A MODEL FOR A CONTRACTOR SUPPORT AGENCY

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Preface - The MART Initiative

The Management of Appropriate Road Technology (MART) initiative aims to reduce the costs of constructing, rehabilitating and maintaining road infrastructure, and vehicle operations in economically emerging and developing countries (EDCs). It is based on a research project funded principally by the Department for International Development (DFID), formally the Overseas Development Administration (ODA), under its Technology Development and Research (TDR) provision. The initiative is led by the Construction Enterprise Unit of Loughborough University's Institute of Development Engineering, in association with two UK-based specialist consultants Intech Associates and I.T.Transport. The MART programme is currently implementing its initial 3 year programme.

The MART programme is concerned with supporting sustainable improvements in road construction and maintenance in developing countries. This implies the effective use of local resources, particularly human resources and readily available intermediate equipment (especially wheeled agricultural tractors and related ancillary equipment). To optimise the use of scarce financial resources, it also requires the effective mobilisation of the indigenous private sector (particularly small domestic construction enterprises), and the application of good management practices in both contracting and employing organisations.

The current phase of the MART programme will *inter alia* draw together existing expertise in labour - and intermediate equipment-based technology and the development of private construction enterprises to produce a series of guidelines on the four priority topics of:

- handtools;
- intermediate equipment;
- private sector development; and
- institution building.

The MART initiative is strongly research-based, and both the DFID and the MART partners see its main impact as providing analysis and codification to support practical project initiatives. Thus much of the output will be in the form of journal papers and other formal publications suitable as reference material and providing an independent and reliable record of the advancing state of the art.

MART welcomes dialogue with engineers, equipment designers and manufacturers regarding designs, products or experience of intermediate equipment with the objective of the promotion of a sustainable road sector technology and management approach for EDCs.

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Introduction

There is growing interest in developing the private contracting sector as a method for improving the scale and efficiency of the construction industry. Small scale local contractors are generally seen as holding the greatest potential for increasing construction capacity and general economic development as they:

- are usually more competitive than larger firms on small or disparate projects due to their lower overheads
- provide greater employment opportunities as they use less capital investment per unit of output than larger companies
- have low entry restraint in terms of skills and capital requirements
- like large local contractors, minimise the flow of financial resources out of the country
- can provide a base for the growth of the industry as some contractors will expand their businesses to eventually become large contractors.

There have been numerous attempts to develop the construction industry, particularly the roads sector, in many low income countries as it is often seen as a pre-requisite for general development (ILO 1997). Governments and agencies have tried various initiatives, projects and incentive schemes in an attempt to develop the construction industry with various degrees of success. These attempts have generally sought to provide a high level of support to relatively few construction enterprises, by addressing a number of the following issues: training, technical assistance, contract and payment procedures, financial resources and work continuity. The weaknesses of these projects (particularly those focusing on financial assistance and preferential contract allocation) are firstly the limited number of contractors that can be supported. Secondly, the ongoing requirement for financial resources to ensure a continual workload for contractors involved in the projects creates an unacceptable system promoting dependence rather than autonomy.

There is a case for concluding that it is impossible to develop the construction industry and that small indigenous contractors are destined to remain small. However, this opinion negates the influence of the institutional framework under which small contractors are required to operate. This institutional framework is not designed for their presence and therefore is not able to meet their needs. The hypothesis which this paper seeks to test is therefore that:

"Small scale construction enterprises *can* be developed through appropriate institutional support"

The traditional western contracting framework is the system that was inherited by most low income countries. The hypothesis therefore implies that small scale contractors can work in this construction market place if they are assisted to operate under the traditional contracting system through institutional support. The use of the word "developed" also implies that this institutional support is not permanently required, but that construction enterprises can graduate from the requirements of this institutional support once their competition disadvantages have been overcome.

In order to be successful this course of action for the development of the private construction sector should not impose significant additional risks to the client above those normally associated with promotion of a construction project. It should also be achieved without a large ongoing

financial expense, when compared against the social and economic benefits of an improved construction capacity.

There is a wide range of different institutional support initiatives that may be provided for contractors to fill the gaps that currently exist in the main support framework. These different services would normally be provided by discrete organisations working in collaboration. The provision of institutional support for small construction enterprises will therefore be required to span across different sectors and organisational frameworks.

Contractors are notorious for complaining about the problems that they have to face. While some of these problems are a 'fact of life' associated with operating any business many of their complaints are justified. The main problem that each contractor faces is that individually they have little power to bring about changes to their current situation.

Training is often viewed as the solution to a contractor's problems. The ILO in particular has produced a wide range of training material to develop a contractor's business and management acumen. Appropriate training will help a contractor, or any other small business, in improving their effectiveness and viability. However, it will not solve the problems of an unfavourable business environment (Hernes 1988). Relf (1987) suggests that constraints inhibiting the performance of small scale contractors may be grouped under 3 headings:

1. Difficulties presented by the particular market and business environment in which the contractor is operating.
2. Difficulties deriving from clients.
3. Difficulties deriving from the shortcomings and inadequacies of the contractor himself.

A ranked list of the 18 most common problems collected from over 20 reports, based on frequency of occurrence is shown in the table below.

Rank	**Problem**
1=	Bank finance is difficult to obtain
1=	Long delays in receiving payment
3	Contract documents are over complex and unsuitable for the work
4=	No work continuity
4=	Poorly managed/ non existent classification or prequalification system
6=	Tenders / estimates and bids are poorly assembled and difficult to follow
6=	Lack of skilled labour / staff at all levels
8=	There is little or no on-site supervision / quality control
8=	There is no provision for price fluctuations / estimated badly
10=	Specifications are vague, over complex and/or impractical (usually foreign codes)
10=	There are insufficient meetings between client, consultant and contractor
10=	There is a lack of equipment for hire
13=	Bank interest charges are very high
13=	Contract documents are biased against the contractor
13=	Difficulty in obtaining performance bonds / guarantees and their cost
16=	Contracts are awarded to companies who bid too low (lowest tender)
16=	Delays and shortage of supply - materials
16=	Lack of expertise in planning and programming

Sources: Abbott P 1985, Adams O 1997, CSIR 1993a, CSIR 1993b, Dhir M. 1995, Edmonds G. & Miles D. 1984, Ganesan S. 1982, Garnier 1993, Harral C et al 1986, Hernes T 1987, IHE 1994, ILO 1983, Kirmani S & Blaxall J 1988, Lemunge N 1980, Levitsky J 1993, Miles D & Ward J 1991, Miles D & Ward J 1998, Miles D. 1990, Perry J 1980, Taylor G 1996, Ward J 1995

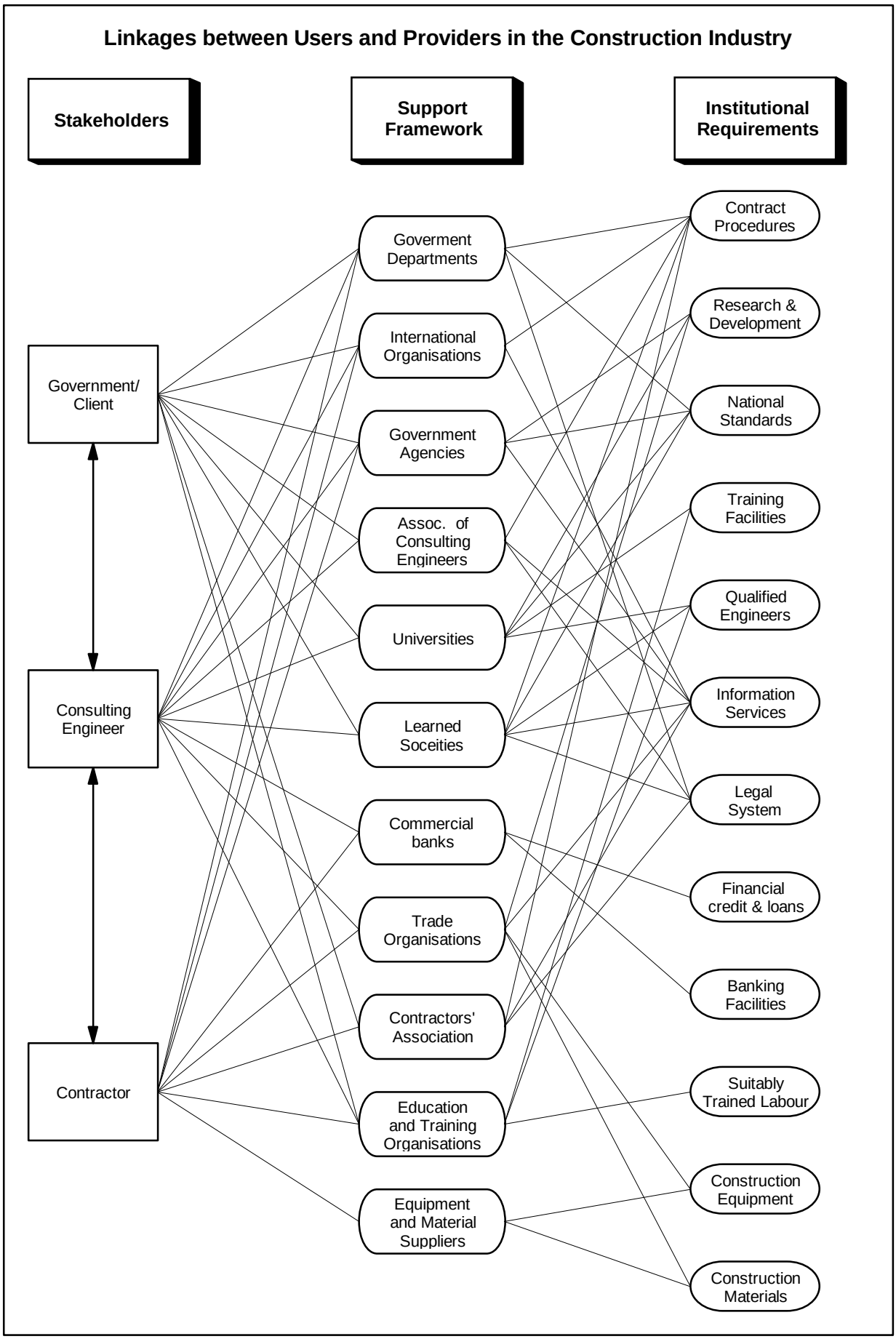
It can be seem from the table that the only problem listed which falls in the category of "difficulties derived from the shortcomings of the contractor himself", is *lack of expertise in planning and programming* which is ranked 16th. The table also shows that two major problem sectors facing small scale construction enterprises are access to financial resources and problems with contract procedures. The model for institutional support described in this report will therefore concentrate on providing the institutional support for these issues. It may be possible to provide support in other areas however the complexity of the issues will go beyond the scope of this paper. There is also the danger that the resources of the organisation providing the support will be spread too thinly by providing a large number of services and therefore reduce its effectiveness.

A role for a Contractor Support Agency

While the tripartite arrangement between client, contractor and consulting engineer forms the core of the construction industry's institutional framework there are many other support organisations, within developed countries, which enable the industry to function effectively. There are also other organisations which while not essential, support the industry and enable it to development new techniques and materials and improve productivity. The diagram below highlights the complexity of the relationships between the stakeholders in the construction industry of client, consultant and contractor, their institutional requirements and the support framework that exists to meet these demands. The lines only indicate relationships which may exist to meet the demands of the construction industry and do not include linkages which may exist for other reasons.

Although the construction industry in developing countries has the same institutional requirements to those of developed countries shown in the table usually the support framework in developing countries is generally very weak. The industry is dominated by foreign contractors and a few large local contractors. There are very few medium size contractors but a large number of small contractors undertaking a large number of small jobs which only account for a very small percentage of the total industry turnover. This growth trap or "missing middle" (Young 1993) prevents the establishment of an indigenous capacity to undertake medium and large scale projects. The "missing middle" may be attributed to the poor capacity within the support framework to assist the small construction enterprises and hence the development of the whole construction industry. This lack of support could either be due to the inaccessibility of the existing support framework (were it exists) to small companies or the general lack of a support framework for the whole construction industry. There is therefore a clear need for a organisation that can fill this requirement by providing the support framework which is currently unavailable to small businesses. This Contractor Support Agency (CSA) could provide a range of services to supplement the existing support framework that may exist. Its role would be to threefold:

1. Facilitate the growth and capacity of small businesses to access the current support framework.
2. Fill the gap in the existing construction industry support framework


Linkages between Users and Providers in the Construction Industry
Stakeholders
Support Framework
Institutional Requirements
Government/ Client
Consulting Engineer
Contractor
Goverment Departments
International Organisations
Government Agencies
Assoc. of Consulting Engineers
Universities
Learned Soceities
Commercial banks
Trade Organisations
Contractors' Association
Education and Training Organisations
Equipment and Material Suppliers
Contract Procedures
Research & Development
National Standards
Training Facilities
Qualified Engineers
Information Services
Legal System
Financial credit & loans
Banking Facilities
Suitably Trained Labour
Construction Equipment
Construction Materials

while it works to;

3. Promote the development of the existing framework to adapt and cater for all construction businesses.

At this point it may be worth highlighting the differences between a CSA and a Contractors' Association (CA). The role of a Contractors' Association should be to provide long term support to the whole contracting industry. A CA would be run by its membership for the benefit of its members in particular and contractors in general. It would obtain all its required resources from its members and represent the membership's majority interest, by promotion to government and other relevant bodies. CA membership would normally be open to any contractor who abides by the rules of the Association and pays their membership subscriptions, which may vary according to the size of the company.

A CSA will have the shorter term goals described above and will therefore require resources from outside of the organisations or companies that they aim to support in order to deliver their services. The management of a CSA would come from outside its membership, who will therefore not have direct control over the organisation's activities except for its remit to assist the development of its members. In common with a CA, membership of a CSA would not be compulsory for small contractors however, the perceived advantages of membership should outweigh the cost implications involved. CSAs are also likely to provide a wider range of services than a CA but at a more basic level which reflects the needs of the different membership. The ultimate objective of a CSA will be to work itself out of a job by achieving the 3 tasks described above. This may include, where a Contractors Association does not exist or is institutionally very weak the promotion or development of a CA.

There are many roles which a CSA could undertake. However, its primary role will be to develop the capacity of small construction enterprises to eliminate the "missing middle". It will be able to provide one voice to the government on issues important to a large number of small, and individually weak, enterprises. It should also facilitate the flow of information back from the government to the individual enterprises. (Edmonds & Miles 1984) acting as an intermediary. The table below highlights the different roles that a CSA could perform and is divided into 2 columns for initiatives which are directed at the contractors themselves and initiatives that are directed at improving the support framework.

Potential Roles of a CSA

Assistance targeted at contractors themselves	Initiatives to develop the construction industry support framework
• Technical advice • Legal advice • Business management training • Plant hire • Materials co-operative	• Classification system • Development of suitable contract documents • Financial assistance • Promotion of standard contract procedures • Improved payment procedures • Promotion of the image of small construction enterprises

It would be possible for the CSA to undertake all the activities described above. However, an organisation which undertook all these roles would have a complex structure in order to undertake this wide range of roles. As the objective of this paper is to propose a model for the initiation of a CSA which involves investigations, development of services and initial operation it

will concentrate on the most pertinent issues. These issues are the financial constraints and contract conditions and procedures. Within these constraints the issues of contractor registration and classification for more efficient contract management will also be discussed. It may be possible to further refine and develop the model to allow other services to be undertaken once it is believed that the basic structure for a CSA which addressees the two main issues has been defined.

As the Contractors' Association will be representing the whole of the contracting sector it will 'carry more weight' when negotiating with the government and will therefore be able to offer proposals for improving contract conditions and payment procedures. The association would also be able to offer policy advice in the formulation of a construction industry policy which would hopefully result in a more steady flow of work to its members.

The remaining parts of this paper will discuss the role a CSA could undertake and the criteria for measuring the success of the organisation. It will also highlight the investigations and the steps required to set up the organisation. The range of activities that could be undertaken by the CSA in achieving its objectives are explained and issues relating to finance and organisational structure/ staffing are discussed.

Investigations and Initiation of the organisation

Investigations

The initial stage in commencing a programme to develop a Contractor Support Agency will be to undertake a study of the indigenous construction industry. This study would investigate a number of different aspects of the construction industry to firstly determine if a CSA is the most appropriate form of construction industry development. i.e. There are a large number of potential small scale contractors who are restricted in their ability to procure work primarily due to a lack of institutional support and the institutional framework governing the construction industry. The study would cover 3 areas:

1. The potential available workload for the private construction sector

This part of the study would determine if there is sufficient demand for construction to justify the development of a construction capability. While there may not currently be a great demand for private contractors this section of the study should investigate the potential shift of work form the public sector to the private sector. The economic growth of the country should also highlight the future workload that may exist. A significant part of the initial study would involve investigating the government's interest and willingness to develop the industry and support the formation of a CSA. This support would not necessarily require a full financial commitment but support to accept the ideas put forward and initiate by the CSA which may require changes in government attitude.

2. Current competence and capacity of the construction industry

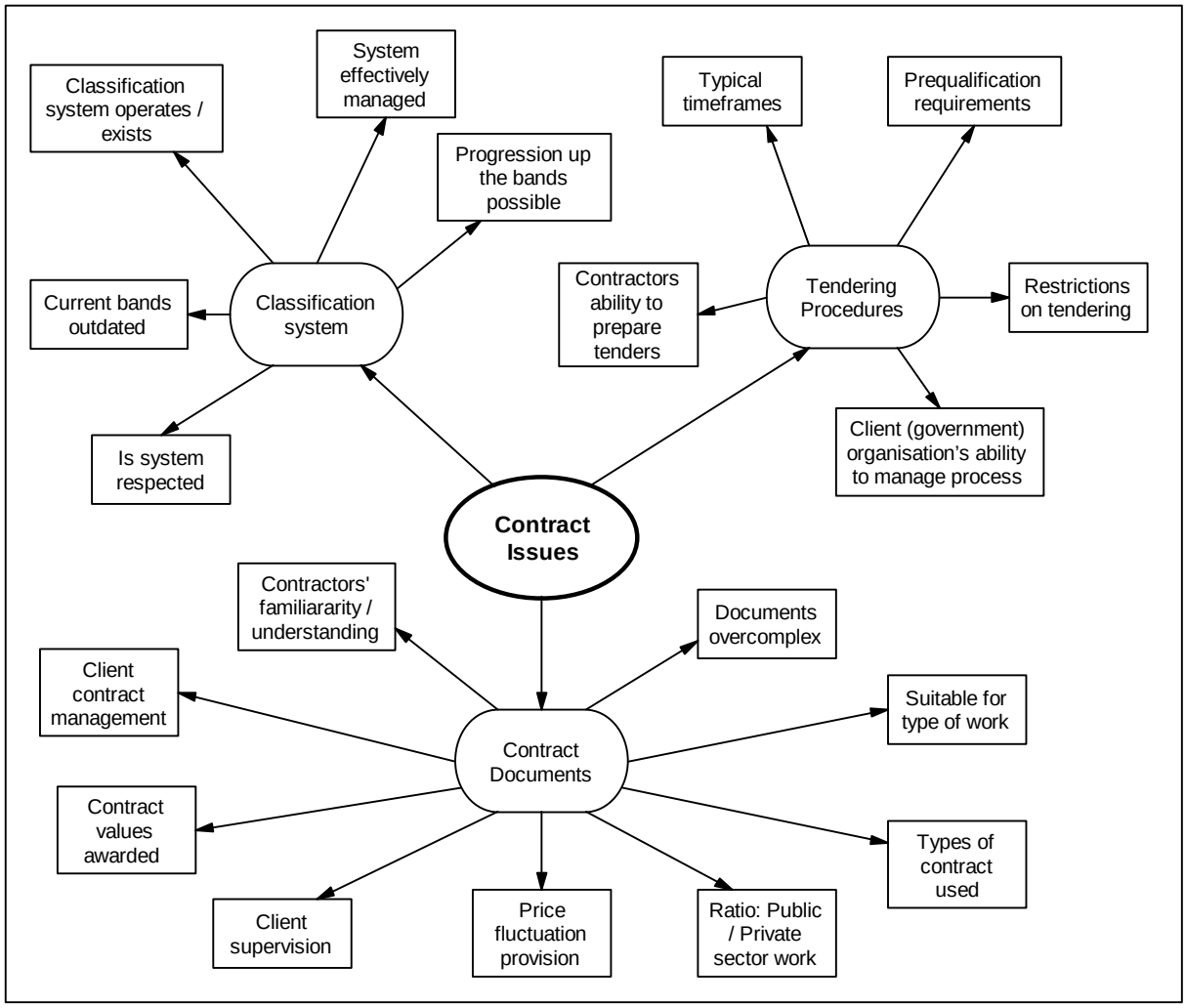
This phase of the study would determine the current competence and capacity of the domestic construction industry to carry out the predicted level of private sector work highlighted in the initial study phase. This study would be carried out by conducting interviews with existing contractors and major clients, for example, government ministries. Additional contacts would be made with any Contractors' Associations or representative groups which may already exist. This study should reveal:

- The current numbers of contractors in relation to their
    - size
    - previous experience
    - type of work undertaken
    - turnover
- Their general capital and credit facilities
- Their perceptions of the major constraints for effective execution of contracts
- The level of qualifications of the senior staff in the construction firm and type of training that may be required
- The interest of small contractors in the establishment of a CSA and their willingness to pay for services provided by the organisation

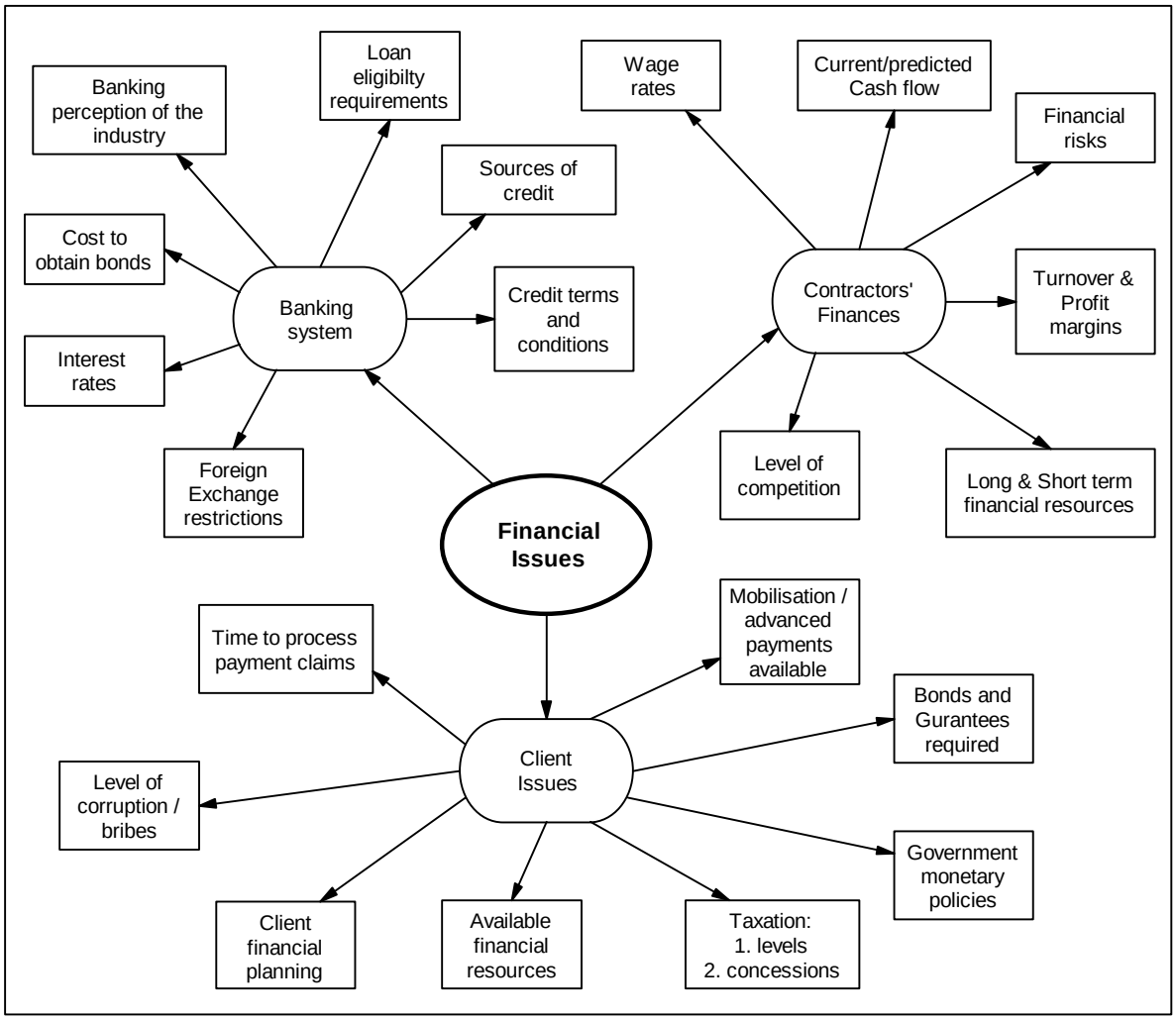
3. The construction industry operational framework

The final phase of the investigation should highlight the current operational framework governing the construction industry within the country concerned. The two figures shown below outline the contract and financial aspects of the institutional framework that should be investigated. These tables were derived from analysis of the problems that have been reported to affect the industry.

Contract Issues

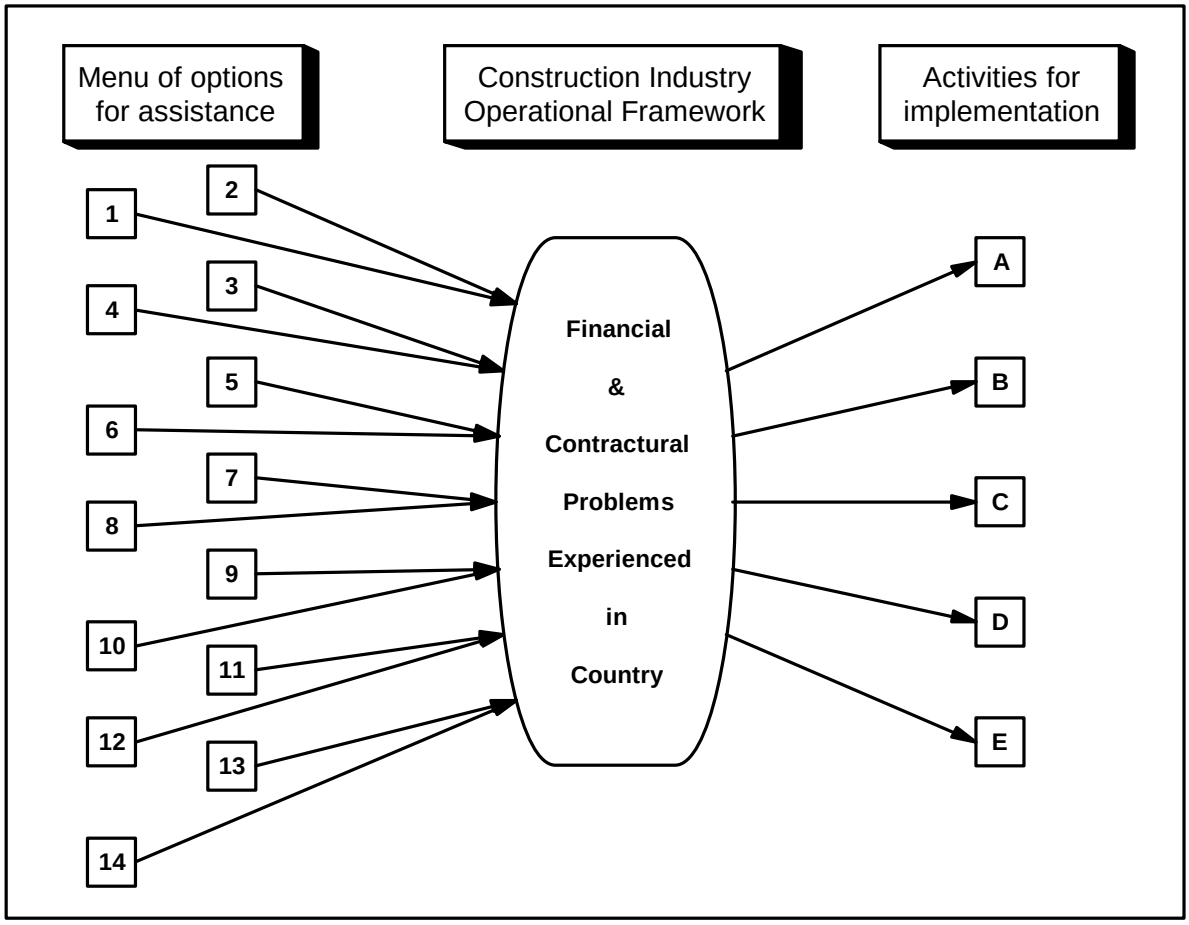


Financial Issues



If the investigations revealed that sufficient potential workload exists for the development of the indigenous contractors, but the current contractor's competence and capacity was insufficient to meet the demand then the initiation of a CSA may be beneficial. The results of the investigations carried out in phase three would determine if the poor capacity could be improved by a CSA. The problems highlighted in the third phase of the investigation would also be used to determine, if appropriate, the activities that the CSA should undertake. While problems may be similar in different countries they will be variations. Later sections of this paper discuss activities that the CSA could undertake to mitigate the problems experienced by contractors and provide support. There are advantages and disadvantages of using each initiative which will be determined by individual situation in the country concerned. The activities described in the next section should therefore be seen as a menu of options which would be chosen depending on the particular problems, shown in the spider diagrams, above experienced in country.

The diagram below shows how the roles a CSA could undertake would be chosen. There are a large number of options for assistance that could be provided to promote and assist the development of the construction sector in general and small contractors in particular. The next section discuses activities in the contract and finance sector that may be provided however, it will not be possible to provide them all. These options should be viewed as a menu from which a



restricted number of activities are actually implemented. They should be compared against the problems highlighted during the investigations of the construction industry framework and the most appropriate activities chosen that will address the problems.

Initiation

It will not be easy to initiate the CSA as will take time to establish the organisation. It will also be useful to determine the length of operation for the agency at its inception rather than once the organisation is operating as "costly bureaucracies are easier to create than to kill" (Edmonds and Miles 1984). The length of operation may be defined either by a time period or by a measured improvement in construction capability which is, of course, not easy to measure objectively. The 'time period' option is most likely to be favoured if international donors will provide a significant portion of the project funding. International donors are tied to yearly budget cycles and will therefore require a clearly defined point where their support will end. This option will require the CSA to work to a strict timeframe in order to show a result at the end of the donor investment period. On the other hand if the CSA is still making promising progress, possibly after a slow or difficult start, at the end of the donor funding period the overall value for money achieved will be reduced if the funding is ended abruptly. The 'measured improvement' option would permit the CSA to have a slow start if initial teething problems were encountered and prevent the initiative ending while it was in full swing. However, there will be no clear achievement milestones for the organisation which might result in it becoming a bureaucratic white elephant. There may be a compromise solution where a donor would fund the CSA in stages each with a specific timeframe. Additional stages would only be funded if criteria were met that could demonstrate a measured

improvement was continuing to be achieved. Projects that have been designed to develop contractors from scratch have taken 4 years to develop a contractor to a competitive bidding stage (Lantran 1990). It is likely that programmes to develop a CSA should last at least 5 years to allow assimilation and consolidation of the project objectives (Miles 1998). Although a CSA will not attempt to 'recruit' new contractors but assist those who have already started to operate, it should be seen as a long term initiative, particularly by financing agencies.

Regardless of the operating period there may be considered to be 5 main stages in initiating the CSA:

1. Develop an understanding of the operational framework governing the local construction industry
2. Determine the activities that the CSA will undertake and recruit additional staff if appropriate
3. Promote the CSA to the local construction industry and other stakeholders
4. Develop the national construction capability through CSA activities and initiatives
5. Review progress and refine activities undertaken by the CSA.

CSA Activities

Although there are diverse roles that could be played by a CSA this paper will concentrate on the two primary problems:

- Lack of access to finance
- Poor contract procedures

In order to address these 2 issues there are three areas of operation proposed for the CSA to undertake:

- Registration and Classification
- Contractual measures
- Financial measures

The role that the CSA would undertake in these initiatives would vary from promotion or management of an initiative to an advocacy approach to potential clients or institutions associated with the construction industry framework. The three areas of operation are discussed in more detail below to highlight the specific activities the CSA could undertake. As each country's construction industry is unique it is impossible to make a general recommendation as to which initiatives should be implemented. It will be necessary to compare the in-country problems highlighted in the initial investigations before setting up the organisation with the 'solutions' provided by each initiative.

Registration and Classification

While governments and Ministries of Works may be keen to open up work available to contractors by allowing them to tender indiscriminately, the overall effect usually has a negative effect on the small contractors due to their limited financial, material and technical resources. An open tendering system will not foster contractors 'loyalty' to the industry as they will enter and leave the construction sector depending on work availability. There is therefore a need to develop a register of contractors and to classify these contractors according to their ability to undertake different sizes and difficulties of jobs.

A register of small scale contractors will enable the targeting of resources to contractors who are committed to the industry and seeking to develop and expand their business. It will also facilitate the monitoring of contractors' progress and development to determine when support should be withdrawn, the contractor can operate at a higher contract level or a contractor's ability to undertake a specific project. The register would allow potential clients, including the government, to confirm the status of contractors and their suitability for work.

The objective of a classification system is to protect the client from inexperienced or unreliable contractors and reduce the workload of tender evaluation. A classification system effectively prevents contractors bidding for work if they do not meet certain experience and capacity criteria required to undertake the work. The CSA can categorise the contractors through a formal registration system into a series of classification levels according to their ability and resources.

The concept of "contractor accreditation based on classification is similar to the stipulation of contract conditions" as it attempts to match the work available to the ability of the contractors themselves. A contractor classification system would negate the need to submit a considerable amount of supporting documentation for each tender submission, as a potential employer would be able to refer to the contracting register and immediately assess a contractors ability to undertake the work involved in their project. The initial inception of a registration and classification scheme would require a great deal of effort and place a significant onus on the regulating body. There will also be the associated monitoring and accreditation to be undertaken in the operation of the scheme. However, in the long term this system will reduce the complexity of tender and contract documents as the a large portion of the information will be provided by the data held on the contractors register.

The classification example below, from Singapore, is a basic form of prequalification where the contractor must possess the required skills and experience to bid for work. A client organisation could also impose additional requirements in order for a contractor to prequalify e.g. Level of turnover, number of trained supervisors however, there must be realistic reasons if this approach is adopted.

Example of a contractor classification scheme

Grade	**Financial Grade** (S$ million)	**Track record** for construction and related work (S$ million)		Paid up capital (S$ million)
		Aggregate projects for three years	Or largest project value	
G1	0.1	0.1	0.075	0.01
G2	0.5	0.5	0.375	0.05
G3	1	1	0.75	0.1
G4	3	3	2.25	0.3
G5	5	5	3.75	0.5
G6	10	10	7.5	1
G7	30	30	22.5	3
G8	30 +	50	37.5	5

S$ = Singapore Dollars 1S$ = £0.40 Source: Miles and Neale 1991

In this example the contractors enter the system as G1 contractors and can progress up the levels until they reach G8, which represents a contractor able to undertake contracts with the country's and overseas standard contract documentation competing on the 'open market'. Contractors within grade G7 & G8 would certainly not qualify for assistance through a CSA and it is envisaged that the main support would be targeted at contractors in Grades G1 to G3 or G4. The contractors are not allowed to bid for work from a higher grade to the one in which they belong. The principle of a classification system protects both the client and contractor involved in the construction process. Clients are protected from employing a contractor who is not capable, through lack of resources or experience, to undertake the project, while on the other hand small emerging contractors would be protected from fierce competition by large well established contractors who could undercut the small contractor or even accept a short term loss in order to maintain their workload and keep staff and equipment employed. This approach may appear detrimental to a client when compared with a free market where it will be possible to construct the project at a lower cost. However, in the short term the large contractor with large overheads will seek to recoup his loss on the low bid through claims. In the long term the registration system will assist the development of contracting capability and hence provide more options for the client.

The classification system allows progressively more testing levels of contract in which greater risks and responsibilities are placed on the contractor. In the example above the level of performance bonds required and contract value are increased as the contractor gains experience.

If a contractor classification scheme is adopted for contractor development a clearly defined set of criteria must be established to determine:

1. How a contractor should be registered
2. When a contractor can or should move on to a higher level
3. When a contractor should be demoted or removed from the classification

The overriding factor for success in contractor classification schemes is the requirement of an open and fair system. Registration and classification is often most successfully carried out by an independent organisation such as a National Construction Council or a Contractors' Association. The initial registration of new contractors would be an easy process as they would automatically be required to commence at the lowest level. However, there should also be a mechanism for existing contractors who wish to join the scheme to enter at a higher level depending on their experience. In order for the scheme to be successful the contractor must see that there is an opportunity to rise up the Grading in order to be able to undertake larger and potentially more profitable jobs. A contractor at a higher grade by definition has more financial resources and technical and managerial ability than a lower grade contractor. A rise in the Grade should therefore not just be a time serving exercise but be based on a contractor's ability taking into account the following criteria

- Financial capacity, based on their working capital, turnover and value of a assets
- Number of personnel including their experience and qualifications
- Number of years the company has been operating
- The turnover of the company in the preceeding years
- The value of the equipment owned

Care must be taken with the final criteria above as it may encourage contractors to purchase unnecessary equipment and plant in order to rise a grade when more suitable equipment may be available for hire. In addition if the government's contractor development policy framework favours the use of labour based contractors, the final criteria above could preclude labour based contractors from rising to a higher grade. To prevent discrimination against labour-based

contractors this criteria could be modified to; value of equipment owned, equipment hire charges incurred during a year or number of labourers on payroll.

Managing and operating the registration and classification system will require sufficient personnel and other resources to check applications and contractors' annual returns. If a checking procedure is not implemented the register will be open to abuse. Contractors may provide exaggerated information in order to be classed in a higher grade and have the opportunity of tendering for larger jobs which may be beyond their capabilities. If the registration system is to be successful it must be well regarded by the users (clients) and trusted as a realistic indication of a contractor's ability. Any application and checking procedure must therefore be transparent to ensure contractors are unable to abuse their grading level. Despite clear working practices classification system, in a few instances, will always be open to corruption as contractors may offer bribes to be placed in an inappropriate class where they perceive a better work potential.

Many small contractors have an erratic workload with long periods between contracts. The organisation in charge of administering the scheme should therefore have criteria for defining when a contractor is no longer operating as a business rather than waiting for work and hence removing them from the classification list.

There are a few pitfalls which have been encountered when contractor classification scheme have been implemented. In order to be successful all contractors should register in the classification scheme to prevent inexperienced and under resourced contractors from unfairly competing for work. Registration is most likely to be accepted by contractors if the scheme is promoted or adopted by the client organisation and contracts will only be offered to registered contractors. Clients will have the added security that they are offering work to contractors who are capable of completing their work. It would be counter productive to make registration mandatory however, widespread registration could be achieved by marketing the benefits, to potential clients, of employing a registered contractor.

During periods of low work availability, especially for higher value contracts, some large contractors have bid for work offered to lower grade contractors. They have underbid and "Downward Plundered" the work from small contractors despite their higher overheads in order to keep their equipment and labour working (Edmonds and Miles 1994). Although they often accept a loss on these jobs they are able, unlike small contractors, to absorb this loss for short periods to prevent laying off staff. It is therefore advisable to set lower limits, in addition to upper limits, that a contractor can bid to prevent "downward plundering" by larger firms. For example a Grade C contractor could only bid for work in that grade or one grade below, which would protect new contractors in grade A.

It should be reiterated here that if a prequalification and classification systems are to be successful they must be effectively managed to ensure that there is a strict set of criteria to determine at what level a contractor should prequalify and how he may rise, or be demoted, to a new level. Prequalification or classification criteria invariably involve monetary bands that should be frequently adjusted to take account of inflation rates.

In order to be effective the CSA must keep regular contact with the contractors to record the work that they are undertaking to ensure that they are registered at the appropriate level. Essentially the CSA will be undertaking a monitoring and administrative role maintaining the contractor register which can be made available to potential clients. By maintaining the register

the CSA will have an effective means of assessing and controlling contractors' entitlement to access to other services described below.

The classification levels set for the registration of contractors will be dependent on the indigenous contracting capacity and experience. Nevertheless, regardless of the classification levels set it will be necessary to implement a 'mid entry' system where contractors with limited experience would be able to join the register at a level commensurate with their experience rather than at the lowest level.

Contract Initiatives

There are a variety of initiatives that may be adopted to improve contracting procedures for small contractors.

Price Preferences:

In order to assist the development of small scale contractors, government agencies could reserve particular contracts for this target group. At first sight this option might seem an excellent solution to guaranteeing work and providing the new small construction firms with the work security that they require. Unfortunately there are many potential pitfalls associated with adopting this approach. There will have to be strict criteria for qualification for this reserved market which is likely to result in a strong resentment from contractors who do not qualify for the reserved market, especially those who fall just outside the selection criteria. The system will always be open to abuse and corruption by those who administer the scheme and contractors who 'create' new small scale companies to access the market. It is likely that a better solution to a reserved market would be a preference or inducement scheme which could be gradually phased out for larger contracts or as a small contractor becomes more experienced.

Price preferencing is easy to administer and allows work to be offered to all contractors but provides the target group with some additional support by modifying their tender price when comparing it against other contractors. Under a price preference scheme any pre-qualified contractor can submit a bid for work. When the bids are assessed for price against each other the bids received from the target group would be reduced by an agreed notional percentage, representing the value to the client of promoting the target group. This percentage could be varied depending on the level of support required and could be reduced for higher priced contracts in order to gradually reduce the support to contractors as they bid for higher contracts. Although the bid price would be reduced for comparing tenders, the price paid to the successful contractor would be his original bid price. The box below offers a possible price preference structure for road maintenance contracts. A price preference system has the advantage that it allows all contractors to bid for small contracts and also forces emerging contractors to become more independent as they take on larger contracts. However, the scheme is still open to abuse and corruption as contractors who do not fulfil the preference criteria could have their bids adjusted.

Another option for a price preference scheme could be based on consistent quality in the contractors work. This scheme would be open to all contractors who would have there bid prices reduced for comparison purposes according to the quality of there previous work. The CONQUAS (Construction Quality Assessment System) developed by the Singapore Construction Industry Development Board and a group of public bodies provides a system of up

Example Tender Price Preference for Target Group of Contractors	
Contract Value	Price Preference (contractor bid reduced for tender comparison)
Up to $10 000	10%
$10 000 - $25 000	5%
$25 000 - $50 000	3%
$50 000 - $100 000	1.5%
Over $100 000	0%

to 5% price preferencing for contractors who consistently achieve a high standard of work. (Miles and Neale 1991)

This measure would only be possible through government agencies where the government has an active policy towards small scale contractors as private clients would not be willing to pay more for their construction project. The CSA would be responsible for strict policing, on behalf of the government, of this initiative to ensure it was not open to abuse. They would also have to work with the client organisation to administer the scheme and assist with contract tender evaluation. The CSA would have to monitor the price preference levels and values and compare them against the classification bands. Adjustments to the levels and values would be necessary depending on local capacity, inflation, work availability and financial resources.

Joint Ventures

The overall objective of classifying or rating contractors and packaging contracts is to increase the local contracting capacity. Small, simple contracts allow new contractors to gain experience without being committed to a large investment or the risks involved in undertaking a large project. While contractors are able to gain technical experience through working on small projects, it is considerably harder and will take far longer to improve their financial and risk management and tendering expertise. This learning process can be accelerated if inexperience contractors undertake joint ventures or sub-contracts with more established, larger contractors.

It is likely that a contractor would learn more through a joint venture rather than a sub-contract, where the small contractor is essentially undertaking the same work but for a different client (the managing contractor). In a joint venture a contractor takes a full share in risk measurement and bidding but in a sub-contract the main contractor will typically give a price and says ‘take it or leave it’. Sub-contracting should therefore be looked upon as a mechanism for the smallest and new contractors to gain experience. Joint ventures offer the less experienced contractor the opportunity to be involved with the various aspects of construction management (Kirmani & Blaxall 1988). Joint ventures may be initiated between a large and small local contractor or between a local and foreign contractor. There is often potential for a more successful outcome between two local contractors as they are more likely to understand the problems and constraints under which the other party is forced to work. In order for a successful joint venture to be achieved between a local and foreign contractor the problems of incompatibility in management style and a lack of trust between each organisation must be overcome. Foreign contractors can often view local contractors as a liability especially if they are unaware of how they are likely to perform, which may reflect badly on themselves, while local contractors are often keen to lead a project despite their lack of contract management ability.

The CSA would act as an agency to bring together suitable joint venture partners by holding records of small scale contractors, through the registration scheme, and promoting the advantages of joint ventures to larger companies. It would also offer advice on the contractual agreement between the joint venture partners and provide an arbitration/mediation service if problems or disagreements occurred.

Contract packaging

Where small contracts are unavailable, large contracts may be split into smaller 'packages' which are more accessible to small contractors. (i.e. Contractors within levels A-C in the classification example described above) There are two ways of packaging contracts (Milne 1994):

Vertical contract packaging

Vertical contract packaging divides work up into small sections. For example, in a contract to construct 6 health centres/schools in a region the work could be split in to 6 smaller contracts to each build one health centre or school. Vertical contract packaging enables any contractor to bid on equal terms with each other for small contracts. The benefit that is likely to be obtained for small contracting businesses is that the size of the contracts are likely to be unattractive to larger contractors unless they can obtain 2 or 3 consecutive contracts. If vertical contract packaging is adopted larger contractors may be prevented from winning more than one or two contracts to eliminate this problem.

Horizontal contract packaging

Horizontal contract packaging is similar to vertical packaging however, rather than dividing contracts into smaller projects the work is divided into activities (Intech Associates 1992). This approach allows larger contractors to bid for more complex work and smaller contractors to bid for the smaller, simpler contracts, unattractive to the large contractors. As contractors expand their business they would be able to bid for and undertake more complex work that required more experience and resources.

The example below shows how a road maintenance contract could be horizontally packaged into four contract types

- Simple contract

This contract would include grass cutting, culvert cleaning or de-silting and side, turnout and cut-off drain maintenance. To undertake this work a contractor would require the minimum investment in equipment as only a few simple handtools and a supervision vehicle would be required and a working knowledge of drainage and vegetation maintenance. The contract would not have any bonds or sureties and would be paid on a simple visual inspection to ensure that the work had been completed minimising the risk to the government. In order to be successful the contractor would need to hire and manage the workforce, ensure timely payment of wages and organise suitable handtools. This contract is essentially a labour only contract as the majority of the contract price would be spent on labour wages

- Technical contracts

These contracts would be offered to more experienced contractors who had a some simple equipment, such as a compacting roller, gravel trailer and tractor or truck. The work would include pothole patching, resealing of pavements, regravelling small sections of road, small culvert reconstruction and possibly light regrading. The contractor would need to be more experienced in labour and equipment management compared to a contractor undertaking simple contracts as these contracts would be larger and involve a larger risk element. In order to enable contractors

to move from undertaking simple contracts to technical contracts the use of hired or borrowed equipment should be allowed in order to qualify to tender.

- Gravelling and reconstruction contracts

These contracts would involve the regrading, reconstruction of road surface and regravelling extensive lengths of the road. The contracts would be let to contractors with experience of road maintenance and access to the equipment required to carry out regravelling work, either from ownership or through hire firms.

- Speciality contracts

These contracts would include bridge, culvert and other structural maintenance and reconstruction. The knowledge, experience and equipment required would be fairly specialised which would preclude the inclusion of this work in the other contracts. Contractors working in this sector may have a range of experience and the contracts which they were offered would reflect his experience. It is likely that contractors entering this sector of work would have already undertaken construction projects in other construction sectors other than the road sector.

The key advantage of contract packaging is that it is much less open to abuse and corruption as all contractors are allowed to bid for any contract. The contract packaging system prevents resentment of 'selected' contractors and encourages contractors to expand their businesses as the incentive to remain small has been removed. The road authority is able to select the cheapest suitable bid and not have to justify selecting a price preference tender. The arguments against contract packaging are the increases in contract administration and work supervision required by the client. However, the CSA could advise firstly on how to split up the work based on the total size of the project and the range and numbers of contractors registered within the different classes. Secondly the CSA could assist the client in preparing the additional contract documents at a suitable level for the different types of work to be undertaken.

Biased Contracts and Unfair Risks

In any contract there are inherent risks, especially in construction. The government's / client's tendency may be to off load all these risks onto the contractor. Frequently the client is in a better position to accept the worst risks by spreading them over a number of contracts, effectively insuring themselves against the risks. The client must accept that he may have to 'pay out' on one of the risks but he will have saved money by covering all the risks himself. The perceived theory of making the contractor responsible for all risks is that the client will get a better deal. In reality contractors would normally increase their bid price to take into account these risks resulting in the client paying well over the odds for a piece of work. There are then three possible outcomes;

1. The contractor makes a large profit if the risks priced for do not occur.
2. The contractor absorbs the loss from some of the risks due to the high price bid against all the possible risks
3. The contractor makes a large loss if all the risks occur, or in the worst case becomes bankrupt and is unable to complete the work.

Clearly outcomes one and three are not beneficial to the client especially if the contractor becomes bankrupt and the client has to make further payments to an additional contractor to complete the work. In addition, for outcome two the client is likely to have had to pay a high contract price for the contractor to absorb a number of losses due to risks. A contractor who is burdened with all the risks will always be looking to reduce site costs in order to provide himself with 'financial insurance' against any of the risks occurring. Alternatively the contractor may be unable to cost these risks and the client may appear to have obtained a good price. However, if

the risks occur the contractor may become bankrupt and be unable to complete the work leaving a large bill for the client to complete the project. CSA should therefore advocate equitable risk sharing contracts promoting within government ministries and other client organisations the problems of off loading all the risks on the contractor

Corruption

Any new policies should be accepted as open and fair by both the public and private sectors. In many countries there may be the potential for cartels, monopolies and corruption. Contracts must be awarded and contractors selected under a scheme which is open and fair preventing accusations that foul play has occurred. Various measures that can be implemented include;

- Public opening of tender proposals
- Selection of contractors by a tender board rather than individuals
- Selection of contractors by an agreed ranking framework rather than subjective decisions
- An observer from the Contractor Support Agency being invited to sit on the tender board.
- Prevention of one contractor having a large percentage of the total workload

In addition to sitting on the tender board the CSA can actively advocate and support anti corruption polices and measures, particularly those which affect small scale contractors.

Simplified tendering procedures

The majority of contracts are offered using an admeasurement contract, or more commonly known as a bill of quantities (BoQ). Completing the bill of quantities appears to present the majority of problems to contractors. Within the BoQ the total job is divided into specific work items which means that contractors will have to sort through the BoQ to find all the work items that require a certain material and artisan. For example, they will have to determine the number of work items that require laid bricks and then determine a price for this work based on the price of bricks, bricklaying labour costs. These costs will then have to be distributed between all the work items that involve brick laying. For small projects a simplification of this system would be to produce a materials and labour list form the BoQ, and allow the contractor to insert prices into the labour and materials list, which would include a portion for overheads and profit, rather than have to distribute the costs into the BoQ (Edmonds and Miles 1984). This procedure will involve additional work for the client organisation that may not be justifiable on one-off projects however, for repetitive projects such as health centres and schools the additional cost for each individual project is unlikely to be very great. A client organisation would be able to request resources and advice from the CSA in order to prepare a materials and labour list form their project and tender documentation. This support initiative is only likely to be useful for the smallest contractors which will require the CSA to advise on suitable projects and highlight classification bands that may be targeted.

Contract pricing policies

Some of the problems associated with a BoQ contracting system that is commonly used have been discussed above. There are other contract payment systems that can be used to obtain a price for the project

1. Schedule of rates.

A schedule of rates system is similar to a bill of quantities, as the contractor will return to the client a completed list of prices for undertaking different items of work. However, it is more simple than the BoQ system, for the contractor, as he will not have to divide the cost of carrying

out work between the different items in a traditional BoQ. The schedule of rates system may be seen as a step between the materials list, described above and the full BoQ. It may also be possible for the client organisation to publish set rates for items that appear in the schedule in order to provide contractors with a guide when preparing their bid. It is likely that this approach would only be adopted for small projects undertaken by inexperienced contractors. In such a case the client would require assistance from the CSA to set realistic rates that would enable the contractor to undertake the work to a suitable standard and obtain a reasonable profit. A progression from the schedule of rates towards the use of a bill of quantities is the use of target rates. This is similar to schedule of rates but the contractor will be able to adjust the target figure up or down within a prescribed limit set by the client. The contract would be awarded to the tenderer whose overall price is the lowest (Taylor 1996). This approach would still require assistance from the CSA, but would also assist contractors to prepare their own rates based on the guide figures.

2. Cost Plus fixed fee (or percentage fee)

This contract will pay a contractor the costs that he incurs undertaking the work plus a fee that the contractor defines in his bid. This contract system could also be modified for the contractor to be paid a percentage of the costs that he has incurred instead of the fixed fee. This contracting system is probably the simplest for contractors to bid for and for road authorities to evaluate tenders. However, the road authority will have to mobilise substantial supervisory resources during the execution of the work to verify the work undertaken by the contractor. It is clear that this contracting system is very susceptible to corruption and may be seen by unscrupulous contractors as 'a way to print money.' It would also be difficult for the CSA to provide assistance to the client if this system was adopted

3. Lump Sum

A lump sum contract is a fixed price contract where the contractor will undertake the work for an agreed fixed price. The advantage of this contract is that the client is assured of the price to complete the project as many of the risks are transferred to the contractor. Although this contract appears highly desirable to the road authority its use is likely to result in disastrous results as small contractors are unable to calculate and finance the risks that they will be required to cover. The CSA should actively discourage the use of this form of contract for small scale contracting, unless the work context and risk is very clearly limited and defined.

The table below summarises the advantages and disadvantages of the three types of contract discussed above. Although the lump sum and cost plus contracts may initially appear attractive methods for pricing work their disadvantages will outweigh the advantages. A system of BoQ, Schedule of rates or Materials/Labour costs are the only realistic pricing method that can be supported by the CSA.

Pricing Method	Advantages	Disadvantages
Schedule of Rates / BoQ	• Simplified schedule systems are easier for contractors to complete • Payments are only made for work done • Work can be altered and repriced using the tender rates	• Effective supervision required by road authority to measure work done
Cost plus fixed fee/percentage	• Provide flexibility to modify the work to be undertaken - e.g. emergency work • Simplified tender procedures for	• Very tight Supervision required by road authority to confirm cost of work completed • System open to abuse and

	contractor and road authority	corruption
Lump sum	• Price is fixed at the start of the project	• All risks transferred to the contractor • Contractors may rush work to increase profits • Very tight supervision required to ensure quality control

Simplified contract procedures

Previous contractor development programmes have sought to simplify existing contracts by including additional parts and risks of the original contract documentation as the contractor became more experienced. The differing levels of contract approach was briefly described above in the section on classification. If this approach is adopted a clearly defined set of criteria must be established and maintained by the CSA to determine when a contractor can or should move on to a higher level. In addition if contractors are prevented from bidding lower than their 'level' newer less experienced contractors would be protected from the competition of the more experienced contractor for their first few contracts. The final level of this tiered system should be a contractor able to undertake contracts with the country's standard contract documentation. Apart from the contract value increasing through the levels the following other items could be altered to assist new contractors.

- Level of surety required
- % Mobilisation payment granted
- Lowest level uses a schedule of rates and lower levels use target rates before a Bill of Quantities is required as described above
- Level of technical assistance available
- Taxes and levies on staff, labourers and equipment
- Access to loans at preferential rates
- Removal of certain risks from the contractor e.g. unforeseen weather, errors in drawings
- Small penalties for late completion
- Responsibility for damage during construction from natural events
- Relieved of responsibility to detect errors in specs and drawings
- Penalties for late completion small
- Relieved of non wilful damage

(Edmonds and Miles 1984, Relf 1987, Kirmani S & Blaxall J 1988, Garnier P & Imschoot M 1993)

Although the above list is not exhaustive, the items above should not all be included, the choice being dependant on the type of contract that a specific country uses and advice from the CSA.

Within the context of developing small scale contractors simplified contracts can often be synonymous with equitable contract documents. The CSA may offer advice on the terms and conditions of the contract to achieve a workable document, but the client organisation is ultimately responsible for the contract conditions which will govern the work that a contractor undertakes. The client organisation should therefore be encouraged by the CSA to look upon the contractor as a partner in achieving the same ultimate goal. The CSA should assist the client

organisation to ensure that contracts clearly define the roles and responsibilities of employers and contractors and methods for dealing with issues that include:

- Provision for price fluctuations
- Protection against unforeseen ground condition as and adverse physical conditions
- Compensation for late payments
- Realistic level of performance bonds and retention money
- On site supervision
- Vague or ambiguous specifications

Training programmes

As there are many different activities and skills required in contract and financial administration the most appropriate training delivery approach is likely to be through a modular programme. Each module could cover a different skill, for example site planning, tender preparation or financial management. There are a number of stages to complete in preparing a training programme (Hernes 1988).

1. Survey of contractors training needs
2. Assessment of existing training material
3. Development of modular training material
4. Technical and managerial support to prepare trainers
5. Promotion of training facilities

In the development of the modular training material it will be necessary to review the different training styles that can be adopted (Hernes 1988):

- Subject learning — Learning a particular subject through lectures, group work, exercises and discussions, making use of the participants previous knowledge.
- Project work — Project work can be used to build on and put into practice skills learnt in subject learning sessions by providing topics to investigate and provide management solutions.
- Action learning — This style of learning requires participants to devise and develop a plan or procedure for undertaking a particular activity, such as tender preparation.
- Demonstrations — Following the teaching of basic theory and principles it will often be necessary to demonstrate the practices of a topic either on site or classroom demonstrations.
- Site based work — This mode of learning allows participants to consolidate their theoretical knowledge by practising the skills that they have previously learnt.

Different modules topics will require different proportions of each of training style to achieve the optimum learning environment.

There are also a number of other issues that need to be addressed when planning a training programme.

- Training location — Will the training be centrally located requiring contractors to travel to the training centre or spread out in the regions
- Training periods — How long will each training session last - a number of short sessions or concentrated in one block? The choice is likely to depend on training location and the length of time contractor's or supervisor's are able to leave their work place

- Trainers — In addition to being able to prepare and teach training modules, trainers must have a general understanding of the operation of the industry and knowledge of the problems and constraints that contractors work under.
- Follow up — Training course may be relatively short before the contractor returns or enters the open market. It is likely that he will have 'follow up' questions that arise from his work that he needs obtain answers. Consideration must therefore be given to short follow up seminars or workshops

Some basic training programmes may be provided by the CSA at minimal cost to contractors, however to ensure a realistic number of applications and participants the CSA should charge a fee for training courses. Regardless of the financial commitment required from contractors it is important that the course participants are aware of the training that they may expect and the skills that they will have at the end of the course. Contractors may already have on going jobs and releasing supervisors to participate in training courses still represents a risk and investment.

Financial Initiatives

Mobilisation Payments

Mobilisation payments are made by the client to the contractor at the beginning of a contract to provide working capital at the beginning of a job. Typically mobilisation payments are up to 15% of the contract value which represents about 2 months pay on a 12 month contract. During the remaining life of the contract the client will deduct a percentage of the contractors monthly claim to cover the cost of the mobilisation payment. The advantages of this scheme is that the contractor will not have to obtain large loans to commence work. The ultimate final price of the contract may also be lower due to the reduced finance costs incurred by the contractor. Mobilisation payment levels should be set to only meet the realistic start up costs of a project if they are not to encourage poor financial management (World Bank 1984). The argument often cited by government officials against mobilisation payments is the risk that the contractor may not use the money for the intended project or even run off with the money. These risks can be minimised if the contractor is registered with the CSA as a genuine contractor. It is also unlikely that the contractor will intentionally default if this results in exclusion from the registration list and hence effectively being barred from undertaking further work. The mobilisation payments can also be made directly to the contractor's bank which may also assist the contractor to obtain credit facilities with the bank. One programme in Tanzania made mobilisation payments directly to equipment hire firms, to enable contractors to obtain equipment to start their contracts (Osei-Bonsu 1995). The CSA would play an advocacy role in promoting the use of mobilisation payments and then confirming the registration status of contractors to clients.

Loan Guarantee schemes

Contractors often have problems supplying security or guarantees for their loans. There have been cases in the past where the CSA has actually taken on the role of the banks to provide loans or guarantees to contractors. The National Construction Council in Kenya is one example (ILO 1979) and SEDCO (Small Enterprise Development Corporation) (Cortes 1979) in another where a CSA has acted as a bank. This approach appeared to be working well until it was discovered that the CSAs had been granting loans that they were highly unlikely to recover. The lesson that should be learnt from these two organisations is that the CSA should not act as a bank itself. The CSA will have experts in construction practices and contracting, but not in banking. Banks will

therefore be in a better position to actually manage loans with advice on the construction industry and contracting practices received from the CSA.

When contractors are undertaking a project through registration with the CSA, they may be able to obtain credit references or guarantee loans. The CSA would provide clear information to the bank regarding the type of work being undertaken, value and perceived risks involved. They would therefore in effect be able to guarantee the loan to the bank. The CSA would also have a role in monitoring the contractors progress to ensure that they did not intentionally default on the loan. This can be achieved by initially only offering small loans and requiring the contractor to build a credibility rating and requiring all payments to the contractor to be made through the bank where the loan is held. This scheme will require close cooperation between banks and the CSA as contractors will require loans quickly once contacts have been awarded and a mutual trust between the client, CSA and commercial banks, as each group is in effect controlling and responsible for a part of the others money.

It is a common contracting practice for contractors to submit a work certificate at the end of each month to claim payment for work undertaken in that month. Once this certificate is approved by the client or his representative it will then be forwarded to the accounts department for payment. There is often a few weeks delay between approval of this certificate and the contractor actually receiving payment. A basic form of loan guarantee scheme would therefore involve a CSA encouraging banks to provide short term loans to contractors providing the approved work certificates as 'collateral'.

Banking code of Practice

The construction industry is a very large potential source of business for the banking industry. Banks see contractors as high risk businesses partly due to the nature of their business but also due to the way in which a contractor may manage his finances. For example contractors may withdraw the majority of their monthly payment within days of paying it into the bank (Relf 1987). In many cases there is a situation of both parties not understanding the problems and constraints that the other party has to operate with.

The CSA in cooperation with local banks could develop a code of practice for working with small contractors, which explains the services which they may offer and under what conditions. It may also be beneficial if the banks could produce information, assisted by the CSA, aimed at small contractors explaining the constraints under which banks can offer loans and how to apply for loans. A CSA would also be able to provide technical advice to commercial banks to help them appraise construction enterprises correctly (World Bank 1984). This information should be written in a suitable language for contractors and should prevent them applying for unrealistic loans. Additional information could also indicate the services which banks may offer and how they can be beneficial to contractors. This information should explain why the banks have to insist on certain restriction and selection criteria and could be endorsed by the CSA as being a fair and honest document

Establishment of Construction banks

If the national banking industry remains reluctant to carry out business with contractors an option for the CSA would be to promote the setting up a construction bank. This bank would provide contractors and consultants with working capital to undertake their projects. The bank which

would be a private sector managed institution would only offer loans the organisations working in the construction sector. In order to commence operation the Construction bank would need to develop a financial reserve. This reserve may be built up through loans and grants from the national government and donor agencies. Contractors who are working and receiving payments could also invest in the bank. Contractors' investment would entitle them to larger loans in the future. The major disadvantage of a construction bank is the narrow lending base which can result in an increased risk of failure. Contractors 'investing' in the bank would be putting themselves doubly at risk.

Experience shows that the chances of default are minimised as contractors are borrowing from each other and know each other as members of the same profession. (TACECA 1997). It would also be considered socially unacceptable to default on payments with peer pressure ensuring loans are repaid. Any contractor who defaults on the construction bank without a good or fair reason would no longer be entitled to apply for further loans.

Although the CSA may offer advice and assistance in the setting up of a construction bank it is recommended that the bank would be a separate organisation to the CSA. The construction bank would be handling large amounts of money requiring managers and staff with completely different skills to the CSA. A previous Contractor Development Agency, the Kenya National Construction Corporation, acted as a bank providing short term loan finance to provide contractors with working capital (ILO 1979). The errors that were made in offering these loans only became evident when the organisation started having financial difficulties. By the time accountants and bankers highlighted the poor banking procedures that had been implemented by the Corporation had made a large loss which forced it into bankruptcy.

Scheduling of public sector spending

One of the most common problems experienced by contractors is a lack of work continuity. This problem is linked to poor financial planning and management of the client organisation. The key to solving this problem is the establishment of a steady level of planned work to give a 'background' work level. This will improve work continuity and provide a sound financial base for planning to ensure money is available to pay for work completed. Government departments form the majority of construction sector demand which can be as high as 80% of the total output (World Bank 1984).

The government of South Africa has recognised the need for scheduling public sector spending to:

- Stabilise the construction industry environment
- Provide a consistent, predictable spending pattern
- Encourage investment in productive production processes and human resource development (Department of Public Works 1997).

A background level of work would provide a basis for establishing the Ministry's minimum financial requirements. Other activities and projects could be added to the workload in a descending order of priority up to the budget allocation for each year. If further funds were available, possibly due to a delay or cancellation of a particular project, other activities with a lower priority could be carried out in place of this project up to the annual budget allocation.

When planning work the total annual budget must always be taken into consideration. Often the tendency is to prepare large programmes due to political pressure which far exceed the available budget in an effort to increase public support. These large projects are also generally not accessible to the small scale construction sector, being undertaken by large foreign firms. It must be accepted that it is not possible to undertake all the work that is required immediately and a list which gives projects in order of priority must be drawn up. Coupled with a knowledge of the annual finance available this list could also indicate the likely waiting time for a project's implementation. If this list was made available, possibly through local government offices, to contractors it would assist them plan their own work and prepare bids for each item of work in there geographical area or specialism.

The weather patterns in some countries may also result in an annual cycle of work fluctuation if it is not possible to carry out work in the wet season. In order to maximise the potential working time and smooth the level of work availability as mush as possible contracts could be tendered during the wet season to start at the end of the rains.

It may be possible to target funding to contractors in particular sectors. For example in Uganda the government policy is towards utilising local contractors for road maintenance (Musumba 1998). The contracts awarded are relatively small and only require limited resources which by default will favour small local contractors. Other countries have also adopted the use of local contractors for road maintenance and it is likely that other sectors, for example irrigation and small public buildings, could be targeted for maintenance or construction by local contractors.

It is unlikely that the CSA can play a major active role in this initiative as it would be politically unacceptable for them to assist to prioritise the required construction and maintenance work. They would be undertaking an advocacy role by meeting officials in different Ministries to suggest the implementation of changes.

Payment procedures

Apart from the lack of work continuity, delayed payments by government departments pose the largest problem to small scale contractors. Taylor (1996) highlighted the availability of timely payments to small contractors is the "killer assumption" in the design of a contractor development project. Although the main problem is the lack of available finance, payments may be delayed for a number of different factors even if finance is available. Firstly contract supervision is often poor and based in head offices which results in the contractor having difficulties in obtaining and agreeing interim payment certificates. Once the payment certificate is agreed it has to go to the central ministry department for signing and then through the bureaucratic system to the treasury for payment. This system exacerbates the potential for a certificate to be delayed or even lost. Within the ILO's Construction Management Programme an investigation of the problems experienced by contractors in Ghana discovered that payments would take a minimum of 14 weeks to be credited to a contractor's bank account. Each payment certificate had to pass through 30 discrete approval stages before the payment cheque was issued (Miles and Ward 1991).

The obvious solution is to streamline the payment procedures through a rationalisation of the approval process in the client authority. Taylor (1996) suggests that the target for payments to small scale contractors should be within 2 weeks of submission of a certificate approved by the engineer. Although 2 weeks for payment may be optimistic any payment streamlining will

ultimately reduce the overall cost to the government as contractors will not need to use higher rates in order to cover their finance charges as a result of late payments. This idea is far more easily discussed than implemented, however, an interim measure may be to pay interest charges on outstanding balances to contractors (as liquidated damages are claimed from contractors for late work). This measure would help contractors cover the potential losses that they would incur and help obtain an increase to their loan facility. It would also provide the incentive to government departments to implement faster systems to pay contractors.

In the longer term governments must implement alternative measures to ensure contractors are paid within a reasonable time. The problem is partly solved by ensuring that there is a dedicated source of funding for roads projects as discussed above. An obvious solution to streamlining the acceptance of payment certificates would be to decentralise the payment system to regional offices. Firstly, these offices have better access to work sites to agree payment certificates and government officials working in regional areas are more likely to know or at least be aware of the projects which are being undertaken. Secondly the long authorisation chain for certificates would be greatly reduced. Payment accounts may be set up with banks in regional areas to ensure that the necessary finances are available when certificates are submitted for payment.

Although the issue of late payments is one of the greatest constraints on the development of small enterprises there is very little that the CSA would be actively able to do except undertaking an advocacy role promoting the streamlining of payments and payment of compensation for delays.

Organisational structure

Leadership and Staffing

All organisations require a 'Champion' to undertake their initiation and initial operation. This leader will be prepared to work hard to make the association a success and provide it with good foundations for future operation. If there is no obvious potential champion available it is unlikely that the establishment of a Contractors' Association will be a success. This champion should be supported by a group of managers who are also committed to the ethos of the organisation. They must be skilled in the tasks that they are required to undertake in order to ensure that the initial activities of the organisation are a success and to build on this success to develop a sustainable and effective management structure.

Core Staff

Experience required for the core staff will vary depending on the roles the CSA will undertake. Staff are likely to require skills in training and advocacy roles in addition to a knowledge of the construction industry. The staff may be local or expatriate staff depending on the skills available in country. If expatriate staff are required their costs may be covered by donor assistance to the project and it is likely that one of their roles would be to train local staff with the necessary skills to run the CSA.

Membership

The main issue to be addressed is should membership be voluntary or compulsory for small contractors? Contractors are unlikely to wish to be members if they will have to pay a subscription and perceive that they will not receive any benefit from their outlay. It would also be difficult to legislate and police a compulsory membership system as contractors will find an

alternative method of operation to avoid the legislation. The ideal solution would be for membership to be voluntary but the perceived members' benefits were great enough for contractors to want to join. This is likely to be achieved if the Contractors' Association runs an effective contractor classification and registration scheme. If the scheme was supported by the main client organisations (government departments) who would only offer work to registered contractors and membership of the association was necessary to be a registered contractor, the membership issue can be solved. The registration scheme would assist with the formation of links between the government and the individual contractors and assist with the flow and continuity of work providing that it was effectively managed.

Financing issues

There are 4 potential sources of finance for operating the CSA (Levitsky 1992):

- Membership fees
- User fees
- Government Support
- Donor Support

In order to become registered small scale contractors would be required to pay a registration fee. The level of this fee may alter depending on the size of the contracting company and hence the level of classification awarded. The minimum level of registration fee that would need to be charged should cover the costs of;

1. Processing the initial application for registration
2. Confirming the contractors' business details / characteristics
3. Annual monitoring and checking of the contractors' work
4. Reassessment and upgrading (where applicable)
5. General administration costs of the registration and classification scheme

The cost of running the classification and registration scheme will not be small. If the register is not going to be open to abuse by contractors a rigorous and transparent checking system would need to be implemented.

The registration fee may be set at a higher level to provide additional revenue to carry out other initiatives but to ensure that contractors accept the registration system and continue to support the scheme they must perceive a benefit of being registered. While contractors may feel that they need to be registered to obtain work and hence pay the registration charges it will be necessary for them to perceive the costs provide value for money when compared with the registration scheme and other benefits that they receive. i.e. for the CSA to be successful there must be a willingness to pay in addition to an ability to pay by the contracting sector.

Certain services such as training or information and advisory support could be provided on a fee for use basis. This charge would not necessary cover the full costs for the use of the service, but would assist in meeting the total cost. Charging for these services will also provide them with a perceived value and hence are more likely to be accepted as proper, useful and worthwhile information.

It is important to highlight that by its very nature a CSA cannot be financially self supporting. While a percentage of the required finance may come form the contractors themselves in the form or registration fees and user charges it is unlikely that they will provide sufficient finance to

undertake the initiatives described above. It will also be necessary to obtain finance from either national government or donor grants.

As government departments will be the main client to the construction industry they should look favourably on providing financial support to the organisation. It will be necessary for the government to realise the benefits of supporting the agency which will include for example the ability to avoid long and complex prequalification and tendering procedures. They should also assess the long term economic benefits of developing an indigenous construction industry rather than relying on foreign or quasi-national construction companies. Although the government may provide financial support it is important that this support is not tied or provided with conditions which will prevent the CSA being autonomous and managed by its staff.

Donor agencies through their development policies, may provide support to the organisation. Although it is unlikely that their development policies will have a direct mandate to promote the development of local contracting capacity, it will be necessary for them to realise the need for local small scale contractors to assist in achieving their social policy objectives. Small local contractors will be the most appropriate organisations to construct small water systems and build local health centres or schools. In addition to direct financial aid donor agencies may also be able to provide technical support by seconding or financing technical staff to assist in managing particular initiatives discussed above.

Other issues

Government

Government is, and is likely to remain, the predominant client for construction in most developing countries. The overriding factor in initiating change is therefore the commitment of the government at all levels. The government not only provides the majority of finance but also controls attitudes, policies, institutions and working laws. The foundations to initiating change must therefore be based on strong political stability and an eagerness or willingness to change.

A move from the traditional direct labour approach to construction and maintenance will require the government to take on the role of the consulting engineer or contract manager. It is likely that a semiautonomous group may form within the appropriate ministries which undertakes this role of design and contract management. This group may also eventually form the catalyst for the development of a private sector consulting profession. The task therefore in institution building within the government is to create an ability and develop that ability to supervise and administer contracts. (Lehobo 1998) The development of a contract administration section to the government ministries will require new personnel to undertake the different roles. It is however unlikely that new staff will be required as the downsizing of any direct labour operation is likely to provide sufficient personnel, albeit with retraining, to fill the new roles created by the contract administration section.

It may be necessary for the government to look at its whole political strategy as there will be constraints on both business development in general and the construction industry in particular that will need to be addressed if it wishes to develop the construction sector.

Business Development	**Construction Industry Development**

Poor banking systems	Long delays in payment
Lack of a legal system	Lack of consulting profession
Foreign exchange restrictions	Scarcity of trained workforce
taxation system	Absence of design codes
Inefficient transportation systems	Lack of suitable contract procedures

Donor Agencies

Donor Conditionalities

In many cases donor funded projects may have procurement terms which require domestic (donor country) sourcing or supplies, goods or services. When a country, like Tanzania, depends heavily on donor funding for implementing construction projects there may be limited opportunity for local businesses to benefit from the available contracts. This will impact negatively on the development of the local construction industry. A lack of knowledge of the procurement procedures on the side of the local firms may act as a barrier to accessing donor funded projects. This means that donor countries may use indirect means of preventing local firms from winning tenders for donor funded projects.

Tanzanian Civil Engineering Contractors' Association (TACECA): Workshop on Local Capacity Building, 1997

Essentially, international technical assistance can be delivered in four different ways (Miles and Neale 1991);

1. A window on the world: Access to accumulated international experience through the executing agency responsible for delivering the assistance
2. Fellowships and study tours: Provision for direct contact through job exchanges and face to face meeting with individuals to create linkages with established institutions in other countries
3. Equipment and Publications: Direct assistance in the procurement of materials to obtain items for teaching, research and consultancy which may not be readily available in the country concerned
4. International expertise: Provision of short or long term foreign specialists to provide counterpart training and improve the capacity of the institution.

An appropriate mix of the four inputs must be used to suit the particular needs of the new institution and its staff.

Where technical assistance is required, it is important to ensure that it is properly defined and that provision is made for a transfer of skills so that the system becomes sustainable without continuing resource inputs.

Criteria for success

The ultimate success criteria for the organisation will be to "work itself out of a job" (Edmonds and Miles 1984) i.e. to provide a suitable framework for new contractors to continue to enter the profession. It will never be possible for all new contractors to be successful as the nature of the contracting business involves an element of risk and some businesses will fail. The objective of the organisation is to increase the contracting capacity in the country and not the capacity of individual contractors to undertake larger projects. The success of the CSA could therefore be

measured by the number (or increased number) of contractors at each level in the registration grading system. Alternatively the progress could be assessed from results of questionnaires or other surveys addressed to the organisation's stakeholders (Clients, contractors, other 'construction institutions'). These surveys could be undertaken at various intervals in the life of the CSA to determine the direction and activities that should be given a higher priority.

The funding for the organisation will not be available for an indefinite period and will therefore require the 'winding up' of the organisation once the contracting capacity has been increased. The CSA may develop into or establish a Contractors' Association, as discussed below, but this organisation would be separately controlled and financed from the original CSA.

It was mentioned above that contracting can be a risky business and some contractors will become bankrupt. This situation must be accepted when reviewing the success of the organisation and determining the level of support required by contractors. 100% success rate in the retention of the contractors who become registered should be classified as a failure, as it is not possible for every contractor to be successful. It will be necessary for the organisation to determine when a contractor has been successful or not and therefore remove or reduce their entitlement to support. Setting the criteria for removing support from a successful contractor will be straightforward as the contractor will move to higher levels in the registration and classification scheme and hence automatically be entitled to less support. However, an unsuccessful contractor will remain at the same position in the grading system and therefore continue to receive support. The CSA should therefore have additional criteria to determine when support should be withdrawn or reduced to a contractor who is showing little sign of developing their business. This criteria is likely to be based on a selection of variables which will include:

1. Quantity of support given (value in terms of cost and/or time)
2. The timeframe that the contractor has been receiving support

The withdrawal of support will encourage contractors to become self supporting and develop their own business or remain trading as small enterprise and allow the CSA support to be directed to other emerging contractors.

In order to be successful the organisation must be market driven. This will require it to respond to the needs of all the stakeholders in the whole of the country or region in which it will operate. The three main stakeholders in the construction industry are:

1. Contractors
2. Government
3. Client

- Contractors

Small scale contractors are the primary stakeholders in the development of the CSA however, they must recognise the need for the CSA to be approved and supported by the other stakeholders in the industry. Contractors are primarily interested in developing their own business rather than in industry in general. The Management of Appropriate Road Technology (MART) project highlighted the primary concerns for small scale contractors in their bid to survive in the industry (Miles 1996a).

1. Start up business
2. Registration (Trade License)
3. Classification
4. Management ability

5. Possess facilities
6. Hold a bank account
7. Marketing ability
8. Job continuity
9. Understand the government's budget cycle

If the CSA is to be successful it must remain long term goal oriented (for the whole construction industry) although this may be achieved through short term inputs (to individual contractors).

- Government

To be successful the Association must be accepted by the Government as an organisation 'to do business with'. Governments realise the need to open dialogue with the contracting industry and are therefore unlikely to ignore any organisation that truly represented the interests of its whole membership. However, the government must accept that the organisation is an autonomous body which is set up to represent its membership and therefore may at times criticise government policies and legislation

For Contractor Support Associations to be successful they must be recognised and receive mutual regard and respect from both contractors and government organisations. It is important from the contractors view point that a Contractors' Association is seen as being independent from the government. While the value of support from government should not be underestimated it is necessary for the organisation to be financed, staffed and managed separately from any government body in order to be an autonomous body which is not controlled by government.

- Client

Although client will often be synonymous with government it will be possible to distinguish between the government department which is supporting or promoting the CSA and the department requiring a construction project to be undertaken. It was outlined in the introduction to this paper that the development of the private construction sector should not place significant additional risks on the client. The operation and success criteria of the CSA must ensure that this requirement is met.

In their book *Building for Tomorrow*, Miles and Neale propose list of nine criteria which are required for institutional success:

1. Strong and knowledgeable leadership
2. Pronounced practical orientation
3. Closest possible links with client base
4. Interdisciplinary and problem orientated approach
5. Coherent and balance portfolio of intervention methods (training , consultancy, research and information services)
6. Flexibility in reacting to new situations, needs and challenges
7. Competent and motivated staff
8. Operational autonomy
9. Impact judged according to actual results achieved by clients served.

They also examine the role four different institutions have played in the development of the construction industry in their respective countries. From the analysis of these organisations they show that successful organisations score highly on all nine criteria. These criteria may serve as a useful checklist particularly in the early initiation stages of a CSA.

Conclusions

Each country is different, while there may be common features between different countries analysis of their problems will identify specific problems and causes which will result in the proposal of unique menu of solutions. There are no standardised 'programme packages', each country or region will need to develop their own programme framework depending on the current economic, social and political environment. The objective of a truly free competitive construction sector is to provide a level playing field for all contractors to compete on equal terms. While 'areas' may be targeted for support careful consideration must be given to the effect on parties who may be adversely affected by what may be support to a minority group.

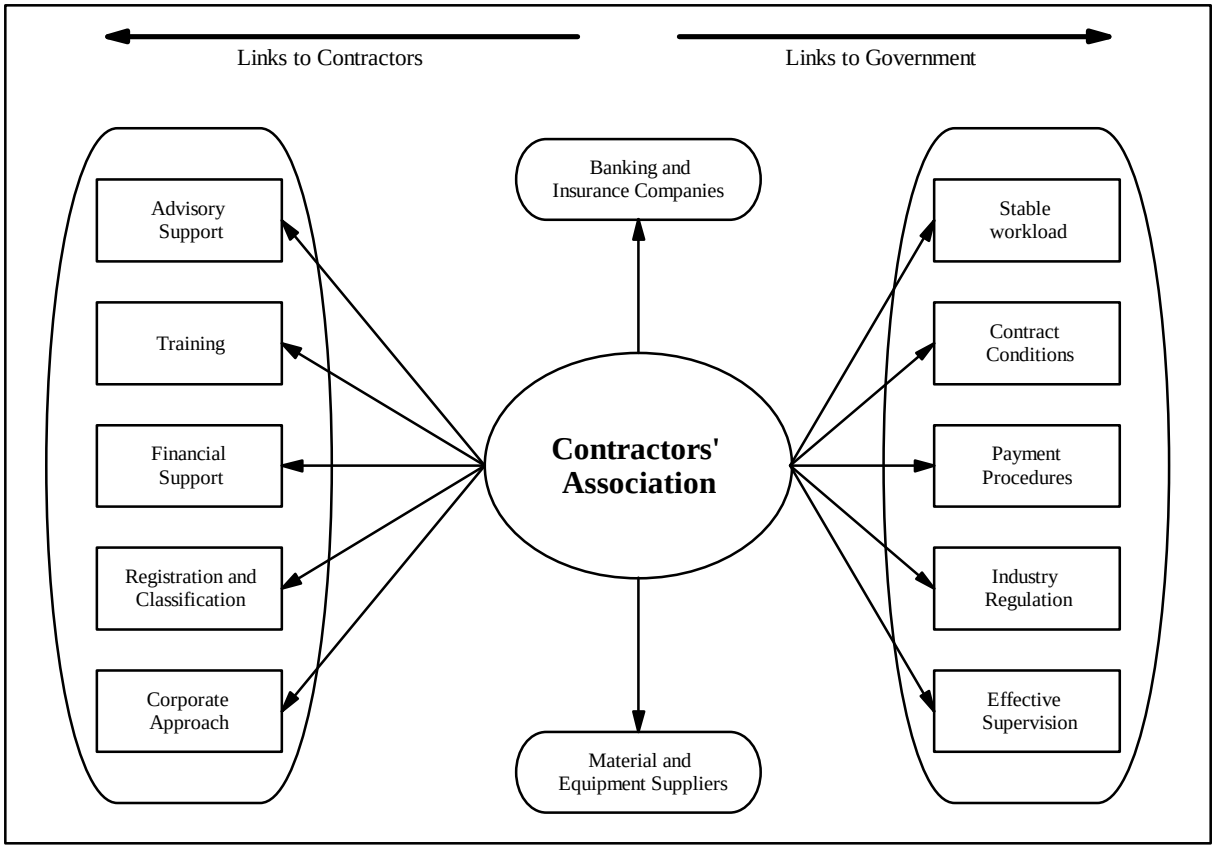
A word of caution. The business world by its very nature has successes and failures (Miles). Regardless of any policy framework which is initiated all small businesses can not be expected to succeed. The CSA policy framework can not be expected to 'mother them all', but must have various levels of support policies and be realistic in accepting some businesses will be unsuccessful and fail. It must promote a free market and a competitive environment for the growth of the private construction sector.

Towards a Contractors' Association

As the contracting sector expands there will always be small contractors who require the services and support of a CSA. However, this factor alone does not justify the continued existence of an organisation like the CSA as its overall aim is to develop the contracting sector and not individual contractors. Although this main objective will have been achieved by assisting individual small contractors it existence in form described above can not be sustainable on economic grounds. A move must be made to develop an organisation which can continue to provide a service to all contractors, but is at the same time self sustaining by internal funding

A Contractors' Association could offer a link between the individual contractors and clients or government departments, providing one voice to the government representing contractors and a dissemination route for information and feedback to contractors from government departments. The diagram below highlights the roles that a Contractors' Association can play in the development of all contractors and the construction industry.

Contractors' Associations are able to provide direct assistance to their membership by offering fee for use information services and training. They can also take over and administer the registration and classification system that was originally initiated by the CSA By acting a one body through the Contractors' Association it may be possible for contractors to promote a corporate approach to solving the problems faced by the industry. The Contractors' Association can also continue to foster links with banks and suppliers in order to facilitate contractors access to finance, material and equipment resources.



Based on Edmonds and Miles 1984

As the CSA is phased out there should be an established contracting sector and contracting procedures which should itself facilitate the development of future small contracting enterprises. The Contractors' Association would represent the whole contracting sector and finance its operation solely from membership and user fees.

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