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Programmes for improving the performance of contracting firms in developing countries: A review of approaches and appropriate options

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Programmes for improving the performance of contracting firms in developing countries: A review of approaches and appropriate options

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Contractor development schemes have been part of national programmes for improving the construction industries of developing countries for many years. The nature of, and results obtained from, such schemes have been different from one country to another.

This paper considers the issues involved in the efforts to improve the performance of contracting firms in the developing countries. The features of such firms and their operating environments are discussed. With the emphasis on countries in sub-Saharan Africa and South East Asia, existing contractor development programmes are reviewed. Some of the principal factors that might contribute to the success of such programmes are discussed. It is suggested that the programmes should be country-specific and incorporate specific targets. They should be based on objectives that are achievable considering the circumstances in which they will be implemented. Finally, their implementation should be monitored and periodically reviewed.

Keywords: Contracting, developing countries, operating environment, problems, contractor development programmes.

Introduction

Structure of the industry

Construction industries everywhere are characterized by a pyramid structure: a multiplicity of small firms and a few large companies. The structure of output is another pyramid but, in this case, an inverted one: the few large firms undertake a disproportionately high percentage of the total amount of work in financial terms, although not necessarily in terms of the number of projects (Hillebrandt, 1984). These features are borne out by figures published by the Economic Commission for Europe (1988) on the building industries of its member countries, and by the US Department of Commerce (1988) on construction enterprises in the USA. This structure is largely attributable to the nature of construction activity (in particular, its dispersal and discontinuity) and constructed goods (especially their immobility) (Hillebrandt, 1984; Nam and Tatum, 1988).

In developing countries, the gap between the large firms and the small ones is very wide. This is evident when the two categories of contractors are considered in terms of turnover, resources, access to inputs, operating environment and future prospects. The large companies are foreign firms working in the country temporarily on large or technologically complex projects, state-owned corporations, locally based subsidiaries of foreign companies

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or joint ventures between foreign and local companies. The sizeable local firms are very few (Turin, 1973; Ofori, 1980a). The multiplicity of small firms is not necessarily bad (International Labour Office, 1978). Indeed, such firms should provide the basic framework for the development of the local construction industries. However, not all the companies are small by choice and they have several weaknesses. The lack of large local contractors has, rightly, caused concern. Several writers have suggested that the small companies should be encouraged and assisted to grow (Andrews *et al.*, 1972), and many developing countries have – in some cases over a long period of time – tried to do this.

Structure of the paper

After setting the scene by considering the features of contracting firms in these countries and their operating environment, the factors giving impetus to programmes to improve upon the performance of such firms are discussed. The main basis of such programmes is considered. A number of approaches to contractor development are discussed. However, it should be made clear that the coverage in this regard is not intended to be exhaustive. As is emphasized in this paper, because there is no blueprint for contractor development, it is sufficient to consider a number of these approaches from which some principles that could guide the formulation of programmes could be derived. Finally, some measures that could be adopted to improve upon the situation are suggested.

Definition

In referring to 'developing ' or 'industrialized' countries, the categorization used by the United Nations and related international institutions, such as the World Bank, is adopted. The countries themselves generally agree to such a classification. The merits of such a categorization and the criteria adopted are beyond the scope of this paper. However, it is necessary to point out that the definition of a developing country is problematic. The countries referred to as 'developing' are dissimilar in levels of socioeconomic development and resource endowment, as well as future prospects. Thus, whereas a general scenario is portrayed in this paper, it should be emphasized that the situation in each country is different, in terms of the nature of the construction industry, and the problems it faces, as well as their effects and possible remedies.

The categorization of contracting firms by size adopted in this paper should also be clarified. The definition of a small or large contractor would vary from one country to another and, in each country, would also depend on the criterion or criteria for classification adopted. This may be one or a combination of some of the following: annual turnover, number of employees or maximum size of project undertaken. There are problems with each method of categorization. However, it is possible to group contracting organizations in each country into small, medium-sized and large firms by adopting one or more of the above criteria.

Contractors and their operating environment

Features of contractors

Most construction companies in the developing countries are sole ownerships, headed by entrepreneurs without expertise in construction, and with an interest in many other fields

(Ofori, 1980a). Thus, the firms tend to be transient. Furthermore, they are unable or unwilling to employ qualified personnel. Their proprietors are also reluctant to delegate responsibility to others, especially where this involves monetary transactions such as the purchasing of materials. Thus, the potential of these firms for expansion is limited.

Owing to their cultural background and the setting of their operations, proprietors of contracting firms in the developing countries, like their counterparts in other sectors of the economy, have a paternalistic and highly personal management style (Damachi, 1978). In most of these countries, goodwill is important in business relationships. Winning contracts, obtaining materials, arranging for credit from banks and receiving interim payments from clients are rarely straightforward business transactions. The contractor needs to have the right contacts and be familiar with much more than the formal procedures (Rushbrooke, 1979).

Impetus for contractor development

Efforts have been made in many developing countries to improve upon the performance of contracting firms. In general, they were part of the post-independence effort to create a sizeable, efficient and effective national construction industry, which, in turn, has been part of the attempt to create local privately owned enterprises in the commercial and industrial sectors of the economy (Chee *et al.*, 1979). However, there are instances where contractor development has been pursued in isolation from other measures aimed at achieving the same overall end. In some cases, it has been the only component of a construction industry development programme (Kirmani, 1988).

Several other factors have given impetus to contractor development. As efforts in other areas have not been successful, such as the development of local construction materials (Ofori, 1985), attempts have been made to make contractors more able to deal with their operating environments. Moreover, to ensure that the receiving countries gain the maximum benefit from their financial aid, some donor countries, such as Sweden, Norway and Denmark, have provided funds and technical assistance for contractor development programmes (Ministry of Works, 1977). Finally, funds have been provided by multilateral lending agencies, such as the World Bank, to support contractor development programmes as sector initiatives (Kirmani, 1988).

Features of contractors' operating environment

The characteristics of the operating environment of contractors in developing countries are well documented. A review of the earlier works can be found in Ofori (1980a). Relevant subsequent works include Edmonds and Miles (1984), World Bank (1984), Wells (1986) and Kirmani (1988). Some of the more prominent problems facing such enterprises are discussed below.

The first of these difficulties relates to the fluctuations in the total workload of the industry, as well as that of individual firms. Variations in construction output have been observed in all countries as being more pronounced, in their extent and effect, than those in the levels of production in other sectors of the economy (Colean and Newcomb, 1952). The public sector's investment in construction is cyclic, being varied to suit prevailing requirements in the management of the economy (Briscoe, 1988). In the developing countries, the commercial development sector is weak. Thus, most formally constituted contractors rely on the public client for work. Since the eary 1980s, as many developing countries have adopted structural adjustment programmes for their national economies, and curtailed government expenditure, their construction industries have experienced long periods of low activity (Ofori, 1984).

Another common difficulty relates to the frequent shortages of materials, components, plant and equipment, and spare parts. Owing to a combination of reasons including the fledgling nature of their local materials industries, the historical reliance on conventional materials, the lack of and unpopular nature of local varieties, and the adoption of inappropriate building regulations and codes of practice, most developing countries use a very high proportion of imported construction inputs (Turin, 1973; Ofori, 1985; Awotona, 1988). As many of these countries have had balance of payments and debt servicing problems, foreign exchange has been scarce. Therefore, the supply of vital construction resources has been intermittent (United Nations Centre for Human Settlements, 1986). The terms under which contractors obtain their inputs are also generally unfavourable (Ganesan, 1982).

The contract documentation and procedures adopted on construction projects in these countries are of foreign origin and are generally inappropriate (Turin, 1973). The terms and conditions of the forms of contract are unrealistic. For example, they may require the contractor to secure items like performance bonds which are not available in the country (East African Institute of Architects, 1977). Moreover, contractors seldom understand the provisions of such contract forms (International Labour Office, 1983). Small contractors, in particular, are unaware of their rights or unable to enforce them (Aniekwu and Okpala, 1988b). Projects are sometimes unilaterally suspended or abandoned by the client. Contractors are seldom paid promptly for work done: the processing procedure for payment certificates is bureaucratic. Moreover, poor financial management often means that funds are not available to pay the contractor (Wells, 1986). It is ironical that it is the public client (which initiates and implements contractor development programmes) whose procedures and practices pose most problems to contractors.

Many developing countries face a scarcity of skilled construction workers. Formal training schemes have a short history and are generally inadequate, and informal on-the-job arrangements are not well-developed. The tendency of construction firms to adopt casual employment practices does not contribute towards the development of an indigenous skilled labour force (Ofori, 1980b). Labour productivity is also low. In many developing countries, as elsewhere, the industry is unable to attract persons of a high calibre and motivation. Larger contractors are able to recruit the better workers as they offer more attractive wages and more secure employment.

Aniekwu and Okpala (1988a, 1988b) categorized the difficulties facing contractors in these countries into two groups: 'structural' (relating to the nature of the construction industries themselves) and 'systemic' (stemming from the adoption of inappropriate systems and procedures). The former group of problems are also faced by the construction industries of the developed countries (Nam and Tatum, 1988). Although a number of the remaining difficulties can be found in nations at higher levels of development such as Turkey (Arditi *et al.*, 1985), it is clear that the weak economies of the developing countries constitute a basic factor underlying many of the problems of the industry in those countries. The adoption of procedures and practices developed elsewhere (for use in different cultural, administrative and economic contexts) is another major contributory factor (Aniekwu and Okpala, 1988b). As forecasts indicate that the prospects for the economies of the countries in Africa, Latin

America, the Caribbean and South Asia are not bright (World Bank, 1988), the operating environment of their contractors is unlikely to improve in the near future.

Small contracting firms in developing countries face a particularly unenviable environment. Considering the inherently risky nature of construction, it is hardly surprising that few of them are able to grow.

Basis of contractor development programmes

Trends in programmes

For several years, contractor development programmes in the developing countries have been formulated in reaction to the obvious deficiencies of the firms when compared with their counterparts in the industrialized countries. Initially, the measures were indirect, including admonitions that the small companies should merge, and that contractors should manage their firms more professionally by delegating some responsibilities, and seek technical and/or managerial training or employ qualified personnel (Moavenzadeh, 1978). Banks were urged to give the contractors loans, and material suppliers to offer them better trading terms. As these initiatives failed to work, more direct measures were required. Contractor development has been a planned and co-ordinated national effort in many countries, especially since the mid-1970s.

However, these attempts have concentrated on the symptoms, in many cases, without considering the root causes. Thus, they have achieved little. The root causes, while being wider and, therefore, more difficult to ameliorate, need to be considered if realism is to be reflected in the formulation and implementation of programmes for developing the construction industries in these countries (Ofori, 1980a).

To understand why the contractor development programmes have been based on what has worked in the industrialized countries, it is appropriate to consider the development of the related body of knowledge.

Evolution of entrepreneurship theory

Efforts to improve upon the performance of construction companies and those in other sectors of the economy have not been helped by the evolution of management theory. The early works on entrepreneurship and the theory of the firm (Schumpeter, 1949; Penrose, 1959) were of little relevance to the developing countries. Initially, economists and sociologists (in works often backed by empirical research) tended to blame the slow pace of development of privately owned businesses in the emergent countries on basic differences between the societies of these countries and those of the industrialized nations. The dissimilar factors cited included the level of education (Kendrick, 1951; Anderson, 1963), cultural and social norms (Parsons and Shils, 1951; McClelland, 1961; Hagen, 1962) and religious principles. Writers considering the last factor often cite the work of Weber (1904), who traced the origins of capitalism to the Protestant ethic. In each of these areas, the factors prevailing in the developing countries were considered to be not conducive to the pursuit of business. Other writers stressed the absence of capital (Hirschman, 1958) and the paucity of business information (Singer, 1964).

However, during the same period, other researchers were reaching different conclusions.

These included Papanek (1962), whose work in Pakistan and the Philippines showed that the Islamic and Catholic faiths, respectively, were no barriers to entrepreneurship. The level of education of entrepreneurs in Pakistan was also not higher than that of their contemporaries. Schatz (1964) suggested that the lack of success of businesses in Nigeria was due more to general factors prevailing in the whole country than capital shortage or deficiencies in entrepreneurial capacity. Such studies failed to make any impression and the main 'principles' of the theory of entrepreneurship persisted throughout the 1970s.

Drucker (1970) was among the writers who used the example of Japan's economic growth during and after the Meiji era to highlight the flaws in the prevailing axioms of management theory and their limited relevance to non-Western societies. Hofstede and Bond (1988) traced the main impetus to the dramatic surge in economic development in South East Asia to the tenets of Confucian thought. Indeed, several multinational companies have emerged in the developing countries (Kumar and McLeod, 1981). Chow (1990) observed that the export of construction services is no longer a one-way traffic from the industrialized to the developing countries: a number of contracting firms from developing countries and the newly industrialized economies have been significant participants in the international construction market.

However, the early principles of the theory of the firm and entrepreneurship have not been completely replaced. For example, the search for the elusive 'entrepreneurial personality' continues. In a review of recent evidence for West Germany, Kland (1987) concludes that although no clear 'personality type' emerged, patterns of child rearing, maternal deprivation, experience of social marginality, and so on, appeared to lead to high achievement needs in some cases, which might express themselves in entrepreneurial activity. Curran and Burrows (1987) critically reviewed the main themes of social research on small firms and entrepreneurship and concluded:

> ... despite recent research efforts, an integrated account of the reproduction of small businesses in advanced industrial societies has yet to emerge. ... Besides theoretical inadequacies, there are also shortcomings at the research level. ... What is required is a dual agenda of more variable-centred primary and secondary analysis ... coupled with much greater emphasis on ethnographic research (p. 185).

Since the early 1970s, works in these areas relating to the developing countries have become more pragmatic. Management theories suitable for application in these countries have been evolving (Akeredolu-Ale, 1975; Damachi, 1978; Badawy, 1980; Blunt, 1983; Saeed, 1986). Salazar (1987) summarized the basic thrust of such works:

> If we want to develop 'our path' to effective management we should begin with what is, ask ourselves why it is as it is, and what purposes it continues to serve, and what we might gain or lose if we alter it, and how we might use it to get where we wish to go.

Unfortunately, work on the theory of the construction firm continues to be almost entirely confined to the industrialized countries (Dioguardi, 1983; Hasegawa, 1988; Hillebrandt and Cannon, 1989, 1990). Techniques that will enable contractors in the developing countries to cope with the conditions in their operating environment have also not emerged. The conventional and theoretically correct ideas formulated for application in more advanced economies are applied in these countries, the factors frustrating their successful use being either ignored or considered to be only temporary.

Approaches to contractor development

Variety

Following different aims and objectives, and in accordance with the differences in available resources and particular features of local enterprises, approaches to contractor development have differed from one country to another. In the same country, they have changed over time. Some programmes have been selective, concentrating on efforts to improve on the performance of certain types or sizes of firms, usually the small ones. Other schemes have been general in approach. The main features of the most common approaches are discussed below.

Public-owned organizations

In some countries, self-supporting stated-owned construction corporations were established to fill the vacuum resulting from the lack of large local firms, and break the monopoly of foreign-owned companies on the large and technically complex projects. This followed the pattern in the rest of the economy, the governments participating actively in sectors and/or at levels in which local private capability was limited.

In Ghana and Tanzania, where some of these national construction organizations were formed, the intention was that they would execute both public and private projects, and eventually work abroad. Whereas only one such organization was formed in Ghana, four were set up in Tanzania. These state-owned corporations have had a chequered history. They have undertaken some of the most important construction projects in their respective countries but have failed to live up to expectation in terms of annual total volume of work, the range of projects they are able to undertake and the quality of their workmanship.

Contrary to expectation and popular belief, such firms are seldom given preferential treatment on government projects. However, they are subject to governmental control, being unable to appoint their own senior management or fix salaries for their employees. They might be obliged to undertake public projects that fail to attract any tenders from suitable companies, such as those on a tight schedule or in remote locations. They might also be compelled to work for public sector organizations with unflattering reputations as construction clients (International Labour Office, 1983). Many of these state-owned contracting corporations have cash-flow difficulties at the same time as huge debts are owed them by some public bodies.

Having been created as commercial enterprises, most state-owned construction organizations have been unable to operate as such. Thus, they have floundered. As the curtailment of the public sector's involvement in the economy has been one of the conditions attached to the offer, by lenders, of financial support for structural adjustment programmes (World Bank, 1988), the privatization of such public-owned firms is either underway or imminent in some of the countries where they existed.

Role of foreign firms

Contractor development has often been accompanied by various forms of protection for locally owned firms. Davis *et al.* (1988) give an account of some of the statutes and regulations in this regard in various countries. Those pertaining to countries in South East

Asia are summarized by Keow (1990). Whereas these barriers tend to change over time, some of the most important ones may be discussed.

In some cases, local firms are given tendering preferences on public projects (World Bank, 1984). In the Philippines, indigenous contracting companies and those in which Filipinos have at least 70% ownership are given a 15% preference margin in bidding for public projects. Foreign firms may also be restricted to bidding only on projects above a certain floor limit. In Malaysia, the minimum value of such contracts is US$20 million. The need for local incorporation of all firms operating in a particular country is almost universal. Firms may also require licences (as in Thailand), formal accreditation (as in the Philippines) or registration (as in most African countries). The requirement for some form of equity participation by locals in foreign-owned enterprises in all or certain specific sectors of the economy is also not uncommon.

Writers differ in their views on the potential benefits to the developing countries of the operations of foreign construction firms as regards their effort to develop indigenous capacity. Moavenzadeh (1978) urged the developing countries to allow such companies to undertake the larger and more sophisticated projects while the local firms concentrated on the smaller and simpler works. Many countries which are (or were) financially able to do so, such as Nigeria and the Middle Eastern nations (Al-Jarallah, 1983) have adopted this approach.

However, experience in Trinidad and Tobago showed that several factors contributed to the poor performance of the expatriate firms, which eventually led to the abandonment of a series of government-to-government arrangements under which the design and construction of all major public projects were undertaken by foreign firms (Lewis, 1984). Chand (1989) gives an account of the insistence of the World Bank on awarding a major road construction project to a large multinational contractor instead of the local public construction concern which had proved its competence on similar projects. The contract was later re-awarded to the local public construction organization as the foreign firm failed to make good progress on it. Cockburn (1970) advised foreign construction companies to adopt practices that were supportive of the effort being made by each host country to improve upon the performance of its indigenous construction industry.

One way in which the operations of foreign enterprises may be linked to the development of local construction expertise is through the formation of joint ventures between local firms and foreign companies. Such arrangements have often been proposed as a means of effecting the transfer of technology and ensuring managerial and technical improvements in indigenous contracting companies (Abbott, 1985; Walker and Flanagan, 1987). In this way, while necessarily engaging the services of foreign firms for the large and sophisticated projects, the developing countries could ensure that they nurture their local contractors at the same time.

There have been some success stories. These include Taysec in Ghana, a joint venture between Taylor Woodrow International and Social Security Bank. Countries have been urged to, or have sought to, enforce a rule that joint ventures should be mandatory, that is, every foreign contractor should engage a local partner for each project it undertakes. However, it is generally difficult to make joint ventures effective (Andrews, 1987). Where such cooperative effort is not voluntary and not originally motivated by the commercial interests of each of the partners, the potential for conflict, crisis and inefficiency is even greater. It is doubtful whether the local partner can learn much under such circumstances.

Despite increasingly stringent controls such as scrutiny of the joint venture agreement (as in Ghana) and monitoring of training programmes (as in Singapore), joint ventures seldom result in the effective transfer of expertise. This is either because the foreign company is unwilling to help nurture a potential competitor, or the local counterpart is in no position to benefit from the knowledge and skills on offer. Project-oriented joint ventures have also been more common than longer-term arrangements that would be more beneficial to the developing countries.

Restricting the entry or operations of foreign construction firms has been seen as a way of creating opportunities for the local contractor. Some developed countries have protectionist trade policies too. However, in the emergent nations, trade barriers, in themselves, are unlikely to be useful in the effort to develop the local industry. It is of greater importance that the local firms are in a position to exploit the resulting opportunities. Such barriers may also not be easy to lift (Chow, 1990).

Finance

Small and medium-sized contractors in developing countries have very limited access to funds as they are seldom able to offer the necessary fixed assets as collateral. Advance payments by clients are rare and interim payments are routinely delayed. Thus, construction companies in developing countries often face severe financial difficulties. This problem has been so acute in some countries that contractors' associations have sought to establish their own financial assistance schemes (Ofori, 1980a).

Efforts to improve contractors' access to finance have taken various forms in different countries. These have included the provision of advance payments to contractors on public projects. Whereas such an approach is still followed or advocated in some countries, experience in many instances has been disappointing. Osuide (1988) observed that many 'contractors' engaged on a major housing project in Nigeria, which was launched in 1979, failed to complete their projects after collecting the mobilization payments amounting to 30% of the contract sum.

Some contractor development schemes, such as that in Ghana, have aimed to address the issue of access to finance. The state-owned Bank for Housing and Construction, a special commercial and development bank, was established in 1973. With technical assistance from the World Bank, it launched a scheme to offer project pre-financing loans on commercial terms to contractors. The credits are offered after an appraisal of the contract and tender documents. The bank's officers visit projects to provide technical advice. An officer might be seconded to a contractor's firm to manage the works on a major project. Plant and equipment procured in bulk are sold to the bank's contractor-customers on a hire-purchase basis. Contractors can also borrow vital heavy plant and equipment from a pool owned by a subsidiary of the bank. The bank has offered loans or formed joint ventures for the establishment of materials production units (Ofori, 1983).

The pre-financing scheme has suffered from a high level of defaults. It was suspended in 1981 and currently operates at a small fraction of its previous level. Although it has branches in the regions, the bank's contractor-support activities are limited to Accra. With only a few items and high hire charges, the plant pool has had little impact on the fortunes of the average contractor. The bank's ambitious plans to extend its operations geographically and in their technical extent, have not been realized. Of late, it has tended to concentrate on its commercial banking operations. Thus, it is largely ignoring the purposes for which it was established.

Learning from the mistakes of the Bank for Housing and Construction, another state-owned bank in Ghana, Social Security Bank, has been much more successful with its contractor pre-financing scheme by carefully selecting beneficiaries, limiting their total number at any one time, and providing an effective monitoring and advisory system.

Thus, financial institutions offering specific funding schemes for contractors have had to provide additional support services to ensure that the beneficiaries can meet their repayment obligations. This requires commitment as well as expertise, although such schemes enable the banks to tap an otherwise latent commercial opportunity.

Contractor-support agencies

Some contractor development programmes have endeavoured to offer the companies a comprehensive package. They provide the items and services discussed below.

1. Project-related finance on soft terms is either disbursed directly by the agency or through selected commercial banks. The initial capital for these revolving funds was provided by the government and, in most cases, external lending or aid organizations.
2. Contracting companies are offered construction projects either as a result of the agency guaranteeing that the contractor would perform satisfactorily and/or helping the company to submit a realistic tender, or the agency tendering for, or being offered, a number of (usually public) projects that are then allocated to the contractors.
3. Training is provided to the contractors on subjects such as tendering, contract scheduling and administration, site supervision and general and financial management. In addition, managerial advice is offered as an extension service.
4. Contractors are provided with key construction materials that are either procured in bulk by the agency and supplied to the companies, or purchased by the companies from suppliers at special prices and terms arranged by the agencies. Items of plant and equipment may also be lent or offered on hire-purchase terms to contractors.

The National Construction Corporation (NCC) was established in 1967 by the Kenyan Government with technical and financial support from the Norwegian Overseas Aid Agency (International Labour Office, 1979). It was the earliest and largest contractor-support agency in Africa (in terms of number of firms supported, size of the revolving fund and range of services offered) (Omenge, 1983). It was also arguably the most successful. In addition to the services outlined above, it was involved in the manufacture of construction materials and in such wider activities as the national effort to draft more appropriate forms of contract. It planned to develop itself into a specialized banking and construction management consultancy entity. It set up a contracting organization to demonstrate modern technical and managerial techniques to its contractor-beneficiaries, and to generate income. In 1989, the NCC was abolished by the Government of Kenya, following complaints by contractors that its construction organization was competing with them for projects.

The Botswana Enterprises Development Unit (BEDU) and Swazi Enterprises Development Corporation (SEDCO) followed the NCC model. They were set up with aid from a number of countries and external aid institutions. However, unlike the NCC, their contractor-support activities are administered by units that form part of national agencies developing small-scale manufacturing enterprises. Again, unlike the NCC, SEDCO and BEDU are not administered by the ministry responsible for construction. Faced with a scarcity of qualified and experienced local personnel, these two agencies have not achieved much. Another attempt to replicate the NCC model, this time in Lesotho, resulted in the formation of a sort of direct labour organisation, the Basutho Enterprises Development Company (BEDCO), the construction firms being used mainly to build BEDCO's own industrial estates.

Common problems facing such contractor-support agencies include those discussed below. Measures were taken by the NCC to deal with some of these difficulties, which were identified in the initial years of its operations. These measures are outlined where appropriate.

The expertise-intensive nature of the activities of such agencies means that only a few contractors can be supported at a time, contrasting sharply with the large number of companies requiring such assistance. Worse, whereas the NCC had branches in the various regions, the firms benefiting from the other schemes have, invariably, been those based in the capital cities. Again, apart from the NCC, there appears to be no systematic approach to the selection of the few firms to be supported. Thus, the number of successful beneficiaries has been small.

An over-reliance of contractors on the support of the agencies has been a major problem. The gradual weaning of beneficiaries from the agency's aid is seldom a clearly stated or enforced objective. This has resulted in a dependency mentality among the contractors. In what may be extreme cases, some of the contractors being supported considered themselves to be employees of the agency and tended to delay their projects to keep themselves and their workers in work (Ofori, 1980a).

Ensuring that contractor-beneficiaries are committed to the objectives of the agency and appreciate the support being offered to them has not been easy. This was the case even with the NCC, in whose formation the Kenyan African Contractors' Association played a key role, and in whose administration it was actively involved. Defaults in repayment of pre-financing loans and bad debts are common.

Developing an appropriate and effective training curriculum and structure has been difficult. Many of the proprietors of the small construction companies are, at best, semi-literate. They also have little time to spare for training as they are actively involved in many aspects of their firms' operations. Conventional structured training programmes, as are adopted by the agencies, are not suitable for such persons.

Finally, the operating environment of contracting firms has not been improved in any of these countries. The contractors still have to contend with bureaucratic contract administration procedures, shortages of materials and inappropriate contract documents, among other things.

Despite these difficulties, such agencies, and especially the erstwhile NCC, continue to inspire writers on contractor development. Initiating a contractor-development programme is becoming almost synonymous with establishing a contractor-support agency. A publication of the International Labour Office summarizes the experiences of such agencies and, supporting the principles on which they are based, offers guidelines for the establishment of similar bodies in other countries (Relf, 1986).

Comprehensive national programme

Like its economy, Singapore's construction industry has successfully shed the weaknesses commonly found in its counterparts in developing countries. Thus, it is pertinent to outline its experience in this regard.

Contractor development in Singapore has formed part of the overall socioeconomic development effort and has been a major aspect of the attempt to improve upon the performance of the local construction industry. The approach has differed from the others considered above, being more global. In general, the strategy has been three-pronged: upgrading of contractors on a national basis; efforts by individual public sector client organizations to improve upon the capability of contractors working on their projects; and attempts to address the undesirable features of contractors' operating environment.

The Construction Industry Development Board, formed in 1984, is charged with overseeing the continuous development of the construction industry in Singapore. Among several other functions, it administers the provision of incentives to contracting firms to enable them to adopt labour-saving methods of construction to relieve the effects of an acute manpower shortage. Most of these schemes were initiated in the early 1980s during a massive construction boom. The Small and Medium Enterprises Financing Scheme enables contractors and firms in other sectors of the economy to acquire approved plant and equipment on a hire-purchase basis. The list of approved equipment is kept under review and the loans are disbursed by the major commercial banks. Under the Investment Allowance Scheme and the Accelerated Depreciation Scheme, contractors may offset the cost of acquiring plant and equipment against tax.

The Board also administers the national construction skills development programme. Under the Preferential Margin Scheme, firms with more than a stated minimum proportion of Singaporean equity ownership were given a margin of tendering preference (on a sliding scale up to 5% or a maximum of US$2.5 million depending on the proportion of local ownership) when they competed with foreign companies on major public projects. This encouraged the formation of joint ventures between foreign and local firms, most notably for the contracts on the Mass Rapid Transit Project. Recognizing that the industry has become relatively mature, the Board has recently revised the Preferential Margin Scheme: the tendering preference is given to large firms achieving consistently high levels of quality of workmanship. Since 1985, a range of measures has been instituted to encourage and assist local contractors to export their services (Tan, 1989).

Each of the major public sector clients endeavours to help contractors to improve upon their performance. The efforts of the Housing and Development Board (Singapore's national housing agency) may be outlined. The Board has, since its formation in 1960, set itself ambitious completion targets in terms of the number of dwelling units (Wong and Yeh, 1985). To achieve these, it has helped contractors to improve upon their efficiency. It gives its contractors credits under the Interest-free Financing Scheme and supplies them with key materials from a central stockpile or its own factories. Under the Core Contractor Scheme, selected firms were guaranteed a certain volume of work for a 3-year period, enabling them to plan accordingly. The Merit Star Scheme gave outstanding contractors a margin of tendering preference for each star awarded. The Merit Star and Core Contractor Schemes were replaced in early 1988 with a serial tendering scheme. Unlike the experience in many developing countries (Ofori, 1980b), public projects are sought after as the public client has a reputation for paying contractors promptly. Indeed, in Singapore, a public contract is a 'bankable' collateral (Chow, 1990).

The state's direct involvement in the industry includes sole or joint-ownership of a number of large companies producing vital construction materials, and construction firms. The latter include a company that undertakes high-rise public housing projects using the most advanced technologies, and a specialist mechanical and electrical engineering contracting firm.

The industry has also played a role. Firms have taken advantage of the government's schemes to mechanize their operations. In the early- to mid-1980s, foreign contractors undertook the bulk of the large and complex construction projects. However, studies show that this dominance is being gradually broken (Koh, 1990). The contractors' association organizes training programmes for its members and their personnel, and has contributed in a significant manner to the effort to improve site safety and the quality of contractors' workmanship.

The concerted efforts and investment in contractor development in Singapore (backed by a buoyant economy that has helped to provide contracting firms with a good operating environment), have failed to create a self-reliant local construction industry. Construction firms' site management is still poor; they seldom adopt proper planning and control procedures (Construction Industry Development Board, 1989a). There is still a dearth of large local firms (Construction Industry Development Board, 1989b). Singaporean contractors are also unable to offer the wide range of services that would enable them to compete effectively on the international scene as many of them have sought to do in the past few years (Economic Committee, 1986). The firms have become dependent on help from the government and assistance from the various client agencies. For example, many of the contractors of the Housing and Development Board rely on the Board for their resource planning and various technical aspects of construction (Wong and Yeh, 1985). Contractors, through their association, continue to request help on both their local and foreign activities.

It is pertinent to note that the large firms that have emerged remain family concerns (only six contracting companies in Singapore are publicly listed), and are managed in virtually the same paternalistic and autocratic way as the average small construction company. Again, despite admonitions to that effect, the large companies have not eschewed the traditional reliance of contractors in Singapore on labour-only subcontractors. The experience of Singapore shows that contractor development is not a once-and-for-all activity. Progress may also not be made in all aspects at the same rate. Furthermore, the growth of a construction firm is not necessarily related to its adoption of Western management practices.

Possible courses of action

Need for specificity

Considering the differences among developing countries, a blueprint for contractor development is an elusive concept. Moreover, even in the same country, no single scheme can be effective. In an industry such as construction which is subject to a wide range of dynamic influences, any package of measures will also not be appropriate forever. Generally, the contractor development programmes considered above would have worked well in a very different economic, cultural and administrative setting. They were not designed to exploit particular strengths of the construction industry in each country. Thus, it is hardly surprising that most of them have made little impact.

Contractor-development programmes should be formulated after exhaustive studies which give due consideration to the specific circumstances of the particular countries. However, some basic principles are relevant to all such programmes. Targets should be well-defined and, preferably, measurable. The main objective should be to create a number of self-reliant enterprises over a specified period of time. The programmes should be monitored and continually reviewed to maintain their appropriateness and relevance. Some possible measures are discussed below.

Operating environment

Efforts should be made to improve contractors' operating environment. The most elaborate contractor development programme would achieve little in practice if its beneficiaries are exposed to an industry fraught with such risks, uncertainties and endemic problems as are found in many developing countries. The public client has an important role to play, especially in relieving the financial constraints on contractors' operations by streamlining procedures for processing contractors' payment certificates.

There is also the need for a review of contractual terms and procedures to address, in particular, issues which have become demonstrably obvious. These include the clauses that are unenforceable owing to the level of development of the economy, deficiencies in the existing infrastructure (such as the requirement for notices and the deadlines which must be met, compared with the nature of the postal system), and the capabilities of the average contractor. Indeed, radically new approaches to construction contracts might be sought in each country (Rushbrooke, 1979). In many developing countries, construction contracts are seldom the subject of legal dispute as evinced by the non-existence of relevant case law on them (Aniekwu and Okpala, 1988b); goodwill between the client and the contractor is important. These signify that the existing forms of construction contracts, with their emphasis on legal rights, obligations, procedures and sanctions, are inappropriate in these countries.

Company formation

Small indigenous contractors in the developing countries have not heeded admonitions that they should merge. Further calls of that nature are unlikely to make much difference. More imaginative approaches are required. One of these is the formation of 'shell' companies that would provide the managerial umbrella under which small firms can retain their independence. Such a shell company could be a state-owned or private holding company, whose operating parts comprise a number of small firms which it uses on a regular basis as subcontractors.

Commercially strong organizations in other sectors, such as the financial institutions, could be encouraged to enter into construction by creating 'shell' companies, acquiring a number of existing medium-sized firms, going into joint ventures with some of such firms, or forming construction companies to undertake some of their own projects initially. Joint ventures between manufacturing firms and/or suppliers of materials and contractors might also be encouraged.

Another approach to construction company formation might be based on a fundamental reappraisal of the construction process, especially in relation to the demarcation of responsibilities of, and definition of relationships among, participants in the process. In many developing countries, the present division of professional roles is artificial as it results from the adoption of approaches to project procurement which had been determined by social and cultural factors in other countries (Faulkner and Day, 1986). For example, there is little justification for the separation of design from construction. Therefore, it would be appropriate to consider the formation of firms able to offer comprehensive services as the main building blocks of the construction industries. Such enterprises offering integrated services are most likely to develop through the gradual building up of a contracting capability by the major consulting organizations. The professional institutions might be encouraged to amend their codes of ethics which disallow the involvement of their members in contracting. Any statutes or codes that forbid the formation of multi-professional or multi-purpose construction enterprises might also be abrogated. Studies could be commissioned to consider how clients' interests could best be safeguarded in such project arrangements.

Where overall national policies, executive construction capacity and operational experience and capability allow, state-owned enterprises might be established at the national, or where appropriate, regional level and gradually privatized. Such firms could be used to provide an example for the local firms in management practice and technology development. The temporary nature of such organizations should be made clear at the start, and their privatization gradually effected according to a clearly defined schedule.

Training

Training courses for contractors should be based on factors that contribute to success in contracting in the particular country. Elaborate courses on tendering, construction planning, financial management, and so on, which fail to consider the practical situation such as the need for good contacts, frequent shortages of materials and delays in payment by the client, are unlikely to be of direct benefit. In the particular operating environments of contractors in these countries, the adoption of the concepts imparted on present courses would be unwise. Efforts to wean these entrepreneurs from their 'inappropriate' business practices are also not likely to succeed.

Indeed, among the large contractors, including foreign ones, an operating dimension different from what prevails in the industrialized countries is discernible. Some of these companies employ 'marketing managers' who may be former senior civil servants, persons from prominent families or those with exceptional interpersonal skills. These 'managers' facilitate the firms' technical operations, for example, by providing intelligence on forthcoming projects, following up submitted tenders and expediting the honouring of payment certificates, especially by the public client. They also maintain useful contacts with financial institutions and suppliers.

Further development of the body of knowledge on corporate management in the developing countries would help in the efforts to tailor managerial training courses to suit the needs of firms in these countries. Researchers in these countries might also pay some attention to seeking suitable modifications of the conventional management techniques and tools (Arditi and Koseoglu, 1983). To aid the development of relevant course material, good case studies on contracting companies which have thrived in these countries would also be helpful.

Particular strengths

The existing or emerging strengths of the construction industry in each country should be identified and nurtured, or utilized in the formulation of wider programmes. One of these is the rising number of professionally trained persons wishing to become contractors. This trend should be encouraged by the adoption of some of the measures discussed below.

Entrepreneurship should be an important aspect of professional and technician courses. The entrepreneurial ability of students on such courses could be enhanced through the introduction or strengthening of teaching modules (developed with particular reference to the local context) on corporate strategy and administration, and financial management, and the use of appropriate case studies. Students' awareness of the local situation and related opportunities and difficulties should be raised.

The approach to the evaluation of tenders could be reviewed to accord some credit to academic qualifications rather than stressing tenderers' experience on previous projects. Moreover, instead of choosing the lowest bidder as a rule, the public client could pay a small premium (under a clearly documented scheme) to contribute towards the nurturing of deserving firms. Similarly, in the appraisal of applications for credits, contractors' educational background might be appropriately recognized.

Contractor-support agencies

Contractor-support schemes involving a range of services administered by a single agency are not a universally applicable panacea. Experience in many countries shows that it is difficult (and expensive) to make them successful and beneficial. Existing contractor-support agencies should mainly aim to avoid featherbedding contractors. This might be achieved through the measures discussed below.

To maximize the tangible benefits from each scheme, the contractors to be assisted might be carefully selected. The criteria for selection should be formulated on the basis of the resources and capabilities of the particular agency, as well as the attributes of contracting enterprises in the country. They should be clear and well publicized to provide firms with the motivation to seek to satisfy them. They should also be kept under review. Initially, the contracting companies chosen should be firms with a potential to benefit from the scheme and emerge as self-reliant entities.

The number of contractors supported might be kept deliberately small to ensure that effective and specific assistance can be given to each firm. Whereas this might mean that the firms being supported would have some advantage over the others, this should only be a temporary state of affairs and other deserving contractors would later have the chance to benefit from the scheme. To prevent a situation where a few firms not systematically selected are 'long-term beneficiaries' of the agencies' support, the period of assistance for each company could be specified. This would encourage the firms to make an effort to derive maximum benefit from the scheme during the stated period.

Because not all firms under the scheme of each agency would require exactly the same type of support package, or level of each component of the package, a detailed development programme might be prepared for each contractor or group of contractors (categorized in terms of the mix of support services required), with relevant periodic targets. In this way, a variety of sizes of firms with different support needs could be under the wings of an agency at any time. The programme for each contractor should be carefully monitored to map the progress of the firm.

A deliberate weaning process should be built into the scheme, with contractors receiving less assistance (and being encouraged to be increasingly self-reliant) with time. Incentives could also be provided for the firms to make progress. Similarly, there could be sanctions for errant, uncommitted or laggard firms.

The supporting agencies should operate on the basis of working themselves out of existence, at least as far as the general contractor support functions are concerned. Their success should be judged by the number of firms they have groomed to 'maturity' rather than the number they support at any given time, their operating budget or revolving fund for pre-financing support, staff strength, or number of branches.

Institutional support

A firm national commitment to contractor development is vital. The provision of institutional support is an important requirement. This does not necessarily imply that a separate contractor-support agency should be formed. However, central co-ordination of the various initiatives, appropriate leadership or, at the minimum, a point of focus are important. Such a co-ordinating role should be assigned to an institution that appreciates the special needs of contractors.

The support of the construction industry in its continuous development is essential to the success of efforts in this regard. The industry should be involved, at least in a consulting role, in the background studies to, and formulation of, contractor development programmes. With due consideration of its capabilities, it should also be urged and enabled to take greater responsibility for the implementation of the programmes. For example, the running of contractor-support agencies should gradually be handed over to the contractors' associations. The associations could also be encouraged to contribute to the revolving fund and be directly involved in the training courses. Furthermore, the industry should be encouraged to launch appropriate initiatives in this regard, no matter how small these are.

Conclusion

The poor technical and managerial skills of contractors in developing countries is one of the most important problems facing the construction industries of these nations. Improving the efficiency of indigenous construction firms and enhancing their ability to cope with their unfavourable operating environment has been an important element of construction industry development. Various initiatives have been launched to achieve these objectives. Approaches and tactics, as well as results, have differed from one country to another. In general, the results of these efforts have not been encouraging. Elaborate contractor development programmes have failed to lead to the emergence of self-sufficient firms.

Contractor development is a long-term effort that requires commitment and institutional support. A fundamental review of several aspects of each nation's construction practices, procedures and systems would help in the formulation of country-specific programmes that can address contractors' real problems in their particular context. These programmes should endeavour to improve contractors' operating environment, especially enhancing their access to finance. Finally, they should also nurture and utilize particular strengths of the industry in each country.

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