Trim	344314.3	Std Dev	257673.3	Range	739687.5	Kurtosis	-1.3937
95% CI for Mean	(267497.4, 428090.7)		IQR	487877.7	S E Kurt	.7166	

C.DUR contract duration

Valid cases: 38.0 Missing cases: 4.0 Percent missing: 9.5

Mean	77.3421	Std Err	9.7016	Min	7.0000	Skewness	2.8969
Median	67.0000	Variance	3576.610	Max	352.0000	S E Skew	.3828
5% Trim	69.6491	Std Dev	59.8048	Range	345.0000	Kurtosis	11.9047
95% CI for Mean	(57.6848, 96.9994)		IQR	50.7500	S E Kurt	.7497	

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APPENDIX 5

PARAMETRIC TESTS

SIP

t-tests for Independent Samples of T.O.CON type of contractor

Variable	Number of Cases	Mean	SD	SE of Mean
CON.COST contract cost				
non-community g	37	557549.702	391490.013	64360.562
community group	6	48500.6667	28677.164	11707.403

Mean Difference = 509049.0355

Levene's Test for Equality of Variances: F= 11.293 P= .002

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.15	41	.003	161510.037	(182872.9, 835225.2)
Unequal	7.78	38.12	.000	65416.704	(376633.7, 641464.4)

t-tests for Independent Samples of T.O.CON type of contractor

Variable	Number of Cases	Mean	SD	SE of Mean
CONDUR contract duration				
non-community g	37	161.1351	104.567	17.191
community group	6	38.6667	30.995	12.654

Mean Difference = 122.4685

Levene's Test for Equality of Variances: F= 6.793 P= .013

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.82	41	.007	43.386	(34.849, 210.088)
Unequal	5.74	27.49	.000	21.346	(78.707, 166.230)

NHDA

t-tests for Independent Samples of T.CON type of contracts

Variable	Number of Cases	Mean	SD	SE of Mean
C.COST Contact cost				
non-commu	54	10254181.8	16837450.3	2291286.77
community	42	332317.900	263705.204	40690.596

Mean Difference = 9921863.9019

Levene's Test for Equality of Variances: F= 22.606 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.81	94	.000	2601390.964	(4756741, 15086987)
Unequal	4.33	53.03	.000	2291648.049	(5325468, 14518260)

t-tests for Independent Samples of T.CON type of contracts

Variable	Number of Cases	Mean	SD	SE of Mean
C.DUR contract duration				
non-commu	47	229.1064	153.094	22.331
community	38	77.3421	59.805	9.702

Mean Difference = 151.7643

Levene's Test for Equality of Variances: F= 47.705 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	5.76	83	.000	26.346	(99.364, 204.164)
Unequal	6.23	62.25	.000	24.347	(103.098, 200.430)

NON-PARAMETRIC

SIP

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

CON.COST contract cost
by T.O.CON type of contractor

Mean Rank	Cases				
24.81	37	T.O.CON = 1.00	non-community groups		
4.67	6	T.O.CON = 2.00	community group		
	--				
	43	Total			
				Exact	Corrected for ties
U	W	2-Tailed P	Z	2-Tailed P	
7.0	28.0	.0000	-3.6452	.0003	

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

CONDUR contract duration
by T.O.CON type of contractor

Mean Rank	Cases				
24.38	37	T.O.CON = 1.00	non-community groups		
7.33	6	T.O.CON = 2.00	community group		
	--				
	43	Total			
				Exact	Corrected for ties
U	W	2-Tailed P	Z	2-Tailed P	
23.0	44.0	.0009	-3.1052	.0019	

NHDA

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

C.COST Contact cost
by T.CON type of contracts

Mean Rank	Cases		
63.48	54	T.CON = 1.00	non-community
29.24	42	T.CON = 2.00	community
	--		

96 Total

			Corrected for ties	
U	W	Z	2-Tailed P	
325.0	1228.0	-5.9750	.0000	

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

C.DUR contract duration
by T.CON type of contracts

Mean Rank	Cases	
54.17	47	T.CON = 1.00 non-community
29.18	38	T.CON = 2.00 community
	--	
	85	Total

			Corrected for ties	
U	W	Z	2-Tailed P	
368.0	1109.0	-4.6484	.0000	

APPENDIX 6

SKAA CONTEXT

TL1A Time lag-T.S &N.I.T, b-a

Valid cases: 29.0 Missing cases: 24.0 Percent missing: 45.3

Mean	-27.8966	Std Err	13.2135	Min	-362.000	Skewness	-3.9870
Median	-9.0000	Variance	5063.310	Max	56.0000	S E Skew	.4335
5% Trim	-17.1513	Std Dev	71.1569	Range	418.0000	Kurtosis	18.4138
95% CI for Mean	(-54.9632, -.8299)			IQR	24.0000	S E Kurt	.8452

TL2 Time lag-tender approval

Valid cases: 45.0 Missing cases: 8.0 Percent missing: 15.1

Mean	41.5778	Std Err	6.3032	Min	.0000	Skewness	2.3074
Median	26.0000	Variance	1787.840	Max	198.0000	S E Skew	.3537
5% Trim	36.1728	Std Dev	42.2829	Range	198.0000	Kurtosis	5.0292
95% CI for Mean	(28.8746, 54.2810)			IQR	19.0000	S E Kurt	.6945

TL3 Time lag -work order and

Valid cases: 47.0 Missing cases: 6.0 Percent missing: 11.3

Mean	6.1064	Std Err	1.9325	Min	.0000	Skewness	3.5956
Median	2.0000	Variance	175.5319	Max	65.0000	S E Skew	.3466
5% Trim	3.5792	Std Dev	13.2488	Range	65.0000	Kurtosis	12.9726
95% CI for Mean	(2.2164, 9.9964)			IQR	3.0000	S E Kurt	.6809

TL4 time lag between actual s

Valid cases: 42.0 Missing cases: 11.0 Percent missing: 20.8

Mean	8.6429	Std Err	1.9154	Min	1.0000	Skewness	2.9083
Median	6.0000	Variance	154.0889	Max	56.0000	S E Skew	.3654
5% Trim	6.7090	Std Dev	12.4133	Range	55.0000	Kurtosis	7.5873
95% CI for Mean	(4.7746, 12.5111)			IQR	3.2500	S E Kurt	.7166

TL5 Time lag- Actual date of

Valid cases: 49.0 Missing cases: 4.0 Percent missing: 7.5

Mean	165.3878	Std Err	23.0626	Min	-2.0000	Skewness	1.2663
Median	103.0000	Variance	26062.24	Max	607.0000	S E Skew	.3398
5% Trim	150.7483	Std Dev	161.4380	Range	609.0000	Kurtosis	.9075
95% CI for Mean	(119.0173, 211.7582)			IQR	204.0000	S E Kurt	.6681

TL6A Time lag- Work order and

Valid cases: 27.0 Missing cases: 26.0 Percent missing: 49.1

Mean	13.1481	Std Err	14.8528	Min	-339.000	Skewness	-3.6318
Median	18.0000	Variance	5956.362	Max	158.0000	S E Skew	.4479
5% Trim	20.8765	Std Dev	77.1775	Range	497.0000	Kurtosis	18.2631
95% CI for Mean	(-17.3822, 43.6785)			IQR	22.0000	S E Kurt	.8721

TL7 act.date of comp.-actual

Valid cases: 49.0 Missing cases: 4.0 Percent missing: 7.5

Mean	164.6735	Std Err	23.0578	Min	-2.0000	Skewness	1.2809
Median	103.0000	Variance	26051.35	Max	607.0000	S E Skew	.3398
5% Trim	149.9546	Std Dev	161.4043	Range	609.0000	Kurtosis	.9355
95% CI for Mean	(118.3127, 211.0342)			IQR	204.0000	S E Kurt	.6681

TL8 Work Order-Actual start

Valid cases: 45.0 Missing cases: 8.0 Percent missing: 15.1

Mean	10.9333	Std Err	2.7751	Min	1.0000	Skewness	2.9726
Median	6.0000	Variance	346.5636	Max	85.0000	S E Skew	.3537
5% Trim	7.8333	Std Dev	18.6162	Range	84.0000	Kurtosis	8.1441
95% CI for Mean	(5.3404, 16.5263)			IQR	2.0000	S E Kurt	.6945

TL11 Time lag -tender app-ten

Valid cases: 48.0 Missing cases: 5.0 Percent missing: 9.4

Mean	32.2292	Std Err	15.4832	Min	-27.0000	Skewness	6.2350
Median	10.5000	Variance	11506.95	Max	734.0000	S E Skew	.3431
5% Trim	15.1991	Std Dev	107.2704	Range	761.0000	Kurtosis	41.1223
95% CI for Mean	(1.0811, 63.3773)			IQR	20.5000	S E Kurt	.6744

TL12 Tender opening- Work orde

Valid cases: 46.0 Missing cases: 7.0 Percent missing: 13.2

Mean	39.3478	Std Err	16.4703	Min	-23.0000	Skewness	5.7087
Median	12.5000	Variance	12478.50	Max	737.0000	S E Skew	.3501
5% Trim	21.6691	Std Dev	111.7072	Range	760.0000	Kurtosis	35.5081
95% CI for Mean	(6.1749, 72.5208)			IQR	23.5000	S E Kurt	.6876

TL13 Time lag NIT and work ord

Valid cases: 43.0 Missing cases: 10.0 Percent missing: 18.9

Mean	48.6047	Std Err	7.8968	Min	.0000	Skewness	2.1888
Median	28.0000	Variance	2681.435	Max	204.0000	S E Skew	.3614
5% Trim	42.4264	Std Dev	51.7826	Range	204.0000	Kurtosis	4.0565
95% CI for Mean	(32.6683, 64.5410)			IQR	26.0000	S E Kurt	.7090

TL14 Tender open-technical san

Valid cases: 28.0 Missing cases: 25.0 Percent missing: 47.2

Mean	-7.6786	Std Err	13.3653	Min	-352.000	Skewness	-4.5388
Median	4.5000	Variance	5001.708	Max	70.0000	S E Skew	.4405
5% Trim	2.8333	Std Dev	70.7228	Range	422.0000	Kurtosis	22.7168
95% CI for Mean	(-35.1020, 19.7448)			IQR	11.5000	S E Kurt	.8583

TL15 Time lag-actual completio

Valid cases: 27.0 Missing cases: 26.0 Percent missing: 49.1

Mean	198.5185	Std Err	38.7852	Min	-274.000	Skewness	.2878
Median	191.0000	Variance	40615.95	Max	640.0000	S E Skew	.4479
5% Trim	196.5556	Std Dev	201.5340	Range	914.0000	Kurtosis	.5852
95% CI for Mean	(118.7943, 278.2427)			IQR	293.0000	S E Kurt	.8721

TL16 Time lag tender open-nit,

Valid cases: 46.0 Missing cases: 7.0 Percent missing: 13.2

Mean	7.4130	Std Err	16.2129	Min	-706.000	Skewness	-6.3015
Median	17.0000	Variance	12091.49	Max	131.0000	S E Skew	.3501
5% Trim	21.3696	Std Dev	109.9613	Range	837.0000	Kurtosis	41.8258
95% CI for Mean	(-25.2414, 40.0675)		IQR	9.5000	S E Kurt	.6876	

SIP CONTEXT

TL1 time lag between nit and

Valid cases: 37.0 Missing cases: .0 Percent missing: .0

Mean	125.1892	Std Err	37.0766	Min	-141.000	Skewness	.9620
Median	9.0000	Variance	50862.88	Max	612.0000	S E Skew	.3876
5% Trim	112.3709	Std Dev	225.5280	Range	753.0000	Kurtosis	-.5299
95% CI for Mean	(49.9944, 200.3840)		IQR	356.5000	S E Kurt	.7587	

TL2 time lag between acceptan

Valid cases: 37.0 Missing cases: .0 Percent missing: .0

Mean	101.4324	Std Err	11.1804	Min	.0000	Skewness	.3355
Median	88.0000	Variance	4625.086	Max	232.0000	S E Skew	.3876
5% Trim	100.1456	Std Dev	68.0080	Range	232.0000	Kurtosis	-1.3475
95% CI for Mean	(78.7574, 124.1074)		IQR	132.0000	S E Kurt	.7587	

TL3 time lag between work ord

Valid cases: 36.0 Missing cases: 1.0 Percent missing: 2.7

Mean	6.6389	Std Err	6.1838	Min	-185.000	Skewness	-3.7954
Median	5.0000	Variance	1376.637	Max	83.0000	S E Skew	.3925
5% Trim	9.0432	Std Dev	37.1031	Range	268.0000	Kurtosis	21.6306
95% CI for Mean	(-5.9150, 19.1928)		IQR	15.0000	S E Kurt	.7681	

TL4 time lag between actual s

Valid cases: 35.0 Missing cases: 2.0 Percent missing: 5.4

Mean	-2.4000	Std Err	33.0059	Min	-730.000	Skewness	-2.9709
Median	11.0000	Variance	38128.66	Max	335.0000	S E Skew	.3977
5% Trim	22.1825	Std Dev	195.2656	Range	1065.000	Kurtosis	10.6233
95% CI for Mean	(-69.4761, 64.6761)		IQR	33.0000	S E Kurt	.7778	

TL5 actual contract duration

Valid cases: 35.0 Missing cases: 2.0 Percent missing: 5.4

Mean	300.9429	Std Err	25.5808	Min	11.0000	Skewness	-.1609
Median	309.0000	Variance	22903.29	Max	590.0000	S E Skew	.3977
5% Trim	301.7778	Std Dev	151.3383	Range	579.0000	Kurtosis	-.5979
95% CI for Mean	(248.9563, 352.9294)		IQR	226.0000	S E Kurt	.7778	

TL6 time lag between admin.ap

Valid cases: 36.0 Missing cases: 1.0 Percent missing: 2.7

Mean	250.3056	Std Err	35.4156	Min	-7.0000	Skewness	.8079
Median	179.5000	Variance	45153.42	Max	717.0000	S E Skew	.3925
5% Trim	238.6728	Std Dev	212.4933	Range	724.0000	Kurtosis	-.4904

95% CI for Mean (178.4082, 322.2030) IQR 364.2500 S E Kurt .7681

TL7 time lag between physical

Valid cases: 35.0 Missing cases: 2.0 Percent missing: 5.4

Mean	366.9143	Std Err	51.9099	Min	42.0000	Skewness	2.2720
Median	298.0000	Variance	94312.26	Max	1320.000	S E Skew	.3977
5% Trim	331.9206	Std Dev	307.1030	Range	1278.000	Kurtosis	4.9718
95% CI for Mean	(261.4207, 472.4079)			IQR	203.0000	S E Kurt	.7778

TL9 time lag between end of d

Valid cases: 23.0 Missing cases: 14.0 Percent missing: 37.8

Mean	33.7391	Std Err	62.2157	Min	-364.000	Skewness	2.7603
Median	24.0000	Variance	89028.20	Max	1182.000	S E Skew	.4813
5% Trim	-3.8116	Std Dev	298.3759	Range	1546.000	Kurtosis	10.1749
95% CI for Mean	(-95.2883, 162.7666)			IQR	194.0000	S E Kurt	.9348

TL13 time lag between nit and

Valid cases: 36.0 Missing cases: 1.0 Percent missing: 2.7

Mean	108.1667	Std Err	12.5204	Min	-94.0000	Skewness	-.3054
Median	103.5000	Variance	5643.343	Max	233.0000	S E Skew	.3925
5% Trim	110.7099	Std Dev	75.1222	Range	327.0000	Kurtosis	-.1640
95% CI for Mean	(82.7490, 133.5844)			IQR	123.0000	S E Kurt	.7681

PERFORMANCE INDICATORS-ROUTINE

SKAA

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of completion cost and contract cost	1.07	1.01	.48	1.98	.24
ratio of completion time and contract time	1.58	1.13	.38	4.67	.99
ratio of time taken from first procedural step to the work order and the contract duration	.12	.20	-5.65	1.76	1.22
ratio of technical sanction cost and the estimated cost	1.24	1.18	1.00	2.02	.25
ratio of estimated cost to the contract cost	.78	.81	.50	1.07	.12
ratio of estimated cost to the completion cost	.77	.79	.38	1.39	.20

KMC SMALL CONTRACTORS

	Mean	Median	Minimum	Maximum	Std Deviation
Ratio of completion cost and contract cost	.94	.96	.71	.96	.05
ratio of estimated cost and contract cost	.91	.92	.74	1.00	.08
ratio of estimated cost and completion cost	.96	.98	.78	1.08	.09

CMC DRAINAGE DIVISION

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of actual cost and contract cost	1.00	1.00	.86	1.19	.04
ratio of actual duration and contract duration	.60	.43	.10	3.29	.59

CMC PROJECTS

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of estimated cost to contract cost	1.67	1.01	.93	9.50	2.35

SIP

	Mean	Median	Minimum	Maximum	Std Deviation
ration of actual cost to contract cost	1.05	1.04	.43	1.53	.22
ratio of actual duratoin and contract duration	2.35	1.97	.37	6.71	1.38
ratio of time taken from first admin.step to work order and contact duration	1.96	1.84	-.02	6.03	1.49
ratio of technical sanction cost and estimated cost	1.00	1.00	.12	1.62	.20
ratio of estimated cost to the contract cost	1.07	1.02	.67	1.57	.20
ratio of estimated cost to the actual completion cost	1.08	.98	.67	2.99	.45

PERFORMANCE INDICATORS-COMMUNITY PARTICIPATED

OPP

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of actual cost and contract cost	1.08	1.14	.63	1.38	.31
ratio of estimated cost and completion cost	1.01	.88	.72	1.58	.35

KMC/ADB

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of estimated cost to the contract cost	.87	.70	.43	2.20	.46

SIP

	Mean	Median	Minimum	Maximum	Std Deviation
ration of actual cost to contract cost	.97	.99	.87	1.07	.07
ratio of actual duratoin and contract duration	2.06	1.97	1.07	3.32	.90
ratio of time taken from first admin.step to work order and contact duration	2.40	.47	.03	7.00	3.24
ratio of technical sanction cost and estimated cost	1.00	1.00	1.00	1.00	.00
ratio of estimated cost to the contract cost	.98	.95	.69	1.47	.28
ratio of estimated cost to the actual completion cost	1.02	.96	.64	1.68	.36

CLEAN SETTLEMNT PROGRAMME UNIT (CSPU)

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of actual cost to contract cost	.97	.97	.95	.98	.02
ratio of actual duration to contract duration	1.37	1.37	1.33	1.40	.05

SKAA DEPARTMENTAL WORKS

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of actual cost to contract cost	.67	.67	.65	.69	.02
R5	1.00	1.00	1.00	1.00	.00
ratio of estimated cost to actual cost	1.49	1.48	1.45	1.55	.04

NHDA

	Mean	Median	Minimum	Maximum	Std Deviation
ratio of actual cost and contract cost	.88	.92	.37	1.10	.17
ratio of actual duration and contract duration	1.90	1.60	.05	7.00	1.40

APPENDIX 8

- - - S P E A R M A N C O R R E L A T I O N C O E F F I C I E N T S - - -

CONDURO .8433
N(170)
Sig .000

CONCOSTO

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - - S P E A R M A N C O R R E L A T I O N C O E F F I C I E N T S - - -

ACTDURO .8636
N(189)
Sig .000

ACTCOSTO

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - - S P E A R M A N C O R R E L A T I O N C O E F F I C I E N T S - - -

CHDU .1476
N(150)
Sig .071

CHCO

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

SIP MONEY INFLUX

	Mean	Median	Minimum	Maximum	Std Deviation
number of community labour unskilled	841.93	109.00	.00	8383.00	1597.32
number of community labour skilled	314.90	37.00	.00	2862.00	570.11
Number of days of formal training	.00	.00	.00	.00	.00
number of days of informal training	53.18	4.50	.00	350.00	78.96
number of incidence existing and new enterprise development related infrastructure provision	2.77	1.50	.00	10.00	3.56
contract duration	144	120	7	360	106

OPP CIRCULATION OF MONEY

	Mean	Median	Minimum	Maximum	Std Deviation
actual cost	8906.16	8922.00	1860.00	33000.00	5841.86
actual number of houses	14.56	13.00	1.00	44.00	9.96
labour, daily or contractors cost	2854.19	3000.00	100.00	11255.00	2094.51
material cost	5903.53	5256.50	1260.00	21745.00	3932.94
actual duration of work	17.57	7.00	3.00	76.00	22.62