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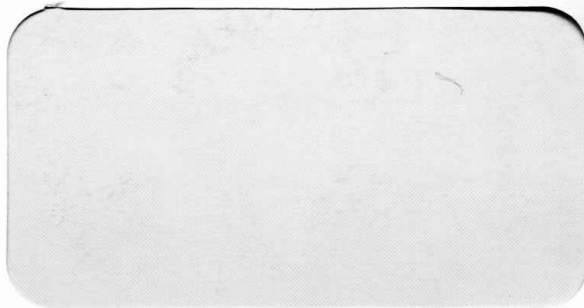
Construction and Related Services in Botswana

Gape Kaboyakgosi and Margaret Sengwaketse¹
Botswana Institute for Development Policy Analysis
April 2003

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1. Introduction

The construction sector is one of the main engines of growth in an economy. In developing countries, the construction sector is even more important because of its link to the development of basic infrastructure for all other sectors, training of local personnel, technology transfer and improved access to information channels. In view of its close association with public works and hence the implementation of a country's development program, the construction sector plays an important role in creating employment opportunities for both skilled and unskilled labor.

In Botswana, the construction sector has played a significant role in economic growth. Its share of GDP ranged from 7.6% in 1990/91 to 6.1% in 1999/2000 (CSO, 2000). These figures compare favorably with industrialized countries whose share of construction in total GDP ranges between 5% and 7%. The share of the construction sector in total paid employment ranged from 12.5% in 1993 to 10.5% in 1999 (CSO, 1999). The share of employment in construction is higher than in most OECD countries that range between 5% and 7%.

The construction sector in Botswana has largely been driven by the Government's investment in infrastructure and the mining sector. With regard to the latter, construction activities have been associated with direct development of mines and, indirectly, with infrastructure related to mining such as roads, utilities and residential houses. Growth in the construction industry has therefore been closely linked to and influenced by, Government's investment in physical infrastructure. For example, in 1984 the construction sector grew steadily after facing a long and severe nationwide drought. The drought resulted in suspension of various national development projects including construction projects (Bank of Botswana, 1999). A construction boom was experienced in 1988-92. The boom was a result of an increase in Government's expenditure which rose by 40% from 1986/87 to 1989/90 (Bank of Botswana, 1999). The boom resulted in the emergence of several citizen owned construction firms as well as the entry of some international firms to the local market.

The purpose of this study is to analyze the performance of the construction sector. It has two specific objectives: to conduct an assessment of policy and performance in the construction sector and to identify reform needs for the sector. To achieve these objectives, the study will assess the degree of openness, regulatory structure, ownership and market structure, the policy environment, employment, investment, quality and performance and technological innovation in the construction sector.

2. Methodology²

Data for the study was collected using a pre-designed questionnaire. The questionnaire was used in interviews with regulators of the construction sector and

² The framing of this section (in terms of scope of the report), was written with reference to materials from several sources, UNCTAD (2000a), UNCTAD (2000b), WTO (1998a), WTO (1998b)

the construction firms. Interviews were conducted with the following Government departments: Department of Architecture and Building Services, Department of Roads and the Department Electrical and Mechanical Services. Other interviews were conducted with the Registrar of Companies and the Public Procurement and Asset Disposal Board.

In view of data limitations, reference was made to past studies in the construction sector to augment available data. These included; Chimwaso (2000), Gubago (2000), Mselle and Kgaube (2000), Ngowi and Lema (2000), Ngowi et. al (1997), Palalani (2000), and Ssegawa (2000).

The questionnaire comprised of the following sections: market access; ownership; market structure; regulation; past and future policy changes; regional trade agreements; employment; investment; quality; performance and innovation.

3. Policy and Performance in the Construction Sector

This section deals with issues of policy and performance in the construction sector which includes: market access, ownership, market structure, regulation, past and future policy changes, employment, quality and performance in the construction and other issues.

3.1 Market Access

There are no market access restrictions in the construction sector. However, both local and foreign construction firms have to register with the Registrar of Companies to operate. In case of foreign commercial presence, foreign firms are required to produce a certificate of registration when they apply for use of tribal or state land. Acquisition of land is subject to approval by the Minister of Lands. In view of the growing land shortage in Gaborone, delays in land allocation are experienced by both foreign and local firms. Both local and foreign firms are subject to planning and building requirements if they plan to put up physical developments (offices).

Some restrictions exist with regard to Government procurement. In order to register with the Public Procurement and Asset Disposal Board (PPADB), firms must be licensed or incorporated under relevant laws in Botswana, such as the Company's Act. Firms that are 100% foreign owned are restricted to register in grade E category of the procurement authority. The contract value of this category differs between sub-sectors of the construction sector. For construction work for buildings, the grade E category is for projects over P8 million. With regard to civil engineering, grade E category is for projects whose contract value is over P40 million while it is for projects over P1 million for installation and assembly. Though 100% foreign owned firms can only register at grade E, entry of these firms is still possible at categories reserved for 100% citizen owned firms if citizen capacity is inadequate or not available. In addition, Government has resolved that projects over P50 million are open for international competitive bidding. All capable firms, be they local or foreign can

tender for such projects whether or not they are registered with the procurement authority.

Despite shortage of skilled workers in general in Botswana, there are restrictions in the movement of natural persons. All non-citizen employees and self employed persons are required to have work and resident permits. Foreign investors who need to recruit non-citizen staff to fill the skills gap are required to apply for work permits. Work permits are granted on the basis of a labor market test and submission by the employer of a program to train citizen replacement for each position. Though not backed by any legal force, applicant's qualifications are also considered. Self employed non-citizens are also subject to labor market tests but there is no training and localization condition. Work and residence permits are granted for 3-5 years and may be subject to renewal on the same conditions. There are reports of bureaucratic delays in processing of work permits. Requirements for work permit also affect local firms who wish to engage the skills of non-citizens. The delays sometimes defeat the contractor's objectives of completing projects on schedule and within budget.

With regard to foreign market access for local companies, entry has been largely unsuccessful in the South African market. According to some respondents, this is due to the following requirements:

- (i) A foreign company wishing to participate in public projects in any of the provinces has to make individual registration in those provinces. Companies can only obtain contracts in provinces in which they are registered. The lack of a centralized system makes registration a time consuming and costly process.
- (ii) The company has to be domiciled in South Africa.
- (iii) The public sector procurement system which is used to promote economic empowerment for the previously disadvantaged makes it extremely difficult for small and medium sized firms to enter the South African market.

3.2 Ownership

Private and foreign ownership is permitted in the construction sector. There are no equity requirements for foreign companies. According to the Registrar of Companies, both local and foreign applicants have to satisfy the following requirements:

- (i) Apply for a name for the company, this takes approximately 3 weeks and complete an application for registration and pay P3.00 as registration fee,
- (ii) Applicants have to wait for six weeks for approval after which a certificate of registration is issued. The certificate of registration permits the construction company to start operating. However, operation is dependent on availability of land for development or readily available property to lease.

Foreign firms wishing to set up commercial establishments need to apply for land. Approval for such applications is made by the Minister of Lands. There have been instances of delays in the approval process.

In terms of ownership, 71% of the installation and assembly firms registered with the PPADB are locally owned. It must be noted though that a majority of those firms (61%) are in the lower categories of OC, A and B. Disaggregated data for other sub-sectors was not available.

3.3 Market Structure

Botswana's construction sector is comprised of small, medium and big as well as local and foreign construction companies. There were 1000 operating construction firms by March 2000 (CSO, 2000). Out of these, 211 companies were not registered with the Registrar of Companies as operating establishments but may have registered with other authorities such as local authorities and the Registrar of Societies. According to CSO (2000) the figure may also include Government departments which are not, in a strict sense, private "limited" companies.

Most construction companies are registered with the PPADB. The PPADB has six categories of contractors. Categories are based on company's track record, financial capability and the plant the companies possess. The categories include Opportunity Class (OC) and classes A, B, C, D and E. Each of the categories is defined by a financial ceiling on a single project which a firm can handle. Categories OC, A and B are for 100% citizen owned companies. Categories C and D are for citizen majority owned joint ventures (51% citizen owned and 49% or less foreign owned) and category E has no restrictions by nationality, as such 100% foreign owned companies can participate in this category. Tables 1, 2 and 3 below show the number of firms per category for the construction work for building, construction work for civil engineering and installation and assembly sub-sectors.

Table 1: Construction Work for Building

Class	Maximum Contract Value	Number of Local Firms	Number of foreign firms	Total Number of Firms
OC	300, 000	782	0	782
A	100000	114	0	114
B	2,000 000	88	0	88
C ³	4,000 000	Not available	Not available	44
D	8000, 000	Not available	Not available	22
E	Unlimited	Not available	Not available	43

Source: Department of Architecture and Building Services

³ Firms in the C and D category are majority citizen owned, that is 51% citizen owned and 49% foreign ownership.

Table 2: Construction Work for Civil Engineering (Roads)

Class	Maximum Contract Value	Number of Local Firms	Number of Foreign Firms	Total Number of Firms
OC	600,000	224	0	224
A ⁴	2,000,000	55	Unknown	57
B ⁵	10,000,000	21	4	28
C ⁶	20,000,000	13	Unknown	15
D ⁷	40,000,000	11	8	19
E ⁸	Unlimited	2	6	10

Source: Department of Roads

Table 3: Installation and Assembly (Electrical and Mechanical)

Class	Maximum Contract Value	Number of Local Firms	Number of foreign firms	Total Number of Firms
OC	40,000	58	0	8
A	100,000	35	0	35
B	250,000	23	7	30
C	500,000	8	14	22
D	1000,000	5	8	13
E	Unlimited	6	25	31

Source: Department of Electrical and Mechanical Services

The above tables depict the following:

- There is a high concentration of citizen owned firms in classes OC, A and B. These are low contract value, small and simpler projects such as housing units. This could reflect that inadequate capacity (lack of capital and trained labor) is a constraint for local firms.
- Higher categories (category E) are the domain of foreign firms⁹. According to respondents, foreign firms are better resourced in terms of plant and equipment, finance and trained human resources compared to their citizen owned counterparts
- For civil engineering and installation and assembly sub-sectors, participation of foreign firms is at even lower categories such as B. Key informant interviews have revealed that this is due to capacity constraints on local firms. Civil engineering in particular is capital and skills intensive. Plant, machinery and professional skills are expensive and therefore the prohibitive costs are a barrier to entry by local firms even at those levels.

⁴ Out of the total 57 firms in this category, the ownership status of two is unknown or unclear.

⁵ Three firms in this category are joint ventures.

⁶ In this category, the ownership status of two firms was unclear

⁷ In this category the ownership status of three of the companies was unstated

⁸ In this category, the ownership status of two of the firms are unspecified

⁹ This view is also supported by Palalani (2000)

To some extent, firm size determines geographical coverage. A total of 58% of construction companies were registered in Gaborone (CSO, 2000). A study conducted by Ngowi, Iwisi and Rwelamila in 1997 revealed that firms registered in the lower classes or categories (A, B and C) tended to concentrate their operations mainly in Gaborone. According to the study, logistical problems involved in moving personnel, equipment and materials to various parts of the country make it difficult for smaller firms to spread out too widely.

The study also made the following conclusions:

- Lack of transport and building materials in some parts of the country also restrict small firms from spreading their operations widely. Bigger firms (categories D and E) generally do not have transport problems because they usually have large fleets of freight vehicles and often own warehouses from which they can mobilize and store large quantities of materials for projects located in distant places.
- In general, foreign firms have accumulated experience over time; can access skilled personnel, equipment and machinery outside the local market comparatively easier than domestic firms. As a result of this competitive advantage, foreign firms tended to participate more in complex projects than local firms. The findings of the study are consistent with the recent contracting of Murray and Roberts, a multi-national building corporation by Government for the construction of the Department of Taxes multi-storey building.

3.4 Regulation

Regulatory issues in Botswana's construction sector are left to the control of several government departments. These are departments in the Ministry of Works and Transport and include the Department of Architectural and Building Services, the Department of Electrical and Mechanical Engineering Services and the Department of Roads. The Ministry of Local Government (the Department of Local Government and Development) also plays some advisory role to local authorities for construction related matters. The PPADB manages the public procurement system on behalf of Government.

(a) The Department of Architectural and Building Services (DABS)

The Department of Architectural and Building Services is in charge of the construction work for buildings. Some of the stated objectives of the department include:

- Design, construction and maintenance of all Government buildings;
- Assist in the development of the indigenous construction industry; and,

- Render assistance to local authorities by providing advice and guidance and manage building design and construction standards through the Building Control Regulations

(b) The Department of Electrical and Mechanical Services, (DEMS)

The Department of Electrical and Mechanical Services is responsible for:

- Designing, providing and maintaining all electrical and mechanical equipment for Government Departments;
- Running power supply systems in areas out of the jurisdiction of the Botswana Power Corporation;
- Conducting energy audits of government institutions and,
- Carrying out the duties of the Government Inspectorate

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(c) The Department of Roads

The Department of Roads is responsible for provision of roads and the maintenance of the national road network. Its others specific duties include:

- Construction and maintenance of all national roads; and,
- Provision of professional and technical services to local authorities in an advisory capacity when requested and when feasible

The Department of Local Government and Development provides professional and technical advice to local authorities on construction related matters.

(d) Public Procurement and Asset Disposal Board (PPADB).

The Public Procurement and Asset Disposal Board (PPADB). The PPADB is a statutory body set up in 2001 to replace the Central Tender Board. According to the Public Procurement and Asset Disposal Act of 2001, the main objective of the PPADB is to "provide for the procurement of works, supplies and services for the disposal of public assets and related matters". The functions of the PPADB are to;

- Manage public procurement system
- Supervise procurement
- Adjudication and award of tenders
- Discipline of contractors
- Advise on aspects of the PPADB Act and regulations

Locally established companies registering with the PPADB must fulfill the following requirements;

- The company must be incorporated or licensed in accordance with the laws of Botswana.
- The firm must complete application forms. These are meant to determine financial standing, plant and equipment, previous capacity, and capacity of permanent staff.
- The contractor must also provide supporting information in the form of certified copies of CVs for permanent staff, certificate of incorporation, share certificate, bank statements, and other relevant information.
- Completed forms are sent for verification to the relevant department such as DABS, Roads Departments and DEMS.
- The relevant department conducts physical inspection of the contractor's premises and makes relevant recommendation to the board.
- The entire registration process takes about 3 months.

For foreign firms to register with the PPADB, they must satisfy the following requirements:

- Provide financial profile
- Provide a list of projects undertaken internationally
- Provide references

In order to register with the PPADB, consulting firms must have been doing business in Botswana for a year prior to application.

It must be noted that foreign companies do not have to register with PPADB if the project for which they are tendering is valued at over P 50 million. This is in accordance with a government policy that stipulates that projects of that magnitude must go for international competitive bidding.

3.5 Past and Future Changes in Policy

Government is the major source of demand for Botswana's construction sector. Government funding for physical infrastructure consists the larger bulk of money that goes into the construction industry. Booms and busts in the construction industry are heavily reliant on government expenditure allocation. The government has developed some policies and institutions that are aimed at promoting growth aimed in the sector. Below is policies and institution(s), which were formulated to aid the construction sector in Botswana:

- i. The Citizen Contractors Fund - Government set up a fund of P50 million to assist citizen owned companies that were technically insolvent
- ii. Construction Industry Trust Fund (CITF) - Created in 1994, to train and produce locally trained craftsmen

- iii. Integrated Field Services Construction Services – The unit assists construction companies to improve the status of their outputs. There is an emphasis on the types of products that had been problematic in the past
- iv. Reservation Policy – This policy was announced in 1996 but came into effect into effect in 2001. Through this policy, 30% of all building work including associated mechanical and electrical work is reserved for citizen contractors.
- v. Citizen Entrepreneur Mortgage Assistance Equity Fund - (CEMAEF). CEMAEF is a government fund that is managed by the Botswana Development Corporation. The fund was set up to assist government to buy shares in citizen owned companies that face foreclosures due to lack of capital or inability to service loans so as to enable citizens to maintain ownership of immovable property or land
- vi. National Policy on Housing – Government emphasizes the state's role as that of a facilitator in the provision of affordable and safe standards of housing.

3.6 Employment

3.6.2 Trends in Employment

The construction industry is one of the largest providers of formal sector jobs in Botswana. Rates of employment in the sector are subject to whether the economy is experiencing growth or declines. Booms in the sector lead to more employment and recessions lead to lower employment. Employment of foreign skilled labor is subjected to rigorous labor market tests. The tests are done to ensure that prior to engaging any foreign labor; there are no locally qualified people available to do the job.

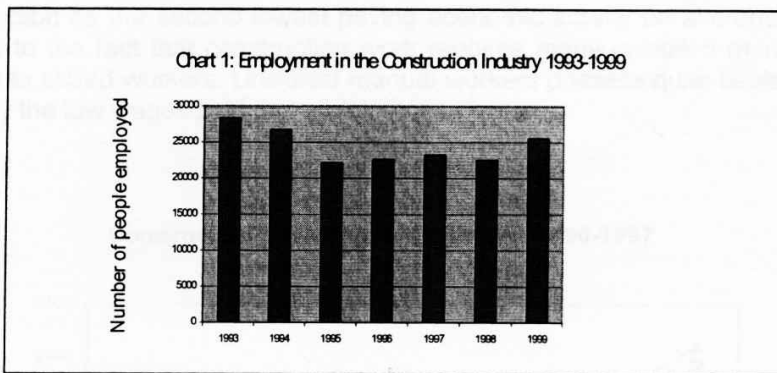
Through the years, there is a discernable trend in employment in the construction sector which mirrors the investment levels in the sector. Depending on whether the economy is experiencing a boom or bust, the number of people employed in the sector rises or falls. Some of the most important events in the sector are outlined by Palalani (2000). These include:

- The severe drought that occurred in the period 1982-1987 which affected a lot of the sectors of the economy. Amongst these were the construction sector whose performance overall declined from 10.3% contribution to GDP to only 5.1%.
- The economic boom that followed the drought in 1987 came with a rejuvenated economy. Public and private investments went into construction of schools, factory shells, roads hospitals and other infrastructure. This also had an upward push in the employment figures, where net employment in the sector rose by 20% between 1987 and 1989, (C.S.O, 1991). Around the same period (1989/90), contribution to GDP by about 7% (Bank of Botswana, 1999).

- The Botswana Housing Corporation was embroiled in controversies amid allegations of corruption and mismanagement. The BHC is a major player in the local construction scene and the allegations led the suspension of some of the corporation's projects, thus bringing down the employment levels as well as performance in the sector
- The world economic recession that followed in 1992 also led to poor performance in the sector as government responded to the recession by suspending the implementation of some of the infrastructure projects in the economy.

As a result of the BHC management problems and the world recession, sectoral output declined by 15% in 1992/93, (Bank of Botswana, 1999). Between the years 1991 and 1992, employment also fell by 11% (CSO 1991/92).

In terms of the larger macroeconomic situation, the construction sector has had significant contribution to employment figures over the years. In 1993, the sector was second only to Wholesale and Retail Trade in terms of being the single largest employer. The sector's contribution to overall employment represented 12.5% of the total labor force. In terms of total employment, the construction industry hit its peak in 1991 where the sector employed 33,800 people (Bank of Botswana, 1995). Since then, employment in the sector has been declining (chart 1).



Source: Central Statistics Office

By March 1995, the total employment in the sector had declined to 22400. The decline in employment was consistent with the general slowdown in the performance of the sector. The slowdown was due to, amongst others, the completion of major projects such as the Soda Ash project, and the suspension of some projects at the Botswana Housing Corporation as a result of the scandals that besieged the corporation in the early 1990s.

In 1996, there was some recovery in terms of employment. The increase in employment was due to among others, construction of the Trans Kalahari Highway, construction and expansion of community junior secondary schools and the commencement of the North-South Water Carrier Project.

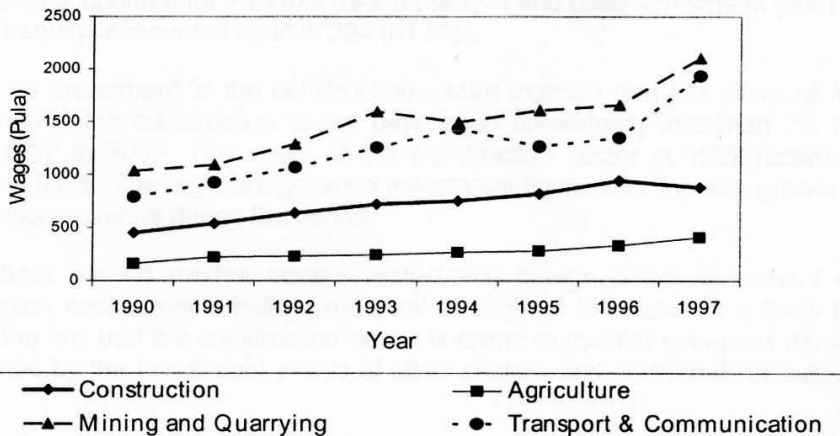
In 1998/99, there were increases in employment due to the implementation of a number of development projects such as the Police College at Otse, construction of secondary roads across the country (among others, Kasane-Ngoma Road, Francistown-Matsiloje Road, Thamaga-Mankgodi-Boatle Road), construction of North South Water Carrier Project, the Botswana Television Station, and some private sector investments. The trend in employment was consistent with rises and falls in government/public expenditure which is the major driving force in the expansion of employment in the construction sector.

3.6.2 Wages

On average, the construction sector is among the least paying in the economy. In 1990 for instance, the sector was the second least paying in terms of wages after the agricultural sector. Construction paid an average monthly wage of P309 per month while agriculture paid P138 per month per employee. In 1997, the trend had not changed. The construction sector was still the second lowest paying after the dominantly traditional-subsistence agricultural sector.

Chart 2 below gives an illustration of the disparities between the construction sector and selected sectors in the economy. Basically the trends are similar, showing construction as the second lowest paying economic activity on average. This could be due to the fact that construction work requires many unskilled manual workers relative to skilled workers. Unskilled manual workers possess quite basic skills so as to justify the low wages paid.

**Chart 2: Comparative earnings:
Construction and Selected Industries: 1990-1997**



Source: Central Statistics Office

On average there are pay differences between expatriate and citizen staff. However, these do not reflect differences in wages for workers with similar skills. Rather these represent sector averages irrespective of skills. In 1990, when an average monthly wage for citizens was at least P309, the same for a non-citizen was P2122. In 1997 when a non citizen earned an average of P4032, a citizen grossed only P661 per month. The wage differential could be due to the fact that non-citizen employees in the construction sector are likely to be skilled professionals. As result these are likely to earn more than the unskilled or semi-skilled locals who make the majority.

3.7 Investment

Foreign direct investment in the construction industry as at the end of 1997 was P30.899 million (Bank of Botswana, 1998). This represented 0.9 % of total foreign direct investment. Equity constituted P8.175 million while the rest (P22.724 million) was non-equity.

The construction industry received P51.443 million worth of foreign investment for the year 1998 (Bank of Botswana, 1999). The figure represented 0.5% of total foreign investment. Of the total foreign investment foreign direct investment (both equity and non-equity) accounted for P29.695 million (57.7%) while "other investment" (both equity and non-equity) was P21.748 million (42.3%). The "other investment" category covered all liabilities not classified as direct investment.

At the end of 1999, the total foreign investment stock for the construction industry was P47.928 million (Bank of Botswana, 2000). This figure represented 0.4% of total investment stock. Out of the P47.928 million, P8.214 million (17.2%) was foreign direct investment and P39 714 (82.8%) was "other investment".

By the end of 2000, stocks of foreign investment in the construction industry stood at P40.846 million (Bank of Botswana, 2001). The share of the construction industry accounted for 0.6% of total stocks of foreign investment. Of the total foreign investment in the construction industry, foreign direct investment (both equity and non-equity) accounted for P15.622 million (38.2%) and other investment (both equity and non-equity) accounted for P25 224 (61.8%).

Trends on investment in the construction sector indicate that the share of foreign investment in the construction sector have been consistently less than 1% for the period 1997 to 2000. The share of the construction sector in 1997 recorded the highest at 0.9%. The high foreign direct investment figure is in line with growth in the construction activities during the period.

While there are no market access restrictions, foreign direct investment in the construction sector has remained marginal throughout the years. It is likely that in view of the fact that the construction sector is prone to cyclical swings as demand is determined by the investment needs of other sectors and that trends in output and

employment have to a large extent been dependent on government development activities returns have largely been short-term and unreliable. As a result, the construction sector may not be very attractive with respect to foreign investors.

In addition, the nature of the construction industry is such that equipment can be moved from one location to the other, even across international borders to undertake projects. Therefore foreign contractors do not have to establish any commercial presence in the country where the project is located.

3.8 Quality and Performance in the Sector

The following indicators were used as measures of quality and performance in the construction sector; share of construction exports, number of applications for building permission, number of building plans, number of civil engineering designs approved and number/percentage of on-time completed public projects.

Construction sector exports, exports of services and total exports of goods and services are shown in table 4. The construction sector has been a net importer of services. This is depicted by negative net exports in all the years except in 1991/92 and 1995/96. Even, then the share of construction sector exports during 1991/92 and 1995/96 were negligible. For example, in 1991/92 the share of construction sector exports was 0.17 and 0.02 percent of total exports of services and total exports, respectively.

The low export figures are consistent with the findings of a survey on the Impact of Globalization on the Sustainability of Construction Firms in Developing Countries conducted by Ngowi and Lema (2000). The study established that only 25% of architecture and engineering firms (4 foreign, 2 local) interviewed had ever carried out work outside Botswana. This is despite the fact that most of the firms have not consistently had contracts in Botswana. The survey concluded that the international element in the business strategies of most consulting firms in Botswana is lacking.

Table 4: Trade in Construction Sector

Year	Construction Sector Exports (P million)	Exports of Services (P million)	Total Exports (P million)
1991/92	0.9	519.9	3,826.7
1992/93	-3.1	429.2	3,653.6
1993/94	-3.1	604.5	4,807.5
1994/95	-2.5	724.1	5,347.3
1995/96	0.1	645.4	6,766.2
1996/97	0.0	723.1	9,158.5
1997/98	-1.5	1,088.4	10,304.4
1998/99	-3.5	1,491.7	8,559.9
1999/2000	-57.5	1,681.8	13,636.7
2000/2001	-5.9	1,761.9	14,748.8

Source: Bank of Botswana

The study also made the following conclusions:

- 16% of the construction firms interviewed have ever carried out work outside Botswana. None of these firms was citizen owned. Again this suggests a lack of international and regional oriented business strategies on the part of citizen owned firms despite the fact that the local construction market is characterized by volatile swings in performance.
- Construction and consulting firms have to work towards joint ventures, partnerships, strategic alliances, agency and regional cooperation to enhance their performance in foreign markets
- Foreign building firms interviewed indicated that their ability to bid for regional tenders was a result of specialization in building and experience in building projects accumulated over a period of time.
- The firms also indicated that they conducted market studies to determine potential competitors and also conducted a skills, equipment and machinery assessment in the local market to determine availability. The comparatively easy access to latest technology, equipment, machinery and skilled personnel has given foreign firms an edge over their local competitors and the competitive advantage to bid for regional projects.

Local construction firms can enhance their potential to export services through the following:

- Collecting accurate and up-to-date information about construction markets abroad including, assessing compatibility of standards used in Botswana and those used in potential markets
- Forming alliances with firms outside Botswana.
- Keeping profiles of potential markets with particular focus on economic performance, political and labor situation and investment policies
- Taking advantage of trade protocols between Botswana and potential markets

The number of applications for building permission, the number of building plans approved and the number of civil engineering designs approved though not a good measure of performance, is an indicator of the level of construction activity expected to take place at a given period of time. Data on the number of applications for building permission and number of civil engineering plans approved is not available. The number of building plans approved for the period 1991 to 2000 is shown in table 5. Data is only available for Gaborone, Francistown and Lobatse (three of the major centers in Botswana).

Table 5: Number of Building Plans Approved: 1991-2000

Year	Residential	Non-Residential	Total
1990	1,600	329	1,929
1991	2,219	399	2,618
1992	1,641	431	2,072
1993	1,092	280	1,372
1994	894	414	1,308
1995	657	358	1,015
1996	687	233	920
1997	1,070	276	1,346
1998	1,595	221	1,966
1999	2,310	49	2,359
2000	2,819	183	3,002

Source: Central Statistics Office

The number of building plans approved increases from 1990 to 1992, decreases in 1993 to 1996, with 1996 recording the lowest number of plans approved and increases again from 1997 to 2000. In general, the trend in building plans approved has been consistent with growth in the construction sector. For example, increases in the number of residential plans experienced in 1996 to 1999 are consistent with increases in residential construction activity resulting from the Accelerated Land Servicing Program. Restructuring of the Botswana Housing Corporation (BHC), a significant (if not the largest) residential property developer in Botswana and the resulting commitment to more effective and efficient delivery of new housing may also have in part, contributed to increases in the number of residential plans approved.

However, the number of residential plans has not always been consistent with growth in the construction sector. For instance, in 1996, construction sector performance was recovering while the number of building plans was lowest. This could be due to the fact that construction activity has not necessarily been concentrated in building projects or in the major centers of Gaborone, Lobatse and Francistown. This is particularly true for non-residential construction activity, primarily led by Government expenditure which has been distributed throughout the country. Construction of new education facilities and expansion of existing ones in the late 1990s is a case in point.

Cost, time and quality are three of the performance measurement standards used. Improving cost, time and quality performance are important aspects towards a company's good image. An evaluation of the cost performance of public construction projects in Botswana (Chimwaso, 2000) concluded that there were four critical contributory factors to construction cost overruns. These were incomplete designs at the time of tender, additional work at the client's request, changes in client's brief and lack of cost planning/monitoring (Chimwaso, 2000). According to the evaluation three other factors that were normally ignored, but contributed to cost overruns, included delays in issuing information at the construction stage, technical omissions at the design stage and contractual claims such as extension of project time with cost claims.

An assessment of the cost performance of 10 public projects during the evaluation revealed that 70% of projects experienced cost overruns. The major contributory factors were variations (or design changes), re-measurement of provisional works, contractual claims and fluctuations in the cost of labor and material. Variations were considered the most significant factor. The implication of this assessment is that variations needs attention. The evaluation attributes design changes to insufficient planning and suggests that improving the quality of tender documents would lessen the problem.

Construction booms also lead to increases in cost of materials and labour. With regard to skilled labour (engineers, architects, quantity surveyors) shortages become more acute during boom periods and tend to increase construction costs. Short-run input shortages may worsen cost push inflation and there is likely that private sector needs are crowded out (Bank of Botswana, 1999). In view of the link between public sector projects and construction booms, (for example front loading of National Development Plan 8 projects), and increases in inflation associated with booms, Government has to link implementation of National Development Plan projects with other macroeconomic policy objectives such as inflation control.

Skills shortage is still a major problem within the construction sector despite Government's increased efforts towards training in general. The skills shortage problem is not unique to Botswana. Ofori (1994) notes that most developing countries face shortages of skilled construction personnel due to inadequate educational and training facilities and programs.

Efforts by the Construction Industry Trust Fund (CITF) to contribute towards skills training has focused on training of craftsmen. While this is a welcome development towards skills development in the construction sector, other areas such as engineering and architecture still need attention. While efforts to train engineers have been made by the University of Botswana, some respondents felt that grandaunts have not as yet filtered into the private sector as to have significant impact. The skills shortage is compounded by the fact that construction companies efforts on human resource development have focused on training up to craftsmanship level and not the professional (engineering, architecture) levels. Construction companies' reluctance to train is probably due to the cyclical nature of the construction industry and the length of time it takes to train professionals.

A study on the financial management practices of small and medium construction firms in Botswana in 2000 revealed that although 100% of the construction firms interviewed indicated the existence of an account unit within their firms, none had a qualified accountant. Few firms produced a corporate budget (44%), a production budget (40%), cash flow forecast (22%) or conducted variance analysis (31%). The lack of management information could result in inability to monitor project costs, inability to forecast cash requirements which was cited as one of the major causes of voluntary and forced liquidations of construction firms and the difficulty to estimate and control costs. In view of the importance of financial information in planning, monitoring and controlling operations of firms, this area needs attention. This could

be done through raising skill levels on financial management through training and conducting workshops to raise awareness levels of construction firms on the importance of financial management as a decision making tool.

No comprehensive assessments have been conducted on time as an aspect of performance management. However, an evaluation of construction of three secondary roads i.e. Pitsane-Mettojane, Mochudi- Sikwane and Maun-Shorobe in the 1990s indicated that all three sites experienced delays in completion ranging from 4 to 12 months. Reasons for the delay ranged from design problems and poor contractor mobilization and performance; the need to direct and re-design a waterlogged section. As a result of these delays, actual costs of supervision and construction increased by 30% of the budgeted costs.

The absence of an industry wide quality assurance system has made it difficult to measure quality. This has resulted in questions on the quality of products and services. For example, Palalani (2000) has attributed the poor quality of products and services to poor workmanship by contractors, dumping of poor quality imports of construction materials and fittings, artificial booms which result in rapid implementation of projects without due regard for construction firms' capacity and capacity constraints in Government to adequately monitor project implementation. The Botswana Bureau of Standards has developed some construction related standards such as those on concrete and masonry units, concrete paving blocks and burnt clay masonry units. Effective industry wide quality system can be achieved by matching development of standards with quality assurance.

3.9 Other Issues

Technological development, particularly with regard to construction work for building firms is low. According to some respondents, computerization was limited to pricing and estimation, programming and accounts. Low technological development could be due to inadequate research and development facilities and programs and poor linkage between research and practice. Technology transfer to local firms could be achieved through joint ventures. Efforts should be made towards actualizing the potential in joint ventures. A survey conducted in the construction industry in 2000 established that most of the respondents (70%) indicated that joint ventures were a preferred strategy to partnering because it ensures collaboration between firms on a long term basis.

Conclusions and Recommendations

4.1 Conclusions

- i. The construction sector is generally liberalized. However, foreign firms who wish to participate in public projects can only register at the grade E category of the Public Procurement and Asset Disposal Board. Proof of certain employment and obtaining resident permits are required for non-citizen employees and self-employed people. With regard to the former, training and localization programs are also a requirement.
- ii. Delays in processing work and resident permits have been cited as a major impediment towards the use of non-citizen skills.
- iii. Delays in land allocation have been experienced by both local and foreign firms. These delays negatively affect the development of commercial establishment
- iv. There are no equity restrictions to foreign firms in the construction sector. With regard to foreign commercial establishments, approval for use of tribal and state land is made by the Minister responsible for land. The construction sector is characterized by the presence of both small and large firms. The larger firms' category (grade E) is dominated by foreign firms. Larger firms are better endowed in terms of equipment, machinery and skilled personnel and are more likely to engage in more complex and widely spread projects as well as regional projects.
- v. Skills shortage is a major challenge in the construction sector. This is despite Government's increased efforts towards training in the sector. The Construction Industry Trust Fund also contributes towards training. However, areas such as engineering and architecture still need attention.
- vi. Lack of management information is a major cause of failure to estimate and control costs. This is more prevalent in the smaller and medium sized construction firms.
- vii. Pursuant to the Government of Botswana's citizen empowerment objective, citizen owned construction firms enjoy preferential treatment in terms of access to finance through the citizen contractors' fund, access to training of local craftsman, market access through the Reservation Policy and waivers on performance bonds with respect to certain categories of citizen contractors.
- viii. Exports in the construction sector are negligible and have been the domain of foreign owned firms. In terms of costs, performance in the construction sector has not been impressive. Cost overruns are a common feature of public projects in particular but have also been exacerbated by construction booms.

In terms of quality, it has been made difficult to measure this aspect due to the absence of an industry wide quality assurance system.

- ix. Technological development for construction work for buildings has in general terms been low. This has implications on the capacity of local firms in particular to undertake complex projects and their ability to export services internationally.

4.2 Recommendations

- i. The processing of work and resident permits should be reviewed with a view to streamlining and expediting the process. While the permit issue is a problem across all sectors, it is particularly an impediment to the construction sector where projects are one-off, and have to be completed within a specified time and cost schedule.
- ii. The regulatory structures should be consolidated and strengthened. Construction sector issues are spread between several departments (Roads, Architecture and Building Services and Electrical and Mechanical Services. This makes standardization difficult to achieve.
- iii. There is need for assessment of export potential of the construction sector. Export performance of the sector has not been impressive and whatever services have been exported was through foreign owned firms. Firms (particularly local ones) should be encouraged and supported to include international and regional oriented focus in their business strategies. This could be done through forming alliances with firms outside Botswana, participating in trade protocols, keeping profiles of potential markets, particularly on economic and political performance, labor and investment issues.
- iv. There is need for links between implementation of the Government physical infrastructure programs and other macroeconomic objectives such as price stability and moderating cyclical variations in economic activity. This is necessary in order to moderate boom induced inflation and large variations in economic activity
- v. Skills shortage is a major challenge within the construction sector. Intensity in efforts towards training is necessary. Efforts should also be made to encourage partnerships between the private sector and government in education and training, especially with regard to curriculum development. This would ensure that education meets the needs of the construction sector. Construction firms should be mobilized through encouraging them to invest more in upgrading skills and training staff. Links between training institutions and construction sector should be encouraged to ensure the construction sector has input in the curriculum. This would help integrate education system and sector needs and trends.

- vi. Development of standards should be matched with commensurate quality assurance. Poor quality products and services and dumping of poor quality products have been cited as problems in the construction sector.
- vii. Construction and consulting firms have to work towards joint ventures, partnership, strategic alliances, agency and regional cooperation to enhance opportunities of participating in foreign markets.

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