

STAKEHOLDER MANAGEMENT IN ROAD CONSTRUCTION PROJECTS IN SRI LANKA: A CONTRACTOR PERSPECTIVE

K.H.N.P. Jayathissa, Aparna Samaraweera* and K.A.T.O. Ranadewa

Department of Building Economics, University of Moratuwa, Sri Lanka

ABSTRACT

Possessing rights and abilities to influence the project activities, project stakeholders have become a major source of uncertainty in construction projects. Road construction projects are associated with such a varied range of stakeholders and it is necessary to recognize and manage them properly to complete projects successfully. Being in constant interactions with many of the project stakeholders daily within the project lifecycle, contractor requires a proper management of stakeholders from their standpoint. Thus, this research intends to analyse the power (importance level of impact) and interest (influence probability of those impacts) of stakeholders in road construction projects and recommend suitable strategies to manage them. This aim was approached through a quantitative research methodology using a questionnaire survey including a random sample of 43 contractors' personnel from different construction projects in Sri Lanka. The research findings revealed that client, consultant, government authorities, funding bodies and subcontractors are imposing a high level of impact on project decisions and are with a high probability of having an impact on project decisions. Thereby, contractors suggest adaptation and compromising strategy to manage those stakeholders. Further, suppliers, environmental pressure groups and general public are unable to impose a high level of impact on project decisions but they are with a high probability of bringing in some sort of impact on project decisions. Thus, contractors suggest compromising and influence strategy to manage them. Finally, a matrix developed incorporating the aforementioned findings would serve as a guideline for contractors to manage stakeholders in road construction projects in Sri Lanka.

Keywords: Interest; Power; Road Construction; Stakeholder Management.

1. INTRODUCTION

A construction project is a complex process of planning and managing array of activities which project management requires to be focused. Therefore, many stakeholders, who involve in numerous ways bring in different types of influences in different levels for the project operations (Atkin and Skitmore, 2008). Hence, the stakeholders play a major role in the successful accomplishment of the project objectives due to the decisions and actions that are taken by them (Karlsen, 2002). Often, each and every stakeholder has different stakes or interests and their engagement itself cause conflicts of interests (Chinyio and Olomolaiye, 2010). Therefore, the project management needs to manage them towards success of the project according to their individual needs and concerns (Olander and Landin, 2005). Thereby, the concept of stakeholder management has been established to clearly identifying the project stakeholders, their potential impact on project as well as for implementing appropriate strategies (Bourne and Walker, 2005).

The stakeholders of the construction industry are more complex compared to other industries due to participation of a large number of stakeholders such as client, consultants, contractors and regulators to name some (Bourne and Walker, 2005). Generally, there is a high probability to arise disagreements between the parties which can adversely affect to project management and delivery of the project within the time, budget and expected quality. According to Assefa *et al.* (2015) these disagreements leading to number of claim situations occur in construction projects due to improper identification and management of the project stakeholders. Olander and Landin (2005) also mention that the construction industry

* Corresponding Author: E-mail - aparna.samaraweera@gmail.com

worldwide has a poor record of Stakeholder Management during the past decades. Elmualim (2010) highlight that with the direct involvement of relationships and power structures, culture in different levels (national, organisational and individual) has a direct influence on stakeholder management in construction. Thereby, a contention could be brought in that localised understanding of stakeholders is essential in proper stakeholder management. Hence, there is a need to investigate stakeholder management in Sri Lankan construction industry for the purpose of developing better stakeholder management practices in that local context. Thus, the aim of this research is to analyse the stakeholder management in road construction projects in Sri Lanka.

This paper is structured in five sections. Initially, the concept of stakeholder management in construction industry is explained highlighting the three steps in stakeholder management process. Next, the research methodology adopted is described following the elaborations on research findings proposing a matrix for stakeholder management in road construction projects in Sri Lankan context. Finally, the conclusions have been drawn.

2. THE CONCEPT OF STAKEHOLDER MANAGEMENT IN CONSTRUCTION INDUSTRY

A stake is an interest and a stakeholder is an individual with a stake (Weiss, 2006). The most commonly used and widely accepted definition of a stakeholder in organisational context by Freeman (1984) states that any individual or group who is affected by or can affect the achievement of an organization's objectives is identified as a stakeholder. Newcombe (2003, p.15) has defined stakeholders in a project context as "individuals or organizations who are involved in a project, or whose interests may be positively or negatively affected to project execution and successful project completion". Construction projects are often complex and large which consist of individuals and groups with different "stakes". As number of stakeholders involved increase, the project can dramatically increase uncertainty of the situation (Freeman and McVea, 2001). Accordingly, the stakeholders' contribution is very essential for successful completion of a project. As the project stakeholders have different stakes which impact positively and negatively on project, the concept of stakeholder management has been built up to manage the relationships for the project success (Chinyio and Olomolaiye, 2010). According Rawlinson *et al.* (2008), stakeholder management is to maximize positive influences and minimize negative influences of stakeholders, by implementing project strategies.

2.1. STAKEHOLDER MANAGEMENT PROCESS

Researchers such as Olander (2006); Jepsen and Eskerod (2009); Walker *et al.* (2008); Kalsen (2002) have described many frameworks for project stakeholder management processes. However, out of all these models, Olander's (2006) model, which consists the management functions seems the most popular and heavily referred by recent researchers. The seven steps of the stakeholder management model by Olander (2006) include; identification of stakeholders, gathering information, identification of mission of the stakeholders, determining strengths and weaknesses, identification of stakeholder strategy, prediction of stakeholder behavior, implementing stakeholder management strategy. When all these project stakeholder management processes are analysed, it can be identified that all authors have basically given their concern on the three steps; identifying stakeholders, prioritizing stakeholders and implementing strategies. Following subsections include elaborations of these three basic steps.

2.1.1. IDENTIFYING THE STAKEHOLDERS

Generally, a stakeholder can be recognized from their contribution to the project such as being the source of finance or fund, personnel or material and impact in either action or inaction to the project. Bourne and Walker (2006) recommended identification of project stakeholders was based on their stakes such as; interest, rights, ownership, knowledge, impact or influence and contribution.

As stakeholders influence to a construction projects in various ways, the project managers should understand the attributes of stakeholders to determine how those affect to the project performance. Number of authors have described that the stakeholder's attributes can be recognized as a leading assessment factors for analysing the stakeholder's impact for the project as described in Table 1.

Table 1: Stakeholder's Attributes

Attributes	Description
Attitude	Attitudes of stakeholders can be recognized as the capability and eagerness to corporate or else intimidate the project (Savage <i>et al.</i> , 1991). In the opinion of McElroy and Mills (2000), stakeholder attitude decides upon to whether to contribute or to go against the project.
Interest	Olander and Landin (2005) state that stakeholders can be identified as a sector under a proposed project who persuade in the execution of construction in order to safeguard their personal interest. According to Yang <i>et al.</i> , (2009); Freeman <i>et al.</i> (2007) it is vital to identify the stakeholder's interest as they can be varied due to the complexity of the project in the fields of product safety, reliability on financial reporting new product services and financial returns.
Collaboration/conflict among stakeholders	Involvement of stakeholders internally (directly) or externally (indirectly) or in both ways could results in conflicts in a construction project. The difference of indirect stakeholders has results in the difficulty of resolving their conflicts with regard to the defect in establishing procedures to work incorporate with them (Weaver and Bourne, 2002).
Power	Power can be defined as an individual or group which might enduringly alter or end the project or any other work. Further, power is considered as a foremost driver of the dealings between manger and stakeholders (Mitchell <i>et al.</i> , 1997)
Legitimacy	According to Freeman <i>et al.</i> (2007), the legitimacy can be identified as a requirement to accomplish dealings among the stakeholders. In addition to that Mitchell <i>et al.</i> (1997) specify that according to various researchers, stakeholders have legal interactions with the project due to contracts, legal rights and ethics.
Urgency	The extent that stakeholder declare for an instantaneous notice can be explained as urgency (Mitchell <i>et al.</i> , 1997). Stakeholder's attributes can be decided upon the scope to which they persuade the project manager by means of urgent actions.
Influence	Olander (2007) states that the project stakeholders influence the process of project managers. Further, he describes in order to plan and execute a sufficiently rigorous stakeholder management process, identification of the influence of stakeholders is essential. In order to evaluate possible impact of stakeholders, level of influence assist to understanding effect of different stakeholder's in impact and nature of influence in a project.

2.1.2. PRIORITIZING THE STAKEHOLDERS

Once identifying the stakeholder's attributes, it is necessary to prioritize them to determine their likely impact on the project. Therefore, many authors have got effort to priorities project stakeholders in many ways. Olander and Landin (2005); Winch (2010) have mapped the stakeholders involved in several stages of construction projects and they have prioritized the stakeholders by using power and interest matrix. Further, Newcombe (2003) has proposed two methods of grouping each stakeholder who is likely to enforce its expectation on the project and who has the means to do so based on the power possess. The two methods are power/predictability matrix and the power/interest matrix. Nguyen *et al.* (2009); Olander (2006) have argued that these methods lead to certain problems in conducting an external stakeholder analysis, thus, the relative levels of power and interest need to be evaluated on a finer scale than one of high or low. For an example, although one has power or one has an interest, it is hard to assess each stakeholder on a scale. Therefore, Olander (2007) proposes impact/probability matrix as depicted in Figure 1.

Nguyen *et al.*, (2009); Bourne and Walker (2005) have further developed the concept of 'probability of impact' and 'level of impact' as 'vested interest levels' and 'influence impact levels' by considering stakeholder's impact level of each attributes of stakeholders as indicated in Figure 2.

According to this latest technique, the project stakeholders have been analysed based on their importance level and the influence level for the project. Further, Nguyen *et al.* (2009) indicate;

Importance level of impact of the stakeholder = total impact level of each attributes

Level of Impact	Keep satisfied	Key player
	Minimal effort	Keep informed
Probability of Impact		

Figure 1: Impact/Probability Matrix
Source: Olander (2007)

Importance- Level of Impact	Keep satisfied Interest protected (Involve)	Key player Maintain good relationship (Collaborate)
	Minimal effort (Inform)	Keep informed Monitor (Consult)
Influence-Probability of Impact		

Figure 2: Importance vs. Influence Probability of Impact
Source: Chinyio and Olomolaiye (2010)

Further, Bourne and Walker (2005) indicate;

Influence probability of impact = level of influence of the stakeholder

Chinyio and Olomolaiye (2010) in their studies related to construction projects reveal that the client, consultant, donor and contractor are considered as the key players of the project. Further, these stakeholders have been mapped as high level of importance as well as high level of influence. Moreover, the stakeholders like beneficiaries, government and non-government organisations are considered as high importance and low influence level for the project. However, general public belongs to both low position as their studies. Thus, these two scales within a matrix can be adapted to analyse the stakeholders in Sri Lankan road construction projects.

2.1.3. IMPLEMENTING STRATEGIES

The project management needs strategies in dealing with different types of stakeholders. Chinyio and Olomolaiye (2010) describe four levels of stakeholder's engagement and explained four strategies: inform, consult, involve, and collaborate for each type of engagement to deal with them. Further, Aaltonen and Sivonen (2009) state that there are various ways to deal with the stakeholder's pressure and they propose five basic strategic responses as described in Table 2.

Table 2: Implementing Strategies

Strategy	Definition
Adaptation strategy	Obeying the demands and rules that are presented by stakeholders. It is considered that in order to cope with the demands and to achieve the objectives of the project it is better to adjust to the external stakeholder pressures.
Compromising strategy	Negotiating with the stakeholders, listening to their claims related to the project and offering possibilities and arenas for dialogues. Making reconciliations and offering compensation. Opening the project to the stakeholders.
Avoidance strategy	Loosening attachments to stakeholders and their claims in order to guard and shield oneself against the claims. Transferring the responsibility of responding to the claims to another actor in the project network.
Dismissal strategy	Ignoring the presented demands of stakeholders. Not taking into account the stakeholder related pressures and their requirements in the project execution.
Influence strategy	Shaping proactively the values and demands of stakeholders. Sharing actively information and building relationship with stakeholders.

Once identified and prioritized the category of the stakeholders, the five strategic responses which have been identified by Aaltonen and Sivonen (2009) can be applied to manage the project stakeholders. Next, the methodology adapted for the research is explained.

3. RESEARCH METHODOLOGY

Considering the type of Research Questions (RQ) to be answered in this research including “what” questions (RQ-1. What is the importance-level of impact of each project stakeholder?, RQ-2. What is the influence-probability of impact of each project stakeholder? RQ-3. What is the appropriate stakeholder management strategy for each stakeholder?), survey method was selected as the research strategy.

Initially, three semi-structured interviews were conducted with the participation of three managing directors of three construction contracting firms (interviewees A,B,C) to find the applicability of the literature findings to Sri Lankan construction industry: the concept of stakeholder management, the process of stakeholder management, determining attributes of stakeholders which impact to the project and the strategies manage the stakeholders. The professionals were selected mainly based on their experience of more than 20 years within the construction industry. The software program NVivo (NUD*IST Vivo Version 7.0.281.0) produced by QSR (Qualitative Solutions and Research Ltd.) for coding function during data analysis for the semi-structured interviews.

Next, the questionnaire survey was conducted to collect data on the stakeholder’s importance-level of impact, influence-probability of impact and the most recommend strategies to manage them. Random sampling technique was adopted to select a sample of 60 contractors’ personnel in Sri Lankan road construction industry including construction managers, site managers, project quantity surveyors and civil engineers to name some.

Relative Importance Index (RII) was used to rank the stakeholders according to impact level of each attribute during data analysis. Accordingly, respondents were requested to rate the level of impact for each stakeholder’s attribute and the probability level of influence for the project. Five point Likert scale was provided to obtain aforesaid ratings. Initially, the mean of each attribute was calculated to deliver an indication of the “Importance level of impact” and “Probability level of influence”.

The mean value indicates the impact level of each stakeholder’s attribute. Finally, total importance level of impact of each stakeholder was calculated by taking average of all the mean values calculated for all attributes (refer Eq:01).

$$Ma = \frac{M1+M2+M3+M4+M5+M6+M7+M8}{m} \dots\dots (Nguyen \textit{ et al.}, 2009) \quad (Eq: 01)$$

m

Where,

Ma = average mean value of the stakeholder (importance level of impact)

M1, M2, M3, M4, M5, M6, M7, M8= mean values of the attributes

m= number of attributes

As per the purpose of prioritising the stakeholders, the mean value of the attribute “influence” was separately used as the influence-probability of impact.

Further, the “mean” values calculated were validated by using the standard deviation. Finally, the Importance-Performance Analysis (IPA) was used as the mapping tool to map and prioritize stakeholders to the importance/influence matrix. Final step of data collection was to identify the implementing strategies to manage stakeholders. Through the literature, five numbers of strategies were identified as the suitable strategies. In the data analysis, the most suitable strategy for particular stakeholder was identified, based on the recommendation of majority of the respondents i.e. the mode value of each strategy recommended by the respondents. Research findings are presented in the subsequent section.

4. RESEARCH FINDINGS

The preliminary semi-structured interviews allowed to refine the list of most popular stakeholders in road construction projects including; client, consultant, sub-contractors, suppliers, government authorities, general public, insurance companies, media, environment pressure groups and funding bodies. As per the interviewees A and C, often the client and the consultant of grade B type road construction projects is the Road Development Authority (RDA) and grade A roads and highway construction involve a consultant from an external organisation. Further all the interviewees described the beneficiaries of a road construction project is the general public. Moreover, interviewee A specially pointed out that funding bodies of most of the road construction projects are foreign organizations such as (Japan International Cooperation Agency (JAIKA), United Nation (UN), and Asian Development Bank (ADB) to name some. Further, both interviewees B and C described environment pressure groups can often be identified as a community representatives in the road construction projects.

The list of attributes of stakeholders which were identified in the literature synthesis (attitude, interest, power, collaboration/conflict among stakeholders, legitimacy, urgency, influence) were accepted by all interviewees. As per interviewee B, relationship of the stakeholder also affects to the project operations. Further, stakeholder’s relationships with the main contractor such as contractual/non-contractual, long term/short term etc. depend on managing the stakeholder. Interviewee C pointed out knowledge of the stakeholder also affect to the project performance. This knowledge can be related to specialized construction knowledge, new technologies etc. Moreover, if a particular stakeholder aware about his/her importance to the project, he/she can tend to demand his/her value for the project. Therefore, the stakeholders’ knowledge level needs to be assessed during stakeholder management. Thus, the two new attributes; relationships and knowledge were added to the list of attributes identified from literature review.

The stakeholder management strategies, which were identified in the literature synthesis were accepted by all interviewees as required to manage stakeholders in road construction projects in Sri Lanka. Interviewees A and B pointed out adaptation strategy has to be considered when the present demand of the stakeholder cannot be disregarded or controlled by the contractor other than obeying the same. As per the interviewee C, the compromising strategy is more useful to retain the stakeholders within the industry. Further, interviewee pointed out there is cooperate social responsibility to strengthen the stakeholders within the industry. Interviewee A stated that avoidance and influence strategies more useful for resolving conflicts among stakeholders automatically with the time. As per the interviewee B, the dismissal strategy has to be taken when any stakeholder continuously act an adversarial role (unfair business approaches and discourage the project operations) and his/her absence may not highly affect to the project objectives (time, cost and quality).

Questionnaire survey was carried out to analyse the impact level of each attribute of the project stakeholders identified and recommend strategies to manage them.

Total number of questionnaires distributed was 60 and only 43 responses were gained with a response rate of 72%. The working experience of most of the respondents was fallen between to five to ten years.

According to the results of the calculations of average mean values, the selected stakeholders were mapped by using IPA grid as shown in Figure 3. The IPA matrix contains four categories of quadrants; A - high importance level of impact/low influence probability of impact, B - high importance level of impact/high influence probability of impact, C - low importance level of impact/high influence probability of impact, D - low importance level of impact/low influence probability of impact. The stakeholder management strategies suggested by the respondents have also been indicated for each quadrant. Although five strategies were found through literature, contractors prefer using four of them to manage the stakeholders. The adaptation strategy, avoid strategy, compromising strategy, influence strategy were accepted by the most of respondents, thereby dismissal strategy happened to be dropped from the matrix. Detail explanations of research findings for each quadrant is as follows:

- Quadrant A

After mapping the selected stakeholders, it was apparent that no stakeholder is belonged to quadrant A. Therefore, in Sri Lankan road construction context, most of the stakeholders who have high importance level of impact, are also seem to be having high influence probability of impact.

- Quadrant B

As per the contractor' perspective, quadrant B is consisted of client, consultant, funding bodies, government authorities and sub-contractor, who have a high importance and high influence on road construction projects. According to Chinyio and Olomolaiye (2010), only client, consultant, funding bodies and contractor have been considered as the key players who have high importance level and high influence level. As per this research findings, sub-contractor and government authorities have also been considered as stakeholders who have high influence level and high importance level for road construction projects in Sri Lankan context from the contractor's perspective. As the quadrant B includes key players of the project, contractor is required to pay high attention for those stakeholders. This can be because, client, consultant and funding bodies are the stakeholders who have the finance, needs and knowledge to implement the project and who expect required quality, minimum cost and on time completion of project from the main contractor. According to the responses received from contractors' personnel, either adaptation or compromising strategy was more suitable for managing the stakeholder relevant for this quadrant.

- Quadrant C

According to the mapping, quadrant C consists with general public, suppliers and environment pressure groups who have low importance and high influence for the project. From contractor's perspective, these stakeholders could be less important but they have high influence in road construction context because often the general public and environment authorities tend to disrupt the construction massively. This may be because general public and the environment are continuously exposed to disturbances due to road construction activities.

According to the Chinyio and Olomolaiye (2010), general public in construction context have been positioned as low importance and low influence category. However, according to the road construction projects in Sri Lankan context, aforementioned literature finding is contradictory making general public tend to be highly influential to project activities although not considered as important. As per the survey findings, the most suitable strategy to manage stakeholders of road construction projects belonging to quadrant C is either using compromising or influence strategies.

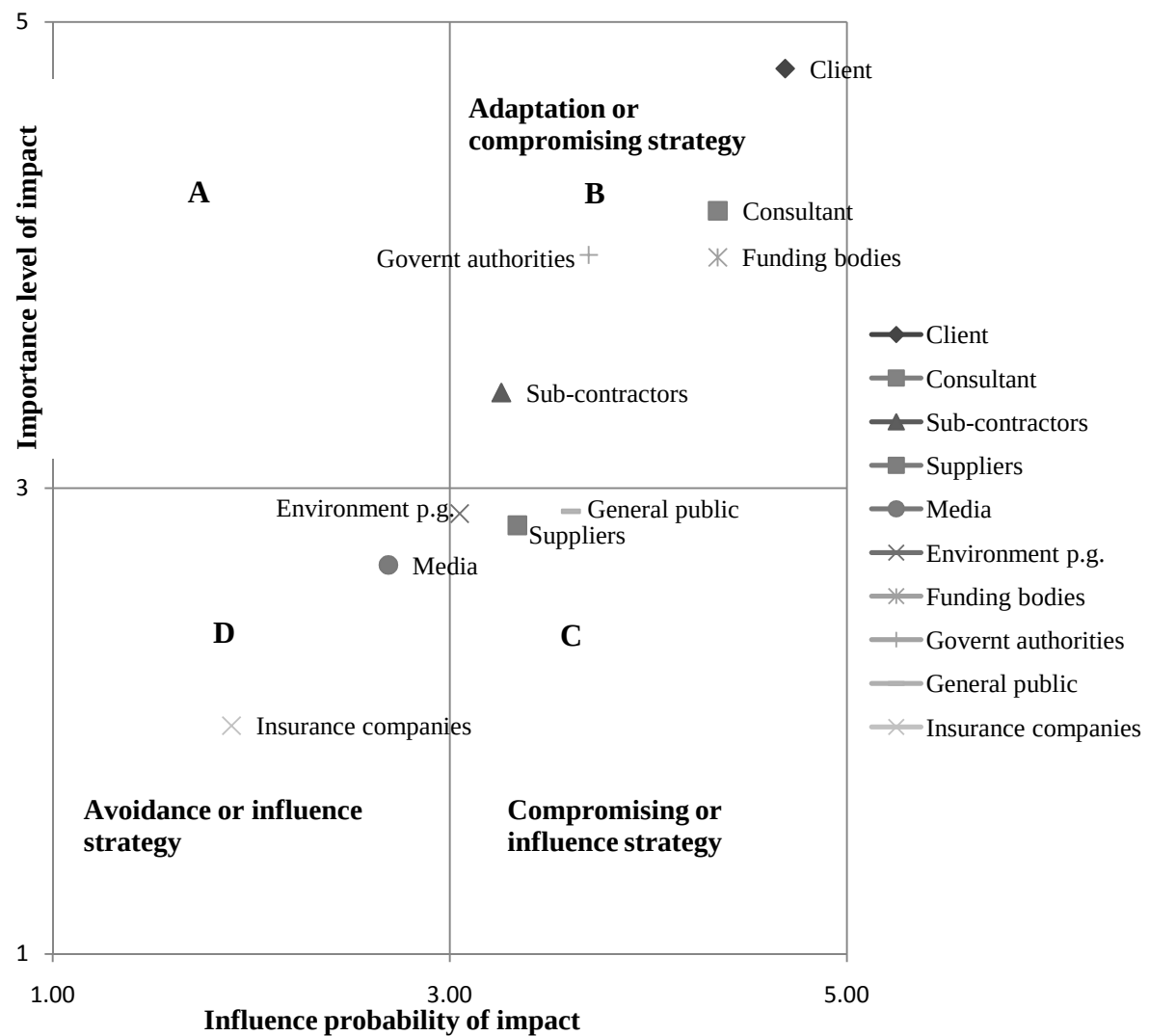


Figure 3: Proposed Matrix for Stakeholder Management in Road Construction Projects

• Quadrant D

The stakeholders in this quadrant are media and insurance companies, who have low influence level and low importance level for road construction projects. The media often creates adversarial situations and however, the contractors' point of view they have less ability to influence a road construction project. Although, the involvement of insurance companies is mandatory to transfer many risks of road construction projects, the insurance companies hold comparatively low importance level within the project from the contractors' perspective. Avoidance or influence strategies have been identified the most suitable to be used in managing stakeholders in quadrant D. Next, the conclusions drawn from the research is discussed.

5. CONCLUSION

This research aimed to analyse the stakeholder management in road construction projects in Sri Lankan context. The initial step of stakeholder management process included identifying the stakeholders. The most popular stakeholders in road construction projects were identified as; client, consultant, sub-contractors, suppliers, government authorities, general public, insurance companies, media, environment pressure groups and funding bodies. The next step of the stakeholder management is prioritizing the stakeholders. Eight number of stakeholder attributes were identified as visible with stakeholders in road

construction projects. These include; attitude, interest, power, collaboration/conflict among stakeholders, legitimacy, urgency, influence, relationship and knowledge. Although many authors have used different techniques to prioritise the project stakeholders, the importance/influence analysis technique was identified as the most appropriate one which considers the all attributes in prioritizing process. The prioritising technique is consisted with two scales as “importance level of impact” and “influence probability of impact”.

According to the prioritization of stakeholders in road construction projects in Sri Lanka, the client, consultant, funding bodies, government authorities and sub-contractors held high impact level of importance and high influence probability of impact. These stakeholders were identified as the key players in road construction projects in Sri Lankan context. The general public, environment pressure groups and suppliers were belonged to low importance level of impact and high influence level of impact. In addition, media and insurance companies were belonged both low importance level of impact and low influence probability of impact.

The final step of stakeholder analysis consisted of identifying implementing strategies to manage stakeholders. From contractors’ perspective, either adaptation or compromising strategy was more suitable for managing the client, consultant, funding bodies, government authorities and sub-contractors. General public, environment pressure groups and suppliers were suggested to be managed either using compromising or influence strategies. Further, media and insurance were suggested to be managed using avoidance or influence strategies. Dismissal was not regarded as suitable strategy to manage stakeholders in road construction projects from contractors’ perspective.

Therefore, the proposed matrix in Figure 3 can be used as a guideline to assist the contractors in managing the stakeholder effectively in Sri Lankan road construction projects.

6. REFERENCE

- Aaltonen, K. and Sivonen, R., 2009. Response Strategies to Stakeholder Pressures in Global Projects. *International Journal of Project Management*, 27(2), 131-141.
- Assefa, S., Worke, Z.T. and Mohammed, M., 2015. Developing Methodology for Stakeholder Management to Achieve Project Success. *International Journal of Engineering and Technical Research*, 3(11), 115-121.
- Atkin, B. and Skitmore, M., 2008. Editorial: Stakeholder Management in Construction. *Construction Management and Economics*, 26(6), 549-552.
- Bourne, L. and Walker, D.H., 2005. Visualising and Mapping Stakeholder Influence. *Management decision*, 43(5), 649-660.
- Bourne, L. and Walker, D.H., 2006. Visualizing Stakeholder Influence – Two Australian Examples. *Project Management Journal*, 37(1), 5-22.
- Chinyio, E. and Olomolaiye, P., 2010. “Introducing Stakeholder Management”, In Chinyio, E. and Olomolaiye, P. (eds.), *Construction Stakeholder Management*, Blackwell Publishing, West Sussex.
- Elmualim, A.A., 2010. “Culture and Leadership in Stakeholder Management”, In Chinyio, E. and Olomolaiye, P. (eds.), *Construction Stakeholder Management*, Blackwell Publishing, West Sussex.
- Freeman, E., 1984. *Strategic Management: A stakeholder Approach*. Boston: Pitman.
- Freeman, R. and McVea, J., 2001. *A Stakeholder Approach to Strategic Management*. Oxford: Blackwell Publishing.
- Freeman, R., Harrison, J. and Wicks, A., 2007. *Managing for Stakeholders- Survival, Reputation, and success*. US: Louis Stern Memorial Fund.
- Jepsen, A.L. and Eskerod, P., 2009. Stakeholder Analysis in Projects: Challenges in Using Current Guidelines in the Real World. *International Journal of Project Management*, 27(4), 335–343.
- Karlsen, J., 2002. Project Stakeholder. Management. *Engineering Management Journal*, 14(4), 19-24.
- McElroy, B. and Mills, C., 2000. “Managing Stakeholders”, In Gower, J. Turner, and Simister, S. (eds.), *Gower Handbook of Project Management*, Gower Publishing Limited, United Kingdom.

- Mitchell, R., Agle, B. and Wood, D., 1997. Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts. *Academy of Management Review*, 22(4), 853-888.
- Newcombe, R., 2003. From Client to Project Stakeholders: A Stakeholder Mapping Approach. *Construction management and economics*, 21(8), 841-848.
- Nguyen, N., Skitmore, M. and Wong, J., 2009. Stakeholder Impact Analysis of Infrastructure Project Management in Developing Countries: A Study of Perception of Project Managers in State-Owned Engineering Firms in Vietnam. *Construction Management and Economics*, 27(11), 1129-1140.
- Olander, S. and Landin, A., 2005. Evaluation of Stakeholder Influence in the Implementation of Construction Projects. *International Journal of Project Management*, 23(4), 321-328.
- Olander, S., 2006. *External Stakeholder Analysis in Construction Project Management*. Thesis (PhD). Lund University.
- Olander, S., 2007. Stakeholder Impact Analysis in Construction Project Management. *Construction Management and Economics*, 25(3), 277-287.
- Rawlinson, S., Koh, T.K. and Tuuli, M.M., 2008. A Cultural Perspective on Stakeholder Management In The Hong Kong. In: *International conference on multi-national construction projects*, Shanghai 21-23 November 2008. England: Loughborough University, 1-12.
- Savage, G., Nix, T., Whitehead, C. and Blair, J., 1991. Strategies for Assessing And Managing Organizational Stakeholders. *Academy of Management Executive*, 5(2), 61-75.
- Walker, D., Bourne, L. and Rowlinson, S., 2008. "Stakeholders and the Supply Chain", In Walker, D., and Rowlinson, S. (eds.), *Procurement Systems- A Cross Industry Project Management Perspective*, Taylor & Francis, London.
- Weaver, P. and Bourne, L., 2002. *Project Factor Fiction – Will the Real Project Please Stand up* [CD ROM]. Melbourne, PMI Melbourne Chapter.
- Weiss, J., 2006. *Business Ethics- A stakeholder and Issues Management Approach*. 4th ed. Mason: Thomson Higher Education.
- Winch, G.M., 2010. *Managing Construction Projects-An Information Processing Approach*. 2nd ed. London: Blackwell Publishing Ltd.
- Yang, J., Shen, G.Q., Ho, M., Drew, D.S. and Chan, A.P., 2009. Exploring Critical Success Factors for Stakeholder Management in Construction Project. *Journal of Civil Engineering and Management*, 15(4), 337-338.