EXPLORATION OF THE CONSTRUCTION INDUSTRIES IN DEVELOPING COUNTRIES

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ABSTRACT: The objective of this paper is to explore the literature for information in relation to the status of the construction industries (CI) in developing countries; the present challenges, barriers and variable factors facing and affecting their development. The paper illustrates the main characteristics of the prevailing situation in developing countries in order to establish an understanding of the atmosphere in which the CI functions. It proceeds to underscore views of researchers in this field including description of the CI in developing countries and its role in the development of the national and international economies. It also investigates the literature regarding development of the CI in developing countries. Generally, the literature has been explored to conclude that there is an urgent need to review the CI practices currently utilized in developing countries, and to take necessary measures to improve their functioning.

Keywords - construction industry, culture, developed and developing countries, economic growth & development.

INTRODUCTION

The world countries differ in their cultures, customs, languages, religions and practices. Countries may be classified in accordance with their development based on certain criteria that consider income, human resources, economy, and geographic regions. The developing countries come under these world categories. They share certain characteristics including similarities in the main source of income, inability to move towards industrialization and having a high level of unfairness and poverty.

Several researchers notably Hall (2002), Hofstede (1984, 1991), Egginton (1994), Ahmad (2001), Rozendal (2003), Langford (2000) and Ofori (2000, 2002) have investigated the impact of the above variances on the economy in general, and on the construction industry (CI) in particular. They share the opinion that culture influences the business economy in developing and developed countries generally and in turn affects business organizations, the CI and projects.

The CI is the main concern of this paper. The literature review revealed various studies in the field of CIs in developing and developed countries. A number of authors, including Egan (1998), Latham (1994), and Ofori (2000, 2002), wrote about the role of the CI in the national and international economy. Certain studies concluded that though the features of the CI all over the world are alike, the developing countries have some other unique characteristics. The challenges are also similar but with considerable difference between developing and developed countries.

ABOUT DEVELOPING COUNTRIES

Across the different countries of the world several aspects vary: these include customs, cultures, languages, religions and practices (Datta, 1994). The differences are most notably between less developed countries and other wealthy countries (Egginton, 1994). The Economic and Social
Council of the United Nations used certain criteria for the classification of world countries in accordance with their development. The criteria included 'a low income criterion' based on the Gross Domestic Product (GDP), 'a human resource weakness criterion' based on physical quality of life and 'an economic susceptibility criterion' based on several indicators including agricultural production, exports of goods and services, and the economic importance of non-traditional and modern services (United Nations, 2003).

In categorizing economies, the World Bank relies on the Gross National Product (GNP) per capita as a measure of the relative level of development of the country; in addition to other criteria including geographic regions, exports, and levels of external debt (World Bank Group, 2004). Likewise, other international institutions have used the per capita GNP in determining the countries loan eligibility and their ability to benefit from private capital markets (USAID, 1976). The literature indicates different definitions of the categories of the world countries.

Developing countries are defined as

"The poor, often indebted countries of the world that are currently trying to industrialize or develop alternative methods of supporting their populations" (Bliznikov, 1996), "a country in the process of becoming industrialized" (Nevada Social Studies Standards, 2004), "Countries whose economies are mostly dependent on agriculture and primary resources and do not have a strong industrial base" (Kisanwatch, 2004).

Developed countries, on the other hand, are defined as

"an area of the world that is technologically advanced, highly urbanized, and wealthy, and has generally evolved through both economic and demographic transitions" (Nevada Social Studies Standards, 2004) and "The now economically advanced capitalist countries of Western Europe, North America, Australia, New Zealand, and Japan. These were the first countries to experience sustained long-term economic growth" (Young, 2004).

Rourki (2003) defined the least developed countries (LLDCs) as

"Those countries in the poorest of economic circumstances" and the less developed countries (LDCs) as "Countries, located mainly in Africa, Asia, and Latin America, with economies that rely heavily on the production of agriculture and raw materials and whose per capita GDP and standard of living are substantially below Western standards".

Although there are differences among the developing countries, they share common characteristics including similarities in the main source of income being from agricultural products and raw materials, inability to move towards industrialization, and having a high level of unfairness and poverty (Plessis, 2001). Less developing countries and developing countries suffer shortages in utilities and infrastructures (Datta, 1994, Plessis, 2001); in addition they experience slow economic developments, recession and unemployment (USAID, 1976). The political, social and economic conflicts in these countries have affected the industrial and professional relations, led to insecure and complicated work environments and resulted in great poverty among the people (Ardavin and Gonzalez, 1994, Nikeshin and Nemcin, 1994).

CULTURE AND ITS EFFECT ON THE CONSTRUCTION INDUSTRY (CI) IN DEVELOPING COUNTRIES

Impact of Culture on Business in General

The impact of culture on a business economy attracts considerable attention in literature. The relevant written texts underscored the effect of culture on different aspects including business
organizations, the CI and projects (Ofori, 2000). Culture involves relationships within and between organizations, resources and the environment within which work and project activities take place (Fletcher, 2003). In addition it influences decisions relating to assessment and the application of techniques and technology in organizations (Kuruoglu and Ergen, 2000). Culture affects the different aspects of the CI such as the management styles, team and individual relations, and leadership (Egginton, 1994).

Researchers investigated the effect of culture on business specifically in industrialized countries (Ofori, 2000). Fletcher (2003) believed that studies on culture in developing countries are also important, especially since the bulk of global purchasing power, growth markets and the world populations are centered in these countries.

Rozendal (2003) discussed the impact of cultural behavior on projects at the societal and organizational levels. He suggested that in monitoring the progress of any project certain cultural factors, on the societal level, should be examined. These factors include universalism, particularism and power distance. According to him

"Universalism searches for sameness and similarity, and tries to impose on all members of a class or universe the laws of their commonality; particularism searches for differences, for unique and exceptional forms of distinction that render phenomena incomparable and of matchless quality", power distance, on the other hand, is "the extent to which people accept that power is distributed unequally".

Rozendal further recommended considering other cultural factors on the organizational level such as centralization, bureaucracy, task orientation, team reactions towards problems and methods of work. Rozendal believed that it is better for projects to be coordinated with the governed cultural patterns rather than attempting to adjust the cultural environment to suit the project.

Hofstede (1984) concluded that organizations operate in various ways shaped by the different cultural values found in the different countries in the world. Ofori (2000) confirmed this, particularly for the influence of culture on the CI in different societies and organizations; he opposed universal solutions and believed that practices, procedures and relationships should be developed differently to match the culture of different countries. Hall (2002) wrote about the need for different business strategies in international marketing. Ahmad (2001) described the integration of economy, technology and culture as being obvious in the business management.

The impact of culture on various management aspects was also discussed. Motivation, for instance, differs in countries that appreciate 'individualism', where material gain and personal recognition are the most important; as distinct from those that accentuate 'collectivism' where personal relations and family connections are of main concern (Hung Ng, 1980). Issues related to decision making, working styles, expectations, coordination, communications, planning and leadership are also affected by culture (Egginton, 1994, Hung Ng, 1980). Hartano (2004) believed that the leadership style is related to fear sensation, shame, and respect of elders. Project organizations, on the other hand, are difficult to manage, particularly in multi-cultural situations and large construction projects (Ofori, 2000). Rozendal (2003) advised that there are certain cultural features which affect projects and are difficult to be controlled through project management. The role of management in dealing with these features is limited to predicting and analyzing them, and appropriately adjusting the way of working to go well with these features.
Culture in Developed and Developing Countries

Kuruoglu and Ergen (2000) emphasized the effect of culture on the different ways of approaching problems in developing and developed countries. Hall (2002) is of the opinion that some firms from the developing world managed to compete in the international market through employing certain marketing strategies which are appropriate for the different cultures in which they operate.

There are differences in culture between developed and developing countries; culture in developing countries is more formal (Hofstede, 1991). Langford (2000) explained the difference between formal and informal cultures:

"Formal cultures emphasize status, hierarchies, power and respect; informal cultures emphasize an equality of status".

Particularism and high power distance are quite normal in developing countries while informal cultures and universalism are more common in industrialized countries.

In developed countries business relations are governed by clear and defined procedures, while in developing countries personal contacts are fundamental in business as family and tribal connections dominate such relationships (Rozendal, 2003, Langford, 2000).

Rozendal (2003) explained that centralized culture, highly correlated to particularism, is common in private and public organizations in developing countries, and in private firms in industrialized countries. It implies that decisions are usually based on opinions of individual persons at certain levels. Cusworth and Franks (1993) believed that bureaucracy implies inflexibility and therefore hinders project implementation. Bureaucratic and centralized cultures commonly dominate government organizations in developing countries.

The application of information technology strongly relates to the means of communication in any culture. In developing countries, people mostly communicate orally, due to the high illiteracy rate in these countries. Research carried out by UNESCO (2000), concluded that the illiteracy rate in developing countries is 26.3%, compared to 1.8% in the developed world. In industrialized countries people utilize other methods of communication among which are writing and computers. This is particularly obvious in formalizing contracts, project proposals, project plans and others; where in developed countries these written documents constitute the core for project implementation, while, if such documents exist at all in the developing world, they appear to be unclear and support the interests of the originator (Rozendal, 2003).

Transfer of knowledge within different cultural environments is 'culture dependent' in many cases, especially when tacit knowledge is concerned. It is important to differentiate between two types of knowledge: codified knowledge which is controlled and managed by procedures and tacit knowledge which relies mostly on human skills, behaviors and managerial talents (Hall, 2002). Hofstede (1991) explained that the former is 'culture-independent' and easy to transfer, while the latter is 'culture bound' and cannot be transferred easily. Hall (2002) believed that for construction enterprises to operate in different cultural environments, they should select, among available advantages, those which better match particular cultural environments and accordingly decide within which countries to work.
CONSTRUCTION INDUSTRY IN DEVELOPING COUNTRIES

Construction Industry in General

Different definitions for the 'CI' are found in the literature. Hendrickson and Au (1999) see the CI as

"a conglomeration of diverse fields and participants that have been loosely lumped together as a sector of the economy". Ebohon (2002) describes the CI as "an amalgam of wide varieties of economic activities ranging from house building and repair to major engineering works. Such varieties of economic activities and products of construction reflect the diversity of agents involved with the industry; thus, the CI is a very diversified and dynamic industry".

Ebohon & Rwelamila (2001) perceived the construction activities to include civil engineering works and infrastructure works in addition to the building works.

A number of authors wrote about the role of the CI in the national and international economy. Uwakweh (2000) emphasized its importance as a factor in economic growth. Ofori (2000) is particularly referred to in this regard, especially in relation to the role of construction in the economy of developing countries. Wells (1999) cited Turin’s (1969) argument of the positive relationship between construction output and the economic growth, and Strassman's (1970) idea regarding the 'middle income bulge' in relation to the particular growth of construction output at a stage where economies exceed low income and reach the middle income.

Milford et al (2002) discussed the important role of the CI in supporting the socio-economy world-wide; they highlighted its wide impact on the various sectors of the economy and its efficiency in relation to the development of other sectors of the economy, they cited infrastructure support as an example. Hendrickson and Au (1999) wrote about the role of the CI in the national welfare, including restoration of infrastructure and public facilities in addition to new construction.

Shrestha and Kumaranaswamy (2000) stressed the role of the CI as a major contributor to economic development through its recognizable contribution to the GDP and to labour employment. Turin (1969) wrote about the positive relationship between construction output growth and the growth of an economy, but at a faster rate. Drewer (1997) believed that the global construction outputs are mainly centered in the developed market.


Wells (1999) studied the economic growth over the period 1970 to 1990 and found that the growth was controlled by the Newly Industrialized Countries (NICs) and the oil producers. However, after 1990 the developing countries contribution to the global economy slightly increased.

Construction Industry in Developed and Developing Countries

Fox and Skitmore (2002) believed that studies were conducted mainly for the purpose of improving the performance of the CI in the developed countries. In the same direction, Ofori (2002) specified the tendencies of the CI in developed countries towards a more sophisticated economy, to focus on client demands and the application of modern technology and
globalization. In this regard, Ofori (2002) cited studies carried out in a number of industrialized countries including the UK (Latham, 1994 and Egan, 1998), and Australia (Australian Procurement and Construction Council, 1997).

Though the features of the CI all over the world are alike, the developing countries have some unique characteristics (Mbuthia, 2000). The challenges are also similar but with some difference between developing and developed countries (Milford et al, 2002). Knowledge and innovation are key features in determining business competitiveness, and national growth and development in the industrialized countries. This knowledge-based economy could also be implemented in developing countries but there are certain challenges associated with its implementation; all concerned, including governments, would need to take part in defeating these challenges (Ofori, 2002a). Wang and Yang (2000) have listed some of the trends related to the challenges and erratic changes which have recently faced the Australian construction companies. These include globalization, international market change, privatization, information technology and telecommunication.

The CI in developing countries contributes to over 50% of the gross capital formation, and to about 5-10% of a country’s economy (Mbuthia, 2000). The contribution of the construction sector in many countries is almost 60% of gross capital formation (Ebohon & Rwelamila, 2001). Ogunlana and Sysavath (2000) estimated the construction share of the GNP at about 10%. Datta (2004) listed some national economic indices amongst which are GDP, Gross Output, compensation of employees, and gross capital formation. Uwakweh (2000) highlighted the role of the CI in contributing to the GNP and to labour employment. Lopes, Ruddock and Ribeiro (2000) are of the opinion that a certain level of investment in construction in developing countries should be maintained so as to accomplish sustainable economic growth.

In developing countries, where unemployment is a major social crisis, the CI constitutes a major share of the national economy as it reduces unemployment by creating job opportunities (Datta, 2004). Ofori (2000) underscored the effective role the CI could play, in case new strategies are adopted, in relation to job creation and other business activities. Dlungwana and Rwelamila (2002) wrote about the significant role of the CI in contributing to the economy through infrastructure facilities and job creation. They recognized the CI in developing countries as a blend of procurement systems, management philosophies, techniques and tools, which are essential to build up the infrastructure of the developing world.

The relatively expensive outputs in the CI are related to the lack of improvement in the use of labour and its low productivity. Ofori (2000) believed that the CI in developing countries is weak whereas internationals carry out a substantial part of the construction activities. The challenges facing the CI have been illustrated by severe socio-economic stress, shortages in resources, and institutional drawbacks (Milford et al, 2002).

The difficulties facing the CI incorporate low commodity prices, high energy costs, low exchange rates and inflation. Resource constraints are impediments to the development of the CI, while lack of knowledge, short-term direction, unqualified personnel and bad management impact the performance of the construction enterprises in developing countries (Ofori, 2000). Wells (1999) considered the disturbed economic growth in developing countries weighed against the wealthy markets in developed countries as a cause for failure in improving economies in developing countries. Rwelamila and Lobelo (2000) regarded lack of management information as a reason for business failure. Ofori (1994) highlighted the weaknesses in developing appropriate industry strategies and deficiencies in research on these topics. Edum-Fotwe, McCaffer and Abd Majid (1999) underscored the impact of certain factors on the CI; these
include economic recession, changing markets, new technologies, competition and globalization.

**Development of the Construction Industry in Developing Countries**

Efforts have been made in different countries, through committed agencies, to improve the functioning of the CI. These efforts included long-term plans covering certain aspects like the need for sophisticated economies, client demands, globalization, technological and social change. Ofori (2000) stressed the unique role of the CI in promoting the national economies, reducing social problems and increasing value for money used in construction, in addition to sustaining environmental accountability.

CIB (1999) defined the CI development as "a deliberate process to improve the capacity and effectiveness of the CI in order to meet the demand for building and civil engineering products, and to support sustained national economic and social development objectives" (Ofori, 2000). CIDB (2002) defined CI development "as the deliberate and managed process to optimize the contribution of the CI in meeting national construction demand, in promoting national social and economic development objectives, industry performance and competitiveness, and improved value to clients and society" (Milford et al 2002). Some countries, including developing countries, have been involved in supporting the CI development (Milford et al 2002).

Ofori (1994) stressed on the role of research in this field and how it could help in facing obstacles challenging the CI in developing countries. Edum-Fotwe, McCaffer and Abd Majid (1999) wrote about the utilization of certain techniques, including lean construction, benchmarking, and total quality management. Such techniques can have great positive impact on the productivity of the CI. Howell (2000), Ballard (1994), O’Brien et al (1995) also confirmed the importance of utilizing lean construction techniques as a cure to the shortfalls confronting the CI (Forbes, Ahmed and Barcala, 2002).

Egginton (1994) considered the utilisation of resources including inspired personnel, the improvement of the organizational structures, and training, as sources of success for the development of the CI. Ofori (2000) recommended that in order for the developing countries to improve their CIs they have to develop their human resources, materials, technology, professional institutions, trade associations, operating environment, documentation and procedures; they further have to benchmark their present status, in relation to management practices and techniques, against the top standards in the world. Egginton (1994) urged developing countries to imitate other developed countries in applying project management principles and techniques. Ofori (1999) stressed the importance of adopting funding strategies that make the best value of the "severely strained and chronically short public funds" in developing countries (Milford et al, 2002). Milford et al (2002) believe that in order to make the CI more effective it is necessary to combine its internal processes and to utilize new technologies. Hendrickson & Au (1999) recommended applying certain techniques including economic evaluation, scheduling, and management information in order to improve the CI. In order to improve the economy, Egginton (1994) advised countries to obtain governmental support to legally implement projects by preventing functional bureaucracies and providing accountable and responsible resources.

The United Nations Environment Programme (UNEP), Division of Technology, Industry and Economics (2004) emphasized the importance of involving all concerned ‘stakeholders’ in
selecting, among the available conditions, the appropriate tools and technologies that should be utilized by the different CI institutions. In this direction, Ofori (2000) recommended that the community should be involved in developing the construction activities, and suggested encouraging investment approaches among the community in developing countries along with the formulation of long term plans and reviews of the industry.

Governments and ministries have considerable impact on the construction industry. They are advised to take part in supporting the private sector and give preference to local contractors to fund and implement public projects, and therefore assist in filling the gap especially in countries which lack organizations, know-how and technology. Arranging professional training and counseling programmes on related issues including utilization of available resources, planning, design and implementation, would achieve a competitive environment and develop the local available skills. Ngowi (1999) suggested regular interaction between policy makers and representatives of the construction industry.

You and Walker (1999) cited China as a developing country where it is obvious that the involvement of governments in enterprise businesses is quite direct. They suggested that in order for governments to avoid wasting resources, they are advised to focus on "macro-control, administrative instruments and investment in major technical improvement projects". They further suggested an effective role which governments could play in order to secure economic growth and development in the CI. They believe that the private sector could be a viable alternative to the government and/or donors in sponsoring and implementing infrastructure and construction projects. An important initiative would be to encourage the private sector to be professional and to take part in arranging training and mentorship programmes.

CONCLUSION

This paper has emphasized the differences between the different world countries in various aspects in addition to their classifications based on their different levels of development, economy and geographic regions. Special consideration has been given to developing countries where a strong view towards the effect of culture on business in general and CI in particular is underscored. The literature has been explored to conclude that there is an urgent need to review the CI practices currently utilized in developing countries, and to take necessary measures to improve their functioning. Some authors strongly recommended the employment of research in this field; others considered the utilization of resources including inspired personnel, the improvement of the organizational structures and training as critical to allow success to the development of the CI.

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