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CONSTRUCTION IN DEVELOPING COUNTRIES: NEED FOR NEW CONCEPTS AND THEORISING OF CONTEXTUAL SPECIFICITIES TO THE GLOBAL CORPUS OF KNOWLEDGE

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Studies on construction industries in developing countries have resulted in a distinct field of knowledge. The aim of this study is to contribute to the debate on whether new perspectives and concepts of the body of knowledge of construction in developing countries must be found because of the requirements and contexts of developing countries. The study is based on a review of the literature on the body of knowledge of construction in developing countries. It is found that developing countries need high volumes of constructed items, but the capacity of the construction industries in these countries, and their performance require major improvement. Research should contribute to improving the industry's capability and performance. However, progress in the development of the body of construction in developing countries has stalled. Subjects on which further research is most needed are outlined. It is concluded that the construction industry in developing countries requires more sophisticated approaches and analyses than their industrialised countries counterparts. It is necessary to reconsider construction in developing countries to enable research on the subject to contribute to practice in improving the performance of the industries in those countries.

Keywords: body of knowledge, capacity and capability, construction in developing countries, research new perspectives

INTRODUCTION

Research objectives and method

At the ARCOM 2018 Conference, a panel discussed "Alternative Frames of Thinking on Construction in Developing Countries". Ofori (2019) followed up on this with a paper. This study considers the arguments further.

The objectives of this study are to:

- Consider why it is essential to improve the capacity, capability and performance of the construction industries of developing countries

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- Discuss the history and current state of the body of knowledge on construction in developing countries
- Consider ways in which the existing body of knowledge on construction in developing countries should be amended to reflect the context of developing countries.

The paper is based on a review of the literature on the body of knowledge on construction industries in developing countries.

IMPORTANCE OF IMPROVING CONSTRUCTION IN DEVELOPING COUNTRIES

What is a developing country?

The common definition of a "developing country" is based on gross national income (GNI) per capita. World Bank classifies countries with GNI per capita of US$1025 and below in July 2019 as Low Income; Lower-middle Income countries fall between US$1026 and US$3995; Upper-middle Income countries are between US$3996 and US$12,375; and High Income countries have GNI per capita of US$12,375 and above (World Bank Data Team, 2019). "Low income" and "Lower middle income" nations are "developing countries". Many authors do not agree with this classification (see Meikle, 2019). It is worth noting that the classification is undertaken every year, and countries can be reclassified under the categories. Also, developing countries differ among themselves in many regards, including their prospects for development (Han and Ofori, 2001).

Where construction is concerned, Ofori (2012b) noted differences between developed and developing countries by considering: features of the construction industry, projects and products; performance of the industries; and driving forces of construction including: environmental issues and climate change; safety and health; poverty alleviation; globalization; technology development and innovation; information and communications technology (ICT); quality and productivity; and disaster prevention and reconstruction.

Improving construction: the need and the task

The capacity and capability of the construction industries in developing countries should be enhanced to enable them to provide the economic and social infrastructure for the countries' long-term development. UN (2019) notes that poverty, hunger and disease are concentrated in the poorest and most vulnerable countries. The Post-2015 Development Agenda for addressing this is based on attaining 17 Sustainable Development Goals (SDGs) by 2030. The Economist Intelligence Unit (2017) notes that infrastructure is at the heart of efforts to meet the SDGs. World Bank (2017c) estimates that in Sub-Saharan Africa, closing the infrastructure quantity and quality gap relative to the world's best performers could raise GDP growth per capita by 2.6 percent per year. The latest SDG Report (UN, 2019) indicates that the rate of extreme poverty fell from 36 percent in 1990 to 16 percent in 2010 and to 10 percent in 2015 (over one billion people rose from poverty over 25 years). However, the pace of change is declining; on current trends, 6 percent of the global population will be living in extreme poverty in 2030. Some

736 million people lived on less than US$1.90 a day in 2015 (413 million were in sub-Saharan Africa).

Since 2008, over half of the world's population has lived in urban areas; this is expected to be 60 percent by 2030 (UN, 2018). Cities can be made inclusive, sustainable and dynamic hubs of economic activity and innovation, but face problems in managing air pollution, unplanned land use, inadequate housing and infrastructure, growing slum population, lack of basic services, urban sprawl, and vulnerability to disasters. UN (2018) noted that between 2000 and 2014, the slum population rose from 807 million to 883 million. UN Task Team on Habitat III (2017) notes that, in the next 30 years, nearly 2.5 billion people will be added to the world urban population. New cities and planned extensions will have to be built.

Thus, the developing countries have huge volumes of construction needs. However, the construction industries in developing countries lack the capacity and capability to meet the infrastructure demands of these countries (Ofori, 2007). Their performance falls short of what clients and beneficiaries desire, and that of their industrialised country counterparts; they are unable to contribute towards improving standards of living, or creating a conducive environment for investment (Rwelamila and Ogunlana, 2015). Thus, research should help improve the performance of the industries.

Nature of construction industries in developing countries

What is the current nature of the industries? Mir et al. (2007) found that challenges facing construction industries in developing countries include: insufficient education and training; absence of government commitment; lack of long-term vision and planning for the industry; fluctuations in workload; ineffective budgeting; defective contract documents; corrupt procedures; payment-related delays; problems of bonding and insurance; lack of adequate financial resources; foreign exchange constraints; non-availability of equipment and spare parts; and poor information.

Are new approaches in construction knowledge, techniques, practices and procedures needed to enable construction industries in developing countries address the infrastructure needs and challenges? The body of knowledge on the construction industry in developing countries should be understood in order to explore what new perspectives need to be considered to enable it to make an effective contribution towards improving the performance of the industries in those countries.

CONSTRUCTION IN DEVELOPING COUNTRIES

History of studies on construction in developing countries

Arguably the first significant work on the construction industries in developing countries is the report by the United Nations Expert Group on Housing (Department of Economic and Social Affairs, 1962). That group concluded that the level and quality of housing, sanitation and other infrastructure in the developing countries was poor. It argued that, among other actions, efforts should be made to improve the capacity and capability of the construction industries if these conditions were to be addressed. Abrams (1964) (a member of the expert group)

reached made similar recommendations. Turin (1969, 1973) investigated the role of construction in the economy and in national development; and made industry development proposals. Major reviews of the field by the early 1980s were presented by Kafandaris (1980) and Drewer (1980).

The first books on Construction in Developing Countries were: World Bank (1984) and Wells (1986). Ministry of Works (1977) was a major report on Tanzania's construction industry by a group of international experts in an extensive, three-month country study. Multi-lateral organisations such as the International Labour Office (ILO) (Edmonds and Miles, 1984), United Nations Centre for Human Settlements (1991) and United Nations Industrial Development Organisation (UNIDO) (1969) commissioned studies on construction in developing countries.

The main areas of the subject of construction in developing countries which have been studied can be outlined as (Ofori, 2015, 2019):

- Materials Development – research and development on local materials; development of manufacturing of materials; promotion of their adoption by addressing obstacles to the take-up; policy directions such as incentives and training of tradespersons (Syagga, 1993; UNIDO, 2008)

- Human Resource Development – skills gap analyses; education and training with focus on trades; development of courses deemed relevant to developing countries; continuing professional development (ILO, 2001; Loganathan et al., 2017)

- Technology Development – development of 'appropriate' and labour-based technologies; technology transfer; mechanization; government policies; manufacturing of equipment; ICT applications (UNCHS, 1992; CIDB, 2015)

- Corporate Development – contractor development; joint ventures; registration and accreditation; development of consultants (UNCHS, 1996)

- Institution Building – administrative framework; development of professional institutions and trade associations; formation of industry development agencies (CIDB, 2015; Ofori-Kuragu et al., 2016)

- Regulations, Procedures and Practices (Ofori, 1993; Windapo and Rotimi, 2012).

Giang and Low (2010) and Ofori (2015) present good recent reviews of the subject. It should be noted that there are also wrong characterisations, as some of the work is wrongly attributed. Ofori (1993, 1994) considered progress in research on construction in developing countries, and implementation of its results, and suggested that the field was at a crossroads. For example, the changes in the role of construction in the economy over time, found by Turin (1969) which Strassman (1970) termed the "middle-income country bulge", has been called "Bon Curves" by many authors (Ruddock and Lopes, 2006) (after Bon (1992)).

"Construction in Developing Countries" is a module in some universities such as University College London, UK and University of Reading, UK. The field has a global research group, CIB W107 on Construction in Developing Countries (which was established as Task Group 29 in 1998). The Journal of Construction in Developing

Countries (first published in 2006), is its main publishing outlet. The literature on the field provides the framework for industry development policies such as industry development strategies for Sri Lanka (National Advisory Council on Construction, 2014) and Ethiopia (Ministry of Urban Development and Construction, 2012). Recent important works include the Construction Industry Capacity Framework, a diagnostic tool for analysing any construction industry (Arup, 2018); and the study of the industry in India (Loganathan et al., 2017). Thus, construction in developing countries can be considered to be an established subject with a body of knowledge.

Current state of the field

The body of knowledge on construction in developing countries has failed to grow in the last decade; there has been no significant breakthroughs. Ofori (2012a, 2012b) on new aspects of the subject, and on considering contemporary issues in construction from the perspective of developing countries respectively, addressed the lull. It is critical to grow and improve the body of knowledge because the countries' needs are huge and growing, as discussed above. Thus, it is necessary to provide the countries with guidance to prepare their industries for their future challenges.

It could be argued that the construction industry is the same everywhere, and the same principles should apply universally; thus, there is no need to focus on any particular segment. Others would suggest it is necessary to build new knowledge to suit the special circumstances of developing countries. Ofori (2012b) analyzes differences between industrialized and developing countries and their construction industries and introduces the expression, "developing country exceptionalism". He suggests that, given these differences, the body of knowledge on construction in developing countries should be modified to be most applicable in developing countries.

Various authors have suggested topics for further research on construction in developing countries. For example, CIB W107 suggests these topics in its research roadmap (Rwelamila and Ogunlana, 2015): Construction in a Model of Development; Sustainability in Housing; Human Resource Development; Modernising the Traditional; Gender Equity; Financing and Procurement; Governance and Management; Information Technology Applications on Projects; and Industry Development. Ofori (2016) suggested that researchers should consider the possibility of leapfrogging.

SOME PROPOSALS FOR DEVELOPING NEW CONCEPTS

In this section, how the body of knowledge on construction in developing countries can be reconsidered to make it more relevant to those countries is discussed.

Project management in context of developing countries

The areas of knowledge and project management processes and activities under them as in the Project Management Institute (PMI) Body of Knowledge (PMI, 2017) are: Project Integration Management; Project Scope Management; Project Schedule Management; Project Cost Management; Project Quality Management; Project Resource Management; Project Communications Management; Project Risk Management; Project Procurement Management; and Project Stakeholder

Management. In the developing countries, construction projects involve many more tasks than those in these ten areas. Thus, there is a need for a different conceptualisation of project management in the context of developing countries. Stuckenbruck and Zomorrodian (1987) note that in developing countries, project management should only be applied when certain technical, political, and environmental conditions are met, and when it is incorporated into an indigenous framework based on local values, beliefs and behavioural patterns.

A possible new project management area of knowledge is "Management of the Business Environment" which covers the context of the project and participating organisations. This includes the regulatory and administrative framework, procedures and practices in the industry, and the infrastructure. Rodinelli (1976) noted that political, economic, operational, social and physical difficulties either delay projects or cause them to fail. Similarly, Watermeyer (2018) describes the underlying context of projects which includes cultural, ethical, societal, political, economic and physical risks in the region where the built item is required. Another new area of knowledge is "Operating and Facilities Management". Effective operation of the built item is a determinant of project success. Strategic facilities management where inputs from operation of buildings help to improve the design of new buildings is useful in developing countries (Jensen et al., 2019). Preparation of as-built documentation or three-dimensional models to facilitate the management of the facility should be given attention (Chong et al., 2019); as should the building of capacity for maintaining the built item (World Bank, 1984; Morgan et al., 2017).

Parameters for assessing project performance

Project performance parameters need to be framed to suit the context of developing countries. New parameters (to supplement the usual cost, time, quality, health and safety and environmental performance) include: affordability and life-cycle costing; and employment generation (see Ofori, 2012a, 2019). These are now discussed.

"Affordable housing" is topical in most countries (see, Senate Economics References Committee (2015) on Australia; and Mutero (2018) on African countries), but critical in developing nations where the housing shortage is greatest. UN (2017) considers adequate and affordable housing a component of the right to an adequate standard of living. Effective consideration of affordability over the long-term to cover the life-cycle ownership of built items would enable countries to invest in projects which are appropriate in their contexts.

In developing countries, it is pertinent to derive benefit from the employment generation potential of construction. This should be addressed in the technological choice, procurement approach and terms of contract (ILO, 2001; Mella and Savage, 2018). In rural areas, work opportunities on projects can be used to enhance income (Watermeyer, 2018). This requires a new definition of, and modelling for, construction productivity in developing countries which involves consideration of: job creation and decent jobs; and a balance with time, cost, quality and health and safety.

Other objectives of projects in developing countries include (Watermeyer, 2018): strengthening of indigenous building materials and methods; and job

opportunities for small and medium firms. Industry policies, project evaluation models, and project management systems should be formulated to enable the wider range of objectives and performance parameters to be attained.

Safeguarding in construction in developing countries

In most countries, the social image of the construction industry is poor (ILO, 2001; PwC, 2014; Morrell, 2015) owing to the physical demands involved; a high rate of accidents and fatalities; low pay; a reputation for corruption; and lack of trust from the public. Many programmes have been introduced in different countries to change the picture. For example, in the UK, key performance indices track performance at industry level on aspects relating to 'people' including (Staff Turnover, Sickness Absence, Safety – Industry Working Hours, Qualifications and Skills, Training, Investors in People, and Staff Loss) (The KPI Team, 2018). The Considerate Constructors Scheme (undated) commits registered sites, companies and suppliers to care about appearance, respect the community, protect the environment, secure everyone's safety, and value their workforce. Similar schemes can be considered in developing countries.

In welfare and safeguarding, focus has been on the construction industry's workers. However, construction projects have impacts on people living in their environs. Moreover, the project's workers might settle temporarily in the community, with possible unintended social consequences. Thus, consideration of welfare could be broadened. The World Bank, (2017a) and other lending institutions have social safeguarding policies for projects they fund. For example, in 2015, the Bank suspended a highway project in Uganda due to contractual breaches related to workers' issues, social and environmental concerns, and allegations of sexual misconduct and abuse by contractors, and only lifted it in 2017 after working with the government to support the affected communities and address social problems (World Bank, 2017b). There is a case for establishing the concept of Social Safeguarding and Benefit in Construction. Researchers could build on the existing policies of the lending institutions (World Bank, 2017a) to devise the concept.

Culture as a key in project management in developing countries

Many authors argue that the notion of the project is a Western one; and project management is culturally bound (Koster, 2010). Thus, it is necessary to make changes to the way project management is practised if it is to work in developing countries (Russell-Hodge and Hunnam, 1998; Rwelamila, 2012). Lizzarralde et al. (2013) found differences in how power and authority are exercised, and in the roles assumed by stakeholders on projects in developing countries. They noted that such differences are often considered to be problems to be 'fixed' but should be understood as project governance mechanisms of adaptation to different environmental conditions. Rodinelli (1976) noted that: "Cultural, political and social traditions, in many cases, inhibit the use of American or European project management procedures. Even the most efficient multinational corporations undertaking new ventures in Third World countries find unanticipated crises arise continuously to obstruct the smooth execution of major projects". Al-Sedairy and Rutland (1994) and Youker (2007) highlighted the unique nature of project management in developing countries. Rwelamila et al. (1999) suggested that poor performance on construction projects in Africa could be explained by a failure to apply the 'ubuntu' concept in the management approach.

Culture should be more fully applied in planning, design and project management in developing countries. Reviews of many projects and national development plans show that a major cause of poor project outcomes is failure to involve the community effectively (Choghuill, 1996). Participation of the community and the hierarchical traditional systems could be optimised with appropriate project strategies.

Materials, technologies and skills fitting the context of developing countries

Developing countries should seek to apply the best appropriate technology and practice and in their contexts and resource circumstances (Ofori, 2016). In some cases, it will involve modifying an existing technology, practice or procedure to suit their contexts. In others, it will mean developing new approaches peculiar to the countries' needs and circumstances. Thus, technologies and practices considered to be only applicable in "more sophisticated" industries, including advanced digital applications, new materials, and off-site construction, should be considered. For example, off-site applications are not new in developing countries; Richard (2004) has long proposed their use to address housing problems. The potential of leapfrogging should be pursued in research and development on technology and its application.

Local materials, techniques and their production and application systems which have been disregarded or are not popular because they are considered to be unsuitable for the sophisticated should be revisited (UNIDO, 2008). Sojkowski (2015) noted that "western material and construction techniques are seen as correct, modern, permanent, and for the affluent, the vernacular is viewed as substandard, outdated, temporary, or for the poor". The modernised traditional technologies and materials which have been developed, such as, in Ghana, the modified Atakpame building (with mud walls reinforced with a wooden frame) and landcrete blocks (with a low cement content) are of merit, given the current focus on sustainability. Incentives for developing such items, and initiatives for their application through demonstration effects in their usage could be studied. The labour-intensive road construction programme of the ILO (Tembo and Blokhuis, 2004) which developed techniques, equipment, tools, skills and firms, merits further research and development to upgrade and upscale it.

There is potential to combine the traditional with the local. For example, in human resource development, construction trades training can be upscaled by combining traditional apprenticeship and formal courses as in the Ghana Skills Development Initiative (GFA Consulting 2019). To succeed, it will be necessary to introduce modularisation, recognition of prior experience, accreditation and progression of trained tradespersons to high qualification programmes.

New ideas for broad industry development

Construction industry development should be sharpened in developing countries. In the UK, not much has been achieved from the many industry reviews (Bailey, 2018). Developing countries should undertake industry reviews and develop ways forward. Some principles include: strategic prioritisation of initiatives, starting with those with no prerequisites and with synergies; joined-up thinking; and sharing of good practice and cautionary information from elsewhere. The considerations

include: the role of construction in national development plans and policies; preventing and addressing fragmentation of the industry to avoid stratification and adversarialism; institution building and synergisation with recognition of local systems; and the role of government and merits of state leadership.

CONCLUSION

It is important to consider the context of the developing countries including the legal structures, institutions, infrastructure and culture and their influence on practices and procedures in undertaking research on, as well as in applying, the body of knowledge on construction in those countries. This will enable further principles, tools and techniques for these countries to emerge. Considering the context and needs of the developing countries, it is evident that the construction industry requires a richer, more complex knowledge base than what pertains in the industrialised countries. It is also pertinent to note that this special field of construction in developing countries has the potential to contribute to the broader Construction Management and Economics body of knowledge. Finally, it should be noted that specific effort will have to be invested to attain the intentions outlined in this paper. The leadership of CIB W107, of leading researchers on the area and of journal editors and administrators of the leading industry development agencies who are persuaded of the need for this additional element will be useful in these regards.

REFERENCES

Abrams, C. (1964) Housing in the Modern World. Faber and Faber, London.

Al-Sedairy, S.T. and Rutland, P. (1994) Project management as a way forward in a developing country. In D.I. Cleland and R. Gareis (eds) Global Project Management Handbook. McGraw Hill, New York, pp. 5-3 to 5-23.

ARCOM (2019) Reflection by Professor George Ofori, London South Bank University. ARCOM Newsletter, Vol. 36, No. 1, p. 6.

Arup (2018) Construction Industry Capacity Framework. Department for International Development, London.

Bon, R. (1992) The future of international construction: secular patterns of growth and decline. Habitat International, 16(3), 119-128.

Choguill, M.B.G. (1996) A ladder of community participation for underdeveloped countries. Habitat International, 20(3): 431–444.

Chong, A., Mohammed, A., Abdullah, M. and Rahman, M. (2019) Maintenance prioritization – a review on factors and methods. Journal of Facilities Management, Vol. 17 No. 1, pp. 18-39. https://doi.org/10.1108/JFM-11-2017-0058

Considerate Constructors Scheme (undated) Considerate Constructors Scheme Company Registration. Ware, Herts, https://www.ccscheme.org.uk/wp-content/uploads/2018/12/CompanyRegistrationBrochure_v2.0.pdf

Construction Industry Development Board (CIDB) (2015) Construction Industry Transformation Programme 2015–2020: Driving construction excellence together. Kuala Lumpur.

Debrah, Y.A. and Ofori, G. (2005) Human resource development of professionals in an emerging economy: The case of Tanzanian construction industry. International Journal of Human Resource Management, 17(3): 440–463.

Department of Economic and Social Affairs (1962) Report of the Ad Hoc Group of Experts on Housing and Urban Development. New York: United Nations.

Drewer, S. (1980) Construction and development: A new perspective. Habitat International, Vol. 5, Issues 3-4, pp. 395-428.

Edmonds, G.A. and Miles, D.W.J. (1984) Foundations for Change: Aspects of the construction industry in developing countries. Intermediate Technology Publications Ltd., London. https://doi.org/10.3362/9781780442242.000

Fateh, M.A.M. and Mohammad, M.F. (2017) Industrialized building system (IBS) provision in local and international standard form of contracts. Journal of Construction in Developing Countries, 22(2): 67–80. https://doi.org/10.21315/jcdc2017.22.2.5

GFA Consulting Group (2019) Ghana Skills Development Initiative (GSDI III), https://www.gfa-group.de/projects/Ghana_Skills_Development_Initiative_GSDI_III__3884439

Giang, D.T.H. and Low, S.P. (2010) Role of construction in economic development: Review of key concepts in the past 40 years. Habitat International, Vol. 35, Issue 1, pp. 118-125, https://doi.org/10.1016/j.habitatint.2010.06.003

Han, S.S. and Ofori, G. (2001) Construction industry in China's regional economy, 1990–1998. Construction Management and Economics, 19(2): 189-205.

International Labour Organisation (2001) The Construction Industry in the Twenty-first Century: Its image, Employment Prospects and Skill Requirements. Geneva.

Jensen, P., Rasmussen, H. and Chatzilazarou, S. (2019) Knowledge transfer between building operation and building projects. Journal of Facilities Management, Vol. 17 No. 2, pp. 208-219, https://doi.org/10.1108/JFM-05-2018-0030

Kafandaris, S. (1980) The building industry in the context of development. Habitat International, Vol. 5, Issues 3-4, pp. 289-322.

Koster, K. (2010) International Project Management. Sage, London.

Lizzaralde, G., Tomiyoshi, S., Bourgault, M., Malo, J. and Cardosi, G. (2013) Understanding differences in construction project governance between developed and developing countries. Construction Management and Economics, Vol. 31, No. 7, 711-730.

Loganathan, S., Srinath, P., Mohan Kumaraswamy, M., Kalidindi, S. and Varghese, K. (2017) Identifying and addressing critical issues in the Indian construction industry: perspectives of large building construction clients. Journal of Construction in Developing Countries, Vol., 22, pp. 121-144. https://doi.org/10.21315/jcdc2017.22.supp1.7

Lopes, J. (2012) Construction in the economy and its role in socio-economic development. In G. Ofori (ed.) New Perspectives on Construction in Developing Countries. Abingdon, pp. 40–71.

Meikle, J. (2019) A response to George Ofori's special note. Journal of Construction in Developing Countries, 24 (2), 207-208, https://doi.org/10.21315/jcdc2019.24.1.10

Mella, A. and Savage, M. (2018) Construction Sector Employment in Low Income Countries. Department for International Development, London.

Ministry of Urban Development and Construction (2012) Construction Industry Policy. Addis Ababa.

Ministry of Works (1977) National Construction Industry Study: Final report. Dar es Salaam.

Mir, A. H., Tanvir, M. and Durrani, A.Z. (2007) Development of Construction Industry – A literature review, Pakistan Infrastructure Implementation Capacity Assessment, Report No. 43185. World Bank, Washington, D.C.

Morgan G., Ceppi P., Crosskey S., and O'Regan, N. (2019) The Importance of Infrastructure for Landlocked Developing Countries. UNOPS, Copenhagen.

Morrell, P. (2015) Collaboration for Change. The Edge, London.

Mutero, J. (2018) Taxation and Affordable Housing in Africa. Centre for Affordable Housing in Africa, Johannesburg, http://housingfinanceafrica.org/app/uploads/Taxation-and-Affordable-Housing-in-Africa_final-edits-Itso.pdf

National Advisory Council on Construction (2014) National Policy on Construction. Ministry of Housing and Construction, Colombo.

Ofori, G. (1993) Research on construction industry development at the crossroads. Construction Management and Economics, 11:3, 175-185, DOI: 10.1080/01446199300000017

Ofori, G. (1994) Practice of construction industry development at the crossroads. Habitat International, Vo. 18, No. 2, pp. 41-56, https://doi.org/10.1016/0197-3975(94)90049-3.

Ofori, G. (2007) Construction in developing countries. Construction Management and Economics, Vol. 25, Issue 1, pp. 1-6.

Ofori, G. (2012a) New Perspectives in Construction in Developing Countries. Taylor and Francis, Abingdon.

Ofori, G. (2012b) Contemporary Issues in Construction in Developing Countries. Taylor and Francis, Abingdon.

Ofori, G. (2015) Nature of the construction industry, its needs and its development: a review of four decades of research. Journal of Construction in Developing Countries, 20(2), 115-135.

Ofori, G. (2016) Construction in developing countries: current imperatives and potential. Proceedings of the CIB World Building Congress 2016, ed. Kähkönen, K. and Keinänen, M., Tampere University of Technology, Vol. 1, 39-52. Tampere, Finland, 30 May to 3 June.

Ofori, G. (2019) Construction industries in developing countries: need for new concepts. Journal of Construction in Developing Countries, 23(2), 1-6.

Ofori-Kuragu, J.K., Owusu-Manu, D-G., and Ayarkwa, J. (2016) The case for a construction industry council in Ghana. Journal of Construction in Developing Countries, 21(2): 131–149. https://dx.doi.org/10.21315/jcdc2016.21.2.7.

Project Management Institute (2017) A Guide to the Project Management Body of Knowledge (PMBOK Guide), Sixth Edition, Upper Darby, PA.

PwC (2014) Fighting Corruption and Bribery in the Construction Industry. London.

Rasmussen, H. and Jensen, P. (2020) A facilities manager's typology of performance gaps in new buildings. Journal of Facilities Management, Vol. 18 No. 1, pp. 71-87, https://doi.org/10.1108/JFM-06-2019-0024

Rondinelli, D. A. (1976) Why development projects fail: problems of project management in developing countries. Project Management Quarterly, **7**(1), 10-15, https://www.pmi.org/learning/library/problems-project-management-developing-countries-1739

Ruddock, L. and Lopes, J. (2006) The construction sector and economic development: the 'Bon curve'. Construction Management and Economics, Vol. 24, Issue 7, pp. 717-723.

Rwelamila, P.D. (2012) Construction project performance in developing countries, in Ofori, G. (ed.) Contemporary Issues in Construction in Developing Countries, Spon Press, New York, pp. 318-346.

Rwelamila, P.D. and Ogunlana, S. (2015) W107 – Construction in Developing Countries Research Roadmap - Report for Consultation. International Council on Research and Innovation in Building and Construction (CIB), Rotterdam.

Rwelamila, P., Talukhaba, A. and Ngowi, A. (1999) Tracing the African Project Failure Syndrome: the significance of 'ubuntu'. Engineering, Construction and Architectural Management, Vol. 6, No. 4, pp. 335-346, https://doi.org/10.1108/eb021122

Strassman, W.P. (1970) The construction sector in economic development. Scottish Journal of Political Economy, Vol. 17, Issue 3, pp. 391-409.

Stuckenbruck, C. and Zomorrodian, A. (2017) Project management: the promise for developing countries, International Journal of Project Management, Vol. 5, Issue 3, pp. 167-175, https://doi.org/10.1016/0263-7863(87)90022-6

Syagga, P.M. (1993) Promoting the use of appropriate building materials in shelter provision in Kenya. Habitat International, Volume 17, Issue 3, pp. 125-136.

Tembo, S. and Blokhuis, B. (2004) Manual for Supervision of Labour Based Road Rehabilitation Works. ILO ASIST, Harare.

The Economist Intelligence Unit (2017) The Critical Role of Infrastructure for the Sustainable Development Goals. London.

The KPI Team (2019) UK Industry Performance Report 2018. Glenigan, Constructing Excellence, Department for Energy, Business, Energy and Industrial Strategy, London.

The Senate Economics References Committee (2015) Out of reach? The Australian housing affordability challenge. Commonwealth of Australia, Canberra.

Turin, D.A. (1969) The Construction Industry: Its economic significance and its role in development. Building Economics Research Unit, University College Environmental Research Group, London.

Turin, D.A. (1973) Construction and Development. Building Economics Research Unit, University College Research Group, University College London.

United Nations (2017) New Urban Agenda. New York.

United Nations (2018) Sustainable Development Goals Report 2018. New York.

United Nations (2019) The Sustainable Development Goals Report 2019. New York.

United Nations Centre for Human Settlements (1992) Technology in Human Settlements: The role of construction. Nairobi.

United Nations Centre for Human Settlements (1996) Policies and Measures for Small Contractor Development in the Construction Industry. Nairobi.

United Nations Industrial Development Organisation (UNIDO) (1969) Industrialization of Developing Countries: Problems and prospects – Construction Industry, Monograph No. 2, UNIDO, New York.

UNIDO and International Centre for Science and High Technology (2008) Available Technologies for Local Building Materials. International Centre for Science and High Technology, Trieste.

United Nations Task Team on Habitat III (2017) One United Nations for Habitat III. United Nations, New York.

University College London (UCL) (2018) Construction Economics and Management MSc, https://www.ucl.ac.uk/prospective-students/graduate/taught-degrees/construction-economics-management-msc

Watermeyer, R. (2018) Client Guide for improving Infrastructure Project Outcomes. Engineers Against Poverty and University of the Witwatersrand, Johannesburg.

Wells, J. (1986) The Construction Industry in Developing Countries: Alternative strategies for development. Croom Helm, London.

Windapo, A.P. and Rotimi, J.O. (2012) Contemporary issues in building collapse and its implication for sustainable developments. Buildings, 2(3): 283-299. https://doi.org/10.3390/buildings2030283.

World Bank (1984) The Construction Industry: Issues and strategies in developing countries. Washington, D.C.

World Bank (2017a) The World Bank Environmental and Social Framework. Washington, DC.

World Bank (2017b) Uganda Transport Sector Development Project: Fact Sheet (Updated), https://www.worldbank.org/en/country/uganda/brief/uganda-transport-sector-development-project-fact-sheet

World Bank (2017c) Why We Need to Close the Infrastructure Gap in Sub-Saharan Africa. April, http://www.worldbank.org/en/region/ afr/publication/why-we-need-to-close-theinfrastructure-gap-in-sub-saharan-africa

World Bank Data Team (2019) New country classifications by income level: 2019-2020, https://blogs.worldbank.org/opendata/new-country-classifications-income-level-2019-2020

Youker, R. (2007) Managing projects financed by international lending agencies. In Cleland, D.I. and Ireland, L.R. (eds) Project Manager's Handbook: Applying best practices across global industries. McGraw Hill, New York.