

Implementation of government policies in the construction industry: The case of Sri Lanka

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Abstract

Public policy system of the construction industry of a country will reflect the country's economic, political, social, and cultural status. In any country, especially in developing countries like Sri Lanka, the success of government policies depends on their effective implementation. Thus, the aim of this study was to explore how construction related government policies could be effectively implemented to facilitate the development of the construction industry of Sri Lanka. The study used the qualitative approach consisting of 15 expert interviews and manual content analysis was used to analyze the empirical data collected through the interviews. The findings revealed that National Policy on Construction (NPC) formulated by the National Advisory Council on Construction (NACC) is the only construction policy implemented in Sri Lanka. NPC, which contains 18 policies applicable to both public and private sectors, is found to be sufficient for the effective operation of the construction industry for the time being. However, the proper implementation of the policy could be a challenge given the nature of the country's construction industry. The implementation of the policies gets interrupted when there are financial issues, insufficient human and technical resources, political influence, poor delegation of authority, and ineffective leadership. If the recommendations made in the study to overcome the barriers for policy implementation could be implemented, the country's construction industry would develop rapidly.

Keywords

Construction industry, Implementation barriers, National policy on construction (NPC), Recommendations.

1. Introduction

The construction industry of a country plays a significant role in its national economy (Alaghbari et al., 2019). In Sri Lanka, the construction industry, which significantly contributes to the Gross Domestic Product (GDP) and creates employment (Vijayaragunathan & Rasanthi, 2019), is the fourth-largest industry in the country with its percentage contribution to the GDP during the past 10 years standing at 6-7% (Jayalath & Gunawardhana, 2017). The government policy on construction will reflect the economic, political, social, and cultural status of the country (Seaden & Manseau, 2001).

A policy is a general declaration regarding priorities, formal laws or rules, procedures, and standards. In its simplest sense, a policy refers to a course of action to achieve one or more intended goals at specified intervals as desired by a firm or an individual as the case may be (Mackay & Shaxton, 2005). The success of such a policy will, however, depend on its effective implementation (Khan, 2016). According to Meier et al. (2016), even the best policy will not be of any value if it is not applied effectively or correctly. A stable government policy on construction will be very useful to overcome the numerous issues currently faced by the construction industry in Sri Lanka (Silva et al., 2008). According to Mohd Nawi, Baluch, and Bahauddin (2014), because of structural reasons, such as insufficient learning across projects, the construction industry has become less productive than most of the other industries (e.g. manufacturing), the construction value chain has got fragmented, and the industry has been unable to keep pace with technological developments. To resolve these issues faced by the construction industries of their respective countries, various governments have progressively introduced new policies to improve the construction performance of their countries. However, these construction policies have often failed to obtain the active participation of construction industry stakeholders (Park et al., 2011). According to Ratnasingham (2015), a major concern of the construction industry in Sri Lanka has been the changes made to

construction policies with the change of the government. Thus, addressing the loopholes in the current policies and providing recommendations to prevent the governments from making changes to the policies as they wish is important (OECD, 2016).

Several authors have discussed the roles of the government policies and their effects (Morestin, 2012; Taofeeq, Adeleke, & Lee, 2019; Taofeeq, Adeleke, & Lee, 2020; Taofeeq, Adeleke, & Hassan, 2019; Weller, 1980), policy changes (Stewart, Hedge, & Lester, 2008; Wong, 2019; Xiaopeng & Pheng, 2013), policy implementation (Mazmanian & Sabatier, 1989; Meter & Horn, 1975; Wali, 2010), policy implementation issues (Meier et al., 2016), and the relationship between government policy and construction sustainability and innovation (Seaden & Manseau, 2001; Waddell, 2008). The importance of government policies (Hettiarachchi et al., 2019) and policy gaps that deter sustainable construction (Jayalath & Perera, 2019) in Sri Lanka have been discussed by only few researchers. Literature on the effectiveness of the application of government policies in Sri Lanka, especially with regard to the development of the construction industry in the country, is scarce. According to Jayalath and Perera (2019), Sri Lanka lacks robust policies. Therefore, a policy gap analysis like done in this study may be useful in the long run. The recommendations provided will help the construction industry identify the productive policies that suit it as without such recommendations the industry will lack interest in implementing construction policies. Therefore, a comprehensive study on construction policies that will identify their current implementation status, implementation barriers, policy gaps, and provide recommendations to overcome the policy barriers / gaps will help better management of the Sri Lankan construction industry. Thus, the aim of this study was to explore how construction related government policies could be effectively implemented to facilitate the development of the construction industry of Sri Lanka. The objectives of the study were to identify and study the policies related to the construction industry in Sri Lanka; in-

investigate the adequacy of government policies for the effective operation of the construction industry; identify the barriers to implementing construction policies; and recommend steps that can be taken to address construction policy gaps or barriers to construction policy implementation.

2. Literature review

2.1. Government policies

Government policies are a collection of actions containing an extensive framework for implementing a philosophy, concept, vision, or decision by transforming it into numerous programmes, projects, and actions (Anderson, 2010; Fox & Meyer, 1995). While these policies can either encourage or hinder new strategies and innovations, strict and focused policies can spur significant and fundamental changes (Patanakul & Pinto, 2014). Governments set the foundation for public policymaking to help decide the social goals to pursue and the mode of attaining them (Young, 2013). According to Presley and Meade (2010), a policy allows for a robust uniform system in the industry concerned. The closing of the gap between the purpose of a policy and its effective approaches is difficult (Meacham, 2016). For successful policymaking related to the construction industry of Sri Lanka, the different strategies of policy implementation should be unbundled to avoid any interruptions or unequal growth (Jayalath & Perera, 2019).

2.2. Need for a government policy in the construction industry

Construction industry requires government policies and legislation for its regulation (Nawi et al., 2012). Government policies are important for the development of new construction technologies or products, the government being a major client of the construction industry (Nifa & Ahmed, 2010). According to Drewer (1980) and Taofeeq, Adeleke, and Lee (2019), government policies are required to encourage the construction industry to use appropriate technology, strengthen small and medium-sized local contractors, establish appropriate training programmes, and encourage innovation. The public

policy regime for this sector will reflect the economic, social, political, and cultural values of the country (Seaden & Manseau, 2001). Countries like Japan, France, the United Kingdom, Netherlands, Denmark, and Finland, which have more centralised government structures, have a national construction ministry, to champion the particular needs of the construction industry and promote customised innovation-enhancement construction policies. The government should set rules and regulations, which come through policies, to help shape the risk and competitive environment of the construction industry (Bosch & Philips, 2003). Without government policies, the industry will be overwhelmed by many small companies with limited fixed capital, letting competitive subcontractors to flourish. Furthermore, the absence of a government policy can exacerbate employment conditions, and reduce the skills and the training opportunities available to the workers of the industry (Moran et al., 2008). Adeleke, Bahaudin, and Kamaruddeen (2017) also indicate that policies are strongly related to successful workforce management. A policy in the construction industry will refer to all construction operations, such as all procedures, or actions required before a project is started and completed. Organisations that properly adhere to the government's approved policy on procuring supplies, drawing plans, or conducting certain building activities will face only a few risks (Taofeeq, Adeleke, & Hassan, 2019). Therefore, appropriate government policies would overcome the current shortcomings faced by the construction industry and ensure its long-term survival.

2.3. Government policies in the Sri Lankan construction industry

The National Advisory Council on Construction (NACC) in Sri Lanka that deals with matters relating to the country's construction industry and its aims are empowered by the Construction Industry Development Act No.33 of 2014 adopted on 29 December 2014 to create a National Policy on Construction (NPC) (Wettasinghe, 2015). The main purpose of the NPC, which has 18 sub-policies, is to create

an efficient Sri Lankan construction industry that meets national development needs by controlling, standardising, capacity building, and facilitating the industry (Jayalath & Perera, 2019; Ministry of Housing Construction & Culture Affairs, 2017). The policy, which applies to both the private and public sectors involved in construction, aims to align with it the strategies and operative backgrounds of the different sectors of the industry to ensure complementarity (NACC, 2016). The changes made to the construction policies by different governments is a major concern of the construction industry in Sri Lanka (Ratnasingham, 2015).

The success of a policy is measured by how well it is implemented (Khan, 2016). Even the finest policy will be of little value unless it is successfully or properly implemented (Meier et al., 2016). The failure of government policies has interrupted construction industry development (Hui et al., 2011). The political instability of the government also makes a huge impact on the construction industry and its productivity because such instability may lead to swift changes in certain policy decisions already taken by the government.

2.4. Government policy implementation and its barriers

According to Stewart, Hedge, and Lester (2008), implementation is a significant phase of policymaking. Simon (2010) defines policy implementation as the application of the policy by the management to achieve its goals. In particular, policy implementation includes government and private activities aimed at achieving the objectives stated in previous policy choices (Meter & Horn, 1975). The implementation of a specific policy is very context-related because it relies on political, cultural, economic, organisational, and attitudinal factors that affect the effectiveness or the inadequacy of policy implementation (Meter & Horn, 1975; Stewart et al., 2008). According to Smith and Larimer (2009), the gap between the intention of policy and its results is mentioned in the most frequently cited definitions of implementation.

According to Meier, Ripley, and Franklin (2016), one of the major challenges that developing countries face is policy implementation which encounters barriers when the desired outcome is not available for the intended beneficiaries. When the elements crucial for public policy implementation are absent, implementation issues can arise (Makinde, 2005). Sharpe, Rossi, Lipsey, and Freeman (2004) indicated that many policies fail to get enforced or implemented according to policy design. One of the main issues faced during policy implementation is the lack of guidance on how to implement the policy in the right direction (Hudson et al., 2019). Furthermore, a lack of theoretical understanding is also found to be a key issue with policy implementation (Mazmanian & Sabatier, 1989). Uncertain goals and objectives in policy implementation is another obstacle (Pressman & Wildavsky, 1973). The consistency of the goals and objectives of the policy promotes timely policy implementation. Non-achievement of policy objectives is attributed to incorrect policy implementation (Brinkerhoff & Crosby, 2002).

Investigators who check the policies may seriously undermine their implementation because of the insufficiency of their professional and technical resources (Brinkerhoff & Crosby, 2002; Goggin et al., 1990; Lipsky, 2010; Mazmanian & Sabatier, 1989; Meter & Horn, 1975), insufficiency of the funds provided, unavailability of experienced staff, negative disposition of front-line implementers toward policy interventions (Meter & Horn, 1975; Meier et al., 2016), intra-agency antipathy and lack of intra-agency communication between task force officers and programme superiors (Meter & Horn, 1975; Bridgman & Davis, 2004), political interference, poor delegation and flexibility (Fox et al., 2006), inadequate independency (Wali, 2010), the impact of socio-economic conditions (Bridgman & Davis, 2004), the inadequacy of managerial capabilities and willingness, enhanced demand for services, ambiguous goal expectations, and the difficulties experienced in achieving goals (Lipsky, 2010). According to Silva et al. (2008), corruption and favouritism are

two main disadvantages encountered in many developing countries during policy implementation. However, similarities, as well as dissimilarities, can exist between the barriers to policy implementation encountered in other developing countries and those encountered in Sri Lanka.

Thus, the effectiveness of the policies depends on the policies themselves and the management of their implementation (Brinkerhoff & Crosby, 2002). Therefore, the proper implementation of policies is very much important to the development of a country. Makinde (2005) and Hudson, Hunter, and Peckham (2019) have studied policy implementation barriers in various countries, while Khan (2016) has found solutions to overcome those barriers. However, only a few studies have been conducted on the implementation of policies specific to the construction industry and their barriers. Moreover, a detailed study has so far not been conducted to identify the construction policies currently being implemented in Sri Lanka and the effective implementation of the policies to develop the construction industry.

3. Methodology

According to Ritchie, Lewis, Nicholls, and Ormston (2014), a qualitative research approach will be ideal to gather opinions and information from people based on their experience and will be useful in situations where an in-depth analysis of the data gathered is necessary. Creswell (2014) suggests a qualitative research approach when the variables to be investigated are unknown or when the literature is not comprehensive enough. According to Creswell (2014), the qualitative approach is well suited to exploratory data analysis and to gather new knowledge. Thus, a qualitative research approach was adopted in the study. Merriam (2019) had mentioned that expert interviews are ideal for two-way information exchange. Since qualitative research considers 15 to be the smallest acceptable sample size (Bertaux, 1981; Mason, 2010), the study included 15 expert interviews. The sample size was limited to 15 following the concept of data saturation. Moreover, data sat-

uration enables the establishment of the validity of a data set (Nascimben et al., 2018). According to Rowley (2012), semi-structured interviews enable participants to explain their feelings, experiences, and opinions vividly on the importance of a subject. Thus, in this study, a semi-structured interview design was adopted with semi-structured questions, which allowed certain questions to be raised when required (Berg, 2009). The interview guideline was divided into sections to identify the appropriateness of the policies for the effective operation of the construction industry, barriers to implementing the NPC, and recommendations to address construction policy gaps/ issues on policy implementation mechanisms in Sri Lanka. The experts were requested to state their level of awareness about the NPC, present policy mechanism practices, barriers to policy implementation, and recommendations to overcome the barriers (Refer Table 2). Each face-to-face semi-structured interview was conducted for 60-90 minutes, with knowledgeable and experienced experts associated with the construction industry. The experts were selected using purposive sampling, based upon their knowledge and experience of more than 15 years in the industry (Refer Table 1), awareness on NPC, availability for interviewing, and willingness to take part in the interviews (Etikan et al., 2016). Further they had experience in the areas of preliminary cost advice, cost planning including investment appraisal, life-cycle costing and value analysis, tendering and tender evaluation, procurement and tendering procedures, contract documentation and value analysis which allow them to get exposure to NPC in their day to day work. Moreover, all the selected experts were especially selected considering either being on the advisory committee or engaged in policymaking process of the NPC. Thus they were familiar with the process of policy making. The collected data were manually analysed using directed content analysis to concentrate on the research question (Azungah, 2018; Hsieh & Shannon, 2005). Table 1 provides details about the interviewees.

Table 1. Profiles of the interviewees.

Respondent	Profession	Designation	Total Industry Experience	Key Experience Areas and Experience Years				Key Knowledge Areas	Relation with the NPC	
				Civil and structural engineering	Project management	Surveying and construction	Consultancy		Engaged in policymaking	Being on the advisory committee
R1	Chartered Quantity Surveyor	Director	30 years		✓ (20)	✓ (10)	✓ (5)	Preliminary cost advice, Cost planning including investment appraisal, Life-cycle costing and value analysis, Procurement and tendering procedures, Contract documentation	✓	
R2	Chartered Quantity Surveyor	Chairman	47 years		✓ (32)	✓ (15)	✓ (21)	Procurement and tendering procedures, Contract documentation, Evaluation of tenders, Cash-flow forecasting, financial reporting and interim payments, Final accounting and the settlement of contractual disputes, Preliminary cost advice, Cost planning including investment appraisal, Life-cycle costing, and Value analysis	✓	
R3	Chartered Quantity Surveyor	Senior Lecturer	30 years			✓ (30)	✓ (20)	Preliminary cost advice, Cost planning including investment appraisal, Life-cycle costing, and Value analysis, Research skills		✓
R4	Chartered Engineer	Director	18 years	✓ (15)	✓ (3)			Technical specialisation, Planning, and scheduling, Negotiation, Budgeting, Conflict Resolution	✓	
R5	Lawyer	Legal Draftsman	15 years		✓ (10)		✓ (7)	Construction contracts, Insurance claims, Legal procedure	✓	
R6	Chartered Engineer	Director	15 years	✓ (10)	✓ (10)			Technical specialisation, Planning and scheduling, Negotiation, Budgeting, Conflict resolution		✓
R7	Chartered Engineer	Chief Executive Officer	35 years	✓ (22)	✓ (12)		✓ (10)	Management, Technical knowledge, Planning and scheduling, Negotiation, Budgeting, Conflict resolution	✓	
R8	Chartered Town Planner	Director	30 years	✓ (10)		✓ (20)	✓ (20)	Knowledge on urban spatial structure, Legal knowledge, Technical skills, Research skills, Negotiation	✓	
R9	Chartered Architect	Deputy Director	20 years	✓ (10)		✓ (12)		Documentation, Cost estimation, Construction contracts, Technology knowledge, Research skills		✓
R10	Chartered Architect	Director	30 years	✓ (19)		✓ (20)	✓ (18)	Documentation, Cost estimation, Construction contracts, Management, Technology knowledge, Research skills		✓
R11	Chartered Architect	Deputy Director	19 years		✓ (5)	✓ (15)		Documentation, Research skills, Cost estimation, Construction contracts, Technology knowledge		✓
R12	Chartered Architect	Director	25 years	✓ (20)	✓ (5)		✓ (13)	Documentation, Cost estimation, Construction contracts, Technology knowledge, Research skills	✓	
R13	Chartered Town Planner	Deputy Director	18 years	✓ (12)	✓ (7)			Knowledge on urban spatial structure, Legal knowledge, Technical skills, Research skills		✓
R14	Lawyer	Legal Advisor	23 years	✓ (18)		✓ (12)	✓ (17)	Construction contracts, Insurance claims and disputes, Negotiating, Drafting, and advising on contract amendments	✓	
R15	Lawyer	Legal Advisor	20 years	✓ (12)		✓ (10)	✓ (9)	Construction contracts, Insurance claims and disputes, Negotiating, drafting and advising on contract amendments, Research skills	✓	

4. Research findings and discussion

4.1. Appropriateness of the policies for the effective operation of the construction industry in Sri Lanka

Even though the literature findings revealed that changes made to construction policies by different governments are a major concern in Sri Lanka, the interview findings revealed that NPC formulated by the National Advisory Council on Construction (NACC) under the provisions made in the Construction Industry Development Act No.33 of 2014 for the protection and development of the construction industry is the only construction policy

in Sri Lanka. The main objectives of the NACC are to formulate the NPC and achieve sustainable development in the construction industry. The basic purpose of the NPC is to establish an effective Sri Lankan construction industry that serves national growth needs by controlling, standardising, capacity building, and facilitating the industry. R2 mentioned that in developing this NPC, the NACC took several steps such as identifying the need for a construction policy in the construction industry, gathering necessary information, drafting the policy, consulting appropriate industry

stakeholders, obtaining approval for the policy, implementing, monitoring, and finally revising the policy. The stakeholders, such as construction experts, advocacy groups, researchers, and policymakers who were well-suited to consider and discuss the potential implications of the policy, were recruited to develop the policy. For the development of the construction industry in a country like Sri Lanka, a construction policy is essential as an action guide that could be followed by the construction industry stakeholders. According to R3, “construction policy is a must to monitor the construction industry in Sri Lanka properly, the industry being one of the major contributors to the GDP”. The experts mentioned that policies ensure the consistency of an industry as otherwise, no one will know what to do, how to do it, and when to do it when in an ad-hoc situation.

When the experts were questioned on the adequacy of the existing policy to the construction industry in Sri Lanka, the majority stated that the policy being the first of its kind in Sri Lanka, it has to be implemented for several years to gauge its effectiveness and if necessary, amended. Some of the interviewees stated that certain areas in the country are not being covered by the NPC. R1 elaborated that Sri Lanka is well behind the other countries in the use of Building Information Modelling (BIM). The government agencies in several countries such as Singapore, South Korea, the UK, and the USA have made the use of BIM mandatory through the government policies established for public construction projects (Information Resources Management Association, 2018; Olawumi & Chan, 2019). Thus, in Sri Lanka too, BIM should be implemented through policies. The use of solar energy for construction also has to be promoted in Sri Lanka using policies. New legislation and policies of the UK government on improving renewable energy usage have had a major impact on how the buildings are designed and constructed in the country (Waddell, 2008). Moreover, the experts suggested that popularising green technology should be a part of NPC, which Jayalath and

Perera (2019) have already identified as a policy gap in Sri Lanka. The little consideration given to these new concepts in the NPC has led to a lack of theoretical sophistication in the policy, which Meier et al. (2016) identified as a global issue. However, some of the experts mentioned that policies alone will not help meet the challenges faced by the industry and that they only help improve industry practices rapidly and reliably.

Though the literature states that countries like the Middle East, Africa (Xiaopeng & Pheng, 2013), China (Shen et al., 2001), Vietnam (Ling & Hoang, 2010), India (Ling & Hoi, 2006), and Sri Lanka (Ratnasingham, 2015) experience policy uncertainty, this study revealed that Sri Lanka does not experience such uncertainty because NPC has remained unchanged since the date of its formulation. All the experts agreed that the 18 policies (Table 2) mentioned in NPC have not changed with government changes and that the existing policy is more than sufficient for the effective operation of the construction industry in Sri Lanka although its implementation could be an issue.

4.2. Barriers to implementing the National Policy on Construction in Sri Lanka

The current level of implementation of NPC and the barriers to implementing it are discussed in the following sections.

4.2.1. Current level of implementation of NPC

Before identifying the barriers to implementing NPC, the identification of its current level of implementation is important. Table 2 summarises the findings on the current implementation level of NPC in Sri Lanka.

The descriptions of the 18 policies presented in Table 2 were extracted from the NPC. Each policy has its own policy mechanism. As Table 2 indicates, 7 out of the 18 policies are yet to be implemented. Only 2 policies have been implemented “considerably,” 9 policies have been implemented to “a degree” while the rest of the policies have not yet been implemented at all.

Table 2. Current level of implementation of NPC

Policy	Current Implementation Level	Number of Respondents
NPC 1- Provide strategic leadership to the stakeholders of the construction industry to stimulate sustainable growth, reforms, and improvement of the construction sector	To a degree	15/15
NPC 2- Regulate and monitor the activities of all stakeholders of the construction industry as may be prescribed from time to time	Considerably	15/15
NPC 3 - Promote sustainable economic growth of the construction industry with special attention to the design and development of disaster-resilient, energy-efficient, and environmentally sustainable buildings, structures, and construction practices	To a degree	15/15
NPC 4 - Promote innovation, research, dissemination, and publication of research work on matters relating to the construction industry and its development	To a degree	15/15
NPC 5 - Establish national standards and specifications for the construction Industry	Considerably	15/15
NPC 6 - Establish codes of conduct, practices, procedures, processes, and documentation to promote good practices relating to the construction industry	To a degree	15/15
NPC 7 - Enhance human capital, professionalism, efficiency, and productivity of the human resource of the construction industry	To a degree	15/15
NPC 8 - Enhance occupational safety and health standards and practices in the Construction Industry	To a degree	15/15
NPC 9 – Enhance the use of Information Technology to improve the efficiency and productivity of the construction industry processes	Not yet implemented	15/15
NPC 10 – Promote access to overseas markets for Construction Companies and personnel	To a degree	15/15
NPC 11 - Create an enabling environment for local and foreign investment in the construction Industry	Not yet implemented	15/15
NPC 12 – Establish a monitoring and evaluation procedure to ensure compliance of industry practices including disaster-resilient construction standards & practices, with the National Construction Policy	To a degree	15/15
NPC 13 – Promote domestic participation in foreign-funded construction projects implemented by foreign contractors and consultants	Not yet implemented	15/15
NPC 14 – Encourage private sector participation in policy development	Not yet implemented	15/15
NPC 15 – Encourage effective management of construction projects by the industry	Not yet implemented	15/15
NPC 16 – Establish Codes of Conduct among partners of the industry	To a degree	15/15
NPC 17 – Encourage Human Resource Development in the Construction Industry	Not yet implemented	15/15
NPC 18 – Establish appropriate procurement practices in the Construction Industry	Not yet implemented	15/15

Thus, not a single policy has been fully implemented. Although the implementation mechanism for each policy is mentioned in the NPC, according to the interviewees, most of those mechanisms are not being implemented. Even though the policy as a whole is more than sufficient for developing the construction industry in Sri Lanka, the proper implementation of the policy has been neglected by the relevant stakeholders. The real benefit of this policy would not be achieved if it is not implemented properly. This was confirmed by Hudson et al. (2019) when they stated that there is a growing acceptance that a policy will not be a success or failure on its own but its implementation.

4.2.2. Barriers to implementing construction policies

Table 3 lists a set of barriers for each policy and recommendations for overcoming those barriers identified from the expert interviews.

Common barriers

According to Table 3, financial issues, lack of human resources, political influence, lack of technical resources, lack of authority, lack of effective leadership/proper guidance, delays caused by government organisations, corruption and transparency issues, and research and development weaknesses are the common barriers that impede the smooth implementation of the policies. All of the interviewees indicated that lack of funding is a major obstacle to the implementation of NPC and that it may lead to other issues as well. Therefore, it is the most important barrier to be considered. Because the Construction Industry Development Authority (CIDA) is the main organisation set up by the Government of Sri Lanka to develop and promote the domestic construction industry, the Authority needs sufficient human and technical resources to implement procedures and store, update, regulate, and monitor data. However, CIDA is lacking in these resources.

Table 3. Barriers and recommendations to NPC.

Common Barriers	Number of Respondents	Policy	Implementation Barriers/ Policy gaps	Number of Respondents	Recommendations to Overcome the Barriers	Number of Respondents	
Financial issues	15/15	NPC 1	Lack of interest in the responsible personnel	14/15	Establishing an effective and dedicated leadership with the required skills	15/15	
Lack of human resources	14/15		Improper monitoring of the responsibilities	13/15		Bringing back Sri Lankan professionals, who have migrated overseas	12/15
Political influence	13/15	NPC 2	Poor commitment of the frontline implementers	12/15	Establishing a proper monitoring system	13/15	
Lack of technical resources	14/15		Lack of awareness about the policy	15/15			
Lack of authority	13/15	NPC 2	Regulatory problems and "political will"	13/15	Providing human resources, computer facilities, and computerised systems	14/15	
Lack of good leadership/ proper guidance	14/15		Long-time taken to update regulations and guidelines	11/15		Introducing construction industry development levy	
Delays caused by government organisations	12/15	NPC 2	Lack of computer facilities	14/15	Recruiting competent staff	13/15	
Corruption and transparency issues	14/15		Lack of competent staff	10/15		Considering the ideas of all stakeholders	15/15
Research and development weaknesses	10/15	NPC 2	Outdated documents	12/15	Registering all stakeholders of the construction industry	12/15	
							13/15
		NPC 3	Time-consuming processes	9/15	Making approval procedures fast and efficient	13/15	
		NPC 3	Lack of support from the consultants	5/15	Allocating funds	14/15	
		NPC 4	Non-availability of a separate research entity for the construction industry	10/15	Encouraging research and establishing a research fund	10/15	
		NPC 4			Establishing a separate entity responsible for research in the construction sector	5/15	
		NPC 5	Unavailability of standards and guidelines	12/15	Obtaining advice from Sri Lankan professionals, and seeking their involvement and commitment	10/15	
			Outdated specifications	12/15		Preparing standards for machinery	7/15
			Absence of a clear vision in the frontline implementers	13/15		Getting frontline implementers to be committed and skilled	7/15
		NPC 5	Lack of contribution from industry experts	14/15	Arranging effective leadership to direct frontline implementers	13/15	
						Getting the professionals to speak up against corruption	15/15
		NPC 6	Failure of industry personnel to follow codes of conduct and best practices	13/15			
		NPC 7	Lack of programmes to promote the use of information technology in the industry	14/15	Arranging effective leadership, strong management, and proper coordination	12/15	
		NPC 8	Reluctance to adhere to safety standards	8/15	Developing the interest and knowledge of the construction sector	12/15	
			Inability of the contractors to purchase safety standards because of their high costs	9/15		Giving consideration to labour categories	12/15
		NPC 8			Including occupational health and safety (OHS) standards and practices in the bills of quantities as a paid item	11/15	
					Introducing a penalty for failing to comply with OHS standards	9/15	
		NPC 9	High cost of procuring IT facilities	15/15	Establishing a sub-committee under the Advisory Council for all areas	8/15	
		NPC 9	Reluctance to adopt new technologies	13/15	Conducting training programmes	15/15	
						Conducting awareness programmes on new technologies	14/15
		NPC 10	Lack of incentives to encourage contractors	8/15	Providing incentives to encourage contractors to access foreign markets	13/15	
			Issues related to communication infrastructure	13/15		Expanding the communication infrastructure	12/15
		NPC 10	Lack of technical and software skills	12/15	Conducting training programmes	15/15	
		NPC 11	Insufficient support extended by the Sri Lankan government to foreign investors	7/15	Establishing an online platform for foreign investors	6/15	
			Time-consuming approval systems	8/15		Compensating all the processes	12/15
		NPC 11	Rigidity of rules and regulations	13/15	Relaxing the rules and regulations pertaining to foreign investors	7/15	
			Political instability	14/15			
		NPC 11	Absence of a 'level playing field'	12/15			
			Reluctance of the developers to participate in awareness programmes	10/15			
		NPC 12	Inadequate consideration given to local contractors	11/15	Promoting interactions with the banks	9/15	
		NPC 12	Absence of a penalty system to punish those who violate rules and regulations	14/15	Recruiting competent staff	10/15	
						Removing NBT from construction contracts and charging 1% as an industry development levy	9/15
		NPC 13	Lack of support and contribution from the private sector	6/15	Reducing taxes and interest rates on loans and providing incentives	9/15	
			Lack of awareness about the policy	7/15		Providing additional benefits to the private sector	7/15
		NPC 13	Lack of incentives to encourage the private sector	11/15	Conducting awareness programmes on the policy	15/15	
						Reducing corruption and introducing a penalty system	8/15
		NPC 14	Lack of interest by the private sector	15/15	Conducting awareness programmes in the private sector	7/15	
		NPC 15	Lack of proper coordination	8/15	Bringing back the Sri Lankan professionals, who have migrated overseas	8/15	
		NPC 16	Lack of a requirement to register professionals under CIDA	7/15	Providing effective leadership	9/15	
						Conducting awareness programmes in the private sector	10/15
		NPC 17	Lack of required documents	10/15	Improving procurement practices	6/15	
			Lack of professionals	14/15		Recruiting competent staff	13/15
		NPC 17	Lack of proper accreditation criteria	8/15	Conducting awareness programmes on CIDA publications in the private sector	12/15	

Many of the interviewees emphasised that political interference makes it impossible to implement policies and that the authority vested in CIDA is not sufficient to implement the policies. According to most of the interviewees, the success of the construction industry could be ensured by getting all construction projects to be managed and supervised by a single authority; yet the construction industry in Sri Lanka is not well organised. Although an industry could be controlled by one single regulatory commission, it is not the case with CIDA, being only an authority. R2 stated that because CIDA comes under the Ministry of Housing, Construction, and Cultural Affairs, the ministry is more concerned on the construction of houses. CIDA, however, is expected to focus on housing construction and construction activities in other sectors.

For the success of any venture, proper leadership is necessary. The frontline implementers and the country's leaders should have the interest, commitment, skill, and knowledge to implement the policies. The experts mentioned that lack of interest and good governance cause issues related to implementation mechanisms. Delays caused by govern-

ment organisations are common to all sectors in Sri Lanka and corruption has disturbed policy implementation. Activities relating to policy implementation are not transparent to the interested parties. Besides, research and innovations are absent in the construction industry in the absence of no separate entity responsible for research.

Phulkerd, Sacks, Vandevijvere, Worsley, and Lawrence (2017) have identified several common barriers to policy implementation in the health sector in Thailand, such as lack of monitoring and evaluation systems, lack of organisational knowledge regarding the skills required for implementation, poor governance, and lack of funding and resources, which are similar to the barriers identified in this study for the construction sector. Moreover, the Malaysian construction sector is also said to be undermined because of policy implementation barriers, such as lack of sufficient resources, lack of incentives, lack of competent staff, implementers' negative dispositions, lack of inter-organisational communication, and lack of official commitment to statutory objectives (Adnan et al., 2012), which were recognised in this study too. Therefore, most of the policy

implementation barriers in developing countries appear to be similar. However, the lack of a clear policy, which was revealed as a barrier for policy implementation in Thailand (Phulkerd et al., 2017) and Ghana (Ofori, 2012), has not been identified as a barrier in Sri Lanka because the existing policy is adequate subject to its proper implementation. Yet, the unavailability of a separate research entity is a unique barrier to policy implementation in Sri Lanka as discovered in this study.

Specific policy implementation barriers/policy gaps

Eight sub-policies are included in NPC (Table 2) These 18 sub-policies were further analysed in the study by identifying the specific barriers to implementing each sub-policy (Table 3). Under NPC 1, all the experts mentioned that all cabinet ministries have received a copy of the policy. Nevertheless, it was revealed that most of the public and private sector organisations involved in construction are still not aware that such a policy even exists, which, therefore, is an important issue to be considered. R10 stated, “Even if people know that a national policy exists, they would not be interested in it because they know that in Sri Lanka policies are only on paper and not implemented. The people believe that there is no point in knowing a policy that is not going to be implemented. Hutahaean (2016) disclosed that stakeholder interest in a policy is very important for its effective implementation, which confirms the findings of this study. With reference to NPC 2, it was stated that it is very important to have a register of all the stakeholders of the construction industry although in Sri Lanka no such register is available. With only contractors being registered under CIDA, the former has become powerful. Thus, contractors try to change the guidelines and standards developed by CIDA to suit their own purposes. This was confirmed by Fox et al. (2006) when they said that in the absence of delegation of authority, the smooth implementation of policies would get affected.

Although under NPC 3, CIDA has to prepare a green building rating

system in collaboration with the National Building Research Organisation to promote disaster resilient buildings, the implementation of this policy had been slow because of barriers. According to the interviewees, NPC 5 lists the specifications that are mandatory in Sri Lanka. However, a master specification that suits the present status of the industry has not yet been prepared. Most of the specifications used for materials are outdated and no guidelines related to sustainability are available. Bourdeau (1999) revealed that the way the construction sector could follow the global approach to sustainable development should be clarified and that the approach should be established through policies. Jayalath and Perera (2019) confirmed the study findings as they have stated that lack of policies is the most significant barrier to the implementation of sustainable practices in the Sri Lankan construction industry.

NPC 6 and NPC 7 state that continuing professional development programmes have to be conducted by government authorities and professional bodies to promote good practices in the construction industry. Industry personnel, however, ignore the codes of conduct and best practices. NPC 8 mentions that due to the high cost of standards, most of the contractors do not purchase those standards. Although according to NPC 9, workplaces have to adopt new technologies, people dislike new technologies. This was confirmed by Pressman and Wildavsky (1973), who mentioned that “intra-agency antipathy” causes delays in policy implementation.

The interview findings reveal that NPC 10 implementation in collaboration with the Export Development Board is in progress. According to the experts, although contractors have access to overseas markets, the NPC does not encourage them to capture those markets. R8 stated that NPC 11 sets out strict rules and time-consuming procedures for foreign investors without creating an environment that welcomes them. The interviewees were also of the view that no ‘level playing field’ is available in the country because the bank interest rates in Sri Lanka on loans are as high as 15-25%,

whereas in other countries this rate is only 1%-3%. Hence, foreign contractors are in a more advantageous position than local contractors. Generally, a 40-60% tax is levied on imported construction products.

The experts stated that in national competitive bidding, foreign and local contractors are placed on an equal footing, which is not fair by the local contractors. Domestic participation is considered in NPC 13, but because of political reasons, it has not been effectively implemented. A mechanism to penalise those who violate rules and regulations is not available, creating an environment conducive to the preparation of bilateral documents and employer-biased documents.

All of the interviewees believed that NPC 15 is not being implemented because the private sector was not interested in it. Yet, the steps involved in its implementation require consideration. Concerning NPC 18, the interviewees mentioned that although all procurement guidelines applicable in Sri Lanka are available with CIDA, no documents catering to procurement systems except those pertaining to re-measurement and, design and build contracts are available. The interviewees also stated that the professionals and staff available to accredit service providers are not sufficient and that proper accreditation criteria are not available. Most of the barriers highlighted by the experts are unique to Sri Lanka.

4.3. Recommendations to address construction policy gaps/ issues on policy implementation mechanisms

Table 3 presents the policy-wise recommendations identified by the expert interviewees to overcome the barriers that impede policy implementation. The main point highlighted by all the interviewees was that if the required financial facilities, human and technical resources, competent staff, and effective and dedicated leadership with skills could be made available all barriers could be resolved. A majority of the interviewees mentioned that many construction professionals have migrated to other countries. Therefore, they suggested obtaining the views of these professionals and making use

of the experience they have gained by working in other countries, to implement effective policy monitoring through them after identifying their specific roles and responsibilities regarding the same. Furthermore, under NPC 2, some of the experts suggested that a construction industry development levy should be imposed properly to address the shortage of funds. The recommendation concerning NPC 3 was to make approval procedures fast and efficient. With regards to NPC 4, the interviewees were of the view that a proper programme has to be launched to encourage research on the construction sector through investments. They suggested establishing a separate research entity to identify the issues facing the industry and solutions to them. A research fund is also required to provide monetary support.

With regard to NPC 5, a majority of the experts recommended seeking advice from Sri Lankan professionals because of their involvement in and commitment to updating specifications would help solve the issues related to the policy. R6 stated that the machinery used should comply with the required standards because the rate of accidents involving machines is high. Referring to NPC 6, all the experts recommended that professionals should speak up against corruption instead of contributing to it, which was identified as an important recommendation toward implementing the NPC.

The interviewees suggested under NPC 8 that adherence to occupational safety and health standards and practices should be included in the bills of quantities. They also suggested that if contractors fail to comply with these standards and practices, a penalty should be imposed on them. The suggestion made under NPC 9 was to appoint a sub-committee under the Advisory Council for each area to be implemented to prevent the minister in charge from blocking the implementation if he/she does not have an interest in that particular area. All of the interviewees recommended developing staff skills by conducting training and programmes on new technologies, which is an important recommendation. According to the interviewees, the

government should offer incentives to contractors to encourage them to access foreign markets through the policies to overcome the difficulties encountered in implementing policies like NPC 10. Some of the experts recommended improving communication infrastructure to help gather information on work opportunities available overseas. The experts proposed under NPC 11 that an online mechanism be established to enable foreign investors to easily seek approval for investment and development projects in Sri Lanka. Another recommendation was to relax the rules and regulations pertaining to foreign investors to encourage them to invest in Sri Lanka. With regard to NPC 13, the experts recommended removing the National Building Tax (NBT) from construction contracts. They suggested charging 1% as an industry development levy in its place. They also recommended reducing the taxes and interest rates on loans and providing incentives to motivate the domestic parties involved in the construction sector.

With regard to NPC 14, the recommendation was to increase the incentives given to private parties to encourage them to participate in policy development. As for NPC 15, all the interviewees recommended that the stakeholders should be made aware of the policy through awareness programmes to change their attitudes toward the policy, which is an important recommendation that will popularise the policy. The interviewees proposed under NPC 16, to penalise those involved in corruption. Concerning NPC 17 and NPC 18, R1 stated that almost all of the recommendations made in respect of NPC 1-16 would apply. Another recommendation was to improve the procurement practices and resolve any disparities among any new practices introduced under NPC 18. As an overall recommendation, the interviewees suggested that the NPC should not be modified along with political changes, because it would then have a direct impact on the continuous development of the construction industry and function as a barrier. However, they have proposed that the NPC should be changed only if any strategic level change has occurred.

Most of the key strategies identified in general by past researchers without referring to any specific industry, such as resource accumulation, technical resources, commitment and skills of the frontline implementers (Mazmanian & Sabatier, 1989), appropriate use of technology, delegation of authority (Brinkerhoff & Crosby, 2002), defined roles and responsibilities (Bardach, 1977), rewards and punishment (Meier et al., 2016), continuous monitoring, active involvement and engagement of stakeholders (Wali, 2010), and active leadership (Wong, 2019), to overcome policy implementation barriers/ gaps are similar to the strategies recommended by this study to the construction industry specifically. However, a stable flow of resources, policy legitimisation (Brinkerhoff & Crosby, 2002), and resolution of the complexity of joint actions (Meier et al., 2016) are some of the strategies that were identified in the literature but not suggested through this study. This study discovered several novel and unique policy-based recommendations to overcome the barriers/ gaps in the policy mechanisms set out in the NPC of Sri Lanka.

5. Conclusions and recommendations

Because the construction industry is a major contributor to the national economy, a proper national policy for construction will be necessary. Proper policies will guide and drive the industry both effectively and efficiently while managing it and catering to its needs. Policies can give a better shape and contribute to the economic activities of a country. They can significantly influence the development of the construction industry. A policy should not be merely a list of words in a document but should be implemented for the development of the industry. Any barriers to implementing the policies should be identified and treated properly or removed.

According to the findings of the study, the only construction policy in Sri Lanka is the NPC formulated by the National Advisory Council on Construction as provided in the Construction Industry Development Act

No. 33 of 2014. The NPC highlights 18 sub-policies. These sub-policies are currently adequate for the effective operation of the construction industry in Sri Lanka. The experts revealed that NPC after its formulation has so far not been changed although the literature mentions that a major concern of the construction industry in Sri Lanka is the changes made to the construction policies by different governments. The policy, per se, is not an issue; only its implementation has caused issues. Lack of effective leadership, insufficient resources, staff unavailability, lack of technical and professional resources, lack of delegation of authority, and political interference are the key barriers to implementing NPC properly. Policies can be implemented effectively if the required resources (financial, human, and technical) and effective and dedicated leadership with the required skills are available. Moreover, the experts recommended that the stakeholders be made aware of this policy and updated with future revisions. The interviewees suggested that the NPC should not be changed with political transitions, because such changes could have a significant effect on the growth of the construction industry hindering the establishment of the NPC. They insisted that the NPC should be changed only when strategic level decisions have been changed.

This study facilitates a better understanding of the NPC, which is still not popular among the public and construction industry stakeholders. The study contributes to theory by facilitating the proper implementation of government policies, which will help shape the risks and the competitive environment of the construction industry to enable it to meet future challenges. The study findings provide an overview of the effective application of policies toward the development of the construction industry, for the benefit of future researchers, who can base their research on the study findings.

Practitioners, and/or policymakers can use the study findings to overcome the prevailing barriers to policy implementation related to the construction industry in Sri Lanka using the study recommendations. As an initial out-

put, this study can be benchmarked to developing countries and the findings can provide a basic guideline, which can be followed by other developing countries for the effective application of policies toward the development of their construction industries. However, as the study is still on-going, its focus was only on the effective application of policies toward the development of the construction industry in Sri Lanka. In the study, the housing sector was not considered because the political strategies used in the sector are different from those used in other sectors. The housing sector is unique in the Sri Lankan construction industry.

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