Internal Discussion Paper

EUROPE, MIDDLE EAST AND NORTH AFRICA REGION

The Construction Sector in EMENA Countries

Ann E. Elwan

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THE CONSTRUCTION SECTOR IN EMENA COUNTRIES

BY

Ann E. Elwan

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The Author is an Economist in EMENA Technical Department, Infrastructure at the World Bank.
ABSTRACT

This study was carried out in response to recent renewed interest in the Bank in the role of the construction sector in development, and the recognition of the need for more coordinated efforts to address the constraints within the sector. It coincides with new initiatives in lending to the sector in several regions.

The information available within the Bank on the construction sector in EMENA countries is outlined in the country annexes. This information is summarized in the text, and analyzed within the framework of recent PRE work. Bank actions specifically directed to the domestic construction sector in EMENA countries are also reviewed. A main focus of the paper is the role of the public sector in construction: the problems associated with the public sector as contractor, versus regulator and facilitator, and client, are discussed.

Finally, a strategy for the sector in the region is proposed, with a view to defining more effective projects or components than have been implemented in the past.
ACRONYMS AND ABBREVIATIONS

BM - Banque Misr (Egypt)
BNDE - Banque Nationale de Developpement Economique (Morocco)
BTO - Back-to-Office report
CEM - Country Economic Report
CCIS - Construction/Contracting Industry Study (Egypt)
CIH - Credit Immobilier et Hoteller (Morocco)
CIU - Construction Industry Unit (in Highway Authority, YAR)
CNAT - Centre d'Animation des Entreprises et de Traitement des Informations du Secteur de la Construction (Alg.)
CNC - Chambre Nationale de Commerce (Algeria)
CMEA or (COMECON) - Council for Mutual Economic Assistance
DIB - Development Industrial Bank (Egypt)
ECO - Egyptian Cement Office
EIU - Economist Intelligence Unit
EPE - Entreprise Publique Economique (Algeria)
FEC - Fonds d'Equipement Communal (Morocco)
FPs - Fonds de Participation (public holding companies, Algeria)
GDP - Gross Domestic Product
GFCF - Gross Fixed Capital Formation
HA - Highway Authority (YAR, PDRY)
ICB - International Competitive Bidding
IDF - Industrial Development Finance
IEPS - Initial Executive Project Summary
IFC - International Finance Corporation
INURD - Urban Development Division in PPR
JCDCI - Joint Committee for the Development of the Construction Industry (Egypt)
JHC - Joint Housing Corporation
LCCD - Local Councils for Cooperative Development (YAR)
LCB - Local Competitive Bidding
MDHLR - Ministry of Development, Housing, and Land Reclamation (Egypt)
MHPU - Ministry of Housing and Public Utilities
MOC - Ministry of Construction
MPW - Ministry of Public Works
NMP - Net Material Product
PCC - Public Construction Company (PDRY)
PDRY - Peoples' Democratic Republic of Yemen
PPAR - Project Performance Audit Report
PPR - Policy, Planning and Research Staff (in World Bank)
PSAs - Public Sector Authorities (Egypt)
SAL - Structural Adjustment Loan
SAR - Staff Appraisal Report
SMSEs - Small and medium-sized enterprises
SNIT - Societe Nationale Immobiliere Tunisienne (public housing construction company)
SNMG - Societe Nationale des Materiaux de Construction (Algeria)
SOE - State-owned enterprise
SONATRAM - Ports construction enterprise (Algeria)
UNIDO - United Nations Industrial Development Organization
YAR - Yemen Arab Republic

**CURRENCIES**

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THE CONSTRUCTION SECTOR IN EMENA COUNTRIES

INTRODUCTION AND SUMMARY

1. This study was carried out in response to the Bank's interest in the construction sector as an important contributor to development. It comes at a time when PPR has produced three recent papers on the construction sector (INURD Reports 6, 10, and 20) and there are new initiatives in lending to the sector in several regions. Although the Bank has recognized the importance of the construction sector for some time, its recognition has primarily taken the form of piecemeal project components in various countries, with occasional major analysis of these efforts. The findings have pointed out the need for more coordinated efforts, addressing the sector as a whole, not just one or two of the constraints.

2. Assistance to the sector in the EMENA region has followed this pattern: although there has been involvement in the construction industry in various ways throughout the non-European part of the region, it has been fragmentary. In the EMENA region, only one construction industry project is under implementation (in Egypt). Previous lending to the sector had generally been in the form of technical assistance or training components, sometimes with the provision for on-lending to contractors for equipment; few free-standing projects, if any, were prepared prior to this. A construction industry project in Algeria is under preparation, in response to recent interest on the part of the Government. In addition, Hungary is undertaking fundamental changes in the structure of its construction industry, and is considering further measures to reduce government involvement in the sector. This background is outlined in Chapter I, which also defines the scope of the study, and describes some of the limitations, particularly those related to availability and comparability of information, that are associated with a review of this kind. Because of these limitations, the study at this stage is primarily an information-gathering and synthesizing exercise, serving as a forum for the exchange of ideas and for discussion of a proposed regional strategy.

3. A broad definition of the construction industry, encompassing the production and maintenance of physical infrastructure and buildings of all kinds, as well the production of building materials, is adopted for the purposes of the study. Construction differs from other industries in several aspects: the nature of the products themselves, and of the demand for them, have resulted in a distinct structure and method of price determination. The two main subsectors, building and civil works, are fairly disparate and are characterized by different capital equipment and expertise requirements. Moreover, the factors affecting demand are not the same, the client for most civil works being the public sector, while the client for a large proportion of buildings is in the private sector.

4. Chapter I also discusses the economic role of construction. The sector is an important one, its value-added accounting for some 3 to 7% of GDP in
developing countries; and the forward and backward linkages are substantial. There is a correlation between GDP per capita and construction value-added, with the lowest income countries generally falling into the lower end of the range. Construction accounts for a large proportion of gross fixed capital formation, ranging between 50 and 70 percent. Economic development can thus be constrained by the capacity and productivity of the construction sector. The fluctuations tend to be large: growth in construction tends to be higher than growth in GDP in periods of expansion, and even lower (or more negative) in recessions. In lower income countries, construction output tends to be both less important in the economy, and more dependent on imports. Attempts to boost construction output in order to promote economic growth, therefore, may lead only to inflation and excessive use of scarce foreign exchange, unless they are directed towards development of the domestic industry.

5. Chapter II describes the regional setting, drawing on various reference documents and summarizing the individual country briefs, which are included as annexes. The annexes are based primarily on information available through Bank documents, supplemented to some extent by comments from Bank staff associated with projects involving construction. Since construction does not constitute a Bank sector, information tends to be widely scattered. The relatively few country reviews of the construction industry that have been carried out tend to be outdated. It was not possible to find detailed statistics in these documents that would allow cross-country comparisons (e.g., regarding efficiency). The information available does, however, provide a useful overview of the range of situations in the region regarding the size and structure of the industry, the relative shares of the public and private sectors, the degree of dependency on imports, and the level of technology employed, etc.

6. The main constraints facing the construction industry in EMENA are outlined in Chapter III. They fall into three main groups, the first two of which (i.e., those relating to an adverse business environment and to inefficient contracting and contract administration) were identified in the recent PRE work as being the main barriers to industry development in general. The third constraint is the depressed market for construction work within the region. Reduced demand, coupled with the previous increase in capacity accompanying the rapid growth period, has resulted in substantial excess capacity in several countries.

7. A lack of Government attention to the industry's specific development needs appears to be fairly widespread (although Jordan is a notable exception), and to be the most pronounced where the industry is most in need of assistance. This lack underlies many of the other constraints in the business environment in which construction contracting takes place. Inadequate institutional finance also appears to be a chronic and pervasive problem, and again, to be more severe in countries where the industry is less developed. In several countries, contractors have cited "unfair" competition from either foreign contractors (tax or import concessions, etc.) or publicly owned construction enterprises (subsidies, freedom from performance bonding, etc.).
8. A fairly basic problem in some countries of the region is inadequate access to the necessary inputs. Where they occur, the shortages are frequently aggravated by significant delays and high cost of imports. Although availability of imports is cited as a constraint in only a few of the countries, it is likely that the problem is more widespread. Inadequate legislation, and weak enforcement of existing legislation, are noted for their negative effect on the business environment in Pakistan and Egypt.

9. On the human resources side, inadequate managerial capacity appears to be the most prevalent problem, affecting a diverse list of countries which includes PDRY, Egypt, Morocco, Pakistan and Hungary. In both Hungary and Algeria, the serious lack of experienced managers is associated in part with the policy change towards reduced public sector involvement. Shortages in other labor areas include inadequate capacity of design and consulting services (cited in Tunisia, Pakistan, and Algeria), and a shortage of certain types of skilled labor in several countries. The lack of strong professional organizations, whose assistance can be very effective in instigating improvements in the business environment, is noted in particular for Pakistan and Egypt.

10. In the contracting area, problems of inadequate prequalification procedures, and the lack of transparency in bid evaluation were cited for several countries. In Pakistan, Egypt, and Syria, the practice of negotiating lower offers after the submission of bids has been noted. The lack of price escalation clauses accounts for a large part of the complaints about one-sided contract documents (Pakistan, Jordan, Egypt, Syria, and YAR). Payment delays constitute another widespread problem, reported to varying extent in Egypt, Jordan, Morocco, Syria, Turkey, and YAR. Some of the contributing factors, such as reporting and clearance requirements for payments above a certain amount, may be relatively simple to address. Others, such as a lack of motivation of public officials, and weak local government budgeting and planning capacities, are more intractable. A fundamental problem in several countries is the contractor's lack of expertise in realistically estimating costs -- again, resolving this problem will take time, since improvements can be accomplished only through training and assistance.

11. Bank actions directed specifically to the domestic construction sector in the region are summarized in Chapter IV. Early experience with a project component providing loans for equipment to domestic highway contractors in Pakistan was not good, although some of the technical assistance was considered to have been satisfactory. The Egypt Construction Industry Project is currently the only Bank project under implementation in the region which deals exclusively with the construction/contracting industry (the Algeria project is still under preparation). Due to delays in the Egypt project, however, project implementation is only now really getting under way. A fairly recent road rehabilitation project in YAR is the first one to include a component with technical assistance for domestic contractors; there are no results as yet. Thus, there is still very little experience in lending for the construction sector in EMENA. The relatively little direct lending to the sector carried out to date has been of the traditional investment type. Although experience in the sector so far does not emerge as overwhelmingly successful, it must be noted that implementation has not really begun on the
two projects in the region which are directed specifically to the construction industry (para. 4.15)

12. Under both the Algeria and Egypt projects, funds would be made available to financial institutions on the basis of their appraisal capacity, for lending to construction enterprises for working capital and investment expenditures for imports of materials and equipment. Enterprises in all branches of activity, including producers of construction materials, would be eligible. These are both designed as investment-type projects, but policy reforms would be key project objectives.

13. Chapters II through IV thus constitute a summary of the present situation and past interventions in the region. Chapter V takes a slightly different viewpoint, examining the role of the public sector in construction. The Government has a major role as regulator and facilitator. In this capacity, it can assist in the industry’s development by ensuring the legal, administrative, and financial environments that support equitable contracting procedures; appropriate tax, licensing, importation, and entry/exit conditions; and adequate access to credit. These responsibilities are often scattered in different government departments. Efforts to develop the sector should include a central government responsibility for effective coordination. Voluntary non-governmental agencies, such as professional associations, can play an important role in communicating the needs of the industry to a government agency with the mandate to address them. Jordan is a good example of Government efforts to assist industry development, carried out in cooperation with the professional associations. The Government’s role in supporting the industry with appropriate education and training programs is also vital.

14. The Government’s role as client has a bearing on (i) fluctuating demand for publicly funded projects, (ii) the effects of delayed payments on contractors’ cash flow, and (iii) the amount of competition amongst contractors. In these areas, Government can assist industry development by improving investment planning, as well as through the obvious policies of prompt payment and packaging of bids to encourage competition. The capacity of the government client to supervise works and the role of the independent engineer are also an issue.

15. The problems associated with the Government as contractor, a large role in EMENA, fall into two groups. The first group of problems is related to Government’s level of efficiency and ability to respond to demand. Some of these, such as the financial and management problems, are similar to those already outlined; others include lack of motivation of workers and management, bureaucratic overheads adding to costs, etc. One of the underlying causes relates to the fundamental mismatch between the characteristics of the public sector and the requirements of the construction sector. State structures tend to be rigid, while the construction industry needs to be flexible: not only is its output produced in different sites, under a variety of conditions, but contractors also need to be able to adapt the size of the operation to the job. Public construction enterprises, which tend to be large, normally tend to have little scope for adjustment, particularly in the size of the workforce. The second set of problems include the difficulties facing private
sector enterprises competing in an environment where advantages are granted to public enterprises. Even in the absence of such practices, the size of the public sector, and often of the projects themselves, effectively limit competition.

16. The lack of flexibility of the large scale contractors contributes to one of the characteristic problems in EMENA countries with large public sector construction contractors, namely an inadequate response to housing demand. The rigidity is evident in such things as inappropriate technology: obsolete or outdated technology appears to be a problem in both Egypt and Hungary. Other problems are inadequate access to building materials (due in large part to distribution problems), and inadequate management skills. Past reliance on centrally planned systems has contributed to both of these problems.

17. Several countries, including Algeria, Egypt, and Hungary, have declared intentions or have already initiated programs to increase private sector participation in the economy. The governments are defining reforms that will facilitate the growth of small and medium sized enterprises. Much of the necessary legislation is in place to allow the establishment of such private companies. However, although the general shifts in economic management in these three countries are well under way, the changes to be directed specifically at the construction sector are still being discussed in a relatively general form, with detailed measures yet to be defined. In Algeria and Egypt, much of the discussion will take place within the context of the Bank’s construction industry projects; in Hungary, some discussion has taken place in the context of measures being defined under structural adjustment lending.

18. Chapter VI pulls together some of the findings of the previous chapters regarding the constraints being faced, and efforts to address them. It summarizes findings regarding the public sector role in construction, and as well as some of the measures for assisting the sector on both the supply side and the demand side. Some approaches to two pervasive factors affecting industry development on the supply side -- the problems of transfer of technology (joint ventures, management teams, etc.), and availability of equipment (access to credit, equipment leasing companies, etc.) are discussed. Discussion on demand focusses on the economic situation in the region and its effect on both regional markets and domestic demand for construction; and the inadequate responsiveness to housing demand affecting particularly (but not limited to) countries with large public sector construction enterprises.

19. Bank experience is looked at again in this chapter, but this time from the point of view of defining more effective projects or components. A comprehensive approach to sector development, and the role of the national government in such an approach are discussed. One conclusion is that most of the countries in the region, regardless of the state of development of their construction industries, would benefit from defining their own (country-specific) strategies for further development, and establishing clearly placed responsibilities for implementing them. Finally, a Bank strategy for the region is proposed.
20. The proposed strategy for the construction sector in the EMENA region relates primarily to the fourteen "active" countries listed in the Country Summary Annexes. The broad range of construction types (small housing through large complex civil works) and the widely differing country conditions preclude the development of an action-related strategy for the region as a whole. The following proposals are based on specific country approaches. They are not in themselves prescriptive.

21. It is proposed that, should the Region wish to pursue further work in this area, a staged approach be adopted, namely:

(i) Update information on the sector for each of the active countries (and others if desirable) in order to assess/identify:-

- the relative significance of the sector in the overall economy, including whether the capacity and capability of the sector is in balance with the needs of the economy;

- the proportion of construction and types of work carried out by the public and private sectors;

- inefficient sector operation and construction practices;

- the constraints to the development of the sector, and

- possibilities for improving efficiencies, including a shift from the public to the private sector, and for removing the constraints, and the likely benefits which would result from such changes.

(ii) Identify countries where improvements and development of the sector appear necessary and cost effective; and for each one, prepare a construction sector action plan. The changes should be cost effective and fit the specific needs of the countries.

(iii) Develop appropriate lending mechanisms to support the action plans.

(For stages (i) & (ii), the assessments of benefits and cost effectiveness could be on a judgement or qualitative basis; in stage (iii), quantitative assessments would be desirable).

22. The above efforts could be undertaken by the Country Departments with stage (1) as part of the normal economic, sector and lending work. If the Departments decide to proceed, they would need to assign adequate resources, monitor the process, and ensure government interest.
I. BACKGROUND AND SCOPE OF THE REVIEW

A. Definition

1.01 A broad definition of the construction industry is adopted for the purposes of this study: it refers to the sector of the economy which uses human, material and financial resources to provide economic and social infrastructure and facilities. Its outputs include physical infrastructure e.g., railways, ports, roads, airports, etc.; other civil engineering work e.g., dams, irrigation projects, and power plants, and all buildings, including housing, and maintenance and repair of existing structures. This definition includes both buildings and civil works: in this study, the broader definition is meant, unless a subsector is referred to specifically.

1.02 The industry has features in common with other industries, but, in combination, they make the construction sector worthy of separate treatment. These fall into four main groups, the first three of which (the physical nature of the output, the organization and structure of the industry and its processes, and the determinants of demand) influence the fourth, the determination of prices. The construction sector differs from industry as usually defined in that its final product is fixed, but the factors of production tend to be mobile. The output is massive and costly, and usually represents a large proportion of the work of any given construction producer in any year. Because it requires the bringing together of diverse product components, the structure of the industry includes large numbers of dispersed contracting companies and separate design firms. For the most part, it is produced according to the requirements of the individual client. As a result of all these characteristics, price is usually determined on the basis of each project, or subcontracted piece of work.

1.03 There is a wide range of size and complexity in the output of the construction industry. Structures can be loosely classified into three types,
the characteristics of which also tend to describe the kind of organizations responsible for their production: namely (i) small and simple; (ii) large, but conventional; and (iii) complex and novel. In the developing countries, it is the last type which tends to be dominated by imported firms.

1.04 "Input" activities include (i) initiation, encompassing feasibility studies, financial arrangements, and design; (ii) organization (scheduling, subcontracting, labor mobilization, procurement of materials, and quality control and inspection arrangements); and (iii) execution, including the construction itself, its delivery, and finishing.

1.05 The buildings and civil works subsectors are fairly disparate, and are characterized by different capital equipment and expertise requirements. Moreover, the client for most civil works is the public sector, whereas the client for a large proportion of buildings belongs to the private sector.\[\footnote{this is true even in countries where there is an important public housing program.}\]

Within the building subsector, much of the commercial and industrial construction is very specialized. Residential construction, although somewhat less specialized, constitutes an important part of the building industry. Within the civil works subsector, there is a great deal of diversity, particularly between earth-moving and other construction activities. This review also considers the construction materials sector, from the viewpoint of the constraints to the industry's development arising from their lack of availability.\[\footnote{Construction materials, however, are not included in the definition of the construction sector for GDP accounting purposes.}\]

B. Construction and the Economy\[\footnote{This section attempts only to outline the economic importance of the construction sector. More detail is given in various other sources, e.g., Hillebrandt, Wells, Strassman, and World Bank (INU 10 and 20, and Henriod).}\]

1.06 Three characteristics of the construction industry -- its size, the fact that its products are investment goods, and its dependence on government as a client -- are of key importance in its role in the economy.

1.07 The contribution of construction output to GDP is estimated to be in the range of 3-7% in developing countries, and about 5 to 10 percent in developed countries. Changes construction industry output affect the size of the national product, both directly and indirectly. The direct effects are evident in the high correlation between the level of development of the domestic construction industry and the general level of economic development. The industry's development can be roughly assessed by the extent of the sector's dependence on imports of materials, skills, and technology.
1.08 The correlation takes the form of a positive relationship between GDP per capita and three measures of construction activity -- value-added as a percentage of GDP, gross output as a percentage of GDP, and employment as a percentage of the economically active population (EAP). On the other hand, construction forms a comparatively invariable proportion of gross fixed capital formation (GFCF). Table 1.1 illustrates these relationships with data from four groups of countries.

Table 1.1: Contribution of Construction to GDP, GFCF, and Employment, by Income Group.

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<td>(1) value added as % of GDP</td>
<td>3.6</td>
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<td>(2) capital formation in const. (% of GDP)</td>
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<td>(3) employment in const. (% of EAP)</td>
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<td>(4) const. as % of GFCF</td>
<td>56</td>
<td>53</td>
<td>55.4</td>
<td>57.5</td>
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Source: Wells, citing UN Yearbook, and ILO Yearbook statistics.

1.09 The average annual growth rates for these groups of countries (multi-country averages over two decades) are shown in Table 1.2. Growth in construction has been higher than GDP growth for the low and middle-income groups. The growth rate appears to be highest during the middle income ranges ($350-2000). The relationship also holds true for individual countries over time.

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8/ Wells, 1986.
Table 1.2: Average Growth Rates of Construction and Manufacturing by Income Group.

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<td>(1) construction</td>
<td>5.9</td>
<td>5.2</td>
<td>8.6</td>
<td>3.6</td>
</tr>
<tr>
<td>output (%pa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) GDP</td>
<td>3.5</td>
<td>4.4</td>
<td>5.9</td>
<td>5.0</td>
</tr>
<tr>
<td>(3) manufacturing</td>
<td>5.5</td>
<td>6.4</td>
<td>7.7</td>
<td>6.4</td>
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</table>

Source: Wells, citing UN Yearbook statistics.

1.10 Backward linkages are strong in the sector, with a large proportion of total construction value added consisting of intermediate products from the building materials and services sectors. National accounts include the value-added by building materials in the manufacturing sector, not in the construction sector. If the value-added associated with the backward linkages were also considered, the contribution of construction to GDP would be substantially higher, and construction would rank as the second largest sector of most economies.\(^9\)

1.11 Also important are the forward linkages: construction is primarily a capital goods industry, with a large proportion of its output being demanded for the sake of future goods or services it helps to produce.\(^9\) Its share in gross fixed capital formation is substantial, ranging between 50 and 70 percent. Economic growth can thus be constrained by the capacity and productivity of the construction sector to the extent that growth is linked to capital formation.

1.12 The products of the construction industry are investment or capital goods in the additional sense that they have a very high value in relation to the income of the purchaser.\(^10\) They are paid for out of capital accumulated in the past, or borrowed. Because construction products have a long life,\(^2\)

\(^9\) Hillebrandt, p.11.

\(^10\) This is clear in the case of civil works and industrial and commercial buildings. Social buildings can be regarded as investments in human capital. Even in the case of residential buildings, which in one sense are consumption goods, there are substantial economic linkages relating to the demand for finishing and furnishing products associated with new dwellings.
stock is very large in relation to flow; and small fluctuations in the demand for the stock of buildings and works have a large effect on the demand for construction.

1.13 The fact that government is the client for a large part (up to half) of construction output, particularly for civil works and public buildings, also contributes to its importance in the economy. Government thus has the means to exercise very direct control over the demand on the industry. Cyclical investment, reinforced by strong linkages, contributes to the tendency for construction activity to experience fairly severe fluctuations. During periods of economic growth, growth in the sector tends to be faster than that of GDP. This raises the very important question as to how the developing countries can increase their construction capacity, in a way that will be consistent with both their immediate needs and their long-term development plans. The other side of the coin, i.e., the need to adjust to lower growth, after having "geared up" to meet demands during a high growth period, is also becoming an important question for some of the countries in the region.

1.14 In the housing subsector, demand is (arguably) more stable than the demand for large government works, having its basis in population growth. However, although it is less dependent on Government budgets and its financial situation, housing demand and economic growth are closely linked (housing starts constitute an important indicator in the US economy, for example). Demand and supply of housing can both be influenced through a very specific set of policy measures. This characteristic, and the large share of housing in construction output, make housing policy a prime focus for efforts to improve local construction industries, and the manufacturing sector which supports them.

1.15 The construction industry is affected directly or indirectly by all the measures usually taken by Government in its economic management. For example, fiscal policies aimed at improving both internal and external budgetary balances, such as raising interest rates and restricting credit, reduces demand for construction of industrial and commercial buildings, and increases the cost of infrastructure schemes and housing. It also affects construction firms' ability to obtain credit from banks and suppliers. Reductions in purchasing power affect the industry similarly; manufacturers will postpone the building of new plant in response to lower demand for manufactured goods. Finally, reductions in capital expenditures by government has an immediate and strong effect on the industry, for which it is a major client.

1.16 Conversely, the industry can have a large effect on the overall economy. For example, in times of strong demand for construction, projects are often started without adequate planning of the total resource requirement to complete them. This excess demand for resources associated with the "overloading" of the industry is a direct contributor to inflation; substitution of more expensive imported materials may be necessary. The need for increased Government borrowing, or money creation, will generally be
inflationary; and the diversion of resources from other uses may exacerbate shortages and cause increases in input prices to other industries.

1.17 Construction is also important in the national economy because of its employment-generation capacity. It is always fairly labor-intensive, accounting for a higher percentage of employment than output. In numbers of employees, it usually ranks second to agriculture in most developing countries and next to agriculture and manufacturing in others. The construction sector tends to absorb a significant proportion of new labor in the urban areas. Its flexibility, and its need for a substantial number of low-skilled laborers, makes it attractive to new migrants and to first-time job seekers.

C. Background

1.18 Despite its economic importance, and the many problems which have plagued the construction industry in developing countries (as evidenced inter alia by long delays, high cost, and poor output quality), construction is not usually treated as a separate and identifiable economic sector, except in national accounts. Surprisingly little has been written about the construction industry in developing countries: apart from some studies carried out by various UN agencies, much of the work is confined to studies of individual countries.

1.19 Given its crucial role in development, the problems being faced in the construction industry seriously affect the efficiency of investments and the pace of economic growth. The implementation of Bank projects also suffers where the domestic industry lacks the capacity to handle large projects, and where the work attracts no reasonable international bids.

1.20 The Bank has recognized the need to assist in improving the domestic construction industry, and adopted a policy in 1973 to achieve that objective. Since that time, about 169 operations in 74 countries have had components related to the construction industry. Included in these operations were 56 studies for assessing the construction industry in various countries; and 6 free-standing projects, all of which were processed during the last six years. Four of these were called "construction industry"

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12/ The Bank's interest in domestic construction industry began in 1970 in connection with a highway project in Pakistan. In 1971, a landmark report on ICB for civil works in India included an analysis of the domestic construction industry, and was followed by a research project on construction industries, which produced a Staff Working Paper in 1972 on construction industry promotion.

13/ Of the 163 components, 56 involved studies to assess the problems of the industry, 52 related to training contractors, 33 involved financial assistance to contractors, and 22 involved technical assistance for labor-based construction. About 64 percent of the operations were carried out by transportation divisions (INU 20).
projects (Sri Lanka--FY81, Burundi--FY82, Burma--FY82, and Egypt--FY84). The remaining two are the "Public Works Manpower Development Project" in Indonesia, and the second Sri Lankan project, the "Second Vocational Training Project".

1.21 In addition, the Bank has carried out reviews of its assistance to the sector. In a comprehensive look at the construction sector carried out in 1984, the lessons learned regarding Bank-financed efforts to develop the industry were identified as follows:

(i) Government commitment is necessary to develop the industry, adopt measures to solve specific problems, and introduce reforms in order to improve the business environment of the industry;

(ii) Specialized technical assistance needs to be comprehensive, and apply to administrators and supervisors and to banks that supply financial support, as well as to the construction enterprises themselves;

(iii) Considerable sustained effort is needed over a protracted period to achieve results, particularly in the civil engineering subsector; and

(iv) A comprehensive strategy is required to support the sector through integrated efforts.

1.22 In 1988, three related papers on the construction industry were issued by PPR. The review pointed out that in OED evaluations, more than 90% of delays in project construction were related to inefficient contracting and contract administration practices and the adverse business environment of the construction industry. The effectiveness of Bank assistance has now been assessed several times, and the conclusion is that although assistance has been useful in addressing certain problems of the construction industry at particular points of time, it has not produced the expected results, and its impact on the industry has been limited. Several reasons have been cited for this: in general:

(i) Bank efforts concentrated on contractors rather than the whole sector;

(ii) perspective has been narrowly focussed on specific projects;

14/ World Bank, 1984
15/ INU Reports 6, 10, and 20.
16/ INU 20.
(iii) technical assistance was centered on training rather than on the wider institutional framework; and

(iv) the sector was not covered by economic and sector work, and therefore has not been subject to serious analytical review.

1.23 The last finding in particular serves to highlight the fragmentation of responsibility for the sector within the Bank itself. Responsibility for construction has not rested in any single Bank sector. Three of the six projects mentioned above (Indonesia and the two Sri Lankan projects) were designed by the education divisions; the Transportation divisions have been responsible for about 80 percent of the studies, and have also provided most of the technical assistance to the industry. A similar situation is found within the EMENA region where the transportation division had been responsible for several construction-related components, and the two construction industry projects are the responsibility of an industry and energy division (Egypt) and an infrastructure division (Algeria). This lack of a "home" within the Bank's structure is probably responsible in large part for the fact that economic and sector work on the construction industry is not carried out routinely. To some extent, the lack of "routine" economic and sector work on construction for the countries of the region may, in turn, be a factor in the somewhat ad hoc way in which construction industry projects are identified.

1.24 In response to the findings of these reviews, particularly those relating to the need for a comprehensive strategy, current thinking in the Bank is now beginning to focus on the sector as a whole, with the objective of developing "the capacity and efficiency of a country's construction industry for implementing its investments programs effectively." The basic strategy proposed in the recent PPR paper (Report INU 20, "the strategy paper") calls for concerted actions on five major fronts, as follows:

(i) Improving contracting and contract administration policies and practices;

(ii) Improving the business environment of the industry;

(iii) Improving the efficiency of contractors;

(iv) Developing the institutions; and

(v) Research and development.

1.25 The strategy paper suggested case study work in order to identify the issues, appropriate development strategies, and opportunities for sector adjustment lending. In response, some recent work has been undertaken on

17/ these projects are described in Chapter V.

Indonesia, China, and Nigeria. In China, a sector loan is under preparation, which will include the financing of investments in the construction sector, as well as some technical assistance. In EMENA, it was determined that, in view of the dearth of documentation about the sector, a regional study gathering together what is known about the borrowing countries was needed. Such a study would enable the region to identify approaches that would have the greatest potential for addressing the main constraints.

1.26 At a meeting held earlier this year to discuss the initiating memorandum for the regional study, it was pointed out that (i) there is a diversity of conditions within the EMENA region; (ii) the general work already carried out has been thorough in outlining strategies for individual countries; and (ii) country-specific work would be necessary to define additional Bank interventions. It was also confirmed, however, that a regional study would contribute usefully by summarizing the available information, identifying broad issues affecting a group of countries, and outlining a regional strategy.

1.27 Recent interest has been expressed in one form or another, by Egypt, Algeria, and Hungary in changing the role of the public sector in the construction industry; and this theme lent itself to discussion in the study. This regional study, therefore, attempts to satisfy the need for consolidating and updating our regional information on the sector and outlining a general strategy, while addressing the subject of the potential for improving efficiency through increased autonomy in particular.

D. Scope of the Review

1.28 This report has attempted to make maximum use of information available, within rather strict time and resource constraints. The sources are (i) information collected from documents available within the Bank, (ii) comments from Bank staff associated with projects involving construction, and (iii) information gathered during short missions to Hungary and Jordan,19 which provided additional insight.

1.29 The data on a few of the countries are reasonably up-to-date; but, are insufficient for several others, particularly those which are not

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19/A few days were spent in Jordan collecting information on the construction sector during a supervision/PCR mission, which was also used as background material for the CEM (Report is cited at the end of Annex 4). In Hungary, the sector was discussed in meetings with the Government and others in the industry for the purposes both of gathering information for this report, and assisting in the preparation of sector policies in the context of a structural adjustment loan.
Some of the difficulties associated with the availability of information are worth mentioning, since they reflect the state of the Bank's knowledge and involvement in the sector.

1.30 **Scattered Information:** First and foremost, construction is not treated as a sector in the Bank, and information tends to be widely scattered throughout the documents available. For example, there have been many highway projects in the region, but only occasionally is the domestic highway construction industry the subject of a specific report or section of a report. Sometimes information is found in a back-to-office report, or a completion report which provides details on delays and cost overruns, etc. There are relatively few detailed reviews of the industry. Where these exist, they have generally been carried out as background studies, often to aid in the design of technical assistance components; and they necessarily refer to a situation at a particular point of time. As conditions within the construction industry can change relatively quickly, these studies provide only limited information about the current situation.

1.31 **Efficiency Measures:** It was hoped that some measures could be found or developed which would assist in identifying some of the particular areas of inefficiency, e.g., labor productivity, etc., but this proved to be infeasible. There are no such measures that are both comparable and readily available for all countries. Even the more immediately obvious statistics, such as the cost of producing one square meter of a certain kind of built floor space, for example, are difficult to compare across countries because of, *inter alia,* exchange rate considerations. Although there is some literature on the measurement of construction productivity, much of it deals with on-site measurement, and is directed towards individual construction managers. A recent publication which looks at building costs is one of the few documents found which contains any substantial cross-country comparisons; and, even in this case, the information it contains is subject to a great many cautions. In civil works, unit costs can be even more variable, because of the importance of local conditions. For road

20/For certain countries, there was not enough information readily available to warrant the inclusion of a country annex (e.g. Romania, the Gulf countries).

21/This is not to say, however, that such measures cannot be constructed; only that a great deal of country-specific work is necessary, and would clearly be beyond the scope of this study. One example of work of this kind, carried out for Saudi Arabia, is referred to in para 6.37.

22/Alfeld (see bibliography). In his book on measuring construction activity, mentions the general resistance of the industry to abandoning traditional methods of construction management in favor of performance-based methods.

construction, for example, figures are meaningless without some indication of the difficulty of the terrain, and distance from the source of the materials, etc.

1.32 It was also hoped that the constraints facing the industry could be ranked in terms of importance, for each country. However, this also appeared to be infeasible with any degree of exactness, for several reasons. One of these reasons has already been mentioned, i.e., the speed with which conditions can change within certain countries; another is that observers of the industry tend to see it from a specific viewpoint (e.g. highway construction), where the problems may be somewhat different from those in, for example, the buildings sector; and thirdly, any one problem is linked to others, and a single cause is often difficult to identify. However, for most countries, there is agreement about the major problems, and these have been mentioned in the country summaries.

II. THE REGIONAL SETTING

A. Construction’s Share of GDP in EMENA Economies

2.01 The place of the construction industry in the economies of the EMENA countries covered in this report is close, on average, to that of other developing countries, but there are some exceptions. As can be seen from Table 2.1, the contribution of construction output to GDP ranged between 4% for Turkey and 16-19% for Algeria. This compares with an average of 5-9% for developing countries. High ratios were also observed for Poland and PDRY, both over 14%. It is not known why the proportions are so high in these countries (and detailed investigation would be required to find out); however, there are indications that in Algeria, at least, the high figure reflects a particularly strong emphasis on industry and infrastructure investments. In terms of share in gross capital formation (GFCF), four countries were within the developing country range of 50-70%, while Morocco (30%) and Syria (25%) were well below. The share in labor force ranged between 4% for Turkey and 4.6% for Egypt, to 16% for Jordan and Syria.

2.02 The information available in the Bank on the construction industry in EMENA countries is fragmentary,24 confirming the observation that the sector has not generally been subject to serious analytical review by the Bank (paras 1.18-1.19) The studies that have been undertaken by the Bank as part of technical assistance are now mostly outdated. Comprehensive Bank reviews of the construction industry have been prepared for six countries: Pakistan

24 References for countries in the region are given in the last section of the country annexes; these are the result of searches of both regional files and library sources. There appear to have been no regional or cross national studies.
(1975), Tunisia (1977), Algeria (1978), Yemen Arab Republic (1979), Egypt, and PDRY (both in 1981). Studies will be carried out in connection with projects in Egypt and Algeria; and recent reviews of the cement and steel industries in Egypt have also been carried out. There has also been some occasional coverage of the industry in staff mission reports. The limited written information base, most of it dating from 1981 or earlier, has made it particularly difficult to assess the capacity and efficiency of the industry in many of the countries concerned. This is unfortunate given the increased attention the construction industry is receiving and the current focus in the Bank on these aspects of the industry. One implication of this is that, any additional information needed for follow-up work would require field work.

Table 2.1: Construction Industry: Share in GDP, Labor Force & GFCF*  
(latest available data, percent)

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>Labor Force</th>
<th>GFCF</th>
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<tbody>
<tr>
<td>Algeria</td>
<td>19.0</td>
<td>15.4</td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td>4.8</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>10.5</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>Jordan</td>
<td>7.0</td>
<td>16.0</td>
<td>67.0</td>
</tr>
<tr>
<td>Morocco</td>
<td>5.5</td>
<td>6.4</td>
<td>30.0</td>
</tr>
<tr>
<td>Pakistan</td>
<td>6.0</td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>14.6</td>
<td>9.4</td>
<td></td>
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</tr>
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</tr>
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<td>Tunisia</td>
<td>6.0</td>
<td>10.0</td>
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<tr>
<td>Turkey</td>
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<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Yemen, AR</td>
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<td>Yemen, PDR</td>
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<tr>
<td>Yugoslavia</td>
<td>7.3</td>
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</table>

Source: Economist Intelligence Unit publications, and various sources.

* Note that these figures are illustrative only; they may not be directly comparable, since they are from different sources, and for different dates.
B. The Structure of the Industry

2.03 There is a wide diversity in the structure of the construction industry in the countries under study, and this is true for most aspects of the industry. For example, the proportion of work in the two subsectors, civil engineering works and building, vary considerably from country to country, as well as over time. The technology also varies greatly within the region, ranging from relatively advanced technology and high capital intensity in Hungary, Turkey, and Yugoslavia, to a greater use of labor-based methods in Pakistan, the Yemens, and, to some extent, in Egypt. Segmentation within construction markets also varies. The segmentation stems partly from the level of technology and/or complexity involved, and partly from policies. There tends to be a global market for complex projects, and a domestic one where international firms often do not compete.

2.04 This structural diversity notwithstanding, there are some important common features shared by groups of countries. Of particular interest is the large role of public enterprises in several countries. This is true not only of the East European countries but also of Algeria, Egypt, and PDRY, and to some extent Pakistan, and Syria. To a large extent, the formation and growth of public enterprises was seen as essential in some of these countries, where a great deal of construction was needed to develop much needed infrastructure and an industrial base, and where the private domestic industry was unable to respond to the demand.

2.05 Civil works/building mix. Information on the proportion of construction output from civil works versus building construction was difficult to obtain from the sources available for this study.*\(^{25}\) The UN Construction Statistics Yearbook (1985) has data for eight of the countries under review, with information missing for some of the years. Table 2.2 shows the share of civil works derived from these figures. A variety of situations appear from the accessed information: it seems that Syria has the highest proportion of civil engineering output in 1979-1985, averaging about 50% of new construction and capital repairs (possibly because of work on the Euphrates dam). Pakistan is next with 43%, followed by Poland with 38%. The lowest average share was for Yugoslavia at 27%.

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*\(^{25}\) However, this kind of information tends to be readily available from the government body in charge of public works.
Table 2.2: Civil Works (percent of total construction output)

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2.06 Residential construction. The proportion of residential construction to the total value of building varies substantially among the 10 countries for which information was available (Table 2.3). Jordan and Morocco had a very high proportion of residential buildings reaching about 90% in 1984 and 1985. Syria and Portugal also had high ratios of about two thirds, while Pakistan consistently registered a low share, averaging about 37% in the 1979-1984 period. It can be also noted that in Hungary the ratio shifted since 1982 as more than half the building output went to residential construction.
Table 2.3: Residential Construction
(percent of building—excluding civil works—value)

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2.07 Public and Private Sector Activities. There are four concepts of importance in a discussion of private/public activities in the sector: (i) ownership of construction enterprises (ii) ownership of projects (iii) public/private contracting, and (iv) public/private funding. The issues arising from these distinctions are discussed in Chapter V; here, the purpose is merely to provide a brief overview of the relative roles of the two sectors in the countries of the region. Public sector enterprises play a dominant role in the construction/contracting and materials industry in the three East European countries* of tender value.

* Hungary, Poland, and Yugoslavia. Current information was insufficient for an annex on Romania.
have accounted for a third of output. The public sector share in PDRY has been large in the past, but declined from 49% in 1980 to 32% in 1982. In the remaining countries, the public sector has a more limited role. In YAR, for example, the public sector accounts for only 10% of output.

2.08 In the building subsector, and particularly housing, the public sector role tends to be much more limited, even where there is a substantial share of public housing. It is estimated, for example, that in the 1980-1984 period, only about 18% of the residential units were built by the public sector. In several countries, the public sector's share in the production of new housing is rapidly decreasing. In Hungary, for example, the proportion produced by the private sector has increased from 64% of the total in 1976-1980 to about 86% in 1987. In Tunisia, the private sector's share has increased from about 59% of new units in 1977-1981 to 67% in 1982-1986. Public sector housing production continues to slacken dramatically in Tunisia in recent years, and is in the neighborhood of 11% of total production (5,000 of about 45,000) units. The private sector accounts for 97% of building activity in Morocco, and 95% of housing in Turkey. A notable exception is Algeria, where public sector production of housing was much greater than that of the private sector, averaging around 70% of the total in the early 1980s.

2.09 A common feature of private sector construction, particularly the housing subsector, is the presence of an "informal" subsector of largely unlicensed and unrecorded activities, which in some cases accounts for an important share of building output. This includes the activities of numerous small contractors, jobbers, and self-help groups that do not necessarily come under official regulation, and are usually either ignored or only roughly estimated by official statistics. Egypt, for example, has a large informal housing output estimated at about three times the output of the formal sector. About 40% of residential construction in Portugal is estimated to occur outside the official economy, reflecting mainly tax motivations. Tunisia and Turkey also have a large informal housing sector. In YAR, about 10% of total construction output is carried by the informal sector, in addition to 5% that is carried out by self-help cooperatives. Several other countries (including Pakistan, Syria, and Jordan) are known to have a substantial number of small contractors and jobbers, whose output is largely outside official coverage.

C. Technology.

2.10 Relatively high technology and capital intensity has been acquired by the European countries as well as Turkey, and to a lesser extent Syria and Jordan. Hungary took part in joint ventures in the USSR involving nuclear energy development with responsibility for building specialist construction machines. Turkey has large contracting enterprises with high technical standards, and has participated with European firms in construction of dams.

27/ Here, public housing is taken to mean housing financed by public sources. This tends to be built by public sector construction companies, although there are exceptions.
pipelines, and complex bridges and factories. Yugoslavia and Poland also have well developed industries; Yugoslavia has been fairly successful in construction exports. On the other end of the scale, Pakistan and Egypt have relatively labor intensive industries with low technical standards. Pakistan has a large number of contracting firms of which only a few dozen, mainly in Karachi, have some technical staff and equipment; the bulk are mainly labor suppliers with no equipment and often with no tools. In Egypt, an estimated 80-85% of construction work is largely labor intensive; mechanization is slow and preference is for technology that makes use of resources under government control. Skilled labor has been affected by emigration. The Yemens also faced labor shortages, especially of skilled labor, mainly due to expatriate labor emigration to neighboring oil-rich countries.

D. Capacity and Efficiency

2.11 One useful measure of capacity, i.e., the ability of the sector to meet the demand of the country’s investment program, is the import/export situation of the sector, although imports of countries encountering severe foreign exchange constraints are particularly compressed and may not be an accurate indication of domestic capacity. Value added, a measure available for several countries in the UN Statistics Yearbook, can be misleading if taken as a measure of capacity. This is clear from the case of Algeria, with an extremely high value added, but substantial imports. Difficulties in interpretation arise because of problems in the calculation of prices and exchange rates.

Dependence on Imports

2.12 The countries in the EMENA region, with their wide range of levels of development, also vary in the degree of dependence on imports:

(i) for contracting: Algeria figures substantially among the main importing countries of the region, despite the large share of its domestic industry in GDP.28 In 1983, about 20% of investments in the hydraulic industry (water, sewerage, drainage, and irrigation), and 25% of public works went to foreign contractors. Pakistan is also heavily dependent on foreign contractors. Foreign contractors in YAR account for about 30% of total output, whereas in PDRY the proportion fluctuates between 10% and 25%. Jordan, Morocco, Syria, and Tunisia resort to imports in larger or more complex projects. Hungary, Yugoslavia and Turkey have little need of foreign contractors, although in Hungary, construction expertise is imported for projects such as international hotels. With the liberalization of the economy, there is a great deal of interest in both Yugoslavia and Hungary in joint ventures for hotels and convention centers. etc. In Egypt, domestic

28/ some of the reasons for this apparent anomaly are discussed in Chapter VI.
contractors appear to carry out most construction projects; the main exceptions being projects for which international competitive bidding is required. Turkey's contracting industry is highly developed, and capable of carrying out most kinds of projects. Turkish contractors work in joint ventures and consortia with European and Japanese companies in highly sophisticated projects.

(ii) for materials and other inputs: Few countries import large quantities of basic building materials such as cement and bricks: PDRY, however, is a notable exception, having no domestic cement supply. Algeria, and Egypt until very recently, however, continue to need quantities of imported cement. In Algeria, construction inputs constitute a sizeable proportion of total imports -- 40% in 1873. Most of the countries in the region have a negligible supply, if any, of wood; and most of them import some quantities (and particular qualities or grades) of glass, ceramic, and plastic products. This applies even to Hungary, which is both an importer and an exporter of ceramic products. It appears (although information in the Bank is scanty) that many of the countries of the region import a substantial proportion of equipment, even of the small items. Algeria, for example, imports some small scale equipment, and in Egypt, it is nearly all imported. Even in Hungary, locally produced items are few and the scarcity of appropriate small-scale equipment is perceived as a constraint by small-scale and medium-scale construction enterprises.

Export Capacity

2.13 Export capacity in construction contracting has been developed, to varying degrees, by a number of countries in the region, particularly by the European countries and Turkey. In 1982, income from Turkey's overseas construction activities reached $1.0 billion (compared to about $5.9 billion of merchandise exports); and construction workers overseas numbered one third of the industry's work force. Yugoslavia has an export industry which can compete in design and organization, as well as construction per se; it has been an active exporter, although the international recession has reduced the value of construction exports from $2.6 bn in 1983 to $1.0 bn in 1987. Exports by Poland were generally of mid-level technology and directed to socialist and third world countries. Polish construction exports, however, reached 5% of total exports in 1987, and half of the proceeds were in convertible currencies.

2.14 It appears that, at least for some countries, the export of consulting engineering (design) services is more widespread than that of

29/ There is some interest in developing alternative low-cost building materials production (Annex 13).

30/ and then subsequently decreased by 1985, before recovering.
construction contracting, e.g. Hungary; and Jordanian consulting engineering companies have been exporting to the Gulf for some time, whereas interest in exporting construction contracting has picked up momentum only recently.

2.15 An export capacity in construction has also been developed to a small extent by Egypt (where some enterprises export up to 10% of their turnover, mainly to the Gulf region), and by Syria, and Tunisia. These last two demonstrate that the global construction industry does not belong exclusively to countries that are more or less "self-sufficient". It appears, however, that, by and large, the exports of countries which are still substantial importers may be limited to housing or other such non-complex structures. Tunisia has provided housing contractors in Libya and Algeria (and in this particular case, the domestic constraints to development of private housing construction had contributed to this activity). In Syria, one large public enterprise, Milhouse, had export activity in the region.

2.16 It should be pointed out, however, that construction companies from the EMENA countries account for a very small share of overseas construction contracts; Turkey's share is less than five per cent, and all countries in the region together account for substantially less than ten per cent. The Middle East represented a large proportion of the market for construction exports from developing countries -- close to 50% of both Turkey's and Korea's overseas contracts. With the decline in opportunities in the region, the developing countries' share of the global market has declined in recent years. There are indications that this is due, in large part, to an inability to diversify into new areas because of dependence on low-cost unskilled and semi-skilled labor.31/

Efficiency

2.17 The concept of efficiency itself is a difficult one -- for example, foreign contractors may be preferred because of their punctuality, their would-be domestic competitors point out that there are often special policies favoring foreign companies. Specific efficiency measures were not easy to find, although the material available for this study contained some useful comments on the general level of efficiency in the construction sector in a number of countries. Even when available, efficiency measures run into almost insurmountable difficulties of comparison: for example, a figure such as the cost per mile of road construction is subject to great variation in specifications, site conditions (including climate, terrain, and site accessibility), time period, and often artificial currency exchange rates.

2.18 Building construction costs have been looked at by Spon, Ltd. Some comparative figures are given in Table 4. Unfortunately, few EMENA countries are included in their data. From the table, the extremely wide variation in unit costs is evident. The comparison difficulties noted above apply to these figures also. It should be noted, moreover, that these estimated costs are

31/ see the section entitled "The Latecomers: Last In, First Out" in Strassman and Wells.
for the normal standards prevailing in the country. Costs for housing are particularly sensitive to standards, as well as to the total area of the dwelling unit. For example, some of the costs associated with the relatively high standards in US single family homes are offset by less expensive building materials (lumber). These limitations make a straightforward comparison of the figures very difficult; and in particular, make it difficult to make inferences regarding the efficiency of construction in different countries.

Table 2.4: Comparative Construction Costs for Selected Countries
(costs per square meter, in $US equivalent, 1987*)

<table>
<thead>
<tr>
<th>Country</th>
<th>medium rise offices</th>
<th>single family homes</th>
<th>apartments/ flats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>877</td>
<td>n.a.</td>
<td>854</td>
</tr>
<tr>
<td>Canada</td>
<td>578</td>
<td>311</td>
<td>304</td>
</tr>
<tr>
<td>Denmark</td>
<td>906</td>
<td>731</td>
<td>663</td>
</tr>
<tr>
<td>Egypt</td>
<td>536</td>
<td>n.a.</td>
<td>393</td>
</tr>
<tr>
<td>France</td>
<td>1120</td>
<td>n.a.</td>
<td>640</td>
</tr>
<tr>
<td>Kenya</td>
<td>253</td>
<td>225</td>
<td>250</td>
</tr>
<tr>
<td>Malaysia</td>
<td>290</td>
<td>131</td>
<td>121</td>
</tr>
<tr>
<td>Nigeria</td>
<td>821</td>
<td>429</td>
<td>679</td>
</tr>
<tr>
<td>Portugal</td>
<td>298</td>
<td>234</td>
<td>220</td>
</tr>
<tr>
<td>South Africa</td>
<td>142</td>
<td>106</td>
<td>117</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1082</td>
<td>478</td>
<td>567</td>
</tr>
<tr>
<td>United States</td>
<td>618</td>
<td>590</td>
<td>455</td>
</tr>
<tr>
<td>West Germany</td>
<td>722</td>
<td>750</td>
<td>639</td>
</tr>
<tr>
<td>Zambia</td>
<td>163</td>
<td>122</td>
<td>111</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>494</td>
<td>150</td>
<td>419</td>
</tr>
</tbody>
</table>

Source: Spon's, p.303, 304.* or close year.
III. CONSTRAINTS TO DEVELOPMENT OF THE INDUSTRY

3.01 The PPR strategy paper provides a useful framework for examining the problems of the construction industry; it identifies the two main barriers to the development of the construction industry to be the adverse conditions of the industry's business environment, and inefficient contracting and contract administration. The situation in the EMENA countries is therefore reviewed here with this perspective in mind. Section A looks at adverse conditions in the business environment, and the contracting environment is discussed in Section B. In addition, the rise and fall of the regional market have had profound effects on the industry, and this is looked at briefly in Section C.

A. The Business Environment

3.02 Constraints attributed to adverse conditions of the industry's business environment are of two types: first, constraints affecting all sectors (including construction), and second, constraints specific to the business environment of the construction industry. Constraints potentially affecting all sectors in EMENA countries include:

a. Difficulties in getting imports due to import restrictions, customs procedures, or foreign exchange limitations: References to this problem are found in a few country reviews, although the extent of these difficulties is likely to be much more widespread. Imports are often compressed severely in response to external payments pressures. Among the countries where imports strains have been experienced is Pakistan, which faced problems in importing spare parts and materials. Import licenses in Tunisia used to require from 2.5 to 5 months to obtain (in the mid 1970s). Import problems had a specially serious impact in YAR where 65-80% of construction materials are imported.

b. Lack of a strong legal system: It appears that improved legislation is needed in Egypt and Pakistan, particularly, and that weak enforcement of existing laws is also a problem.

c. Inadequate supporting infrastructure, e.g. unreliable power supplies and inefficient public transport system: These were not often cited in the available documentation, although it is noted that they are a constraint in Algeria, and that cement suppliers in Poland mention energy supply and transport bottlenecks.

3.03 Comments regarding the second group of constraints, those specific to the business environment of the construction industry, were as follows:

32/ Report INU 20, p. 33.
a. Lack of appreciation of the industry's role in the economy: 
Although this is not always explicitly stated, it is noted that little attention has been paid specifically to the industry by policy makers in most of the countries concerned. This is also reflected in the absence of government institutions concerned with the industry's development. It appears that, in the usual case, the ministry or other government body in charge of public works and/or construction may have little time or interest to devote to development objectives. A recent study in Pakistan recommended designating an institution to have this responsibility. There has been an active effort in some countries to change this situation, and Jordan appears to be a good example, where the government has begun carrying out studies of the industry, and initiating legal changes where indicated.

b. Lack of effective professional associations: Several countries in the region do not have effective contractors' and/or engineers' associations. The lack of contractors' associations seems to be more widespread. In both Egypt and Pakistan, contractors associations appear to be less effective than engineers' organizations. The 1981 study of the construction/contracting industry in Egypt recommended establishing a contractors' association, as a way of assisting the development of the contracting profession. Professional associations are becoming increasingly active in Jordan, and are playing an important role in industry development.

c. Absence of a well-developed consulting engineering profession: Poor quality design can lead to expensive delays for redesign, the use of inappropriate materials and/or suboptimal construction. Insufficient capacity in design and consulting services is cited, for example, for Tunisia and Algeria. In Pakistan, the poor quality of consultants in general has been mentioned, and there have been complaints about the willingness of local consultant supervisors to take initiative and accept responsibility.

d. Lack of institutional finance: This seems to be a chronic and pervasive problem, particularly for small-scale contractors, and is more severe in countries where the construction industry is less developed. It can also be a temporary and acute problem in times of economic and financial crisis. In Tunisia, for example, long term finance was reported to be difficult to obtain; and to carry a high cost. In Pakistan, lack of credit on reasonable terms has been reported by contractors; the banks seem to have required more than 55% of the loan in collateral. In YAR, institutional credit seems to be available to households (from the Industrial Bank) for building materials, but not for contractors; some financing, however, seems to be available from workers' remittances and extended family sources. On the other hand, Turkish contractors working overseas faced some problems with obtaining guarantees from foreign banks, and with the
unacceptability of guarantees by local banks to most of Turkey's foreign clients during the Turkish economic crisis. This forced Turkish contractors to work with "sleeping partners" and receive a relatively low share of profits.  

e. Scarcity of trained managers and workers: In Algeria, a shortage of managerial and technical skills has been noted, with low productivity of labor and insufficient motivation of staff. Good management is perhaps the most severe constraint on the sector in Egypt. Low worker productivity may reflect lower skill levels due to emigration in these two countries, as well as in the Yemens and Pakistan. In both the Yemens, the shortage in management and skilled labor is a major problem for the sector, compounded by lack of adequate training facilities and inefficient use of manpower. Transfer of skill by foreign contractors in these countries has been negligible. Poor management has been noted in Morocco, especially among small contractors. A Bank report on Syria (1986) pointed to inefficiencies in management of the public construction sector. In Tunisia, a 1977 study showed that the ratio of engineers and supervisory staff to total employment was less than half the ratio for France. In both Hungary and Algeria, with the policy change towards reduced public sector involvement in the sector, there is a critical lack of skilled managers. In both these countries also, there is a lack of certain types of skilled workers, due to concurrent changes in technology, particularly in residential construction, away from the prefabricated panel technology, towards more traditional on-site building methods.  

f. Shortage and poor quality of local construction materials: In Algeria, shortages in production are frequently aggravated by significant delays and high cost of imports, leading to idle time for personnel and equipment. Production of essential materials in Egypt, such as cement and reinforcing bars, performed poorly in the 1970s causing frequent shortages, higher imports and inflation in construction materials. Shortages have also been noted in Morocco, Poland and PDRY. Shortages in some materials, such as bricks and roofing tiles, are also reported in Hungary, but it appears that at least part of the problem, as in Algeria, is in the distribution system for these inputs.  

g. Unfair competition from publicly owned construction enterprises: Private contractors in Syria face competition from public enterprises which enjoy import advantages, subsidies and freedom from performance bonding and penalties. In YAR and Egypt, reliance on force account and public construction enterprises,
respectively, seems larger than warranted by the capacity of the private sector. The integrated nature of some of the public enterprises can also hinder competition in linked industries; in Turkey, for example, some water authorities still manufacture their own pipes.

h. "Unfair" competition from foreign contractors: This constraint is not included in the strategy paper list but seems to be of some importance for certain countries in the region. Bilateral agreements tend to promote the use of overseas contractors. Some of the benefits accruing particularly to foreign contractors include bank guarantees, taxes (e.g. YAR), and easy import of labor and materials. The complaints by domestic contractors are particularly strong against foreign state contractors who use their own labor force at low wage rates (Jordan and PDRY). The practice of offering large contracts for bidding (instead of slicing them into several small works) also tends to suit foreign contractors rather than the generally smaller domestic contractors.

B. The Contracting Environment

3.04 In the contracting area, several specific problems have been cited: lack of prequalification procedures, one-sided contract documents, lack of fair criteria for awarding contracts, delays in payments, absence of provisions for compensation in adverse physical conditions, and lack of equitable procedures for settlement of disputes. For example, in an opinion survey conducted by the Bank in Pakistan, these were among the most important problems identified by a seminar of employers, engineers and contractors. From the information available in the country reviews, the problems related to contracting in EMENA countries can be generalized as follows:

a. Inadequate prequalification procedures: An example reported by Bank staff is that prequalification of private contractors in Syria was based on an old scale that made it unusual for contractors not to qualify for the highest classification.

b. Inadequate criteria for evaluating bids: The lack of transparency is often cited as a problem. The practice of negotiating lower offers after the submission of bids has been reported in Egypt.

35/ These are all problems that have been addressed in World Bank procurement guidelines.

36/The survey was cited in some detail in the PPR Discussion Paper; see the country review on Pakistan (Annex 6)
Pakistan, and Syria. This also used to be a problem in Hungary.37/ Another problem stems from contractors' submitting unrealistically low bids, reflecting either their inability to estimate costs accurately, or their tendency to under price in order to secure contracts, and to negotiate for price adjustments once work has commenced.

c. One-sided contract documents: In Pakistan, price escalation clauses are not normally included in contracts (with the exception of World Bank financed projects). This was also cited as a problem in Jordan, Egypt, Syria, and YAR. In Egypt, US contractors report "floating rules, ambiguous guidelines and subjective decisions." Contractors in Jordan complained that contracts are biased towards the government as a client.38/ Contracts in Syria have different conditions for domestic and foreign contractors. Bank staff reported that contract documents were based on an "archaic" law and that those for international procurement often depend on the "whims and nationality" of consulting engineer/architect. In YAR, a Bank/UNIDO report noted the poor quality of contract documents and the absence of price escalation clauses.

d. Payment delays: This particular problem appears to be quite widespread. In Egypt, US contractors report delays and reductions. The government also makes no advance payments for public construction enterprises as it does for private contractors. In Jordan, delays are caused by the requirement that payments over JD 1,000 have to get ministerial approval. Similarly, in Morocco payments of more than $ 50,000 have to be reviewed by central departments. Delays in Syria are attributed to the quality and morale of public officials. In YAR, delays of 2-4 months have been widely reported and much time is spent by contractors in tracing paperwork at the expense of on-site time. In Turkey, local authorities have delayed payments for periods as long as six months to one year, as a consequence of their financial difficulties.

e. Size of job: Local contractors often have difficulties competing for large civil work contracts, unless some large jobs are sliced into smaller packages in length (of roads) or kind (drainage,

37/ Again, this is apparently not a problem for World Bank financed projects in either country.

38/ Jordan, however, has recently embarked on a comprehensive program to revise and update procurement legislation.
earthwork, etc.). This system is practiced in Turkey, and is being introduced in YAR by the Highways Authority (HA).

C. Constraints in the Regional Environment

3.06 Economic conditions in the region, particularly those reflecting the oil market situation, have, of course, affected both the international contracting community and domestic industries. For example, design contracts in the Middle East awarded to the world's top 200 consultancies totalled $742 million in 1987, an 18 percent decrease over 1986, reflecting the downturn in the region's construction business. Part of the decreased market for international contracting may be due to the increasing capacity of some of the domestic industries, but further investigation would be necessary to determine the extent.

3.07 Exporting EMENA countries are comparative latecomers into the global industry, and as such are more vulnerable to downturns. It is likely therefore that the countries of the region may be more affected by economic conditions than the more established international competitors. This, again, would require some further investigation.

3.08 Several countries in the region, notably Jordan and Turkey, are experiencing excess construction capacity, due to the economic situation. Both these countries would like to export more of their capacity; although a relative newcomer in comparison with other exporters, Turkey has been doing this for longer than Jordan. Within the region, Iran and Iraq have been considered as potential new markets, particularly for reconstruction projects after the war. However, these countries appear to be experiencing financial constraints. It is probable that substantial markets will only materialize if potential contractors are able to arrange some financial participation in construction projects. Other potential markets are the construction activities to be generated by recent events in Eastern Europe, and the events connected with the EEC in 1992.

39/ Initial experience in YAR produced mixed results, and some works had to be rescheduled. Three factors appear to have contributed: first, sub-contracting decisions were taken on an ad hoc basis without previous planning; second, continuity of jobs to contractors was inadequate; and third, the HA could not provide the technical assistance needed by contractors.
IV. BANK INVOLVEMENT IN THE SECTOR

4.01 Past Bank involvement in the sector has taken several forms, including: (i) direct lending to enterprises producing construction materials (particularly in Algeria and Egypt); (ii) assistance in the formulation of government procurement practices; (iii) assistance to public works enterprises, usually in the form of technical assistance and training components of other construction-related projects (e.g., roads, in Yemen); (iv) some financial assistance to local contractors (e.g., Pakistan), although this has not been very effective; and (v) entire projects designed specifically to help enterprises involved in construction contracting. Only the last three kinds of intervention are reviewed here.42/ Section A thus focusses attention on the two construction industry projects (Egypt and Algeria), and several project components (primarily in Pakistan and YAR), which are outlined in chronological order. The last section summarizes experience to date.

A. Projects and Components Assisting Construction Contractors

Pakistan: Loans for domestic contractors.

4.02 The 1979 Third Highway Project (US$34 million for road rehabilitation) had, as one of its objectives, the encouragement of the development of the domestic consulting and construction industries. It included US$5 million of loans to domestic highway and road contractors for the acquisition of road construction and maintenance equipment, spare parts, and tools, primarily to carry out works under the project. The loans were to be channelled through a local bank (Industrial Development Bank of Pakistan -- IDBP), and there was also to be a construction industry advisor attached to the bank. In addition, an equipment fund was set up, to benefit medium- and small-sized contractors engaged primarily in road maintenance.

4.03 The component also included assistance to the consulting sector, which took the form of the engagement of domestic consulting firms for supervision of the Third Project's road construction, under the overall coordination of an expatriate consulting company. Domestic consultants were also used for road investment studies, some related to preparation of the Fourth Highway Project, under guidance of the expatriate firm. Two domestic consulting firms actually supervised the construction contracts, one with some difficulties.

4.04 Under the line of credit for equipment, only two loans totalling $1.3m had been granted by the fall of 1982, due to cumbersome processing; and the balance was reallocated to works. The PPAR for the project concludes

42/ The other forms of intervention are mentioned (when information is available) in the annexes.
that, although the advisor appears to have performed adequately, the support to the industry had proven to be fairly ineffective; and this component is not considered to have been successful.

Egypt Construction Industry Project.

4.05 This is currently the only Bank project dealing exclusively with the construction/contracting industry in the region\[41\]. The Bank's interest in the area began with a recognition of the deficiencies and delays in project execution in Egypt. The Bank therefore financed the construction/contracting industry study (CCIS), undertaken by a team of Egyptian and foreign consultants, under the guidance and supervision of a Steering Committee of the Ministry of Development, Housing and Land Reclamation (MDHLR), which was completed in July 1981. The recommendations were discussed in a three-day symposium in 1982 in Cairo, chaired by the Minister. A Bank mission visited Egypt a few months later to discuss Bank assistance. The resulting project was appraised in two missions in November 1982 and June 1983, (SAR dated May 1984). Delays were encountered relating to the determination of the terms and conditions of onlending rates; and relating to the appointment of senior advisors, a condition of effectiveness. The loan was not declared effective until October 1987.

4.06 The project was envisaged as the first in a series that would successively address the various issues and constraints facing the sector. Specifically, the Joint Committee for the Development of the Construction Industry (JCDCI) would undertake an agreed two-year action program, which would give priority to strengthening contractual and bidding practices. It also provides for technical and financial assistance, through four components:-

(i) Financial assistance ($96m) in a line of credit through two participating banks (The Development Industrial Bank - DIB, and Banque Misr - BM), for onlending to construction contracting enterprises for construction equipment, and to industrial enterprises for the manufacture of building materials and small items of construction equipment;

(ii) Technical assistance for management development of the contracting companies;

(iii) Technical assistance for the JCDCI Action Program being managed by the Executive Unit in the Public Sector Organization for Construction (PSOC); and

(iv) Training and technical assistance to DIB and BM.

41/ It should be noted that there are projects dealing with the cement industry, etc. (Annex 2)
4.07 The line of credit was to be utilized by the participating banks to finance the foreign exchange needs of the eligible enterprises for the acquisition of fixed assets and associated permanent working capital. Eligible enterprises included contracting companies in the public sector, the private sector, those formed under Law 43, enterprises manufacturing building materials (excluding cement and steel) and small construction equipment, and equipment leasing companies.

4.08 Institutional changes contributed to the initial delays in project start-up. The first supervision mission in late 1987 noted little interest in the sub-loans. The participating banks judged this to be due to the 20% interest rate; the mission noted, however, that the banks had not yet actively promoted the loans. The loan (and two other industrial lines of credit) have now been restructured in order to increase the rate of utilization of the available funds, make on-lending interest rates competitive with other sources of foreign exchange funding, and support GOE public enterprise restructuring efforts.

4.09 The studies to be carried out under the project will investigate conditions in the construction industry, primarily from the contracting point of view, and make recommendations for reform. A large Egyptian engineering consultant firm has recently been engaged to carry out most of these studies, and to draft the appropriate legislation. It is expected that this will take about two years.

YAR: Technical assistance to the domestic contracting industry

4.10 The Sana'a Hodeidah Road Rehabilitation Project (Cr. 1848 - YAR), appraised in 1987, is the seventh in a series of roads and highways projects in Yemen. It is, however, the first one to include a component (US$1 million) with technical assistance for domestic contractors. Under the project, domestic contractors will receive technical assistance and training in modern management and engineering techniques, in the form of on-the-job cooperation and training in seminar courses, through a Construction Industry Unit (CIU) in the HA. The CIU will also advise and train HA staff in preparation, evaluation, supervision and administration of contracts. The CIU is to be staffed by three expatriates and additional short-term experts; and will be run by Yemeni counterparts at the end of three years. As of April 1989, the Ministry of Transport and Public Works had commenced recruitment procedures for technical assistance personnel.

Algeria: Construction Industry Project

4.11 The need for Bank assistance to the construction industry in Algeria was identified in the context of a sector review and project identification mission on regional and municipal development in December 1987. An IEPS was

42/ although previous projects included assistance to the Highway Authority (HA).
prepared in January 1989; and two preparation missions have been carried out to date.

4.12 Under the project, the Bank would lend to the Government (GOA), and the funds would then be made available to the financial institutions in the form of a rediscounting facility. The local financial institutions would be selected on the basis of their capacity to appraise enterprises and projects; the specific procedures and criteria for appraisal to be agreed upon with the Bank. The loans would cover working capital and investment expenditures for imports of materials, equipment, and machinery. Construction enterprises in all branches of activity (building, public works, engineering and hydraulic works, and producers of construction materials), would be eligible. A substantial portion of Bank funding would be made available for private enterprises.

4.13 Policy reforms in the areas of construction materials distribution, price controls of inputs and outputs, public procurement procedures, access to foreign exchange, access to credit, labor redundancies and salary incentives would be a key objective of the proposed project. Loan conditionality to this effect would be defined upon completion of the project preparation studies. Two studies would be carried out: (i) an assessment of the medium-term development prospects of the construction industry and rationalization of the environment (policy measures); and (ii) the identification/appraisal and quantification of investment needs of potential beneficiaries.

4.14 The contract for the first study has been signed with a local agency (Centre d'Animation des Enterprises et de Traitement des Informations du Secteur de la Construction, CNAT), which will incorporate foreign consultants into its study team. A Committee, consisting of representatives of the various concerned Ministries and banks, has been appointed to monitor progress of the study. For the evaluation of the public sector construction enterprises (the second study), proposals have been requested from a short list of international consulting firms. The agencies responsible for the two studies have agreed to regular meetings in order to better define the perspectives for development of the sector.

B. Summary of Regional Experience

4.15 It can be gathered from the above review that, apart from the somewhat limited experience gained through the Pakistan highways projects, no specially designed construction industry intervention has yet been completed. The two construction industry projects are only in their initial stages: although the Egypt project was appraised some time ago, policy measures are really only now being defined. There is, therefore, little to be learned, as yet, from this project regarding the loans to enterprises or the technical assistance provided under the project, nor about the problems involved in implementing industry reforms.
4.16 The Egypt project and the proposed Algeria project both include policy measures as important project objectives. In both cases, studies of the industry precede the formulation of these measures; local and foreign expertise has been employed; and a high level Government committee has been appointed to monitor progress. The lack of an official Government commitment to the development of the industry was identified as a constraint; it is therefore worth noting that in both Algeria and Egypt, permanent agencies responsible for the development of the construction industry exist within the Government structure.

4.17 As pointed out in para 4.01, the Bank has also assisted the development of the industry through workshops and formal and informal training programs for project implementation staff in several sectors. Training in procurement procedures particularly appears to have improved the situation in several countries through increased competition, improved ability to prepare bidding documents and evaluate bids.
V. THE PUBLIC SECTOR AND THE CONSTRUCTION INDUSTRY

5.01 EMENA countries are characterized by varying levels of public sector involvement in the construction industry. The Government has at least two major roles in all the countries reviewed; i.e. as regulator -- the provider of a regulatory and administrative framework; and, as the most important client for civil works contracts. These two roles are discussed briefly in the next two sections in the context of some of the constraints identified earlier. The Government’s involvement in a third area of activity, i.e., as producer, however, varies the most from country to country. Recognition of the shortcomings of government construction enterprises is growing among the governments of the region. Because there is substantial interest on the part of several borrowers in substantially reducing this role and increasing private sector involvement in construction, this topic is singled out for particular attention in the last four sections of this chapter.

A. Government’s Role as Regulator

5.02 Government has a major role as provider and guardian of the institutional and legal environment in which construction enterprises operate. One of its main functions is to ensure stability in this environment for both private business and the provision of public services. In this role, Government can assist the development of the domestic construction sector by providing:

(i) a legal framework that supports equitable contracting procedures (including adequate information, access to bidding documents, etc.) and dispute resolution;

(ii) an adequate administrative framework (licensing, permits, import restrictions, entry/exit conditions for enterprises, tax structure, etc.);

(iv) an adequate financial environment (access to capital); and

(v) support for the development of the industry (provision of appropriate education and training programs, insurance schemes, construction and materials standards, etc).

5.03 Responsibility for the majority of the activities related to procurement, standards, and licensing is often clearly within the ministry of public works or ministry of construction. Responsibility for other aspects of the sector environment (financial, training/education, fiscal matters, etc.) are however usually scattered, since they relate to other sectors as well. If there is to be an effort to develop the sector, it is important that there be a central government responsibility for effective coordination. The stronger
the need for sector development, the stronger is the need to synthesize information relating to the industry, and promote appropriate legislation, training policies, etc. Voluntary non-governmental bodies, such as professional associations, chambers of commerce, etc., can play a very important role in communicating the needs, as perceived by those within the industry itself, to such an agency within Government with a mandate to address them.

5.04 A good example of the government's role in construction industry development can be found in Jordan. There has been a great deal of effort in recent years to assist industry development through GOJ cooperation with professional associations. Studies have been carried out, and a great deal of legislation on procurement, building codes, etc., has been passed. GOJ has also taken actions to assist in the problems related to access to equipment, by establishing a joint stock company for leasing of machinery, allowing companies more flexibility in the size of their operations. The financial conditions facing contractors, particularly the issuance of guarantees, availability of credit, and prompt payment of entitlements, are also under review.

B. Government as Client

5.05 In most of the EMENA countries, government has a role as client not only in public works (and public buildings) but also in housing. The major issues arising from the client role include:

(i) the fluctuating demand for publicly-funded construction projects;

(ii) the effects on contractors' cash flow when government clients delay payments;

(iii) the packaging of bids to encourage competition; and

(iv) capacity of government clients to supervise works.

5.06 The first phenomenon is generally linked to the Government budget situation, and variations exhibit both shorter term trends associated with the development plan cycle, and longer term trends associated with the economic situation. Government can assist industry development by improving investment planning (for example, with more realistic budgeting, improved forecasting of demand for housing, increased emphasis on maintenance, etc.) so that contractors can more easily plan their supply responses. Government can also assist by encouraging flexibility in terms of numbers and size of enterprises.

43/ It is in housing, however, that its role as client is the smallest. Even in the centrally planned economies of the region, however, government is not usually the major supplier of housing, (and public supply of housing is decreasing in (all?) these countries). Some of the issues arising from Government as client for housing are discussed in paras.... and ....
involved in construction (through such policies as facilitating entry and exit and consolidation, access to credit, rental equipment, etc.).

5.07 The industry as a whole, however, is subject to severe fluctuations in association with economic cycles. It is difficult to adjust the longer term resources requirements, particularly training. The situation is rendered more problematic when the changes involve a larger region, as in the present situation, where the entire Middle-East market is affected; the resulting under-utilization of resources represents a substantial economic loss.

C. Government as Contractor

5.08 The problems of state-owned construction enterprises were discussed in a recent PPR paper44/ (the "Discussion Paper", in particular Chapter VIII on the barriers to development of the industry). However, they are not singled out in the review of constraints in the "strategy paper" presumably because so many of the problems are common to both private and public enterprises. The emphasis there was on the problems common to both kinds of enterprises, and the argument is made in the discussion paper that without protection against the unfair acts of employers and the adverse environment of the construction business, both public and private enterprises will be seriously handicapped in achieving the goals of quality, efficiency, economy and timely completion of work.

5.09 Here, the problems associated specifically with a large public construction sector will be discussed.45/ These sets of problems are of particular relevance in the EMENA region because of the dominant position of these enterprises in a number of important countries in the region. Two general sets of problems prevail, the first being related to their level of efficiency, and ability to respond to demand. Despite their (relatively recent, in most cases) status as autonomous bodies run on commercial grounds, they are often hampered by bureaucratic procedures.

5.10 Problems relating to these limitations were outlined in the previous chapter, and include financial and management problems, lack of motivation of workers, and bureaucratic overheads adding to costs, etc. In Algeria, for example, Government contractors are hampered by serious managerial, financial and organizational problems. In Egypt, they have serious cash flow problems, inadequate cost accounting, and offer unrealistically low bids. They also have to maintain liquidity despite large unpaid bills by the government (LE


__45__/ the effects of the problems associated with state-owned enterprises on the economy are not the concern of this study; several Bank papers have been written on this topic (see, for example, Nair and Filippides); moreover, these problems are recognized in the countries of interest here, and decisions have already been taken to decrease public sector involvement (para. 5.23).
1.5 billion in May 1988). In Hungary, many public enterprises were faced with closure due to financial difficulties. Managerial difficulties and overstaffing prevailed in Syria. These problems will not be discussed specifically here, but it is worth noting some of their underlying causes.

5.11 Many of the problems of the public sector construction industry are related to the fundamental mismatch between the characteristics of the public sector and the requirements of the construction industry. State structures tend to be rigid by their very nature. The construction industry, on the other hand, needs to be flexible; its output is produced in different sites, under a variety of conditions. A contractor needs to be able to adapt the size of his operation to the job, by taking on or laying off workers, and acquiring additional machinery if necessary. It is difficult, however, for a large public construction enterprise to continuously deploy all the members of its large workforce efficiently; nor is it easy to adjust the size of its workforce in the short run46.

5.12 In addition, the existence of a large public sector in the industry is a cause of concern for the private sector enterprises which constitute potential competitors. The second set of problems, then, are those facing private sector enterprises competing in an environment where employers (in this case government organs) grant "unfair" privileges to public enterprises: for example, priority in import permits, access to foreign exchange, and (possibly) access to information about projects, etc. Even in the absence of such practices, the size and complexity of projects tendered would effectively limit competition.

5.13 State-owned enterprises, however, have the potential to become a positive influence on the development of small- and medium-sized private enterprises, if government policies provide an environment which encouraged the subcontracting of specific parts of big contracts. This has been noted in particular for Algeria. The potential for this kind of development stems from its effect on the flexibility of the industry, the ability to respond to specific needs (in terms of size, location, or the nature of the job), that is problematic for a large centralized enterprise. This motivation contributed to the decentralization of some of the public construction enterprises that has already been carried out in both Algeria and Hungary (Annex 1, and Annex 3).

46/ Although, in theory, the "short run" is usually defined as that period of time when capital is fixed and labor is variable, political realities make it extremely difficult to make any rapid, substantial reductions in the number of employees in a large government enterprise.
D. Characteristics of Public Sector Construction Producers.

5.14 This section relies heavily on information on three countries - Algeria, Egypt, and Hungary. Although these countries are subject to the general constraints which are pervasive in the region, such as delays in certain imported parts and equipment, inadequate access to credit and foreign exchange, administrative inefficiencies (licenses, etc.), and inadequate supporting systems (insurance and bonding), these problems are not covered in detail here. The characteristics of their public sector construction activities in particular, are the focus of this section.

Inadequate response to housing demand

5.15 A characteristic problem affecting several centrally planned economies is inadequate housing supply, which is a major concern in all three countries, and in the East European countries in general. Although it is beyond the scope of this paper to discuss this question in any detail, it is important to outline some of the major issues since they have a potentially large effect on the construction industry. Research on the lack of effective demand, due to inadequate housing finance and high housing costs in relation to low wage structures, is needed in the three countries; along with strategies and actions to address the problem. The housing market is also affected by uncertainties regarding changes in the rent control policy, and the privatization of the public housing stock. Factors unrelated to the construction industry can also constrain housing production, and therefore affect the demand for construction; a major one is the availability of developed land. All these factors have a major effect on the construction industry in Algeria, Egypt, and Hungary.

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47/ Poland and Romania are not included here because little information on the sector appears to be available within the Bank; the material on Poland obtained through the desk review is contained in annex 7.

48/ The distinction between housing "needs" and housing demand will not be elaborated on in this paper.

49/ In each of the countries under consideration here, some of these housing factors are being addressed: a housing finance study for the East European countries is under preparation, for which Hungary is the first case study; in Egypt, a comprehensive planning exercise in the housing sector is under preparation; and in Algeria, a project in land management is being identified, and it is expected to be followed by a project which will address problems in housing finance and the regulatory framework.
5.16 The inadequate supply of housing continues to be a problem, despite an emphasis in the past on mass production of housing, often using a technology associated with prefabricated or mass-produced building units. Both Hungary and Algeria had major investments in this kind of housing production. In Algeria, its importance has decreased, and only about 10% of housing is produced using this kind of technology. Hungary's large-scale producers of buildings, particularly apartment blocks, continue to rely primarily on this technology. The indications are, however, that the advantages in terms of economies of scale may well be offset by the inflexibility of these systems, which has contributed to a perception of inadequate quality and variety in housing supply in both these countries. In Algeria, the apartments range between 60 and 65 square meters only; in Hungary, the situation is similar, although the average flat size is slightly smaller.

Constraints in construction contracting

5.17 Insufficient number of medium size enterprises: Both Algeria and Hungary had very large public enterprises at the national level. In Algeria, some enterprises have around 8,000 employees; in Hungary, until very recently, this was also the case. Enterprises of this size tend to be monopolistic with a relatively high degree of vertical integration. In both countries, however, there has been some decentralization, with smaller size public enterprises at the local level. At the same time, there have always been a large number of very small scale private contractors, mostly engaged in building private houses. In Hungary, the Government is trying to build up a middle-level tier of medium size enterprises, both by reducing the size of the very large public ones, and supporting the growth in capacity of the smaller scale operators.

5.18 Inadequate access to building materials: This is a widespread problem in developing countries, and in many cases the problem is largely due to insufficient domestic production, and limited resources for imports. In Egypt, for example, although production has increased greatly in recent years, it is still not sufficient for the domestic market. Of particular interest in the context of public sector activity is the impact of central planning. Distribution systems designed to provide materials to large-scale construction enterprises, in response to directives based on output targets, etc., are ill-equipped to respond to demand from a large number of dispersed enterprises of various sizes. Criticism has been strong about the bottlenecks in the supply of cement from government sales offices (as well from imported cement) in Egypt.

50/ It is probable that the typical public housing apartment block is not very popular anywhere; in Tunisia and Jordan the housing produced by the public agencies -- SNIT and JHC, respectively -- tend to offer too small a range of choices; and in both countries, other types of housing at similar costs, have been preferred when available.
5.19 In Algeria and Hungary, although production shortages may be a contributing factor, the problem appears to be primarily due to inadequacies in the distribution system. In Hungary, contractors have to buy materials when they are available, as opposed to when they are needed, resulting in large storage costs. Small-scale contractors with limited storage capacity have the particular problems of not being able to keep sufficient stocks on hand to avoid construction delays, and of sustaining loss and damage to materials stored on site. Some contractors have resorted to employing a materials procurer, whose job is to locate materials and deliver them to the job site on the day they are needed.

5.20 Inadequate management skills: This has been cited as a general problem in Algeria, Egypt, and Hungary. Past reliance on large state-owned enterprises (SOEs) has resulted in a lack of managers for the emerging larger number of enterprises; moreover, there is a lack of knowledge about managing enterprises under a market-oriented system. The problem is pervasive: in Hungary, for example, there is a lack of management capability at the foreman level, as well as basic contract management skills.

5.21 Lack of appropriate technology: Obsolete or outdated technology, in equipment, design/standards, and/or materials, appears to be a problem in both Egypt and Hungary. In Egypt, the problem occurs mostly in large building sites, where preference is for technologies which use resources under government control, in order to take advantage of subsidized prices or easier access. The SAR for the construction industry project gives the example of poor quality concrete, leading to overdesign in order to compensate. In Hungary, there seems to be a particular lack of smaller scale equipment for small contractors, due to the previous emphasis on industrial building systems. Small and medium scale enterprises (SMSEs) generally have to rely on used equipment of East European design and manufacture, bought from larger SOEs. Besides not necessarily being best-suited to their method and scale of operation, the equipment tends to be outdated, and this adds to the difficulty of obtaining spare parts.

5.22 Although the focus has been on the similarities among these countries, it is worth noting that some of the differences between Hungary and Algeria/Egypt are of particular importance to the construction industry. The rate of population growth, for example, which is much higher in Algeria and Egypt than in Hungary, affects the demand for infrastructure and housing; and thence the demand for both public and private investment. Population growth also has a major impact through its effects on employment. In both countries, public sector enterprises have tended to absorb more staff than necessary to avoid excess open unemployment; this has been particularly true of the construction sector in Algeria. The restructuring of public enterprises is likely to have a major impact on employment, and the effects of this in a country like Algeria, where unemployment is an important political issue, are likely to be quite different from the effects in Hungary.
E. Increasing Private Sector Participation

5.23 Several countries in the region have declared intentions, or already initiated programs, to increase private sector participation in the economy. Again, Algeria, Egypt, and Hungary are the examples used. The governments are in the process of defining reforms in the administrative, legislative, and financial environments that will facilitate the growth of small and medium sized enterprises. In all three countries, most of the necessary legislation is in place to allow the establishment of such private enterprises. This general policy of increasing private sector activities has been in effect for some time in Egypt, initiated as the "open door" policy in 1974. In Algeria and Hungary, particularly, there has been a recent (1988 and 1989) surge of interest and activity in improving the performance of public sector enterprises, in addition to increasing private sector participation. In Egypt, the emphasis on private sector participation was not accompanied by a commensurate emphasis on decreasing public sector activities, although this now appears to be changing, and there are various private sector firms involving joint ventures in Law 43 companies.

5.24 In Algeria, while earlier decentralization resulted in the breaking up of many of the largest public enterprises into smaller units, there continued to be a general lack of incentives and autonomy, and production failed to increase. There has, however, been a shift since 1986 towards an emphasis on market signals, autonomy for public enterprises, and an enhanced role for the private sector. In 1988, the Government passed the necessary laws to allow all national public enterprises to become fully autonomous in all aspects of their activities. This includes the ability to raise domestic and external funds and utilize retained earnings, to manage the enterprises, to deploy resources, to set prices, to modify their legal statutes, and to conclude joint ventures with foreign partners. Holding companies have recently been established which will own the shares of autonomous enterprises. Although these holding companies belong to the Government, they are to be free of administrative interference. The holding companies will be free to buy and sell shares among themselves, with the objective of maximizing their financial return. They will have authority over enterprises, including the power to change management, restructure, merge, divide, or liquidate enterprises as necessary.

5.25 The system of physical economic planning which had existed in Hungary was abolished in 1968 with the introduction of the New Economic Mechanism. The new system initially succeeded in increasing the role of prices in enterprise decision-making, but during the period 1973-1979, efforts to insulate the economy from unfavorable consequences of oil price increases contributed to a weakening in the role of prices in economic decisions. In 1985-1986, after a successful stabilization, economic performance began to deteriorate, and a program was developed in 1987 to stabilize the economy and promote economic restructuring. Additional measures were formulated in 1988 and 1989, and there is continuing discussion of measures in the context of the SAL. Of particular interest here are the strict enforcement of the new
bankruptcy law, the minimization of subsidized credit schemes, and reforms in the tax structure and factor prices. A transformation law is being developed which will determine how ownership of public enterprises will be transferred.

5.26 Algeria and Hungary then appear to be in the middle of fundamental changes in their economic management. Government commitment appears to be very strong, and considerable legislation has already been passed. Much remains to be done, and ongoing programs are being assisted by Bank lending. In Hungary, price decontrol seems to have progressed further than it has in Algeria. Since this is an area of some concern, given the difference between domestic and international prices in Algeria, the price decontrol experience of Hungary may serve as a useful area of further study.

F. Policies for the Public Construction Sector

5.27 Although the general shifts in economic management in the three countries are well under way, the changes to be directed particularly towards the construction sector are still being discussed in a relatively general form, with specific measures yet to be defined. This will take place primarily in the context of construction industry projects in both Algeria and Egypt. In Hungary, some of the discussion is taking place in the context of the matrix of measures being defined for a SAL.

5.28 In both Hungary and Algeria, a first priority has been to remove some of the legal and institutional constraints to improvements in industry efficiency. These are, by and large, already identified, and include such things as restrictions on wages and on hiring and firing, and on access to materials and equipment, credit, imports, and foreign exchange, etc. Although both countries have made progress in easing some of the absolute constraints affecting the industry, there needs to be a continuing effort in identifying the remaining constraints. Equally important is the need for active promotion of growth in small- and medium-scale industries in the sector. At present, the private small-scale enterprises tend to be too small to take advantage of any economies of scale (e.g. bulk buying, or scheduling of several buildings to ensure better work continuity etc.). Their growth is necessary not just to improve efficiency within this sector itself, which supplies a large part of house building activity, but to allow the development of larger-scale enterprises, which can eventually stimulate improved efficiency in the public enterprises through competition. In order to define the appropriate measures to encourage such growth, the business environment would need to be studied from the viewpoint of this particular subsector of the industry. The studies to be carried out under Bank projects should be specifically formulated to accomplish this task.

5.29 Although further detailed studies are needed in order to make detailed recommendations regarding the restructuring of the large SOEs in the sector, certain ideas for reducing their size and increasing their efficiency merit further investigation. First, the wage structure is different in the SOEs and the private sector; SOEs, through recent reforms, are losing some of their attraction in terms of job security. A relatively benign scheme to
encourage some worker mobility away from SOEs could be to decrease some of their remaining employee benefits (such as transportation, subsidized food, etc., where these are the usual practice). The scheme could also present an opportunity to foster productivity since the resulting cost savings could increase flexibility in offering incentives to more productive workers. Second, certain activities of the large SOEs may be relatively separable: in Hungary, for example, some of them are responsible for parts of the Government's on-the-job training program; and in both countries, the high degree of vertical integration should present opportunities for division into smaller enterprises.

5.30 Hungary has already shifted to a market-determined price system for building materials. This is clearly a priority for Algeria, and a review of Hungary's experience may be of value in facilitating the transition. Studies of the production and distribution of building inputs are needed in order to determine priorities for intervention. The capacity of the distribution system to meet local demands (rather than the capacity of the industry as a whole to match aggregate "need") should be the major focus of the studies.

5.31 At all levels of the industry, delays occur because of lack of imported inputs. For the larger enterprises involved in turnkey housing units, for example, problems with the availability of finishing products, such as tile, carpet, bathroom fixtures, kitchen appliances, etc., can cause costly delays in handover. Delays in major projects and their associated costs caused by import restrictions should be studied, in order to determine which items should become priorities for import liberalization, and which would benefit from increased development of the domestic industry. Such a study should take into account the country's comparative advantages in the various industries involved, and the size of the possible future export as well as domestic markets.

5.32 Credit availability is a pervasive constraint, and one that lends itself to being addressed through a traditional Bank project. Both the Egypt and Algeria projects have a large component of onlending to enterprises. They both also take into account the weakness of appraisal capacity in the participating banks and provide for training and technical assistance. Given the limited experience in the region in onlending to construction enterprises, it would be worthwhile reviewing experience in other regions. The 1987 Review concludes that such components have limited success without complementary actions for building the institutions for improving the business environment of the industry. The Egypt project, with its very limited demand for the loans, illustrates the problem. The changes in the environment that are currently being defined, should improve the situation as the implementation continues. In the Algeria project, proposals for measures to improve the industry's environment should also emerge from the studies under way.
VI. CONCLUSIONS

6.01 Some of the findings regarding assistance to the construction sector are pulled together in this chapter. The conclusions regarding the public sector role in the industry are summarized, and then some of the more specific areas of emphasis are organized (roughly) into supply and demand factors in Sections B and C, respectively. The issues discussed here are by no means a comprehensive list, and would form only part of any comprehensive assistance plan. The final sections summarize the findings regarding Bank interventions to date, proposes a regional strategy for assisting the construction industry, which takes into account the very diverse levels of development of the industry within the region.

A. Government role

6.02 The discussion of Chapter V supports an active role for the Government, not as providers of construction services, but as facilitator and regulator. Its intervention is indicated in the development of an overall strategy for industry development, as well as in a broad range of related activities including entry/exit conditions; regulations concerning standards, permits, bidding procedures, and contracts; finance and capital markets; import policies involving tariffs and local production of materials and equipment; supporting infrastructure, including communications and insurance/bonding; labor laws; trade promotion; and training.

B. Developing Construction Supply Capacity

6.03 For countries which depend heavily on foreign contracting, Pakistan and the Yemens for example, import substitution in construction contracting is a long-term objective, requiring improvements in expertise of many kinds (management, technology, skilled labor, etc.). Import substitution does not necessarily entail the creation of a domestic capacity exactly similar to the imported capacity. The question of appropriate technology, particularly related to labor intensity, has to be faced, since it is necessary for establishing the parameters for the long-term development of the industry, although it will not be covered here.51/ The issues of technology transfer and access to equipment are, however, discussed briefly in this section. The potential for supply increases through improved efficiency associated with a changing public sector role, and for adapting supply to the demands of the export market are also briefly discussed.

51/ In PDRY, for example, it appears that it may be uneconomical to develop a domestic cement industry. If so, an alternative technology would be needed for certain areas of construction.
Transfer of Technology

6.04 There are indications that even with components for training, capital, and an improved business environment built into a project, unless the training component is unusually sophisticated, it could fail to adequately address the question of the transfer of technology. Although providing training alone does not seem to be sufficient, it is a necessary condition for development of the industry. A comprehensive project would need to include a "technology transfer" element along with the various interventions for easing other constraints. In addition to traditional training and seminars, several schemes have been tried, with the objectives of passing along either technical or management expertise to domestic construction enterprises. Elements of these are:

(i) joint ventures: Foreign companies are often required to enter into a joint venture arrangement with a local company before they can be awarded a construction contract (this does not apply under Bank financing). This arrangement can result in a domestic company becoming nothing more than a "post office" -- receiving payments, without contributing substantially to project work and therefore not assimilating the technology or management techniques. It appears that, when the work requirements are fairly balanced between the foreign and local companies, the arrangement has a better chance of succeeding. If the foreign company is responsible for 55% of the work, for example, and the local company has responsibility for 45%, there is a better chance that there will be an effective transfer of expertise, and that local company will be able to complete the work in case of default on the part of the foreign partner. It has been suggested that, for jobs where the local responsibility is 30% or less of the total contract, subcontracting is more appropriate than a joint venture arrangement.

(ii) management teams: Under this arrangement, a domestic company agrees to hire a management team (usually expatriate) in order to prequalify for bidding. This method has been used extensively in Korea; and is being tried in Pakistan. One advantage is that the domestic company hires the management team, and therefore has an incentive to learn from the team as quickly as possible. In

52/ By "technology" here is meant the use of up-to-date methods of production, including management.

53/ The situation can also be reversed, in that the foreign partner fails to take any responsibility for completion of works; in this case also, there is no technology transfer to the domestic industry.

54/ There is Bank-financed work of this nature in PDRY, YAR, Ethiopia, and Guinea.
Pakistan, this is being tried in conjunction with contract management (see below).

(iii) contract management: i.e., the use of fairly sophisticated contract management techniques, by the client, to monitor progress on the project. These methods involve detailed scheduling of actions along a critical path for project completion. Their use requires that both the client and the contractor accept the philosophy inherent in the method, and therefore work according to the same timetable, with the contractor supplying evidence that he has taken the necessary actions and has the necessary resources in order to implement the next step. It also requires that they both be genuinely interested in ensuring the rapid progress of implementation. A certain amount of equipment and training are needed. This system is being used in Turkey, and, as mentioned above, Bank projects are attempting to instal a working system in Pakistan.

Access to Equipment

6.05 Access to equipment is another problem plaguing construction enterprises in many countries, but which is more severe in those with the least developed industries. It also appears to be a particularly important constraint for small and medium size contractors. Several approaches to increasing access to capital have been tried, both within Bank projects and in other contexts, including:

(1) increasing access to credit. The provision of loans for construction contracting companies has typically been included in Bank projects and components to assist the industry. As has been pointed out elsewhere, however, this is usually not sufficient as a stand-alone intervention. It usually requires the strengthening of the appraisal capacity of the on-lending bank. In addition, a review of the demand for the construction output of the potential borrowers needs to be carried out, including an investigation of other constraints to effective demand. It should also be pointed out that suppliers' credit is normally available if the industry is healthy; i.e., a healthy industry attracts financing.

(ii) equipment leasing companies. Although the experience is scanty in the region, it would appear that equipment leasing companies have

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55/ a large proportion of SMSEs in construction are involved in private housing; and effective demand in this sector is affected by a great many factors, including access to housing finance, and availability of serviced land, to mention a few. In civil works contracts, effective demand incorporates, among other things, several assumptions about the client's willingness to foster competition among SMSEs.
the potential to be effective. The consensus is, however, that they have to be allowed to operate without undue restrictions on importation of spare parts, etc. and should be run on a profit-basis. Ultimately, if not private-sector owned, they should at least be private sector managed. IFC has financed and participated in the equity of several companies which lease equipment to contractors.

(iii) government procurement. In special cases, i.e., for very large projects requiring costly capital equipment, and particularly where projects are unlikely to be repeated in the near future, a major port, for example, it has proved effective for the Government to procure equipment on the international market, lease it to the construction company, and then sell the equipment on completion of the project. This may, however, only be practical in particular situations.

Increased Efficiency under Liberalization

6.06 In Algeria and Egypt, assistance for the construction industry has been requested at a time when liberalization policies are being put into place. Policies for the industry are being defined as part of the Bank's assistance, together with direct financial assistance to contractors. A primary objective is increased efficiency through decreased costs. In Hungary and Yugoslavia, there are likely to be gains in encouraging competition, particularly among smaller construction enterprises. The Bank is currently trying to promote more local competition among road maintenance organizations in Yugoslavia, for example, for these reasons. In Hungary, the government is encouraging private enterprises to compete with larger SOEs in several areas of building construction. Additional areas worth considering for Algeria and Egypt in particular (but with potential for other countries as well) are:-

(i) the expertise of other countries in the region could be of use in developing the local industry. In particular, Yugoslavian contractors working abroad tend to have a high level of technical skill, and are familiar with both market-determined and centrally planned systems. Ways of exploiting their experience, either within the context of the Bank construction projects or in some other context, should be considered.

(ii) Hungary's recent experience in the de-control of building materials prices could be of interest to both Algeria and Egypt. 56/

6.07 The issues outlined in Chapter V are relevant to all countries making efforts to decrease public sector involvement in production (Algeria, Egypt, Hungary), where decisions have to be made regarding the ownership, financial, management, and operational responsibilities of the various enterprises concerned. Because of the strong linkages between construction and other

56/ Although not in the region, India also has recent experience in this area.
sectors, intersectoral coordination also becomes very important as central physical planning is discontinued and market forces begin to determine production choices. For example, where building materials distribution systems have been set up primarily to ensure supply to large public construction enterprises, the transition to a regime of free prices can be difficult.

Exporting Construction

6.08 In countries like Hungary, Poland, Yugoslavia, Turkey, and Portugal, the opportunities for Bank assistance clearly are not primarily connected with developing the overall capacity of the industry, as these countries have notable "excess" capacity used for exports. Export promotion would be a primary objective of an assistance plan, as in the IFC involvement in Turkey. There may be opportunities for Bank assistance in developing an appropriate financial and administrative framework for exporting construction, addressing access to foreign exchange, international guarantee arrangements, etc.

6.09 Regional markets: The economic situation in the region poses problems, however, for countries seeking export opportunities. Several of them are looking for a market in Iran-Iraq reconstruction activity. In this regard, there may be potential for some form of coordination of contracting activities at the regional level. There is also some interest in a Bank study of the potential for cooperation in the construction sector between North African countries. A proposal to this effect is under discussion with the governments of Algeria and Morocco.

C. Demand for Construction

6.10 Factors affecting demand should be studied in detail when assistance to the industry is under consideration. With a large proportion of demand originating in the public sector, fluctuations can be, and often are, very pronounced. The success of projects whose main objective is to increase construction supply is jeopardized if they are to be implemented during a period of severely constrained Government resources. Even in countries where production quantities are determined by planning quotas, problems can arise in the subsectors for which demand originates in the private sector, as in housing.

57/ A study is being carried out by the Arab League on factors conducive to successful exporting of construction, using the example of Korea.

58/ A higher council for the contractors' associations of the member states of the Arab Co-operation Council (ACC) already exists. The president of the Jordan Contractors Association has been nominated as the first president of the higher council.
6.11 Housing emerges as an important subsector of the construction industry because of its particular characteristics (potentially stable demand, small scale technology, mobilization of private investment, strong linkages to other sectors such as finishing products, etc.). Its importance as a productive sector is often not recognized by governments. Interventions to support the sector and to make it more efficient, as well as more responsive to demand, have significance for the economy as a whole, and for the housing construction industry in particular.

6.12 In Algeria, Egypt, Hungary, and Poland, responsiveness to demand for housing is problematic, and studies of the full range of factors affecting the housing market are warranted. Potentially the most important elements are those related to ensuring an effective and consistent demand for housing (through incentives, tax structures, housing finance, etc.) as well as a reliable supply. On the housing supply side, the development of the housing construction sector is obviously important, but equally important are the supply of land and housing infrastructure and the administrative systems involved (zoning regulations, land registration, building standards, and building permits, etc.). Without these, it is difficult to maintain the kind of consistent housing development pattern that fosters growth of the construction sector.

6.13 The budgetary situations of many of the EMENA countries are such that the problems of maintaining a stable demand for construction projects may continue for some time. Faced with this situation, the governments in the region are likely to place a greater emphasis on rehabilitation and maintenance projects. The efficiency of the industry, and the possibilities for cost recovery or cost-sharing are likely to become important issues. The experience of other countries with various forms of privatization or private-sector financing of major infrastructure should be of interest.

6.14 The build-own-transfer (BOT) approach to project finance holds significant promise for the development of the construction industry in several countries in the region. The approach involves the formation of a joint venture with local firms which would jointly undertake the design and implementation of infrastructure projects. This is done under a set of agreements which transfer project risks in terms of execution, completion, and operation for the first few years to the joint venture, before turning it over to the public sector, or maintaining its operation under a concession agreement. BOTs also provide a means for mobilizing financial resources from commercial sources and suppliers' credits. The equity contributions that they

59/ A proposal to develop a comprehensive planning system for the housing sector in Egypt is under discussion, and housing in Hungary is being looked at under an EMTIN study. In Algeria, a project to address some of the issues of land development is being identified, and it is planned to address other issues such as housing finance and the regulatory framework in follow-up projects.

60/ A study of this topic has been proposed by EMTIN.
attract, both foreign and local, are totally dictated by the financial, economic and technical viability of projects under implementation. Since financing for BOTs is based on the revenue generation potential of projects under implementation, they can be used as a vehicle for introducing market-based pricing for services, and inducing competitiveness in terms of services or outputs produced. Several countries in the region appear to be candidates for such an approach -- Morocco, Tunisia, Jordan, Egypt, and Hungary, could be further investigated for consideration of pilot BOTs. BOT arrangements for power plant construction and operation are about to be finalized in Turkey and Pakistan.

D. Bank Experience

6.15 Assessments of the Bank’s lending to the construction sector point out that experience has not been notably successful. The lack of emphasis on construction in the Bank’s economic and sector work, and the related failure to address the issues in a comprehensive manner have been highlighted (paras. 1.17-1.19). Within EMENA, although the Bank has been involved in the construction industry in various ways in most of the non-European countries, there has been relatively little assistance to the sector, and very little direct lending (two or three completed project components, and two free-standing projects, which have yet to be implemented). Apart from the technical assistance and training components, the direct assistance has been of the traditional investment type, centered on loans to contracting companies for equipment, etc. As was true of the Bank’s overall experience, the limited results in the region to date have not been particularly good.

6.16 This relative lack of success lends some support to the argument for comprehensive, or sectoral type lending, where several of the constraints can be addressed in an integrated and comprehensive manner. Sector-type lending has the advantage of ensuring the implementation of a consistent set of policies covering critical areas such as investment priorities, access to foreign exchange and local financial resources, new technology, barriers to entry, economies of scale, fiscal treatment, incentives, regulation, pricing of primary commodities and final products, and enhancement of competition, etc. The diversity of the countries in the region makes it difficult, however, to favor any one kind of intervention categorically. The obvious and familiar trade-offs between complexity and comprehensiveness would have to be viewed in the light of the conditions in any particular country. The two construction projects now under preparation or implementation, although of the investment type, will include studies of a range of conditions affecting the industry and make policy recommendations.

E. Approaches to Sector Development

6.17 Bank research concludes that the constraints in both human and physical capital, as well those in the business environment of the industry, need to be addressed within a comprehensive development strategy for the industry. These are currently tackled in different contexts within the Bank’s
lending; i.e., in a training component of an educational project, or through civil works procurement in a highway project. Although this approach may not, in itself, be inappropriate, there may be situations in which the various constraints could be more effectively tackled simultaneously within a construction industry loan. It is clear, however, that easing one constraint only (e.g. the availability of capital) is not likely to have a significant long-term effect, without simultaneous improvements in other areas. Regardless of the form that the lending takes, steps to strengthen the domestic construction industry must include efforts to increase the stability of demand for construction, and improvements in the business environment (prompt payments, removal of red tape and supply constraints, etc.), as well as training for managers. It is in recognition of the need for improvements in the business environment that the Algeria and Egypt projects include policy components. They do not however, go as far as to include training, or other arrangements for addressing the human resources side, although recommendations in this area may be developed under the projects.

6.18 National Approaches to Sector Development: Regardless of the stage of development of the construction industry in the countries of the region, most would benefit from a clearly defined strategy for their domestic construction industry. Such a strategy would need to address, inter alia, the longer-term question of the degree of import substitution to be achieved in the various aspects of the industry, as well as the ways to address the constraints discussed in Chapter III of this study. Policies would then need to be put in place in support of the strategy, and institutions created or strengthened with their responsibilities clearly defined. Professional organizations should play a large role in the policy discussion/definition process. There is some potential for the Bank to assist in furthering discussion of such a strategy, particularly in countries where there is lending to the construction industry; and ways of initiating discussion in other countries should be considered.

6.19 Regional Approach: The region needs to have the capacity not only to identify issues and initiate discussion on the sector with its borrowers, but also to respond with more substantial assistance, in the form of lending, where this is warranted. Clearly, this is not possible in the short-term for all countries, and priorities need to be identified: i.e., the region itself needs a strategy for the construction sector. The strategy needs to be flexible, in that it should also be able to respond to specific requests for assistance from individual countries, when they arise. This requires current information on the sector. Elements of a proposed strategy for the region, taking into account the diversity of the countries, and the need for flexibility are outlined in the next section.

61/ a strategy determined by the Government for its own construction industry, including all the linked industries (this is not the same as the proposed strategy for the region outlined in paras.....)

62/ Jordan's efforts in this area are mentioned in paras 4.06 and 6.04.
The construction industry both generally and in most EMENA countries is very broad based. Work varies from simple, small house building (often labor intensive) to large complex civil engineering construction employing relatively advanced technologies. The construction needs of EMENA countries also vary considerably, ranging from those of the lesser developed countries such as Pakistan and the Yemens to the more developed countries such as Hungary, Turkey and Yugoslavia. Such a broad range of work types, levels of technology and diversity of needs precludes the development of an overall Regional strategy.

The proposed strategy is not in itself prescriptive. It is a mechanism for assessing the significance of the sector, identifying the constraints which may adversely affect it and for initiating related cost effective changes all on a specific country basis. In particular the proposals do not specifically define all of the possible constraints nor the possible related ameliorating actions. Such information is available from Bank wide studies of the sector and is synthesized in the report. In some cases, examples are given but only to better define a proposal.

We propose that the Region adopt a three stage strategy for the construction sector. The stages proposed are:

(i) Update sector data for each active EMENA country (and others if desirable);
(ii) Identify countries where improvements and development of the sector appear necessary and cost effective, and for each one prepare a construction sector action plan; and
(iii) Develop lending mechanisms to support the action plans.

Responsibility for the work would rest with the Country Departments.

Stage 1

The first stage would comprise informative updating and gathering in each country. On the basis of this effort, the Country Department could determine the probable condition and relative status in the economy of the industry in each country. This stage could be undertaken as part of normal economic, sector and lending operations. The work should, however, be given specific recognition and resources, and be monitored. In addition, it would be essential to ensure government interest and involvement in the overall exercise; which is to identify the needs of the construction industries; to seek ways to meet these needs; and finally, to undertake specific related action plans.

The condition and relative status of a country's construction sector would be defined on the basis of:
(i) The relative significance of the sector in the overall economy and whether the capacity and capability of the sector is in balance with the needs of the economy. In this area it would be necessary to pursue, in some lesser developed countries, to what extent deficiencies in the sector may be inhibiting growth and also causing a drain in foreign exchange through use of foreign contractors. Conversely in other countries, the export of construction services may be an important factor because of their foreign exchange earning potential;

(ii) The split of construction between the public and private sectors. Historically in many countries major construction was mostly carried out by the public sector, and minor works such as housing by the private sector. This type of split, and the often heavy overall bias towards the public sector, may no longer be in the best interests of the country and recipes for change should be considered.

(iii) The incidence of inefficient construction and sector operation practices. Construction practices may be hold overs from earlier days when the industry was starting up and of necessity used construction methods and procedures appropriate at that time. Failure to keep up with improved methods, use new materials and products, apply good management and cost control are typical ways in which erstwhile acceptable practices can become inefficient. Inefficient sector operation practices frequently hinge around poor local bid and contract documents which weigh heavily against smaller/domestic contractors. Complex bureaucratic procedures which often cause long payment delays are also a major problem;

(iv) Administrative constraints to the development of the sector. Such constraints may include Government trade and other policies which may be beneficial to foreign contractors to the detriment of domestic firms, shortages and/or poor quality of basic materials, and lack of financing at reasonable rates;

(v) Possibilities for improving sector operation and construction efficiencies and for lessening the adverse aspects of constraints. In some countries changes in these areas may be very difficult to achieve, particularly where the present practices are well entrenched, of benefit to vested interests, and may have made sense when they were introduced some years earlier. Nevertheless, every consideration should be given to encouraging changes, provided the benefits are likely to be worthwhile. The split between the public and private sectors, of total construction and types of work should be a major consideration.
Stage 2

6.25 On the basis of the information gathered in stage 1, Departments should develop outline action plans to improve the capacity and performance of the sector in those countries where changes, which would be included in the action plans, would appear to be cost effective and clearly of benefit to the economy.

6.26 It would be highly desirable to make the action plans selective rather than comprehensive and for them to cover a relatively short time span. The plans should avoid including a myriad of minor issues and problems which could divert attention from the impact of improvements in the major problem areas.

Stage 3

6.27 In stage 3 the action plans should be further developed in detail in consonance with lending mechanisms to support them. The type and nature of the lending could vary from country to country, and include macro-economic considerations and various sectors which impact on or are impacted by the construction industry.

6.28 The direct lending dollar cost of including the action plan as a component of a project will probably be relatively small. Such a component is likely to cover mostly technical assistance to better define the problem, work out detailed solutions and help the governments put the changes in place. Stand alone projects to finance major construction equipment and/or training facilities, could have significant direct dollar lending costs. In either case a major cost to the Region is likely to be in staff resources to put together a packet of changes acceptable to the Government, and to painstakingly monitor and urge the implementation of the changes.

6.29 In stages 1 and 2, we would not suggest that costs and benefits and economic returns should be quantified; a judgement or qualitative basis should be satisfactory for this part of the exercise. Stage 3 is a somewhat different situation and every effort should be made to quantify the costs and benefits. Serious analyses of this nature would both enhance the credibility of the operation and help to eliminate the more tenuous ideas.

6.30 Should the Region decide to adopt a strategy such as that proposed above, then full use should be made of the comprehensive work done by PPR on the construction industry in developing countries, which documents the issues, problems and probable solutions.
6.31 Should the Region initiate country specific programs for the construction industry on the lines indicated above, then it would be highly desirable to develop a monitoring system to measure the impact of the changes introduced under the program in the concerned countries. Such a monitoring system could be based on:-

- performance indicators;
- productivity factors; and
- cost indicators.

6.32 The indicators and factors should be assessed at the start of the program or project, and reviewed at appropriate intervals related to the scheduling of the actions and changes proposed for the construction industry. For consistency across countries, the Region should prepare guidelines for assessing the indicators and factors. The Saudi Arabia Operation and Maintenance Project, undertaken by the Region in 1986 under reimbursable technical assistance (RTA), included a discussion on measuring the cost efficiency of various operation and maintenance activities in the manner suggested above.

6.33 The annexes following contain descriptions of the construction industry in most of the borrowing countries in the EMENA region. These are based primarily on printed documentation available from Bank documents. This was supplemented in most cases by information from Bank staff familiar with certain aspects of the construction industry in the countries covered. Bank reports and other documentation used in these summaries is listed in the "Reports" section of each summary. General references (and those that are similar for several countries, such as the EIU reports) are listed in the bibliography at the end of the report. An attempt was made to group the information under similar headings for each country. This was not feasible in all cases, and the headings may vary from country to country.
Construction and the Economy

The proportion of GDP originating in the construction sector steadily increased, from around 6% in 1970 to around 19% in 1984 and 1985 (CEM Table 2.3), in pace with the rapidly expanding economy; but is now beginning to decline. Current estimates are around 16%. These proportions are considerably higher than in other developing countries, due to a particularly heavy emphasis on industry and infrastructure investment in national development policies.

Construction is a major employment generator, accounting for about 24.5% of the non-agricultural labor force. Employment in construction has increased steadily as a proportion of the labor force over the last two decades, from 3.1% in 1967 to an estimated 15.4% in 1986. Growth in construction employment, in fact, in the early 1980s at least, was faster than that of the industry, and may be an indication that construction has been used to generate employment. Sector employment is currently estimated at 500,000 jobs. Labor productivity is relatively low, and further increases in employment in the sector do not seem likely in the near future, although the second Five-Year Plan expects employment in the construction industry to grow at a rate of 6.5% and to generate about 27% of the new non-agricultural jobs needed to meet employment demands during the plan period (Report No. 6607-AL, p.185, Sep. 1987).

In construction materials, however, employment has remained fairly constant as a percentage of employment in industry (Report No. 6607-AL, Tables 1.2, 1.3 in Statistical Appendix). The availability of the basic materials constitutes a major bottleneck for the industry. Construction materials account for only a small share of GDP (1.4% in 1987), due partly to the fact that some are produced by contractors themselves. A large proportion of construction materials are either partly (cement and steel) or totally (bitumen and wood) imported.

Housing construction accounts for a low share (16%) of gross domestic fixed capital formation. Although housing production has increased substantially in recent years (in 1980-86, 670,000 units were built, five times more than the longer period 1963-79), average annual production is less than half of "needs", estimated by the government to be as high as 250,000 new units per year. Of the 370,000 new buildings planned for 1987-89, about 45% (165,000) were state sector housing.

\[1/\text{For a discussion of housing 'needs' see p. [?].}\]
Structure of the Industry

Investment in the public sector is centrally planned, at the level of physical inputs. About 42% of investments in construction activities are for civil works (dams, roads, irrigation), 34% for buildings other than housing (communal and public, hospitals, schools and factories), and 24% for housing.

At the time of the 1978 sector review, the construction materials industry was dominated by three large state enterprises (SNMC--Societe Nationale des Materiaux de Construction; SNLB--Societe Nationale du Liege et du Bois; and SN Metal--Societe Nationale de Construction Metallique. The SNIC--Societe Nationale des Industries Chimiques produces glass, but was not reviewed). The role of the private sector was decreasing substantially at the time, and smaller public sector enterprises were being set up in the Wilayat (local administrations), under the Regional Industrial Program (Manufacturing for Construction in Algeria, sector review, 1978).

The construction/contracting industry in Algeria is compartmentalized into various national, regional, and specialized functions with a marked division between civil works (travaux publics) and building (batiments). Of a total of 8,600 known contractors, 1,099 are publicly owned, either by the central government (162) or by local (provincial) governments (937). The private enterprises are small, with an average of 13 employees, and they account for about 18% of the value added in the sector. About two-thirds of all contractors (5,800) employ no more than 10 people.

At the national level, most technical ministries, until recently, controlled their own "enterprises de realisation"; e.g. the Ministry of Housing controlled 77 publicly-owned building enterprises, 7 specialized enterprises, and 38 design and studies bureaux. Other ministries with such enterprises were Travaux Publics, l'Hydraulique, l'Industrie Legere, and l'Industrie Lourde. In 1986, the four large parastatals specialized in road construction were split into 17 ERs (enterprises regionales), among the 17 wilayat. Several large construction companies remain, such as Entreprise Nationale des Realisations d'Ouvrages Souterrains (Enros), which is working on the Algiers metro project, and Cosider, the steel and construction company.

Construction enterprises tend to be vertically integrated and highly specialized in one type of work, without diversification of activities, except at the lower end of the scale (communal and private enterprises). The construction enterprises at the wilaya (provinces) level, many of which were created in 1984 during a move towards decentralization, are generally small and undertake mainly maintenance works, buildings, and small civil works. The commune level forces were also strengthened in order to carry out maintenance within their jurisdictions. The activities of private construction firms are oriented towards housing, small industrial projects, and public works.

State enterprises are currently being transferred to (eight) holding companies (FPs--Fonds de Participation). The holding companies are autonomous public enterprises, specialized by sector, which cannot hold more than 40% of
the shares of any one EPE (entreprise publique economique); three or four FPs hold the share of each EPE. As of February 1989, 71 out of more than 200 enterprises (these figures are for all state enterprises, not just construction enterprises) had been transferred, and the process is expected to be complete by the end of 1989. A similar transfer is planned for the wilaya; however, holding companies have not yet been created at this level, and this process will not probably not really get under way until 1990. Under the 1988 legislation, the EPEs are autonomous and commercially oriented.

Procurement, Legislation, Arbitration, Professional Organizations.

Works are either allocated by negotiation or bid competitively. Foreign contractors (in hydraulique) bid for the work they are performing in open international tenders, in which Algerian enterprises usually participate, but frequently are not the low bidders. Construction of major road works is carried out by contract, after advertising, either nationally or internationally, depending on the magnitude and complexity of the project. Most major road projects during the past decade have been awarded to a mix of local and international firms. Competitive bidding procedures for both international and local bidding are set out in a series of laws and regulations governing public bids. Invitations to bid and the evaluation of bids are, as a rule, conducted by the wilayas themselves. In 1985, the Government agreed to use Bank guidelines for future Bank-financed projects. Supervision is carried out either by consultants engaged as advisors to the responsible regional construction enterprise (basic infrastructure directorate -- DIB), or by the DIBs themselves, sometimes with the assistance of national and/or regional laboratories (LTPs), which were formed primarily for this role of quality control, but also provide testing services for detailed engineering. The LTPs are financially autonomous.

Hydrocarbon legislation does not currently allow international arbitration for exploration disputes (MEED Jan 13, 1989).

It seems that, because of the economic situation, foreign construction contracting is currently being kept to a minimum (EIU, No. 4 1988 gives the Algiers Metro as an example; civil works contracts have been awarded to local firms led by Cosider). Rehabilitation contracts under the Bank's Fifth Highways Project are among the relatively few road contracts still open to international contractors.

Professional associations of contractors appear to be either very weak or non-existent. There is, however, a recently created CNC (Chambre Nationale de Commerce), a body elected by entrepreneurs, which acts as an intermediary between them and the Ministries.
Imports and Exports

In spite of the size of the domestic construction industry, a substantial proportion of construction services are imported. This is true even for buildings and housing, (e.g. an agreement with France for 28,000 housing units in 1984); in l’Hydraulique, construction resources are also supplemented by imports, particularly in engineering and site management. In 1983, 20% of investment in the hydraulic sector went to foreign contractors. In public works (highways, airports, ports and harbors, structures, etc.), 25-30% of work has been contracted out to foreign enterprises.

A substantial proportion of basic construction materials such as cement or steel is imported. In the case of wood and bitumen, the proportion is 100%. In 1984 it was noted that local manufacturers produced tipper trucks, small dumpers, and concrete mixers; however, supply is insufficient, and this kind of equipment is also imported. Future equipment imports are likely to concentrate on heavy and specialized equipment.

Imports of construction inputs accounted for a growing proportion of total imports in the late 70s and early 80s, reaching 40% in 1983 (recent figures not known).

Problems

Most construction enterprises are hampered by serious managerial, financial and organizational problems, as well as constraints in inputs and skills availability; resulting in low productivity, high construction costs and the inability of enterprises to fulfill their contractual obligations on time. The main problems are itemized:

shortage of construction materials: in 1983, substantial shortages of building materials were reported; these were most severe in the case of bricks, but most materials were affected. In many instances, the problem was more one of inability to use the capital equipment efficiently, than one of physical production capacity. There is also, to a certain extent, a shortage of road construction materials. Bitumen is sometimes in short supply, and important works are stopped for about one month out of the year because of this problem. This situation was studied recently by an inter-ministerial task force, but proposals have not yet been fully implemented. The quality and availability of aggregates, especially river sand and crushed sand, is a problem for both road and building construction, affecting the quality and durability as well as the costs of construction.

lack of autonomy and shortage of management skills: The lack of management expertise is manifested in poor cost control and feedback in field operations, estimating and scheduling, and insufficient motivation of staff. Financial management of public enterprises in the past was problematic because public contracts were determined at standard prices,
without reference to the enterprise's balances, and with lengthy payment procedures (average payment period is 7 months). Personnel management is also constrained by the Workers General Statute (Statut general du travailleur -- SGT), which controls compensation nation-wide, and restricts the hiring and firing ability of managers. This has led to overstaffing in most public enterprises, which restricts their ability to adapt to changing market situations.

**shortage of skilled labor and technicians:** This lack was reported in the 1978 sector review (see references below), and again in 1984, when it was noted that the industry had tried to compensate for the lack of skills by acquiring equipment in excess of normal needs. The quality of engineering studies, particularly insufficient structural design and soil mechanics, nearly always constitute a bottleneck, especially within the public works subsector.

**overcapitalization** in equipment and industrialized systems in the past, leading to idle, poorly maintained, or poorly utilized equipment on project sites, together with poor workmanship and site management, particularly in the work being carried out by public enterprises. This was followed by a period of insufficient investment, contributing to depreciated or technologically obsolete equipment. Also contributing to the underutilization of equipment is the high degree of vertical integration; with enterprises managing their own equipment, there is little pooling among enterprises for renting or maintenance.

**administrative constraints:** access to credit, imports, and basic materials is limited for private enterprises.

**Efficiency**

The cost per square meter of housing construction in the North of Algeria was in the range of $456 and $525 in 1984, (low-rise, multistorey, no elevator unit). This is a relatively high cost, compared, for example, with comparable housing in Peru at about $180/sq. m. at that time. (For a discussion on unit costs and some of the difficulties in international comparisons, see para. 2.27)

Comparison with figures for more developed countries suggests there is ample room to improve labor productivity (Henriod note for CEM).

**Government Policy**

Since the 1970s, the industry has emphasized large-scale industrialization and prefabrication, to which a large share of investments has been devoted, with the aim of achieving a rapid response to increasing housing demands. Maximum efficiency and higher productivity were expected to result; however, most of these industrialized construction systems proved to be inefficient, because techniques were not properly mastered. A reform of
the public enterprises is under way, with the aim of increasing their autonomy, including their assumption of risks and responsibility similar to those of private companies. This has already resulted in more competition for some kinds of contracts (for example, for a local road maintenance contract, there are now typically several bidders, one or more from the local level public enterprises traditionally involved in maintenance, one or more from decentralized public enterprises which are normally responsible for new works, and one or more from private enterprises).

Contractors may be constrained by a policy shift away from turnkey contracts in favor of national companies taking charge of contracts as much as possible, and subcontracting to foreign firms only when necessary. Algerian producers of construction materials and equipment are being urged to produce more and reduce imports.

Planning procedures are changing, along with the shift to more of the public enterprises becoming autonomous. The third plan (1990-94) is currently being drawn up; around 40 committees, each responsible for a sector, have been created. The committees must each produce their own plan, providing broad objectives, but not detailed policy. The EPEs will operate within this framework, and their priority will be to show positive cash-flow and profits. The State will only be able to advise on policy. Contracts will be established between the state and individual companies, and the state will have to provide compensation to the company in the event that it is required to take an action that is in the state’s interest, but not its own (MEED, Apr. 14, 1989).

A new law (Law No. 89-01) allows management contracts for the first time. A foreign firm can now manage all or part of a facility belonging to state enterprise or a joint venture.

The Government has recently requested Bank assistance for the construction sector (see item 7 in Bank Actions section, below).

Bank Actions

1. The main object of the Societe Nationale des Materiaux de Construction (SNMC) Expansion Project, appraised in 1975, was its institution-building effect on the building materials industry in Algeria. The project was to assist SNMC in organization and financial matters, to help it meet its production and distribution targets, and maintain financial discipline and cost control. The project did not meet these objectives. The PCR concludes that the state enterprise itself was not the right vehicle for achieving organizational and financial strengthening; and that this objective should have been dealt with on a broader level, followed at a later stage by specific measures at the enterprise level. It recommends that the functioning environment of the enterprises should be carefully analyzed to determine the most effective level for intervention.
2. Jijel Port Project, appraised in 1977, included assistance to SONATRAM, the public enterprise for port construction and major maintenance on ports and dams: the project included port construction equipment, training of personnel and technical assistance in improving site organization and dredging. At appraisal, SONATRAM had good technical staff, was doing satisfactory work, but had a weak financial situation, relying on suppliers' credits, and Algerian Banks for purchase of plant. The loan was cancelled, however, and this component was never implemented.

3. The third education project (Loan 1378--1977) included training in building trades.

4. A sector review of construction materials was carried out in 1978.

5. Highway Projects: A series of highway projects has been implemented in Algeria, and although all of them were characterized by delays, due at least in part to lengthy contracting and approval procedures, the completion reports all concluded that project objectives had been met. An important feature of the four previous projects was the planning (in Loan 912-AL) of road maintenance institutional improvement, together with strengthening of force-account maintenance capability through equipment procurement and training. These improvements were implemented in the subsequent loans (1407-AL, 1683-AL, and 1892-AL). This last, the Fourth Highway Project (appraised 1980) includes (a) training of MPW maintenance personnel, and (b) technical assistance to public highway construction enterprises, to improve management, accounting, and use of equipment. Project implementation was affected by a move away from force account maintenance operations in 1985; the training center for equipment operators and mechanics (at Bethioua) has been closed since early 1986. The Fifth Highway project, currently under implementation, includes a training component, embracing planning, management, and control of contracted road maintenance, and technical assistance to CTTP (a government agency within MPW for planning, project approval, control, supervision, etc.). The sixth project will be prepared in 1990.

6. Industrial Restructuring Loan ($50m).

7. A Construction Industry Project is under preparation. As part of preparation for the new Construction Sector Project, a study of demand and supply, and constraints in the sector, as well as an investigation of the capacity of existing public enterprises is being carried out.

Recommendations

Encouraging the formation of professional organizations could facilitate the development of training specially adapted for contractors and their personnel, and could also allow the kind of cooperation that would enable effective lobbying, directed towards improving the environment for contracting.
Strengthening the engineering consultancy profession would have a beneficial effect on the efficiency of the whole subsector.

A new evaluation of some of the major technologies developed during the last twenty years in the building industry seems to be a key need. For example:-

(i) a detailed Value Analysis study on building processes could identify alternatives to the prefabrication process which has demonstrated its limited efficiency; and

(ii) in the area of small traffic roads, the usual surface dressing technology needs to be developed in order to reduce the consumption (which has been rapidly increasing) of imported bitumen, due to the use of asphalt mix where it is not required.

Reports


Sector Review, Manufacturing for Construction in Algeria, B. Decaux, A. Cilingjroglu, January 9, 1978. (covers mostly wood, metal, tiles, etc.; contains a chapter on problems and constraints, emphasizing the scarcity of skilled managerial and technical staff).


MEED, 14 April, 1989.

SARs for the highways projects.

IEPS (Jan, 1989) and Aides-memoire (Feb. and June, 1989) for Algeria: Construction Sector Project.

Construction and the Economy

Construction in Egypt accounts for 45-50% of total annual gross fixed investment; it also constitutes about 5% of GDP (EIU gives 4.4% for 1987 at 1981/82 factor cost).

Fluctuations in construction sector growth have been wider than those for the economy as a whole. In the 1960s, growth in construction output averaged 6.7 percent per year, higher than GDP growth of 5.3%; and during the 1970s, growth in the sector was only about 2.9 percent, slower than GDP growth of 7.2%. Building materials production has performed poorly in general. In the 1970s, frequent shortages in the early years necessitated higher imports, and the growing imbalance was reflected in increases in the construction price index which averaged 23 percent per year between 1972 and 1979. Migration of labor to the Gulf, and the heavy reliance on public sector contractors, exacerbated the situation, and the construction industry's capacity became a bottleneck in the implementation of the Government's investment plan in the 1970s. Materials production, particularly in cement, increased rapidly in the second half of the decade, however, after the end of the war. This, together with the subsequent economic slowdown, meant that construction capacity was no longer such a major constraint to growth.

In the early 1980s growth of sector output, at about 4.7% in real terms, continued to be slower than GDP growth at 5.6%. In the first half of the 1980s, the share of construction in GDP (at factor cost) remained relatively unchanged at about 5.1%, until 1986/87, when it declined to about 4.8%. Gross fixed investment in construction declined in real terms between 1982/83 and 1985/86, but then increased dramatically in 1986/87.

Employment in the construction sector increased by about 7% per year during the period from 1981/82 to 1987/88, reaching an estimated 584,000 workers, or about 4.6% of total employment (CEM). This increase accounted for about 11.4% of total new employment during the five year period (1983-88).

In spite of heavy investment in cement works, and a threefold increase in production since the early 1980s, there were still problems in the availability of building materials, until very recently (1989). Prices of cement and steel reinforcing bars both rose dramatically in 1988, but partly because price increases (required to compensate for energy price increases actually introduced) had been deferred for several years.

/2/It is difficult to estimate employment in the construction sector with any degree of accuracy, due to the presence of a large number of seasonal or daily laborers, who are only temporarily employed in construction, and work in agriculture or some other sector at other times.
Structure of Construction Industry

Housing and general building accounts for about one-third of the turnover in construction, followed by transportation (23%), industrial construction (14%), agriculture (11%). About 80% of total output was from the public sector, although within housing, the proportion is only about 30% (figures are for 1980).

Prior to the 1952 revolution, construction contracting was entirely private. In the early 1960s, contracting companies, and essential building materials producers were converted into state-owned enterprises. There were eventually about 41 nationalized companies. During 1961-73, private operations were limited to housing construction for the private sector and subcontracting to the public sector. Although there was a change in strategy (the open door policy) in 1973, which stimulated private sector contracting, the controls on the economic system instituted over two decades are still largely intact. (SAR, p. 3)

The construction industry in Egypt is large but antiquated, both in management and technology. 80-85% of construction work would be classed as relatively labor intensive. Mechanization is occurring only slowly. The primary and overriding characteristic is the dominance of the Government as an employer, and its control of, and participation in, activities at almost every level of execution. The Government is involved in financing, organizing and managing construction enterprises, as well as in the supply of human, material, and financial resources. It produces, allocates, and distributes key building materials, trains construction manpower, provides equipment, determines the technology, and finances most construction activity. Functional responsibilities for these various activities are not generally separated.

There are five types of production units in the industry: public sector companies, private sector companies, cooperatives, Law 43 companies, and the informal sector. In 1981/82, public sector companies accounted for 72 percent of new contracts. There are about 60 public contracting companies, including 29 under the PSOC (Public Sector Organization for Construction) in

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3/ Companies set up under Law 43 -- private sector companies with foreign equity. The law introduced a way of organizing more flexible companies than the normal commercial enterprises.

4/ The informal sector is used here to mean construction for own use, and construction not conforming to all laws and regulations; this occurs primarily in the housing subsector.
the Ministry of Housing and Public Utilities (MHPU).\(^6\) In the private sector, including the informal sector, an estimated 35,000 contractors\(^6\) are active, but most are very small and carry out only subcontracting work. Main contracts received by private sector companies are less than 30 percent of the total contracts, but the sector receives half the actual amount of work because of subcontracting. Informal sector activities are substantial and growing -- it was estimated in 1981 (and again in 1986) that the informal sector produces three times as many units as the formal sector (informal sector units were estimated at 75,000 units in 1981; and about 93,000 units in 1983/84). Cooperatives of small private contractors are set up in governorates with strong local support.

Most of the public sector companies have an annual gross turnover (before sub-contracts) of between LE 10 million and LE 40 million (\$US 12 to 48 million at the Commercial Bank Pool Rate prevailing at the time of the 1984 report). Some public sector companies generate up to 10 percent of their turnover from works abroad, particularly in the Gulf. The largest public sector company has an annual turnover of over LE 550 million, equivalent to 26 percent of the entire formal sector turnover.

Most of the large private sector companies have been in operation only 4-5 years, and only about a dozen have an annual turnover of over LE 10 million (about US\$ 6.4m at 1987/88 exchange rates). They are mostly involved in housing, and are beginning to diversify into other areas of construction.

Within the Ministry of Housing, there is a Building Materials Organization, which is a holding company (a Public Sector Authority, or PSA) responsible for the production operations of the public sector cement plants. There are six cement companies, all of which are owned by Government, either directly or through Government-owned banks and other public sector companies. The six companies operate seven plants; there is considerable overstaffing (Draft cement subsector review). The sale and distribution of cement is organized by the Egyptian Cement Office (ECO), also a department of the Ministry of Housing and Construction.

Although one of the cement companies, the Suez Cement Company--organized under Law 43--is 90% government owned, the ownership is indirect through Government-owned banks and insurance companies, other public sector cement companies, and other types of public sector companies. The remaining 10% is owned by 4200 individual shareholders and a private sector bank. This structure allows considerable operational autonomy compared to the other

\(^5\) officially, the Ministry of Construction, New Communities and Public Utilities.

\(^6\) Another source estimates that there are 20 to 25 thousand private sector operating units in contracting, including about 75 Law 43 contracting companies; some of these last are joint ventures.
Companies; the Suez Company markets its cement itself rather than through the ECO, and is legally free to set its own selling prices (although it does not do so).

Imports and Exports

With the exception of wood, Egypt has extensive resources of raw materials. However, substantial amounts of cement and reinforcing bars (rebars) are imported; in 1979, 3.3 million tons of cement were imported, representing over one-half of total consumption. Cement imports reached a peak of 9.3 million tons in 1985/86; the volume of imports has since declined to 3.4 million tons in 1987/88, due to both decrease in demand, and rapid increase in local output in recent years. Practically all construction equipment is imported.

It was reported in 1984 that some public sector companies generate up to 10 percent of their turnover from works abroad, especially in the Gulf countries.

Procurement, Supervision, Legislation, Arbitration, Professional Organizations.

Procuring and supervision of construction work are carried out by organizations which are predominantly government agencies or under their control. Until 1978, the public sector companies received almost all their work by direct order, i.e., on a negotiated basis under which each company was allocated work directly by a client ministry or public organization. Large jobs, particularly those co-financed by foreign governments and international organizations, are tendered internationally and, generally, carried out by joint ventures of foreign and domestic contractors, or entirely by foreign contractors.

In recent years, the Government has largely eliminated the direct order system and replaced it with competitive bidding procedures open to both public and private sector companies. Exceptions to the tendering regulations can be made by MHPU only for military contracts, works in remote locations, and for works already subject to an existing order. Following the receipt and evaluation of bids, however, further price negotiations are permitted. Cost escalation clauses are not allowed unless there is foreign participation. (Tendering procedures are being studied under the Construction Industry Project -- see Bank Actions section).

As is the case for all parastatals, for reasons related to control of foreign exchange, tight Government control is exercised over key construction materials (cement, steel, timber, glass and certain pipes), extending from production and importation to allocation, distribution and pricing. This has resulted in inefficiencies and waste, and the existence of a "free" or "black" market in controlled materials. Controlled materials are allocated on the basis of building permits, and in most cases these are distributed directly to
the contractor undertaking the work. Advance payments, equivalent to 25% of
the value of materials are required, and frequent delays in delivery are
experienced.

The Syndicate of Engineers is a non-governmental professional
organizations. It maintains registers of all graduate engineers in Egypt, but
does not appear to have other important functions. There has been an interest
in forming a contractors' association for some time. A proposal to establish
a legal unit, within the Chamber of Commerce, representing both public and
private contractors, is under consideration.

Legislation is comprehensive, covering all phases of work. Standards,
codes of practice, and tendering procedures for Government works are
established, but the laws are complicated, and in many instances obsolete
and/or inefficient; observance and enforcement are weak.

Problems

Problems are pervasive; management skills, equipment, certain building
materials, technology (including insufficient mechanization) and financial
resources are in short supply; and delays are significant. Some of the major
problems are categorized in the following sections.

A. Investment and Development Planning:

There appears to be a lack of overall planning and coordination.
Production of essential building materials like cement and reinforcing bars
performed poorly during the 1970s, leading to frequent shortages, and
necessitating higher imports, and higher inflation in building materials, in
spite of extensive resources in raw materials in commercially exploitable
quantities. Also, the surge in prices in 1988-89 has caused problems for
contractors with fixed price contracts. There was a dramatic rise in the
price of cement and rebars (50% increase in April, 1988 because of the
exchange rate devaluation, and increase in electricity and fuel oil prices for
cement works). A major problem has been the availability of cement, with high
prices in the black market. The official price for rebars, for example, was
LE 615/tonne recently, while the black market price was over LE1,000/tonne.
For cement, an official price of LE57/ton compared with a free market price LE
90-100/ton. However, over the last six months, demand has fallen off
considerably, and the situation is, at least temporarily, one of excess
supply; black market prices have fallen to levels closer to the official
price. The May 1989 Cement Industry Review mentions that, at the current
exchange rate, the official domestic retail price is $32 pe ton, while CIF
prices are about $38 per ton.

Much of the construction equipment fleet is obsolete or in need of
repair. According to CCIS estimates in 1984, at least one-half of the
existing fleet needed to be replaced in the next few years in order to
maintain 1979 levels.
B. Resource Mobilization and Financial Discipline:

The public sector companies have serious cash flow problems, and there is inadequate cost accounting, leading to unrealistically low bids for contracting. The public sector companies generally have higher overheads and lower asset utilization rates than the private companies. This tends to make them less competitive than private companies, and put them at a disadvantage in the newer more competitive environment. They also tend to have inadequate financial management, as well as a weak financial structure. This problem is worsening since their increased activity in recent years has not been supported with new equity capital. It was estimated that in 1978, the Government owed public sector contractors the equivalent of over one-half of the total turnover of these companies. In 1988, the construction project staff in Egypt estimated that the Government's indebtedness to the public contractors totalled around LE 1.5 billion. The Government also often failed to make advance mobilization payments to public contractors.

Private sector contractors regard the lack of institutional finance as a major constraint to efficiency and expansion of capacity. They have difficulty in securing bank financing and are required to make large deposits and provide guarantees requiring substantial real assets as collateral.

C. Institutional Issues:

The lack of good management is perhaps the most severe constraint to sector development. Workmanship is also poor. Management compensation levels in the public companies are apparently comparable to those in the private sector, since the public companies are allowed substantial flexibility in providing incentives to managers in addition to the basic civil service salaries. Staff working on the Construction Industry Project in Egypt estimate that worker productivity is rising, but is still lower than in the early 1960s before the nationalizations.

Equipment maintenance facilities are generally inadequate, as are training facilities for operators. There are no well-established leasing companies.

Other problems are:

- Large scale migration of skilled construction workers to the Gulf.

- Quality control needs to be improved, as engineers and architects are incorporating costly safety factors into their designs to compensate for poor materials and workmanship. Some progress has been made in recent years to improve architectural standards, and there has been good progress in materials testing.
Tendering procedures are in need of improvement and decisions on the results of tenders are slow.

D. Regulatory Framework:

Under the new regulations, the public sector companies see themselves as disadvantaged by (i) the unattractive contracts often forced on them under the exceptions to the tender regulations noted above, usually at prices dictated by MHPU; (ii) they, unlike the private contractors, cannot refuse to continue work in the event of delayed payment by the Government (allegedly a frequent occurrence)—see section B above.

Problems are cited by US contractors in the areas of:

- Social insurance contributions;
- Provisional acceptance, warranties and maintenance;
- Payment delays or reductions;
- Customs and air freight;
- Change orders;
- Permits;
- Owner coercion of engineers;
- Contract language and interpretation;
- Owner personnel interference;
- Owner processing of contract requirements;
- Dispute resolution;
- Expatriate income taxes;
- Corporate taxes. "Floating rules, ambiguous guidelines, and subjective decisions" -- is how the contracting environment facing US contractors working on AID-funded projects in Egypt has been described.  

Efficiency

According to CCIS estimates, the value of output per worker declined by about one half in real terms during the 60s and 70s. This decline in productivity partly reflected the lowering of skill levels due to emigration, and partly the lack of incentives permitted by management. Utilization rates for equipment were higher in agriculture (land reclamation and irrigation works), than in building and other civil works. Private sector companies have achieved fairly high utilization rates due to competition. They also have a lower ratio of fixed assets to turnover, indicating their preference for housing and other building work which is less equipment intensive.

There is a preference for technologies which make use of resources under Government control, because of the pricing and allocation practices of controlled materials. Much work relies on outdated and inappropriate technology, using improper materials. Concrete is of poor quality, and structures are often overdesigned to compensate, resulting in greater use of materials than necessary and added costs.

2/ It is not known whether this environment is perceived as substantially different by other foreign contractors in Egypt.
Government Policy

Private investment in building materials was encouraged under the Open Door policy; and import of controlled materials was also allowed providing the contractor has access to foreign exchange.

The SAR for the construction project mentions:

(i) the establishment of the Joint Committee for Development of Construction Industry (JCDCI) in 1984 under the Ministry of Housing, with a mandate to develop and recommend adoption of policies and reforms;

(ii) establishment of an Egyptian Federation of Contractors (EFC);

(iii) GOE commitment to competitive bidding and elimination of the direct order system: no new contract is now awarded without free competitive bidding; and

(iv) the passing of Law 97 in 1983 reforming some aspects of organization and management of public sector companies.

Under this last item, there is an attempt to introduce a greater degree of decentralization by creating holding companies (Public Sector Authorities or PSAs) to oversee the operations of public sector companies. However, these are generally poorly staffed and unable to perform technical, economic and financial services. In essence, another layer of control/clearance was added. At the time of Law 97, the Government’s shares in the public sector companies, and thus the ownership role of the state, were formally transferred from the Ministry of Finance to the PSAs. The practice of guaranteed employment to engineering graduates has been discontinued, and higher incentive payments are allowed. Greater participation of the private sector is now encouraged and is a stated national policy. The new regulations have generally forced the public sector companies to become more competitive with the private sector, which in turn has led to a weakening of some public companies given their generally higher overheads and lower asset utilization rates.

Bank Actions

In 1979, the Bank financed a comprehensive review of the construction/contracting industry (CCIS), which was carried out using proceeds of the Second Imports Loan (1456-EGT), under the Technical Assistance Project (Cr. 1162-1981). The recommendations from the study were discussed in a symposium in Cairo in 1982, leading eventually to the Construction Industry Project (Ln 2460-EGT, see below) which was appraised in 1984.

Training for construction trades has been provided under Education I (Cr. 681--1977), Education II (Cr. 868--1978), and Education III (Cr. 1069--1980). The Vocational Training Project (EGT 2264--1983) was to increase quality and
supply of skilled and semi-skilled construction manpower through 22 new vocational training centers. etc.

Financial assistance to small and medium scale enterprises has been financed by a series of credits and loans to the Development Industrial Bank (DIB), including Ln. 1804--1980, and Ln. 2074-1981. There has also been a Small and Medium Scale Industry Project, also to DIB (Ln. 2458--1986). About 20% of related subloans have been granted to construction contractors and producers of construction materials.

There have been two projects for building materials; the Tourah Cement Expansion Project in 1975 (EGT-1085), and El Dikheila Steel (EGT-2280) for reinforcing bars in 1983.

Other projects involving construction include two port projects (Port Said and El Dikheila), and three projects in the urban sector (Urban 1, Tourism, and Urban 2). In Agriculture, (Credit 1083) supervision consultants have improved construction quality and technology in public companies. Two drainage projects (Upper Egypt II and Nile Delta II -- credits 0637 and 0719) have provided construction equipment. In Drainage V, provision for Egyptian contractors to receive assistance in mechanics and machine operation. Some training was provided in the Highway Maintenance Project (2330 EGT).

The construction industry project (2460-EGT), appraised in 1984, is the most comprehensive of Bank actions in construction in Egypt, and consists of policy reforms to improve the performance of the construction industry by the provision of financial and technical assistance. Under the project, the Executive Unit in PSOC, on behalf of the Joint Committee for the Development of the Construction Industry (JCDCI), would undertake an agreed two-year action program with emphasis on strengthening contractual and bidding practices in the sector. The Arab Bureau has been awarded the contract for most of the project studies. The project would also provide a line of credit to participating banks for onlending for construction equipment, and machinery for manufacturing building materials and small construction equipment items, as well as technical assistance and training.

The action program focusses on formulation of detailed reforms in the following key areas: changes in bidding procedures for public works, including preparation of standard documents, general conditions of contract, technical evaluation of bids, specifications, and standards and codes of practice.

Reports

- SAR Construction Industry Project (Report no. 4721-EGT, 1984)


Articles


- "Owner coercion of project engineer" Middle East Executive Reports, Oct. 1988 p.9 and Nov. 1988, p.9)
Construction accounted for over 9% of GDP in the late 1970s, but declined to around 7.5 in 1986 and 1987 (CEM, 1988). Employment in construction as a percentage of total employment also peaked in the second half of the 1970s, to around 8.3%, and has been decreasing since then, reaching about 6.9% in 1987. In absolute numbers, the work force in construction declined by about 24% (from 350,000 to 265,700) between 1974 and 1987. These recent declines can be attributed in large part to the stabilization program and structural adjustment efforts of the 1980s; public investment has been reduced, and there has been a shift away from non-tradeables such as housing.

GDP per person employed in construction was one and a half times the GDP per average employee in 1970. Although the value added per employee in the sector increased fairly steadily in the 1960 to 1979 period, the ratio vis a vis other sectors had declined to about unity by 1981.

Building materials accounted for 3.5% of the gross value of industrial production in 1981. (Country Study, 1984, p.87).

There is a serious housing shortage in Hungary; and although families with children are given priority in housing assignments, even these households experience long waiting times.

Structure of Construction Industry

The construction industry has a more complex organizational structure than other branches, with the private sector playing an increasingly important part, especially in housing. Much of construction output is produced by enterprises which are not officially classified as part of the industry. In 1987, only 42.3 percent of construction output was produced by the state and cooperative construction industry; 27.2% was produced by state and cooperative units not classified as belonging to the industry; and 30.5% was produced by private companies, artisans, and individuals engaged in construction, mainly housebuilding. In 1987, over 57% of new dwellings were built by private individuals.

There are several very large construction enterprises, and many very small ones, mostly engaged in private housing construction. Although the large enterprises account for less than 1% of the number of enterprises, they account for more than 30% of output. The number of medium size enterprises, although small, is growing; and includes both private and state-owned enterprises, including various forms of cooperatives and associations. The great majority of small contractors do not purchase capital goods themselves, relying on the owner for equipment.

In 1980, there were 32 enterprises in the building materials subsector, of which 4 produced a total of 66.5% of the output.
Annex 3
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Procurement, Supervision, Legislation, Arbitration, Professional Organizations.

The legislation covering tendering has been updated twice in recent years. ICB was introduced in 1988, and now governs about 30% of tendering. Competition has been increasing, and an average of 5 or 6 companies now bid for each project. Legislation is in place to correct unfair practices, and these are monitored in various ways: a computerized system has been installed to monitor contracting conditions and their implementation; a new market inspector function has been initiated in GOH for unfair pricing; there is also an ethics committee, the Chamber of Commerce, and the courts system.

Planning and Investment

General: The bulk (90% in 1984) of investment in Hungary is undertaken by the central government, local governments or enterprises, and cooperatives in the socialist sector. The socialist sector accounts for over 80% of gross fixed investment. Within the socialist sector, investments are divided into state investments and enterprise-initiated investments. State investments include major industrial projects such as steel and aluminum plants and transportation, funds provided by the states to local authorities for highways and hospitals, and other small investments. Enterprises have had increasing autonomy in investment decisions; and the share of socialist sector investment undertaken by enterprises was about 62% in 1987. The National Bank of Hungary has covered about 23% of enterprise investments in recent years (1984).

Construction has accounted for a very small percentage of state investment loans (in the range of 1 to 4 percent of total state loans in 1976 to 1981) and grants (.2 to .9 percent of the total in 1976 to 1981), and of National Bank credits (percentage declining to a low of .5% in 1981, last year given).

Imports and Exports

Several Hungarian firms currently export construction; but exports of engineering design are larger. Licenses to trade internationally are now more available to individual exporters, but large, vertically integrated organizations (e.g. Komplex) still thrive. Hungarian construction enterprises tend to be more successful in socialist countries; in Western economies, they tend to compete at the sub-contracting level.

COMECON countries were invited to select areas of investment in the Soviet Union for possible joint venture operations. Hungary chose five sectors, including nuclear energy development, with responsibility for building specialist construction machines.

Hungarian structural elements used in building construction are competitive internationally. Some finishing products (e.g. sanitary fixtures) are not generally of export quality.
Problems

The Hungarian government has identified some specific problems affecting the industry in its transition towards a market-oriented sector. These are outlined in more detail in the note (of May 1989 - see reports section) which was sent to GOH, and include the need to develop more medium-sized enterprises. Some of the immediate constraints in this area are the limited access to finance, and both domestic and imported equipment and materials. A more long-term problem is the disequilibrium in the market for construction output, particularly housing, with its underlying factors of *inter alia*, weak purchasing power, and mismatch between types of housing demanded and type supplied.

There is excess capacity in the construction industry; and, particularly in housing, the technological base is outdated, due to heavy reliance on mass produced, pre-fabricated units, which are no longer best-suited to the demand. State and cooperative firms are in need of an expensive modernization program, the elimination of excess capacity, and major cuts in the work force.

Because of these, and other factors, the industry is in financial difficulty, and many firms have been threatened with closure under the new bankruptcy laws. This is especially true for the high rise sector. According to the Economist Intelligence Unit (EIU), the four most indebted companies, with losses in 1985 totalling Ft665m, must become profitable by the end of 1988 or face closure; over 20,000 jobs are at stake. One loss-making company (VAEV) started bankruptcy proceedings in spring 1987, the first company to do so under the new legislation.

For export expansion, the conditions of trading from Hungary are burdensome; bilateral agreements with COMECON restrict other trade. Barter deals are becoming more common, making business difficult for enterprises working alone.

Efficiency Measures

In the production of building materials, the ratio of (pre-tax) profits to total assets is relatively low (7.5%) in 1981 compared to 11.2% for the total socialist industry in the same year (Red cover, p.94)

Productivity in the building materials industry increased during the 1970s: in 1980, a worker in construction was producing 68.3% more than he was in 1970.

Government Policy

General institutional reforms: New Economic Mechanism, introduced in 1968, abolished physical economic planning. In Jan 1981, there was a substantial reduction of direct operational interventions by the ministries in enterprise decisions, and there was an organizational change under which three industrial ministries were merged into a single one; and price setting and
marketing responsibilities were transferred to the National Board for Materials and Prices (NEMP). Enterprises were again given greater incentives for setting wage scales. Most of the large horizontal trusts were broken up (in 1984 only three were left in manufacturing). Self-financed portions of enterprise investments have seen rapid increases since 1976, reaching 68% by 1981. State agencies still retain the power to appoint and remove managers. In 1982, a law was passed encouraging the formation of small enterprises. All non-agricultural social sector enterprises are subject to one of two basic forms of wage regulation; the annual increase in the average wage, and the annual increase in the total wage bill.

Enterprise incomes are also regulated; 1979 reforms were designed to provide enterprises with increased control of their own financial resources. There has been an increase in self-financing of investments since 1979, coming from a development fund, created by each enterprise out of its "distributable profits" and depreciation. These profits are also used for a sharing fund out of which bonuses and wage taxes are paid. Credit policies have become an increasingly important instrument for directing investment expenditures; a number of preferential credit schemes have been established.

In recent years, the GOH has contributed to the weak financial position of the construction enterprises by allocating fewer funds for construction investment, and concentrating inputs on major unfinished projects. Taxes were increased by nearly 60% (80% for high rise firms), from Ft13.6bn in 1980 to Ft21.6bn in 1985, while subsidies have risen by less than Ft200m annually. Under the new restructuring program, state and cooperative construction firms will be encouraged to sell off unprofitable subsidiaries and work units. Some tax breaks will be granted and the National Bank of Hungary will make some special credits available.

Hungary's economic reform program is placing increased reliance on market forces, and involves improving factor productivity, and increasing flexibility. Industrial policy reforms address eleven areas which are central to the economic reform: entry of enterprises; liquidation; international trade; pricing; taxation; wage differentiation and worker mobility; capital market development; the banking system; enterprise management system; direct foreign investment; and technology development. All eleven areas are of importance in Hungary's construction sector, and is a great deal of interest on the part of the Government to improve the sector's productivity. The Government has determined that there is no need for direct state intervention in the sector (in the entry and exit of enterprises, investment decisions or resource allocation, and distribution of output). Prices of building materials have already been decontrolled. Construction enterprises are becoming autonomous, and have to operate efficiently. Major changes in the market for construction outputs are expected, particularly for housing.

Staff numbers generally are being cut in state owned companies where workers had previously been guaranteed jobs for life. Government is giving greater emphasis to 'effective employment'; employees are encouraged to leave and to become accustomed to regular job changes, although Government maintains
that full employment is still a basic principle. Major companies are being broken down into more manageable units which are expected to compete with one another.

The laws limiting the size of private companies are being relaxed, but the increasing competitiveness is hampering the absorption of the growing pool of displaced labor.

In 1987, changes were beginning to be evident in bidding; clients were getting used to seeking tenders for any job over $0.2m, whereas previously tenders were not usually sought, and prices could be lowered after opening of bids. An estimated 30-40% of business is being tendered on the initiative of the construction minister.

In the past, 70-80% of company profits have been redistributed to insolvent firms. This practice is being stopped; profitable companies are to be allowed to keep more of their earnings, while loss makers have to take responsibility for losses.

Bank Actions

During the first transport project, ICB was introduced for major highway civil works (Budapest bypass with two major bridges on the Danube). This was considered an important breakthrough, with the prequalification and bidding process serving as a learning process. A comprehensive set of Hungarian specifications for road and bridge construction were assembled. The second transport project will include pavement strengthening and maintenance sealing contracts, for which LCB will be applied.

A Bank mission visited Hungary in April/May, 1989, in connection with this Construction Sector Study. The mission visited several government agencies and construction enterprises, and the May 19 note was prepared on the basis of these interviews, and sent in draft form to GOH for discussion. Comments have recently been received, along with a request for further study on the part of the Bank in some specific areas of interest to GOH.

A study of housing finance in Hungary has been carried out by EMTIN (draft White Cover, January 1990). The study points out that a new housing strategy is needed to confront the urgent housing situation in Hungary. The three objectives of the strategy would be (i) to limit the burden of housing subsidies on the government budget deficit; (ii) to ensure that improvements in housing supply and quality can take place over time; and (iii) to achieve an improved utilization of the housing stock, improved labor mobility and more equitable subsidy systems. In order to achieve the second objective, improvements in housing supply and quality, the residential construction sector needs to undergo substantial restructuring.

Draft terms of reference for a Study of the Housing Construction Sector in Hungary have been prepared, and the study should be initiated in the near future.
Reports


- CEM, **Hungary: Investment Issues and Options**; August 25, 1988 (Report No. 5585-HU)

- Article from Construction Today (8/87)


- Note on the Construction Sector (informal), May 19, 1989.


N.B. A substantial number of articles on the housing sector in Hungary were reviewed as background material, but these are not listed here.
During the rapid growth years of the late 1970s and early 1980s, the construction sector grew even more rapidly than the overall economy, fuelled by a boom in housing as well as ambitious infrastructure development plans. During the current period of severe economic slowdown, growth in the sector has been negative in constant terms. The contribution of construction to GFCF has been on the increase since 1981, and was about 67% in the 1986-1988, compared to about 56% in 1980-1983. Over the thirteen years ending in 1985, construction averaged 10.1% of GDP, the yearly percentages ranging from a low of 6.9 in 1975 to a high of 11.4 in 1982. The EIU estimates the percentage to be 7% for 1986. During the boom years of 1975-1981, construction grew at about 24% per year, but in the lower growth years of 1980-1985, the rate was less than 3% per year.

Construction accounted for about 9% of employment in the early 1970s. By the late 1970s, the percentage had increased to over 15%; it continued to increase, reaching a peak of about 18% in 1983, and has since declined slightly to around 16% in 1985, the latest figure available. This is a very high percentage.

**Structure of Construction Industry**

There has been a tendency for the government to employ relatively large numbers of young engineers, who apparently transfer to the private sector after gaining some experience.

About 13 percent of all contracting or engineering consulting institutions are in the public sector, and these institutions account for 61% of the engineers in Jordan.

The government accounted for slightly more than half of the construction contracts awarded in 1986.

Most residential construction is carried out by the owner-occupier. Individual construction accounts for nearly 80% of all housing units produced, and of these, 62% are built by a small-scale contractor with owner supervision. Houses of over 200 square meters have to be constructed by a qualified contractor and supervised by a qualified engineer.

**Procurement, Supervision, Legislation, Arbitration, Professional Organizations.**

Most contracts for public sector construction projects (over 95% of contracts) are awarded through competitive bidding; the remainder are awarded mostly through negotiated contracts, and are generally for projects requiring highly qualified contractors. Public sector companies prepared the designs for 42% and 49% of the projects in 1981 and 1982, respectively. Public sector supervision accounted for 56% and 67% of 1981 and 1982 projects, and was
concentrated on education, and other government works and building projects. The private sector tended to supervise projects in the banking, industrial, and tourism sectors.

Contractors' classification criteria were established in 1983. Several volumes of the Jordanian National Building Code have been completed and preparation of the remaining volumes is under way. All engineering companies (310 companies at the end of 1985) have been classified according to new legislation.

There are professional associations (or syndicates) for both contractors and engineers. They are actively involved in reviewing and classifying companies in their sectors.

Imports and Exports

Building materials are mostly domestically produced (86 percent), although for engineering goods, local producers supply only 17 percent.

In 1982, foreign contracting firms represented nearly 55 percent of total costs of public sector projects. The average cost per project for foreign contractors was JD18.2 m, compared to about JD 5m for domestic companies. Non-Jordanians constituted 25-30 percent of the engineers involved in public sector contracts in 1981 and 1982. There were about 20 foreign contractors operating in Jordan in 1987. Their number varies with the availability and nature of projects. They are registered but not classified, and not members of the Association. Only a few foreign contractors are associated with local contractors.

An estimated 20% of Jordanian architects and engineers work outside Jordan (1987). There is a great deal of interest in exporting Jordanian construction. An export council has recently been set up to regulate and facilitate firms working abroad. It will certify contractors and consultants eligible to bid for projects outside the country as well as offering advice and information to match contractors with clients. The Contractors' Association estimates that about 25 of the 758 registered contractors, and about 25 consultancy firms would qualify for help from the new institution. It is thought that smaller firms would be encouraged to merge to take advantage of opportunities abroad.

Problems

(from Fact Sheets): inadequate managerial and technical skill; lax supervision, poor quality of works, delays in payment, no escalation clause. (Some of this seems out of date, particularly lack of technical skill -- see Jordan Education Sector Loan and mar 1988 report--need to check with Bank project supervision staff).
There is a great deal of fluctuation in public sector demand for construction, both because of longer-term economic conditions, and within plan periods because of inadequate infrastructure planning, etc.

There is an oversupply of both contracting and engineering capacity, and a widespread desire within the sector to develop an export capacity. The 1984 annual report of MPW estimates that Jordanian contractors now have the capacity to handle works with a total value of about JD440m, compared with a public sector demand of less than half the volume. The imbalance between supply and demand of engineers and technicians is increasing, with demand projected to stagnate, and annual supply of university graduates expected to continue increasing for some time. It is becoming increasingly difficult for recent graduates to gain the experience they would need in order to be able to compete on the international market.

The local contractors complain that the foreign companies seem to enjoy special benefits, from both their own government and the Jordanian government, in the form of bank guarantees, importation of materials and labor, taxes and retentions. The local companies have particular difficulties with the Chinese. Legislation is under consideration that would limit the ceiling of contracts below which foreign contractors will not be allowed to bid. The Association would also like foreign contractors to employ at least 51% of their workers from the local labor force.

Contractors also complain that there is a general bias in procedures and legislation towards the government as client. They complain about delays in payment for submitted bills; the delay caused by the need for the Minister’s approval for variation orders over JD1,000; penalties for delay in construction; and the lack of price variation in contracts.

Efficiency Measures

The cost of construction in 1987 was less than in 1983. The country’s financial constraints have created a very competitive atmosphere, and overheads and profits have been reduced from 40% in 1984 to 27% in 1986. Building construction costs in 1986 were in the order of JD 65-75 per square meter, compared with JD 85-97 per square meter in 1983, for structures with stone-bearing walls or concrete frames.

Construction materials prices were relatively stable over the same period: for example, steel increased from JD135/ton in 1983 to JD140/ton in 1986; cement remained at JD35/ton throughout the period; and the price of concrete increased from JD15/cu. m to JD20/cu. m. The wage rate, however, decreased considerably, by about 20%, over the four year period.

Government Policy

The Government is reducing its investments in infrastructure because of severe budgetary constraints. It has recently completed a Housing Strategy Study, which identified the need for more low-cost housing. Some measures are
needed to remove the constraint to expanding the supply (zoning and building standards, etc.). Future prospects for construction demand thus seem optimistic only for small-scale enterprises involved in low-cost housing, if legal and other constraints are removed, and if the ability of low-income groups to invest in housing is not affected by the economic downturn.

The government has been involved in a stream of activity, with Government works regulation issued in 1982, establishing the Tendering Department in MPW. Studies on engineers and the volume of construction works were carried out, and instructions for classifying contractors and engineers, and the Construction Contractors' Law were issued, all in 1982-1987. Work is also ongoing on Building Codes, etc.

A joint stock company for leasing machinery and a public company for maintenance were established.

Bank Actions

The Bank proposed a study of the construction industry in 1982, but there was no follow-up.

IFC was involved in two industrial investments related to the sector: ceramic tiles $1.6m in 1974, and building materials $25m in 1979.

The Manpower Development Project (Ln 2633--1985) intends to expand training center activities for construction work.

Reports

BTO, 12/17/81

Aide-memoire WB mission February 1982.

Report on Construction Activity in Jordan (Mar. 11, 1988) background to CEM. (Some references cited in this report, include studies by MPW, on file, and a study on building materials by P. Glenshaw, World Bank).

MOROCCO

The share of the construction industry in GDP declined from over 7% in the early 1980s to 5.4% in 1988, although the value added increased from Dh 4.9 to 7.8 bn. over a similar period (1979 to 1985). The share in gross fixed capital formation averaged about a third in 1982-86. In 1985 the industry had a workforce of 524,000, increasing from 6.4% of total labor force in 1980 to over 9% in 1985. Construction output in recent years has reflected general trends in the economy, which suffered a serious fall in revenues from phosphate, the main export, and a severe debt crisis that led to rescheduling in 1983. After a sharp rise in construction output in real terms in 1982, successive declines followed in each of the three years 1983-85. The general improvement in economic activity in 1986 (5.8% growth) contributed to a revival of construction output; an 11% rise was reported for building in that year.

Structure

The construction industry is well developed with a capacity adequate for domestic needs, except for some complex works. It also has wide coverage extending to the remote areas of the country. The quality of works is generally good as confirmed by reports on Bank financed projects. For example, the report on the Second Highways Project indicated that all contractors (except for bridges work) were Moroccan and that their performance was good. However, small civil works (less than $200,000) performed by jobbers in remote areas has been reported of inadequate quality. There are a number of consulting firms qualified to carry out the engineering design requirements of projects.

On the basis of building permits, production of building space averaged over 6 million square meters a year in the 1983-86 period. In terms of value, it increased from Dh 3.9 billion in 1983 to Dh 5.5 billion in 1986 (from $548m to $604m, an increase of over 10%). There was a 4% decrease in the number of building permits in 1988. Residential construction dominates building activity, averaging about 90% in the 1983-85 period. In 1986, about 97% of building construction was to be undertaken by the private sector; in fact private sector output in that year was expected to increase by 21%, while public sector output was to decline by 16%. Of total building construction permits, 90% were residential.

Procurement, Supervision, Professional Organizations, Legislation

Local procurement procedures appear to be satisfactory, according to reports on the Second Highway Project (which stated that although the Bank’s procurement guidelines were not always followed, there was no evidence of

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8/ The proportion of GDP (excluding public administration) in building and public works (batiment et travaux publics), at market prices; provisional figures for 1988, from the Ministry of Planning.
misprocurement and supervision was satisfactory) and on the Second Urban project.

Planning and Investment

The Fourth Plan 1981-1985 adopted an investment program far in excess of available resources leading inevitably to subsequent retrenchment. Stabilization measures have been pursued since 1983, based on an IMF program and Bank sector adjustment loans of $600 million in support of a programme for 1984 and 1985 that included major cuts in the government investment program. Capital expenditures of the central government declined steadily from 11.9% of GDP in 1982 to 4.5% in 1986 and investment expenditures on public works fell from a peak of Dh 2.8 billion 1982 to Dh 1.3 billion in 1985. (The decline in real terms has obviously been much larger). This retrenchment has contributed to the fall in construction activity by nearly 5% in 1983 and 1984. The recovery in 1985 was prompted by the resurgence of private sector demand.

Problems

Problems mentioned in Bank documents relate mainly to poor management, insufficient equipment, poor quality of work and long delays. Constraints include slow procurement procedures due to obligation on the central departments to review contracts of more than $50,000; lack of managerial skills, especially among the small contractors; and shortages of building materials and supplies. The Bank’s report on the First Educational Project indicated that slow implementation was partly due to bottlenecks in the contract award procedures, reopening of bids because of disappointing responses, slow payments of contractors and lengthy customs procedures.

Policies

Substantial concessions to the tourist sector included tax exemptions (10 years for income tax) and interest free loans. These policies have encouraged activity, and major tourist complexes have been built in various parts of the country. Tourism is a major foreign exchange earner; estimated revenue in 1987 was nearly $1.0 billion (a third of that year’s exports).

To address the difficult problem of slum areas, estimated to house 10% of the population, the government pursued a policy of restricting squatting, providing facilities for improved housing through direct state action, construction of low-cost housing by several semi-autonomous agencies, and by encouraging the private sector to become more involved in housing construction.

Bank Actions

The Bank’s involvement in Morocco has been extensive; total loans, including structural adjustment, amounted to over $4.0 billion, of which about $2.9 billion disbursed as of early 1989. Several Bank projects in Morocco included components of particular relevance to the construction industry: the First and Second Urban Projects helped focus the industry’s attention on the
provision of infrastructure and housing for low income families; the loan for Fonds d'Equipement Communal (FEC -- Loan 2272) included technical assistance to municipalities in the design of projects and financing of consulting services; and the First Housing Loan (Loan 2243, 1983) provided for technical assistance for CIH staff of 10 man-months, and surveys of construction prices and techniques in the main cities, in addition to funding construction of 16,000 low-cost housing units. Loan 2731 provided funds for construction of rural housing.

Other projects which had elements related to construction include the Agricultural Sector Adjustment Project (Loan 2590 -- 1985), for which the government agreed to increase the threshold amount of contracts submitted by the Agricultural Development Authorities to the Central Departments for review from $15,000 to $50,000, thus reducing the number of contracts sent for approval by 50%. In the education sector, the First Vocational Project (Loan 2479) provided for 22 Vocational Training Centers to produce skilled construction workers and a special study on investment costs of primary schools focusing on prospects for reducing costs of primary school construction. The 7th and 8th loans to BNDE (Banque Nationale Pour Le Developpement Economique) aimed at financing the industrial sector. One third of the $30m 7th loan went to 5 cement factories. The 8th loan of $45m financed a number of firms in the construction sector and included a pilot project to help developing small-scale contractors.

Considering the broad involvement of the Bank in construction related projects, information on the industry and its capacity is difficult to find in Bank documents. The Bank's assistance to the industry per se seems to have been very limited.

Reports

- Reports on appraisal, audit, or completion of annexed list of Bank-financed projects.

Construction Related Projects in Morocco Financed by the Bank

- Education Project (1966) included construction of 21 secondary schools.
- Second Loan for Banque Nationale pour le Developpement Economique (1966). (BNDE to use part of the loan to finance hotel construction).
- Highway Project (1969) included construction and improvement of roads, three-year highway improvement program, and construction of bridges.
- Rharp Irrigation Project (1969) included construction of a dam.
- Credit Immobilier et Hotelier Project (CIH -- 1970) to finance the foreign exchange cost of construction and improvement of tourist hotels; and a second loan for CIH (1972), also including construction costs.

- Casablanca-Rabat Bulk First Water Supply Project (1972) included dam construction, pipelines and consultant services.

- Second Highway Project (1973) to improve road transport for agricultural exports and tourism.

- Second Sebou Irrigation Project included various dike, road, bridge and railway work for flood protection.

- Sous Groundwater Project (1975) included farm access roads and buildings.

- Doukkala Irrigation Project (1976) included rehabilitation and construction of roads.

- Bay of Agadir Tourism Project (1976) mainly infrastructure work for a major tourist development.

- Meknes Agricultural Development Project (1975) includes construction of roads, stores and offices.

- Fourth CIH loan, $100m (1980) for tourism projects.

- Second Urban Development project (1980) to provide shelter and basic services for low income urban families.

- Forestry Project (1982) included road construction and maintenance.

- Fifth Education project (1982) provided for construction of 40 rural schools.

- Housing Development Project (1983); Loan 2245 -- First Housing Finance, through CIH.

- Agricultural Credit 6 (1986); Ln 2731--provides funds for rural housing.
Since 1984/85, the share of construction output has been averaging over 6% of GDP, somewhat higher than in the first half of the decade. In 1988/89, production is targeted at about $2.5 billion, equivalent to 6.4% of GDP. The share of construction in total labor force increased from 4.2% in 1974/75 to 6% in 1986-1988. A considerable number of Pakistani construction workers sought employment in Middle Eastern oil countries during the boom years; one study estimated their number at 50% of expatriate labor. Their remittances made a large contribution to the external balance; total remittances at times exceeded merchandise exports and, despite the fall in recent years, still average over $2.0 billion. Construction activity has been boosted recently by a series of large projects coming to tender in 1989.

Structure

The construction industry in Pakistan is at a relatively low level of development. There is a very large number of contractors, usually of small scale and acting only as labor suppliers, with little equipment, and sometimes even without hand tools. The number of contractors registered with public departments or agencies was reported by the Nasiruddin study (prepared for IDA) at 2250. Only a few private contractors and three quasi-government agencies (FWO, NLC, and MGCP) have equipment sufficient for carrying out contracts of several million dollars annually. Several dozen firms, mainly in Karachi and Lahore, have the technical staff and equipment to perform contracts of about $1.0 million annually. It is usual for machinery to be rented from the executing agencies for whom contractors work. Contractors' capability for civil work is particularly limited. It has, however, been noted by a Bank mission (1986) that Pakistani expatriates working in Saudi Arabia and the United Arab Emirates (UAE) gradually managed to gain technical experience and performed contracting work of adequate quality.

Construction output increased from Rupees 19 bn to 39 bn in 1979-84. Civil engineering work averaged over two fifths of total output in these years while residential construction accounted for an average of 37% of building output.

Procurement, Supervision, Professional Organizations, Legislation

The 1986 Bank mission noted that as the average size of labor contracts is very small, a large number of petty contractors is allowed to bid, resulting in very low prices and poor performance.

The concept of construction contracting does not appear to be widely interpreted as a two-way agreement, with both parties agreeing to certain responsibilities. Contracts tend to be relatively one-sided, with most of the performance burden falling on the contractor.

Improved legislation is needed in several areas, particularly for procurement of works. Local procurement procedures, in particular, do not
promote effective competition. Advertising for bids is inadequate, and collusion appears to be a common occurrence.

There is a contractors association, but it is weak, and has a narrow base. The Pakistan Engineering Council and the Institution of Engineers of Pakistan have recently become much more active, and are sponsoring efforts to improve the employment situation of engineers, while at the same time improving the quality of the 'product' by instituting strict registration criteria.

There is no arbitration clause in (local) contract documents, and remedies have to be sought through the courts.

Imports and Exports

Imported materials are subject to significant price fluctuations. The recent increase in foreign funds for development projects has resulted in increased foreign competition, particularly from South Korean and Chinese firms. Consulting companies charge on a work month rather than percentage basis. Since they have much lower labor costs and overheads than their foreign competitors, they have remained competitive. Because of these advantages, Pakistani consultants (and some construction companies) have gained a small, but increasing portion of international business, especially in the Middle East (e.g., Engineering Consultants for road projects in YAR, National Power Construction Company in Saudi Arabia, and National Engineering Services - Pakistan (NESPAK) in Oman and Saudi Arabia).

Planning and Investment

The sixth five-year plan 1983/84-1987/88 provided for the construction of 550,000 housing units, and emphasis was placed on improving rural housing and urban slums. The seventh five-year plan for 1988/89-1992/93 (which has not yet received final approval) provided for 650,000 urban housing sites and 2.2 million small rural housing plots. Planned expenditure was about $1.7 billion for the five years.

Problems

Contractors have little expertise in managing construction projects. This, together with the one-sided contracting arrangements, contributes to the serious delays reported, for example, in Bank-financed construction.

Constraints to capacity as reported in the first Nasiruddin study were the availability of skilled labor, cement, and timber; and insufficient foreign exchange and laborious procedures for imports of equipment and materials.

There is a lack of effective competition; procurement procedures are inadequate in most areas, including prequalification procedures, advertising for bids, technical specifications, etc. Bid evaluation procedures need to be
reviewed. Supervision is widely reported to be very poor, and the technical specifications are generally unfulfilled. Quality control also seems inadequate; and overdesign and wasteful use of materials, as well as inferior work, are a result.

A comprehensive review of the industry’s problems in Pakistan in recent years has been conducted by the Bank through three seminars attended by employers, engineers, and contractors. The five most important problems identified by these groups were:

- Lack of efficient prequalification standards and fair procedures for awarding contracts.
- One-sided contract documents.
- Delay in payments.
- Lack of institutional credit on reasonable terms.
- Problems of importing spare parts.

These seminars were followed by an opinion survey of 42 contractors to investigate the severity of the problems. As a result, additional problems were identified, including-

- unfair administration of contracts
- delays in supplying drawings
- poor quality of consultants
- unrealistic completion schedules
- problems with obtaining import permits
- lack of experienced operators
- lack of standardization of materials
- shortage of construction materials
- high transportation cost of materials.

Liquidity emerged from these studies as one of the more serious constraints. The survey revealed that, according to 77% of contractors, the banks require collateral amounting to more than 50% of the loan; the percentage is even higher for the smaller contractors. Ratios of capital investment to annual turnover averaged 14-20%. Because of the lack of institutional credit to the industry, contractors have little incentive to invest in equipment as they have no assurance of continuing access to operating capital at reasonable terms.

Lack of continuing work also discourages investment in human capital (skills) by contractors. They tend to shift readily to work in agriculture, trade, or other areas. It was reported by the Bank mission (1986) that there seems to be a desire on the part of some Highway Authorities officials to keep local contractors weak.

One important specific issue in contract documents has been the reluctance to incorporate a clause for escalating prices. Local contractors resent the fact that contracts for foreign firms include price escalation
clauses. This has been exacerbated by recent large price increases in basic inputs such as cement and steel.

Local contractors also complain about the increasing burden imposed by bonding, which is generally applied, although not mandatory. Bid bonds amount to 25-30 percent of the contract value, and performance bonds are usually 10 percent. An additional sum is usually withheld at the end of the contract against the possibility of structural failure, and public sector companies have begun to withhold another 10-15 percent in case of bankruptcy. Local contractors claim that these practices make it difficult for companies to expand, and make construction an unattractive investment prospect.

Complaints have been widespread about local consultants acting as supervisors. Contractors' suggestions for modifications and solutions for technical problems tend not to be accepted by supervisors because of lack of knowledge or unwillingness to take responsibility.

Policies

Until recently, the government had not demonstrated a steady commitment to road construction, but this has now changed, and there is abundant capacity in asphalt plant, mainly purchased second hand from the Gulf. Routine and periodic maintenance were privatized in 1987, and remarkable progress has been made, under an expatriate consultant, in bringing up a tier of small contractors (annual value Rs 2-5 million) who are beginning to produce good work.

The House Building Finance Corporation (HBFC) has been established to extend subsidized loans for low-income housing. In 1987, its loans were equivalent to $600 million. A large proportion of the funds, however, was reported to have ended up in the hands of property developers and not the poor. The government has lately indicated that drastic reform is under consideration.

Efficiency

No specific measures of the efficiency of construction in Pakistan have been located so far. On the whole, however, comments on the industry from the sources available have been quite critical.

Bank Action

- Under Credits 422-PAK and 492-PAK, two of the three major civil works contracts for these ports projects were undertaken by a joint venture of the National Construction Company (NCC) and Christiani Nielsen. It was hoped that the NCC, which was not qualified on its own, would gain useful experience from working with a large foreign firm. However, when attempts were made later to hold the foreign contractor responsible for delays, under the assumption that there was joint responsibility, it was revealed that the relationship between the local and foreign firms was not, strictly speaking, a joint venture; there
was an additional agreement, (unknown to the Bank and the project agency) under which the foreign company was only responsible as a consultant, and not as a partner. Delays of three to four years, and substantial cost overruns (of over 100%) were encountered.

- The First Highway Project (Cr. 54-PAK) in 1964 provided for a credit of $17 million for new roads, bridges, and consulting engineering services, including advice and assistance to the West Pakistan Highway Department in its organization and operation over three years. Implementation was generally satisfactory, but local contractors did not serve as principals.

- The Second Highway Project (Loan 578-PAK) in 1968 provided a loan of $35 million for two highways, consulting services, and technical assistance, including continued assistance to the Highway Department. Preparation took 50 months instead of 15 months and when final bids were made in 1970, the cost was three times the original estimates. The project was finally cancelled except for a $1.1 million transport coordination study. (Neither of these first two highway projects included assistance specifically designed to improve construction contracting).

- Review of the construction industry in 1976 under an irrigation division project.

- The Third Highway Project (1980; $34 million for road rehabilitation) included a $5 million of loans to domestic contractors to be channelled through a local bank (IDBP). By fall 1982 only two loans totalling $1.3m had been granted due to cumbersome processing, and the balance was reallocated to works. Substantial delays were encountered in implementation of the project; 80% overruns reported. Responsibility for delays has been attributed to client, consultant, and contractor. Specific problems included one contractor with "total inexperience" in road construction as well as cash flow problems due to underpricing of a major work item. By this time, two large local contractors had emerged who dominated the bidding. They squeezed out foreign competition by bidding low prices and relied on political influence to get them raised later. Influence and contacts are also used to overturn unfavorable decisions by supervising consultants. For this latter reason, foreign consultants (in conjunction with local firms) are being employed for supervision of the Fourth Highway Project works.

- The Bank's Resident Mission office carried out an informal sector study of the construction industry in the irrigation and drainage subsectors. In this report, the roles and profiles of the various participants are described, and current procurement practices and the general business environment are discussed. The major barriers to growth are identified in the report, and recommendations are given.

Reports

- Third Highway Project: Staff Appraisal Report- 1979


- PPAR, Third and Fourth Karachi Port Projects, Dec, 1986 (SecM86-1358)


**Recommendations**

Recommendations have been made in the several reports and studies listed above. Some of them are given here. It should be noted, though, that development of the domestic construction industry in Pakistan depends on simultaneous improvements on several fronts, including procurement practices; availability of credit, insurance, and inputs; and the quality of human resources involved in the industry (training in technical and management skills particularly).

The Nasiruddin report recommended the establishment of standing arbitration tribunals to settle disputes quickly and equitably.

The professional organizations need to improve their capacity and broaden their bases. Improvements are needed in capacity of contractors to estimate costs, in credit systems, etc.

The Resident mission's recent study conclusions included those above. It also suggested that employers' perception of, and their general attitude towards contractors needed to be changed, and that the transfer of technology needed to be encouraged through both joint ventures of foreign and local contractors and on-the-job training for construction managers. It emphasized that the use of force account and the practice of awarding contracts to public sector firms on a single source basis should be discontinued.
Construction activity accounted for 11.7% of NMP in 1970, 10% in 1980, and 14.6% in 1986 (1984 base prices used for 1986 figure). The slump in the construction sector was more severe than that in industry as a whole; output in 1987 was nearly 25% below that of 1978. Some of the decline was in the building of unnecessary factories, but the chronic housing shortage worsened over recent years, and is considered one of the most pressing social problems in Poland. Newly formed households often have to wait 8 to 20 years. Annual housing completions declined in the late 1970s and early 1980s; there was a slight improvement in 1982 to 1984, but figures are well below those of the 1970s, and well below what is needed (EIU). 

Construction accounted for 10.2% of employment in 1970, 11.4% in 1975, reflecting the years of increased building activity of the mid and early 1970s. There was a falling back in the later 1970s, to 10.8 percent in 1978 and 7.8% in 1980. Recently there was an unplanned rise, to 9.4% of employment in 1986 (EIU; however, CEM gives 7.6% for 1986).

The unplanned increase was evident in construction investment (up 12 percent in the first half of 1988 over the figure for the previous year). Construction spending appears to be excessive in relation to capacity.

Structure of Construction Industry

Until 1982, the construction industry was centrally planned and subsidized. The 1982 reforms made the enterprises independent and self-financing, but not competitive. The socialized sector enterprises are large; and monopolistic both geographically and in their specialization. Their structure, organization, and operations changed little after the 1982 reform.

The industry has all the necessary construction enterprises, design and research bureaus, monitoring and control organizations, and building materials manufacturing establishments.

The construction industry in the socialized sector includes 1308 state enterprises and 344 cooperative enterprises. These enterprises were established by "founding authorities", ministries, voivodship administrations, and cooperatives. For example, the Ministry of Construction has 441 firms, of which 182 are central and 259 are classified as territorial; the ministry of Agriculture and Forestry has 360 construction firms; etc. There are about 105,000 small, generally one-person, independent-artisan firms. The public sector accounts for 87 percent of all construction output and employs 919,500 persons; an average of 557 persons per enterprise. The private sector accounts for the other 13% of output, and employs 228,000 people.
Exports and Imports

Export efforts, starting in the late 1960s, were also centrally controlled at first. Most export firms (including Dromex -- specialist road builder, Elektrim -- power, Energoprojekt -- pipeline, and others) are not owned by ministries, but by groupings of domestic companies, which make up a board to control strategy, marketing, etc. They have limited liability (since 1983) in order to ease cooperation ventures. Many operations have been licensed to export directly, and negotiate agreements.

Construction exports have been relatively successful over the last few years, accounting for about 5% of the country's total exports (about $8090M in 1987), but capital for participation in large scale foreign projects is still needed. Construction is a particularly important part of exports because 50% of the money brought in is in dollars, and sometimes in oil and gas counter deals, saving scarce dollar resources.

Export work includes agricultural complexes and processing facilities, power lines, roads, and big power stations, including nuclear. In general, the work is mid-level technology, designing and building in socialist and non-aligned countries. Large scale projects have been tackled, often taking longer, but also costing somewhat less than other exporters. There has been a lack of computer technology due to lack of foreign currency, but this is changing. This lack of hard currency has also restricted sales and marketing travel, but cooperation with foreign companies is being looked at as a way to overcome some of these problems.

Much of the work is being carried out in the eastern and southern Mediterranean regions, particularly Libya and Iraq; other countries include Iran, Turkey, Algeria, India, and Europe (especially for the geotechnical consulting company Geopol). Several companies continue to work in the USSR, Czechoslovakia, etc. There is some expectation that China will become a major new market.

Problems

The number of house completions amounted to 32.9% of the annual plan target at end June, 1988. Problems with material supplies, especially cement are cited. Government has already given priority to home construction for input supplies. Cement suppliers cite problems in supply of energy, and transport bottlenecks.

Government Policy

Central planning was installed by the late 1940s, as in other East European countries. Reforms were legislated in the late 1950s, but were not properly implemented. A reform commission was set up in the 1970s, proposing decentralization from central ministries to newly created large firms. The impact was small, since there was reluctance to devolve power. In 1981 the economic situation had worsened to the point where a 12 per cent slump in
output was recorded. A decentralizing economic reform was partially introduced in January 1982, which made many enterprises in theory, independent, self-financing and self-managing. Self-management organs, the new workers' councils, were set up only later, in 1983. Many enterprises remained under central control, and self-financing discipline was weak. Not much reform progress was made since 1983, with foreign exchange and most raw materials remaining under central control. A "second stage" of economic reform began on January 1, 1988.

In the second phase of deregulation, it is hoped to improve accountability and efficiency in the construction sector. The rules governing joint operations with western companies, and currency and investment control are being changed in order to attract foreign currency. In an earlier stage, construction companies which were formerly state owned and controlled, were made more self-accountable (new policies include the three S's: self financing, self efficiency, and self decision-making). The Ministry of Building, Physical Planning and Local Economies now has a strictly planning and coordinating role to play, setting strategic targets, checking performance, and maintaining the legal framework within which the companies operate.

A small private sector is being encouraged "in a controlled way", and the limits on employees will increase from 40 to 50 per shift. These firms often work on cooperatively owned private housing and even for individually built houses, which make up one-third of the stock (they also build the numerous churches under construction).

It is hoped that housing production will rise from current levels of about two-thirds of the target (about 200,000 units compared to 300,000) to 100% of the needs by 1992 or 1993, when the new policies will have taken effect. The new Government declared in Oct. 1988, that it intends to attempt to deal with housing as a matter of urgency.

Reports

The construction industry has been one of the major economic activities in Portugal, though some deceleration seems to have set in during recent years. The contribution of the industry to GDP has averaged 7.4% in 1977-1983, then declined to 5.9% and 5.2% in the following two years. The share in fixed capital formation averaged over one half in 1980-1984.

Construction employment averaged 9% of total employment in 1980-1986 though it has declined since 1982. The number of construction employees rose from about 200,000 in 1979 to 227,000 in 1982, then steadily fell to 196,000 in 1985.\textsuperscript{2} The recent weakness in construction activity has been attributed to the freeze on public construction, the increase in interest rates and the fall in disposable incomes. As a result, there were virtually no housing starts in 1983 and 1984, and output actually fell by 3% and 10% in these two years. The output index numbers published by the UN show a steady rise in output from the 1980 base year to 120 in 1983, followed by a sharp fall to 92 in 1985. Some recovery, however, has been reported (by the EIU) in 1986 and 1987.

Structure

In 1982 there were about 311 construction companies. This was reported in a survey on the profitability of public and private enterprises included in the Bank mission report (1986). The report also indicated that the number of profitable companies declined from 267 in 1981 to 249 in 1982 (bearing in mind that profits are usually under-reported in Portugal). The 1984 CICA survey, however, indicated that there were 26,672 companies: 14 employing 1,000 or more, 4,086 employing more than 5, and the rest (22,572 companies) employing 5 or less. The CICA survey also reported a trend towards a decrease in the size of construction companies.

The "black" or "second" economy in Portugal is large, estimated at between 10% - 20% of GNP, and 40% of residential construction is thought to be outside the official economy for income and tax purposes.

Civil engineering work accounted for about a third of total production in the 1979-1985 period. The housing share in building activity was fairly high over this period, averaging over two thirds.

Efficiency

Overstaffing in both public and private sector was reported by the Bank staff (the 1986 report page 12). The value added increased from Es 43 bn to 152 bn in 1979-1985 averaging well over half of total output.

\textsuperscript{2}A CICA survey published in 1984 indicate a figure of 407,000. The reason for this discrepancy has not been investigated.
Reports


An economic boom occurred in the first half of the 1970s with the influx of aid and high oil prices, leading to an 18% growth for construction, the fastest for any sector. The construction and building industry in Syria has accounted for a rising share of GDP in more recent years, increasing from 7% in 1982 to 9% in 1986. In the last two years of this period, i.e. 1984-1986, the industry showed high rates of growth, reaching 16% in 1986, although the economy was then experiencing relatively sluggish overall growth. In the same period, its contribution to gross capital formation was generally stable at about a quarter of the total. Over the 1979-1985 period, value added in construction increased from SL 2.7 bn to 5.4 bn. In 1984, employment numbered 366,600 amounting to about 16% of the total labor force.

Structure

Since the early 1970s, a major shift has taken place in the structure of the industry. Public enterprises have grown in capacity, performing a third of construction work (in 1976) while the balance was almost equally shared by the domestic and foreign contractors.

The capacity of the public sector was estimated by a 1976 Bank report at about $ 255 m. The public enterprises are semi autonomous contracting units with independent management, which may compete for bids with private domestic and foreign contractors. In response to rising demand associated with the ambitious development plans of the time, two enterprises were established in the 1960s, and six towards the mid 1970s. In 1976, steps were taken to formalize the organizational framework of the public construction sector. It was placed under the High Council for General Construction Companies headed by the Prime Minister; and detailed guidelines were established for operational, managerial, and financial aspects. One enterprise to gain prominence was the Military Housing Establishment (Milihouse), which was set up in 1975 to carry out projects for the military. It has since, however, expanded into the civilian sector, and 80% of its work in recent years has been civilian. It has also won some contracts outside the country in Jordan, Lebanon, and South Yemen.

Private enterprises had a reported capacity (as of 1976) nearly equal to the public sector. About half of the private capacity was concentrated in seven large firms which perform both building and civil engineering work. The rest of the private sector is composed of many hundreds of small contractors specializing in dwellings and small buildings for private customers. As many of these contractors were unregistered, their capacity is not readily ascertained.

Foreign firms normally take large and more complex projects with international or bilateral financing. A Bank report identified 11 foreign firms working in Syria in 1976, all east or west European.
Procurement, Supervision, Professional Organizations, Arbitration, Legislation

The following notes are based on the Bank's mission findings as of November 1976 and obviously need updating:

- Excessive bureaucracy and cumbersome procedures were leading to serious delays in taking decisions and making payments, mainly due to the quality and morale of public administration officials. Public enterprises were in better shape than ministries, due to higher salaries.

- "Archaic laws" are also reported to govern contract documentation and procurement procedures, particularly Law No. 228.

- Contract documents have different conditions for domestic and foreign contracts, and those for international procurement often differ according to "the wishes of the financing agency or the whims and nationality of the consulting engineer/architect."

- Price adjustments are provided for if the total price increase is higher than 15% and, additionally, if the contractor had not received any advance payments.

- Supervision seemed adequate for projects financed partly by external agencies but not for many domestically financed projects, especially those executed by public enterprises for public clients.

- The profession is well organized by the Syndicate of Syrian Engineers (SSS), which had a membership of 8,000 in 1976 of whom 3,000 were practicing outside the country.

- The practice of negotiating lower offers after bids are submitted has been reported in the Audit Report for the Aleppo Water Supply Project (1986).

Planning and Investment

The Bank's mission in 1976 noted that there was "no central monitoring or planning of the construction and building resources required for the country's public and private investment programs."

The slowdown after the boom period resulted in an emphasis on continuation or completion of earlier plans. Construction investment envisaged in the 1981-85 plan amounted to $625 m, of which $57 m was in foreign financing. Over 70% of investments were to be made by the public sector. A similar emphasis has been adopted for the current 1986-90 plan, although total investment is slightly higher in real terms than during the previous plan. Details of the current plan are not available.
Problems

- The 1986 mission notes inefficiencies in management and cost effectiveness of the public construction sector. The laws governing public enterprises were interpreted differently by each enterprise.

- Private contractors face competition from public enterprises which enjoy import advantages, subsidies, and freedom from performance bonding and penalties.

- The Bank's mission also reported the poor quality of many private buildings due to inadequate regulation and supervision. The industry functioned under an old code of practice, and there was also a shortage of qualified building inspectors.

- Pre-qualification of private contractors was based on an old scale that made it unusual for contractors not to qualify for the highest class.

- Contract conditions allow price adjustments only if price increases exceed 15%; this seems to have led to initial "price padding" by contractors.

- Procurement problems reported in Bank projects included two cases of misprocurement where insufficient pre-qualification procedures were followed, and "negotiation" was applied in one case.

Efficiency

The Bank's country report on Syria (1986) included a table on total building costs and square meters of building constructed (page 97). On average, the cost of a square meter increased from LS 560 in 1978 to LS 1,060 in 1983.10 The same report shows that the wholesale prices of building materials hardly changed between 1981 and 1984.

Policies

As noted above, the main policy has been to expand public enterprises to meet the rising demand of public sector projects. Recently two measures have been reported (EIU No.2, 1988) to address the inefficiencies of these enterprises:

- A decree was issued in late 1987 allowing public sector companies to merge.

10/The square meter measure represented an aggregate of residential, commercial, and industrial buildings; the share of industrial buildings was rising during the period under consideration.
A reorganization of the large Milihouse enterprise was to cut staff from a peak of 80,000 to 20,000-25,000. (Moves were also reported to trim the civil service as whole).

**Bank Action**

The Aleppo Water Supply Project was approved for $50m loan in 1977. The Audit Report (1986) noted:

- Problems in implementation were due to "an attempt to apply market oriented approaches to an evolving centrally planned system." The government apparently had difficulty with the objectives of financial viability and self support for public enterprises.

- The project included technical assistance of $300,000 to improve the construction planning ability of the Ministry of Planning, and provided for administrative improvements of public sector enterprises. This was not implemented as the borrower failed to hire consultants as required. The training arrangements provided by the project were not utilized due to the requirement of approval from the Prime Minister's office for overseas travel for trainees.

**Reports**


The share of the construction industry in GDP was over 6% in 1986. The industry accounted for about 10% of employment in 1980-1983, with a work force of about 170,000 in 1983. The manufacturing sector also includes a number of construction materials establishments (cement, red ceramics, lime, and tiles) accounting for over 2% share in GDP in 1983.

Structure

A comprehensive review of the industry was prepared during the mid 1970s by a Bank-financed study. It indicated that in 1975 there were 2200 contractors, of whom only 26 were considered large (with a capacity of more than TD 1.0 million and employing more than 400 workers). They were undertaking TD 45.0 million of contracts in 1975, over 27% of that year's market. The middle contractors numbered 120, with a capacity of TD 0.2-1.0 million, an employment of 80-400, and a market share of 31%. There were 334 so-called 'small' contractors, having a capacity of TD 50,000-200,000 and employing 20-80, which accounted for about 21% of the market. The bulk of contractors, about 1720, were smaller, with fewer than 20 employees and a work capacity of less than TD 50,000; their share of the market was over one fifth. Most contractors were concentrated in the main three towns, with 80% of the large contractors located in the capital city, Tunis. Over four fifths of contractors specialize in building and the rest on civil works (travaux publics).

In the 1970s, the domestic construction industry did not even have the capability to participate in the small and medium sized projects that did not attract foreign contractors; and for some contracts, only one bid was received. In the difficult southern part of the country, only the army could undertake construction work. The government therefore established a public enterprise, the Centre Technique pour le Development de la Construction, in 1975.

More recently, Bank staff reported in 1987 that Tunisia had a well developed construction industry with several firms "fully up to international standards". Small contracts of about $ 2 million are usually won by local contractors while large contracts, of $ 5 million, are normally won by joint ventures of Tunisian and foreign contractors. There were 400 contractors registered with the contractors' association. All contracting firms are classified by the DGPC (the Highway Department) according to capacity, experience and skills. The DGPC classification revealed that 60% of members were builders only, with an annual work capacity of DT 350,000 (about $ 420,000) while 20 companies were qualified to bid for "unlimited value complex civil works contracts. In some sectors traditionally served

enterprises, international firms, mainly French and Italian, have entered the field either independently or in joint ventures with Tunisian contractors.

There are several public enterprises involved in construction. The Ministry of Public Works had a total personnel (in 1987) of about 7,000, of whom about half were assigned to road construction and maintenance in the DGPC. There are other public enterprises: for example, a large organization for housing construction (Societe Nationale Immobiliere Tunisienne -- SNIT).

A recent publication (Strassman and Wells, 1988) estimates that there are about 1,300 construction firms in Tunisia (1987 figure), but that only 53 of them are large enough to undertake works worth TD1 million (US $830,000).


On the basis of experience with the Bank's First Sewerage Project and the Second Highway Project, government procurement procedures were reported (1984, 1985) to be good.

A 1987 Bank staff report indicated that supervision of very large projects is entrusted by the government to consulting firms, while other projects are supervised by the DGPC engineers, with assistance from the central laboratory and from headquarters in the case of large projects.

Imports and Exports

Foreign contractors participate in major projects such as road construction, irrigation, drainage and water works, harbors and airport construction. Some Tunisian contractors with 20 to 30 years of experience have worked in Algeria and Libya, mostly in low-cost housing production (Strassman and Wells, 1988). There are indications that some of the business environment constraints in Tunisia have contributed to this situation (see Policies section below).

Construction exports have been increasing rapidly in recent years (29% per year in 1981-1985). Construction imports also increased, but in relative terms the deficit in terms of construction services exports and imports is decreasing.

Planning and Investment

The total investment programme (all sectors) was decreased by about 15% in real terms between the Sixth Plan (1982-86) and the Seventh Plan (1987-1991). Almost 43% of total investments were for projects already under way or in an advanced stage of implementation. The decline in real investment was expected to be offset by an improvement in productivity: the incremental capital/output ratio was to decline from 10.6 during the previous plan to 5.1. The improvement was to come mainly from relying more on private sector initiatives and price liberalization, to would stimulate competition and discourage overinvestment.
The proportion of the total allocated to construction (TD 58m, and TD 76m) remained the same for both plans, at about 0.7%. A much larger allocation went to construction materials in the Sixth Plan (TD 389.0 million), but this was cut to TD 270.0 million for 1987-1991. The current Seventh Plan is strongly export-oriented; and construction (excluding housing, which comes under other services) is expected to grow at a 3.5%, not without repercussions on employment. The Sixth Plan objective of creating 20,000 construction jobs was not achieved; only 4,500 materialized.

Problems

According to the SEMA study, in the mid 1970s half of domestic contracting firms were less than 10 years old and lacked skilled personnel. The number of engineers and supervisory staff was 3.7 per 1000 in 1975, compared with 8 in France. Lack of skilled manpower was aggravated by migration and insufficient training facilities. Other problems included:

- Absence of clear and realistic government plans, and of a clearly defined development policy for state enterprises.
- Shortage of equipment and lack of renting facilities.
- A long time requirement for import licenses for inputs (2.5 - 5 months), leading to overstocking and selling of stocks for high prices.
- Insufficient capacity in design and consulting services and lack of capacity in pricing, maintenance, and planning.
- The high cost, and low availability, of credit.
- Lack of steady workflow for domestic contractors.
- Late payments to contractors by DGPC, often extending for seven months after submission of payment certificate.

There appear to be fewer problems in the civil works subsector; domestic enterprises have been affiliated with French companies and have gained a relatively high level of expertise. The situation is different in the housing construction sector. One of the main constraints to development appear to be the lack of incentives and opportunities for domestic contractors. The presence of SNIT hinders competition from private housing contractors; other constraints relate to the inadequate supporting environment for housing construction, including the fluctuating public demand for construction (no steady work flow), lack of developed land, housing finance, etc. These inadequacies are being addressed in recent Bank urban (housing) projects.

Building inputs do not appear to be a major constraint; in fact, there is currently excess capacity in cement production, and cement is being exported.
Efficiency Measures

A table in the 1985 CEM indicated profits in the construction materials industry (public enterprises) reaching TD 5.4 million in 1980, turning into losses of TD 2.5 million in 1982. In the same period, the saving capacity (profits plus depreciation minus taxes) fell from TD 11.2 million to 0.6 million.

Policies

Since 1987, the Government has been trying to improve the performance of public enterprises, and some are in bankruptcy. However, the remaining state-owned enterprises are still powerful (for example, the Director General tends to be a high-ranking civil servant). There is reluctance on the part of these enterprises to encourage growth among their private competitors. In the area of housing construction, for example, Government contracts are typically split into several small sized contracts (e.g. 50 units), which has discouraged some private enterprises from competing. (One contractor cites the small scale of Tunisian housing contracts as his main reason for working abroad). The Bank's recent urban project is beginning to have some effect on public housing contracting policies, however, and the situation is improving.

Bank Actions

- The First Urban Sewerage Project (Loan 1088-TUN), signed in 1975, included a study, co-financed by Saudi Arabia, of the Tunisian construction industry, to determine ways of improving its capacity. The study was completed in 1977 by the French firm SEMA.

- The Fourth Education Project (1961-TUN) provides assistance to the Office de la Formation Professionelle which organizes short courses for construction workers.

- The Highways Maintenance and Rehabilitation Project, approved in late 1987 for a $64 million loan, includes a training plan to be carried in 1988-1992 with the objective of strengthening personnel management, strengthening the training function and providing the DGPC with qualified personnel. The program envisaged the training of 65 engineers, 300 field supervisors, 700 field operators and drivers, and 350 mechanics.

Reports

- SAR of the First Urban Sewerage Project (Report No.581a- TUN) 1975; and PCR (SecM84-4.Jan 4, 1984).


- Audit Report on three loans for Banque de Developpement Economique de Tunisie. July, 1983 (SecM87-819)


Turkey has a well-developed domestic construction industry, with substantial activity in several countries in the Middle East and North Africa. Over the period 1980-1987, its share of both GDP and domestic employment averaged around 4%. Construction activity abroad has been making a substantial contribution to the economy; at one time, the value of foreign contracts reached $17 billion, contributing about $1bn to the country's balance of payments in 1982. In that year, construction workers abroad numbered 220,000, equivalent to well over one third of the industry's domestic work force. In times of recession in the Turkish economy, for example the period 1980-1983, construction work abroad contributed to stability in overall economic activity and employment. After the recession, domestic construction revived in pace with the general improvement in the economy. The value added increased from TL106m to TL1045m in 1979-1985, a growth rate of close to 5% a year in terms of $US equivalence, and in 1986 the real growth rate of the industry was 8%. However, activity is now reduced because of a recent Government decision to curtail investments.

Structure

The latest UN statistics indicate that in 1982, 73% of the value of production was in buildings, and the balance was in civil engineering, out of a total of TL852m.

There were 30,000 contractors registered in 1982, of which the majority were petty contractors with a capacity of up to $0.5 million per year. In 1984, 275 contractors were working in the Middle East, of whom 120 in Saudi Arabia and 105 in Libya (the country's main contracting market).

There is a large number of major construction groups with relatively high technical standards and some have diversified into other fields (e.g. banking). Joint ventures and consortia have been formed with European and Japanese contractors to undertake large projects such as pipelines, dams, a factory for jet fighters, and the second Bosphorous bridge.

Private sector contractors generally account for over 95% of housing production: in 1984, for example, only 4% of housing was undertaken by the public sector. Building cooperatives, using private contractors, undertook 14% of this private sector housing. Private contractors also build much of the informal housing (size cannot be ascertained, but rough estimates put the share at 40-50% of total housing).

Procurement, Supervision, Professional Organizations, Legislation

The Turkish Contractors Association had a membership of about 90 contractors in 1982. Given the large number of registered contractors, the relatively small membership is attributed to "very strict selection procedures".
Planning and Investment

Substantial investments had been planned for the 1980s; the public sector programme included 98 major projects due for completion in 1983-1990, with foreign financing of $395m. The economic crisis, however, led to severe cuts in this programme and a sharp fall in the construction order books. Most contractors had to work well below capacity and the more competent sought work abroad. There is considerable over-capacity in the asphalt paving business.

Problems

The most important problem, as noted above, has been the economic crisis that severely curtailed both public and private demand and led to persistent delays in government departments' payments to contractors for the much reduced project work that remained. Delays of six months to a year in some water and sewerage contracts with local authorities have been noted. Contractors have been offered local bonds instead of payments, but at interest rates well below the inflation rate. Even before these recent economic problems, delays in work completion (according to a survey published in 1985) were due to difficulties in obtaining materials, difficulties in receiving monthly payments from public agencies, giving rise to contractors' cash flow problems, and deficiencies in the organization of both contractors and government agencies.

The same survey indicated that the weighted average of cost overruns on construction projects was 44%. The main causes cited for overruns were the increase in materials and services cost, work delays, and faulty unit price estimates.

Contracts tend to be biased towards the client in Turkey. Government also tends to keep prices of domestic materials low, and to manipulate the foreign exchange rate, leading to manipulation of local and foreign indices.

A variety of taxes contributed to a particularly high cost of land and infrastructure (35% to 40% of total cost) for contractors engaged in building (superstructures); in some areas, the proportion reached 50%. This led thousands of contractors to abandon work, and house-building declined in the 1970s.12 Amendments to tax laws were introduced in the 1980s but were reported inadequate.

The most difficult problem facing Turkish contractors overseas has been the unacceptability of bond guarantees offered to the foreign client by the local banking system and the reluctance of foreign banks to extend such guarantees, reflecting the country's low credit-worthiness. This led some Turkish contractors to work with "sleeping partners", with the Turkish company carrying out the main work and accepting a low share of profits, as low as 15% - 30%. A breakthrough was made possible by Libya, and to a lesser extent

12/ Bodur.
Saudi Arabia, through accepting local banks' guarantees. In 1983, the IFC helped in this direction through a Syndicated Guarantee Facility in collaboration with an Arab banking group.

Severe problems were encountered by some contractors when Libya defaulted in payments. This may be a serious problem due to the heavy involvement of Turkish contractors in Libya. Of the $14.5bn overseas contracts in the five years 1978-1982, about $9.4bn (65%) were in Libya. The slump in oil revenues in 1986 and beyond may also have affected overseas business which is concentrated almost entirely in the oil exporting countries of the Middle East.

Up to 1979 substantial overstaffing of domestic contracting companies was noted; the labor costs of investment projects were estimated at 60%.

Policies

- To help in tackling the bonding problems of contractors working overseas, banking laws were amended to make it possible for banks to pool their resources in providing guarantees.

- As building costs escalated, adequate housing became unattainable for many government employees. A law was passed to earmark 5% of the budget for housing, and a "master plan" was drawn up in 1982 to house 10-15% of key government employees. These measures benefitted the domestic contracting industry which builds over 90% of housing.

- In 1984 the Social Housing Law created the Social Housing Fund to help in closing the housing gap (estimated at 4 million units in 1986). The resources of the Fund, however, seem to be far from sufficient.

Efficiency

No specific efficiency measures have so far been identified. However, the competence of Turkish firms contracting overseas has been widely acknowledged. Experts from Citibank, one of the biggest creditors in Turkey, had noted (in 1982) that in a short time these firms reached the technical standards of western firms. They were found to be self-reliant in terms of equipment, have a large expatriate nucleus, strong site staff, high quality labor force and good site stores.

Bank Actions

- In 1983 the Syndicated Guarantee Facility was established by the IFC, the Union de Banques Arabes et Francaises, and a group of international banks to support the bonding of a number of Turkish overseas contracting firms. The amount committed was $150 million ($15 m by the IFC). It was estimated at the time (by a major contractor) that the facility would bring $2.0bn worth of contracts and result in the employment of 2,000 Turkish construction workers.
Training of technical and skilled workers, including construction workers, was provided for in the Industrial Credit Project (Loan 2399-1984) and the Industrial Schools Project (Loan 2536-1985).

Reports

- I. Bodur: "The Construction Sector - The Economy's Locomotive", in Middle East Business and Banking, June, 1986.
YEMEN ARAB REPUBLIC

The contribution of construction industry to GDP declined during the period 1981-87 from about 7% to 4% reflecting the impact of strong stabilization policies undertaken in 1983-1986. Its value added in 1987 was reported at 30% lower than a decade earlier. The construction sector was the most adversely affected by the cut back in investments in these years. However, its share in fixed capital formation has been substantial, reaching 56% in 1983 and the share in the labor force increased from about 5% in 1975 to 7% in 1986. Demand for construction fluctuated over the years averaging 10% in real terms in the early 1970s, falling sharply towards the end of the decade, and recovering since 1981 to an estimated 7.5% growth in 1983. Demand is expected to remain high, due to the extra construction needed following the 1982 earthquake and the expected rise in public sector investment after the advent of oil production and exports in 1987. The current five-year plan, 1988-92, targets 8.1% annual growth (6.5% actual in 1982-86).

Structure

Construction activity is undertaken by five main groups: foreign contractors, domestic private contractors, the Highway Authority (HA) force account operations, operations of local cooperative councils (LCCD) and the informal sector. Accurate figures on contractors are not easy to find: the following notes on each group are based on information as of 1984 when construction output totalled YR 3.2 billion (about $600 m at that year’s exchange rate): In 1987, YAR had more than 50 contracting firms.

a. Foreign Contractors accounted for 30% of construction activity, mainly through international competitive bidding for externally financed projects and, to a lesser extent, in government-financed and some private projects. In 1984, a Bank mission identified 12 foreign firms active in YAR: 3 Korean, 2 Italian and others from China, India, Pakistan, Kuwait, Dubai and USA (oil). Their activity was concentrated in civil works where they performed over half of the sector and nearly a third of non-residential buildings. Sub-contracting to local contractors is not widespread and Asian firms rely on their own imported labor force. Joint ventures are also rare and provide only limited transfer of technology.

13/ The recent yellow cover CEM (Jan. 89) reported that annual growth of construction declined sharply from 2% in 1983-84 to a negative 10.2% in 1985-87 and that its contribution GDP growth in 1985-87 was a negative 11.5%. The report, however, notes that the YAR national accounts statistics "are likely to underestimate the share of the construction in GDP and its contribution to growth." -p.4.

14/ From Sikorsky report of March 20, 1985. The Appraisal Report on Sana’a - Hodeidah Rehabilitation (Sept.87) cites a Bank update on the construction industry (also March 1985) that put total production at YR 3.5b ($4.37b), of which 40% was by domestic private contractors and 9% by HA. p14.
b. **Domestic Private Contractors** accounted for 45% of construction work, mainly in residential and non-residential buildings, performing two thirds of the work in these sectors. A committee was formed in 1982 to undertake the registration and classification of contractors. A recent Bank report noted three contractors able to perform more than YR 50 m ($8 m equivalent) per year, 25 with a capacity of between YR 15-50 m a year, and 150 with lower capacity. The middle and small contractors were active in building, but also did some civil sub-contracts for the HA.

c. **The Highway Authority (HA)** is an autonomous agency established in 1972 as part of an IDA/Kuwait Fund highway project. Its board of directors is chaired by the Minister of Transport and Public Works. In 1984 HA's force account operations amounted to 10 percent of total output in civil works.

d. **The Local Councils for Cooperative Development (LCCD)** are organized under the Confederation of Local Councils for Cooperative Development (LLCCD; previously called the Yemeni Development Associations), a group of local self-help cooperative organizations in the rural areas, numbering about 134 in 1984. Their force account construction work was 5% of the total, mainly in secondary roads, school buildings, water supply, and health projects. Their services are financed by contributions from local populations, migrant workers, and a 1% agricultural tax. The LLCCD is supposed to maintain technical staff to provide advice and additional equipment to local councils; however this staff is almost non-existent.

e. **The informal construction sector** is composed of hundreds of small contractors and jobbers who account for 10% of total output concentrating entirely on residential buildings. Some petty contractors, especially workers coming back from Saudi Arabia, own or co-own bulldozers, loaders, graders for use or hire. The small contractors and jobbers formed the Association of Traditional Builders with a small capital and cooperative functions.

**Imports and Exports**

In the early 1970s demand was met mostly by foreign contractors, but the domestic industry expanded rapidly accounting for half of construction output. It was noted in 1987 that domestic companies had an adequate participation in residential/office/industrial building industry, but that they were not very active in the civil works sector. Civil works are undertaken primarily by foreign companies and force account.

**Planning and Investment**

Government outlays on construction account for 60% of total demand. National plans indicate construction expenditures executed mainly by the Ministry of Transport and Public Works (and its HA) and other ministries. Investment planning in the YAR is relatively recent, dating from 1973, and remains weak due to shortage of qualified personnel. The Investment Plan is indicative; projects are only firmly included when foreign financing is confirmed. The previous plan 1982-86 included forecasts for total
construction investments of YR 16.9 b with annual increases of 7%, 6%, 14%, 12% and 11%. Actual investment expenditures, however, were substantially lower than planned levels in 1982-86 due to government efforts to curtail the budget deficit (with IDA assistance). In real terms the actual total public investment in these years was 30% lower than planned. Details on the current plan 1988-91 are not available, but the overall growth target reported is 8.1% and the government has stated that it intends to develop a flexible attitude in re-examining the plan projects. Investments, which have fallen in recent years to 13% of GDP, are now projected (by Bank staff) to increase to 17% by 1997.

Problems

Poor managerial ability and scarcity of skilled labor were the most often cited basic problems. However, a recent Bank report (Sikorsky BTO, 1985) draws attention to a changing situation in which the capacity of domestic industry is increasing and the labor market improving. An emerging problem is lack of sufficient job opportunities offered by government agencies who continue to favor work by foreign contractors and force account operations. The main problems are categorized as follows:

a. Investment and Development Planning:

As indicated above, investment policies in 1983-1986 have led to substantial deceleration in construction activity which declined more than any other sector as a result of stabilization measures.

b. Resource Mobilization and Financial Discipline:

The reliance on foreign contractors has been associated with a drain of foreign currency, loss of employment opportunities, and inadequate development of the domestic contracting industry. (The situation regarding the cost of foreign contractors may, however, be changing: under Highways VII, foreign contracting costs are turning out to be lower than estimated).

- Access to credit does not seem to be a problem due to availability of migrants' remittances and resort to members of the usually extended family. It is noted, however, that the Industrial Bank provides credit for building materials firms but not to contractors.

15/For the highway construction subsector, this is being addressed under the Highways VII project.
- As government contracts do not allow for price adjustments, the Bank/UNIDO report called for price adjustment clauses on medium and long term contracts. The 1984 mission reiterated this suggestion but noted that subsequent stability of prices rendered it less urgent. 19

- No fiscal incentives for local contractors have been advocated, but complaints have been made against tax concessions to foreign contractors which place local contractors at a competitive disadvantage. Some income tax concessions were discontinued; local contractors are limited more by capacity, however, than anything else.

c. Institutional Issues:

- Local contractors often have difficulties competing for large civil work contracts, unless some large jobs are sliced into several sections in length (of roads) or kind (drainage, earthwork, etc.). A Bank report (1987) indicated that the HA has recently subcontracted short sections of graveled roads, drainage, bridges, and culverts, but results were mixed and some works had to be rescheduled. This has been attributed to three reasons: first, sub-contracting decisions were taken on ad hoc basis without previous planning; second, no continuity of jobs was provided to contractors; and third, the HA could not provide the technical assistance needed by contractors.

- Contractors’ poor knowledge of cost accounting needed for preparing realistic bids has also been a problem. (These two issues are being addressed under Highways VII -- see Bank Actions, below).

- Contract documents have been a constant source of complaints. The Bank/UNIDO and SWECO (see references below) reports noted the poor quality of these documents in work description, drawings and specifications.

- Delays in payments have been widely reported, although the delays range only between 2 and 4 months. Much time is spent by contractors in tracing paperwork through various ministries at the expense of cash flow and on site management time. It should be noted, however, that H.A. subcontractors receive a generous 25% advance.

16/ GOY is strongly against this, and price adjustment is a major issue affecting IDA projects.
- Difficulties are encountered in obtaining imported materials, averaging 65-80 percent of materials used. Considerable time is spent on custom procedures which require 10 signatures to clear an import. Custom duties are high (30-70%). It was, however, noted (by the 1984 Bank mission) that local supply of materials, including cement, is improving.

- Skilled manpower shortages have been severe, having a marked impact on costs. Although only two technical schools are functioning, these are very effective. A civil engineering undergraduate course was started a few years ago; 30 graduates were expected in 1988. In the early 1980s, there were also 650 students on grants in Eastern Europe.

- Lack of qualified personnel in some government departments (other than HA) impedes efficient supervision of contractors, and leads to lower quality and higher cost of work. The return of migrant laborers seems to have eased only the unskilled labor market.

Efficiency

Little information is available on costs. Costs envisaged by the 1982-86 plan was YR 2.8 m per km of asphalt road and YR 2.1 m per km of gravel road. Some information on costs of building materials and labor has also been prepared by the Ministry of Education. In general, the low level of development of the YAR and the rugged terrain seem to have added to costs. The following are some indications:

- Difficulties of working in the YAR, real or perceived, hitherto contributed to "excessively high" bids by foreign contractors (the 1981 Bank/UNIDO report); however, bids currently tend to be very low.

- According to the Ministry of Education, transporting skilled labor from the capital to other areas add 30 percent to the cost of labor.

- The mountainous terrain, inadequate roads, scarce labor, and delays in delivery of spare parts led to very high transportation costs of goods from the port of Hodeidah to other parts of the country, as well as to higher operational cost of vehicles, plant and equipment.

It is assumed, however, that the substantial improvements in the road network achieved so far have ameliorated the situation, and construction costs in more recent years seem to have declined.

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17/ One, at Taiz, was financed by IDA.
Policies

The 1984 Bank mission noted that "the government policies regarding the role and development of the domestic construction industry are not yet formulated in a clear manner." The government recognized the many advantages of a more developed domestic construction industry, but had no definite plan to support local contractors. The government, however, took some measures to limit concessions to foreign contractors in an attempt to give a more equitable opportunity for local contractors in civil works. Foreign contractors employed on specific projects were no longer allowed to bid for private construction projects, expatriate labor would be limited to half the labor force needed, and income tax concessions on self financed schemes were discontinued.

In 1987, it was reported that the government wished to develop participation of Yemeni contractors by providing them with job opportunities and technical assistance under a program carried out by the HA. The job opportunities were to take the form of at least YR 25 million a year in small sized contracts, to be funded from the HA construction budgets in 1988-90. The technical assistance would be provided under the Sana'a-Hodeidah Road Rehabilitation project financed by IDA (see below).

Bank Action

Under the Third Highway Project (FY78) $4 m was provided for technical assistance to HA for training and equipment; this assistance was to continue under the Fifth Highway Project. The performance of experts and their Yemeni counterparts was reported as not fully satisfactory due to the high turnover of appointees; but it has improved following increases in salaries and benefits, and is now noted to be very successful.

In 1977, the water supply project provided $400,000 for a study and technical assistance to domestic contractors, but the government determined that the amount should be spent on other work of higher priority. Subsequently, the Bank and UNIDO financed a study on the construction sector, carried out by a Swedish consulting company (SWECO), which was issued in 1982.

A Bank mission then visited YAR (Nov 1982) to collect information on the status of the local construction/contracting industry and discuss various remedial ideas. The mission concluded that the most urgent need was to strengthen institutional framework of the industry. It recommended, inter alia, the establishment of a Construction Industry Development Board, the development of clear Government policies for the industry and standards for materials, and registration and classification for contractors.

Under Highways V, IDA is trying to secure GOY agreement to a feeder road study, which, inter alia, would address the issue of improving the coordination between local councils and HA. This is a condition of effectiveness for Transport I.
A construction/contracting industry component was eventually defined, and included in the Sana'a Hodeidah Road Rehabilitation Project (now called Highways VII). Under the project, the HA began to issue subcontracts for road structures and short gravel roads, to provide packages suitable for domestic contractors. US$1 million is also allocated for assistance to domestic highway contractors. Under this arrangement, a team of international contracting experts, together with Yemeni counterparts, would assist HA and the domestic contractors during a three-year period; and a Construction Industry Unit would be established within the HA to "promote, assist, supervise and regulate" the development of Yemeni contractors and their participation in road construction.

Reports

- Staff Appraisal Report: Sana'a-Hodeidah Road Rehabilitation Project, 1987 (includes Technical Assistance to the Domestic Construction Industry).
- CEM: (yellow cover draft) Jan, 1989.
In the immediate post-independence period (1967-70), there was almost no public or private sector investment in the construction sector, or the economy as a whole. Investment was still very modest during the early 1970s. A combination of rapidly increasing public sector expenditures for civil works under the first Five Year Plan (1974-1978), and a sharply rising rate of investment in private housing as a result of the rapid increase in workers' remittances, have contributed to the accelerated growth in the construction industry in the mid 1970s.

In the five year period 1978-1982, the sector's contribution to GDP averaged over 14%. Total output increased from YR 46m ($130m) in 1980 to YR 69m ($200m) in 1982. The share in employment has risen from 7.5% in 1980, to over 9% in 1984, and had reached around 9.7% in 1986 and 1987. The contribution of the industry to GDP was estimated to be about 12% in 1987. As practically all projects of the 1981-1985 development plan were construction-related to some extent, the share of the sector in allocated investments amounted to over 60% of the total.

The public sector has been responsible for about 70% of total demand. The limited capacity of the public sector to cope with the rising demand associated with the flow of workers' remittances played a significant part in increasing private investment and private demand, mainly in housing. Private demand averaged more than 25% of total demand in 1980-1982, and in 1982 was in fact at a level originally projected by the plan for 1985.

The construction sector appears to be the most dynamic sector in the economy today, and the industry's growth rate in the 1990s is projected to be the highest among the sectors in terms of both output and employment. Projected 1988 Plan targets for GDP in the sector are 21% higher than the actual figure for 1987; the Industry and Energy sector increase (the next highest) is 12%. Construction also appears to be a relatively well developed sector now, competing with foreign competitors, with much of the development attributable to re-patriated expertise and capital gained by Yemeni nationals in the Gulf countries.

Structure

The private sector has accounted for a growing proportion of construction supply, as well as demand; its contribution increased from 31% of total gross output in 1975 to 44% in 1980.

Construction activity in PDRY is carried out by the following three suppliers:

a. The public sector accounted for a large, though declining, share of output in 1980-1982, falling from 49% to 32% in these years. All output of the public sector is determined by the development plans, and projects are carried out directly by government organs or private, especially foreign, contractors. Direct implementation is
carried out mainly by the Ministry of Construction and Housing (MOCH), which was established in 1977 and given responsibility to oversee all construction work in the country.

MOC was reorganized in 1979 into four main departments: the Highway Authority (HA), responsible for roads; the Corporations Department, responsible for supervision of all construction work by public enterprises; the Engineering Department, for design of small construction projects; and finally the Administration Department. An important subsidiary, the Public Construction Corporation (PCC), was established to specialize in building construction. In 1980, MOC executed 50% of civil work undertaken by government departments; the other half was implemented by the other ministries (agriculture, health, etc.). While it is the MOC which normally processes contracts to be undertaken by private contractors, other ministries also assign work to contractors.

b. The foreign contractors' share fluctuated widely, increasing in recent years from just over 10% in 1979-80 to an average of 25% in 1981 and 1982. They work only on government projects, and tend to operate on a self-contained basis with their own equipment, to the point of using their own labor force which leaves the country on completion of work. Transfer of technology has therefore been quite limited.

c. Private contractors remain a major performer within the centrally planned economy. Their output amounted to $78m in 1982 which, at around 40% of the total, was in fact somewhat higher than the public sector. Their output is mainly in building construction. The 1981 Bank report estimated that there were 15-20 medium size contractors accounting for 20% of public building in 1980, and depending heavily on government contracts. Of these, only 4 or 5 were capable of contracts above $1.5m. Apart from this "modern" construction sector, there is the informal part consisting of a large number of small contractors employing less than 5 persons, usually on a casual basis.

Procurement, Supervision, Professional Organizations, Legislation

- No mention of procurement specifics or problems has been made in available documents. Information is also still needed on organizations and legislation.

- The 1981 Bank's mission report indicated that while foreign implemented projects seemed to have been of good quality, there was no evidence of site supervision of private contractors' work. Shortage of qualified supervisors has been a major factor in the poor quality of buildings.
Planning and Investment

The Ministry of Planning is responsible for the preparation and implementation of national plans on the basis of guidelines provided by the Yemen Socialist Party. Production plans are prepared for state enterprises and cooperatives. Investment planning in construction is undertaken by a Planning Unit attached to the minister, as well as planning units in the HA and other subsidiary corporations.

The Second Five Year Plan (1981-1985) allocated an equivalent of $1.5 billion, twice the actual expenditure in 1975-80. The largest allocation (61% of the total) was for civil works (including housing) and the balance for equipment and studies. Due to the severe labor shortage and limited construction capacity of the public sector, it was expected that 43% of civil works would be assigned to foreign contractors and 7% to local private contractors. Private investment was projected to be 20% of the total, although it was much higher historically. The Bank's mission in 1984 reported that during the first two years of the plan, implementation rates were 75% for the public sector and 72% for foreign contractors while the private sector investment in 1982 was already 28% higher than the 1985 target.

The current Five Year Plan (1986-1990) projects development expenditures to be $1.7 billion, 15 percent lower than the amount actually spent during the previous plan period.

The pace of implementation of plans is largely dependent on the actual flow of foreign aid. It has been reported (by the EIU) that the 1981-85 plan assumed 70% foreign financing and the current 1988-92 plan assumed about 50%.

Problems

The shortage of labor has been the source of many of the problems faced by the construction sector. Although shortages were perceived at all levels: professional, skilled and unskilled, it appears that now the problem is primarily one of skilled labor. Return migration of workers has probably alleviated the situation. Related to the labor shortage are:

(i) the inability of the MOC to plan for all the construction sector and carry out the necessary coordination. The 1981 Bank report indicated that the lack of sufficient professional staff leads the MOC to concentrate on its own projects and pay less attention to other ministries and the private sector; and

(ii) the inadequate capacity of training schools.

Planning and investment problems include:

- The limited capacity of PDRY's public sector agencies to prepare and evaluate investment projects. The Ministry of Planning also has insufficient staff with project evaluation capability. Sectoral and regional planning
units often rely on outside consultants and potential equipment suppliers to carry out project studies.

- the already mentioned dependence of plans on the unpredictable volume of foreign financing, though no serious disruptions have been attributed to this factor, probably due to the flexibility of plans.

No specific problems have been attributed to access to credit or pricing.

Several institutional issues have been cited by Bank missions:

- Contract management skills are far from adequate. Supervision of projects and work organization are poor.

- The major factor in the labor shortage has been the outflow of skilled labor estimated at 70,000. This compares with a total construction labor force of 41,000 in 1982.

- A training centre was established by the MOC in 1977, but training facilities are far from adequate. As already mentioned, the transfer of experience from foreign contractors has been limited, as they normally work in "enclaves".

- Despite the various measures taken to increase the pay and benefits of its employees, the public sector continues to lose manpower to private contractors. Private sector pay scales are several times higher than in the public sector.

- The MOC and other government agencies exacerbate the problem by inefficient use of available manpower.

- The shortage of building materials is felt primarily for cement. There is no local production, and cement imports are inadequate due to the lack of foreign exchange. Imports are brought in according to yearly schedules. An agency within the Ministry of Commerce controls imported construction materials. Users of the materials, local governorates, for example, present their estimated requirements, and these are usually reduced by a certain amount by the central government, either because of a perceived overestimation, or because of the foreign exchange shortage. MOC and foreign contractors tend to make their own arrangements, the impact of the shortage tends to fall on other government agencies and the private sector. A black market contributes to higher prices.

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18/ it appears that there are also occasional delays at the port in Aden, where waste and spoilage are also reported.
Vehicle and plant maintenance and repair is reported to be poor and the central workshop in Aden is not able to tackle the many problems involved, including the unavailability of spare parts. Building maintenance is also poor. The concept of preventive maintenance is not widely known; and repair rather than routine maintenance seems to be the norm.

**Policies**

The government addressed the main problem of labor shortage by importing the needed manpower from abroad, mainly from India. A 1984 Bank mission reported that foreign labor accounted for 28% of the MOC work force. Difficulties were reported in retaining expatriate labor following the violent internal conflict of 1986. The government also made efforts to raise wages and productivity through "piece work" and incentive schemes. A 1981 Bank mission advised a "well designed" incentives scheme and obliging graduates of the MOC training centre to work in the public sector for a certain period. A recommendation was also made to oblige foreign companies to hire and train local manpower.

Although maintenance is still a general problem, mobile units for general repairs and maintenance for schools (under the Fourth Education Project) have started operation, and appear to be performing well.

**Efficiency**

The 1984 Bank report includes a table (page 76) indicating that the productivity growth rate of the construction industry averaged 5% annually in 1981-1985, the highest among sectors, and that the projected rate is expected to increase to 6% in 1985-1990, again the highest.

**Bank Action**

The Bank’s involvement dates back to 1971 when a highway project was approved. The following Bank actions are of particular relevance:

- A construction unit was established in 1975 under the Second Highway Project. It successfully implemented road work after international bidding procedures failed to produce an acceptable bid. The unit won a contract for the Third Highway Project in 1981, under ICB, and performed well. It recently merged with other parastatals into the National Road Construction Corporation.

- In 1981, a Bank mission prepared a review of the construction and manufacturing industry. The report concluded that the pace of development of a modern construction sector in PDRY was limited by its small market, lack of proven raw material resources, high cost transport system, and manpower resource limitation, etc.
The Bank carried out a study on building and equipment maintenance, but it appears that little action has been taken on its recommendations, probably because of budget constraints.

A Bank study is planned as a follow-up to a UNIDO study of the building materials sector. As cement production was determined to be uneconomic, there is interest in developing domestic low-cost building materials; the Bank study would investigate the feasibility of several alternatives.

The Fourth Education Project (1984) provides for, inter alia, the establishment of a vocational instructor training institute, to insure an adequate supply of qualified instructors for vocational schools. The institute established under the project would be the only one in the country, and would serve the needs of all ministries and agencies. Instructors would be trained in building construction, as well as other technical areas.

Highways IV and V addressed the issue of vehicle and plant maintenance and repair; and IDA is proposing to address construction and maintenance issues of governorates under the proposed Highways VI project.

Reports

- CEM, Nov. 4, 1988; Green Cover (Report No. 7455-YAR).
- SARSs, Highways IV, V, and VI.

Recommendations

A main recommendation of the 1981 mission's review was that the Government should provide the needed access to additional finance, materials, equipment and human resources needed by local private contractors, so that their potential contribution, which has generally been underestimated, can be exploited. Another recommendation was that the construction materials industry be developed further, and that the use of traditional materials should be encouraged. Also included was the recommendation that the PCC should be developed into a financially and operationally autonomous subsidiary of the MOC, in accordance with Government's original intention. It was noted that the PCC and the Regional Public Construction Corporations (RPCCs) should be allowed to compete on an equal basis for jobs; and that if asked to execute works at a loss, they should be reimbursed.
YUGOSLAVIA

Construction accounted for 10.7% of GDP in 1980, but growth in sector output has been consistently negative since then. By 1985, its contribution to GDP had decreased to 7.5%, and in 1987, the proportion was 6.7%. Employment in construction has accounted for 9 to 10% of the employment in the socialized sector. When construction activity was at its peak in 1980, it employed over 400,000 workers at home and over 20,000 workers abroad. There has been a decrease in absolute terms since then, showing 644,000 workers in the sector in 1980, and 612,000 in 1986 -- a 5% decrease. The decline in construction activity is expected to continue during 1989.

The housing construction subsector was badly affected by the restrictive stabilization policies adopted relatively recently. There has been a sharp fall in official housing completions, from a peak of 58,000 in 1981 to around 37,000 in 1987, and the labor force in this subsector decreased by about 15 per cent between 1980 and 1986 (EIU).

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**Construction Industry**

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<td>Housing completions ('000)</td>
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<td>53</td>
<td>52</td>
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<td>Value of construction work abroad ($bn)</td>
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<td>Workers abroad ('000)</td>
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<td>31</td>
<td>30</td>
<td>28</td>
<td>26</td>
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* total construction industry.  
* unofficial housing completions boost the total.  
* nine months.


**Structure of Construction Industry**

Yugoslavia's construction industry is very well developed. Work is carried out by independent work organizations, and construction contracting is efficient, and of reasonable quality. There are many large specialized enterprises working in power, industrial, and irrigation works, tunnelling, hydroelectric, etc., as well as hundreds of enterprises in the building industry. Recent estimates are that there are about 150 road construction enterprises, some of which are large enough to operate throughout the country and abroad. Most of the road enterprises also do other types of heavy civil engineering work.
Exports and Imports

There are some very large construction enterprises which have been successfully competing for large contracts in Libya, Algeria, Iraq, and the Soviet Union, since the 1970s. Yugoslavian enterprises readily work with construction management firms overseas, and in joint ventures with foreign firms. The large construction enterprises in Yugoslavia typically have 60-70% of their activity in overseas work. The drive to gain overseas contracts has increased considerably since the early 1980s, when local contracts began to diminish.

The international recession also affected exports of construction work; the value of work carried out abroad fell from the peak of $2.6bn in 1983 to $1.0bn in January-September 1987.

Procurement, Supervision, Legislation, Arbitration, Professional Organizations.

Road construction and rehabilitation work is normally executed by means of unit-price contracts. In the past under ICB for Bank projects, a foreign contractor has only been successful once in presenting the lowest responsive bid, due to the very competitive prices of the local contractors. Local competitive bidding has been introduced under the 2nd Highway sector project; the intention is to encourage the smaller local contractors. Routine maintenance is carried out on a contractual basis, but rates are set according to national norms, and there is little competition as yet. Under the existing organizational structure, there is a reliance on one supplier within the contract area. There is, however, some competition for road construction and rehabilitation contracts.

In the case of road works, the employer is the road organization; the Road Maintenance Enterprises (RMEs) are separate from, but under contract to, this organization. The design and some supervision on the behalf of the employer is carried out by an institute. The "impartial engineer" scheme is not the practice; there is a close relationship between the construction enterprises, the engineering institutes, and the road organizations. Although there is a fair degree of accountability and efficiency in the contracting relationship, there is room for some improvement.

Legislation is ample and covers all aspects of contracting; arbitration per se does not exist, and disputes are resolved through the courts. Some new legislation is expected in the areas of enterprises, banking, and bankruptcy.

There is a national contractors' association and smaller associations in most of the Republics and Provinces. These are formed under the umbrella of the chamber of the economy.
Problems

The three major problems at the moment relate to the economic situation:-

(i) lack of work;
(ii) lack of financing; and
(iii) the lack of flexibility in downsizing the workforce. It is extremely difficult to "lay off" workers and reduce management and professional level staff, due to the nature of the self-management system.

In relation to (ii) above, the construction enterprises have access to credit through their ownership interests in banks. The proposed banking reforms will make it more difficult for these enterprises to continue operations.

Although large enterprises are highly competitive; there may be efficiency improvements to be gained through increased competition amongst the smaller local enterprises.

There are no problems with availability of equipment, although certain items (e.g. large earth-moving equipment) are imported. Labor quality is good at all levels. Quality could be improved in a few areas, e.g. in the finishing of apartment blocks, etc.; this appears to be primarily related to the quality of supervision.

Delays in payments from some of the foreign clients affects the cash flow situation of Yugoslav construction exporters. Another problem they face is a certain amount of internal pressure to use Yugoslavian laborers, which limits their flexibility.19/

Government Policy

The Yugoslav economy has been increasingly decentralized since the 1960s. Economic reforms designed to stabilize the economy began in 1983, and have recently been given new impetus. Recent changes allow many new types of private business organizations to exist; new programs to restructure the banking sector, improve accounting and auditing procedures, facilitate private foreign investment, and initiate reforms in the enterprise sector are under preparation.

19/ The usual practice for a contractor working overseas would be to take staff at the level of foreman or higher, but to employ local labor.
Bank Actions

The Bank has had 24 loans in Yugoslavia for transport alone. Although all of these involved construction, it was not considered necessary to provide any direct assistance to the construction industry. Thirteen of the loans were to the highways subsector, seven for railways, one for a port, and a multimodal loan for earthquake rehabilitation.

The Third Highway Sector Loan includes a technical assistance and training program for the federal association of road organizations, the road communities of interest, and the road maintenance enterprises in the areas of computerized systems, environmental considerations, modern highway management techniques, construction supervision, and state-of-the-art construction supervision procedures.

Reports

There are very few, if any, Bank reports on construction in Yugoslavia, probably because so few construction-related problems have been encountered in Bank operations.


Recommendations

Given their capacity, and experience gained from competing abroad, there may be some potential for Yugoslav construction enterprises to participate in training and/or technical assistance programs for other developing countries. Their expertise would make them suited for tasks such as site training and operator training; and their familiarity with both market-based and socialist systems would be particularly useful in those countries where there is a desire for a transition towards a market-based system.
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