

**MANAGEMENT OF EXTERNAL STAKEHOLDERS'
INFLUENCES IN DONOR-FUNDED IRRIGATION
INFRASTRUCTURE PROJECTS IN SRI LANKA**

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Degree of Master of Science in Project Management

Department of Building Economics

**University of Moratuwa
Sri Lanka**

January 2022

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Dissertation submitted in partial fulfillment of the requirements for the
degree Master of Science in Project Management

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Sri Lanka

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DECLARATION

“I declare that this is my own work, and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning, and to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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/ / 2022

Ch. QS Prof. (Mrs.) B. A. K. S. Perera

ABSTRACT

Management of external stakeholders' influences in donor-funded irrigation infrastructure projects in Sri Lanka

Stakeholder management has become a very crucial management process in irrigation infrastructure projects. Out of all the stakeholders, external stakeholders' influences are more significant and must be managed prudentially; otherwise, the project scope, time, and cost may change drastically. The dearth of studies related to managing the external stakeholders influences in the donor-funded irrigation infrastructure projects. Hence, an empirical study was conducted to fill this research gap by addressing how to effectively manage external stakeholders' influences in donor-funded irrigation infrastructure projects in Sri Lanka. The mixed research approach was used by incorporating 17 semi-structured interviews and two rounds of questionnaire surveys. The significantly influential external stakeholders, significant influencing strategies, and the significant managing strategies of the influential external stakeholders were identified through calculating MWR values using a 5-point Likert scale. Project affected parties (PAP) were demarcated as the most significantly influential external stakeholder among the 12 significantly influential external stakeholders. The influential external stakeholders were clustered as government institutes and the other external stakeholders. Seventeen influencing strategies by external stakeholders were identified as significantly influential, while six influencing strategies were specific to particular external stakeholders, and the rest were commonly practiced. Further, 22 management strategies were identified as significant, out of which 13 were specific to a particular external stakeholder, and nine were commonly used for managing the influences of external stakeholders in donor-funded irrigation infrastructure projects. Proper functioning of grievances readdresses committee (GRC) mechanism was recommended, especially for PAPs. Further, monitoring the progress of the government institutes duties at the planning and designing stage with applying key performance indicators (KPI) may facilitate timely reach the subsequent phases of the donor-funded irrigation infrastructure projects.

Keywords: External stakeholder, Donor-funded, Irrigation infrastructure projects, Management

DEDICATION

*To the greatest five ladies, who have honored me as role models to
me...*

*My mother, My sister, My Grade 12 teacher, Former divisional
secretary, and My supervisor...*

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
CEA	Central Environmental Authority
CSR	Corporate Social Responsibility
DCC	District Coordination Committee
DSO	Divisional Secretary Office
EIA	Environmental Impact Assessment
ERD	External Resources Department
FCD	Forest Conservation Department
GDP	Gross Domestic Product
GN	Grama Niladhari
GoSL	Government of Sri Lanka
GRC	Grievances Readdress Committee
GSMB	Geological Survey and Mines Bureau
ISSA	International Social Security Association
KPI	Key Performance Indicator
MED	Media
MoF	Ministry of Finance
MoL	Ministry of Land
MWR	Mean Weighted Ratings
NBRO	National Building Research Organization
NGO	Non-Governmental Organization
NWPCP	North Western Province Canal Project
PAP	Project Affected Parties
PG	Pressure Groups
PGRC	Plant Genetic Resources Centre
PIU	Project Implementation Unit
PLC	Project Life Cycle
PMI	Project Management Institute
PMU	Project Management Unit

PNWOB	People in Neighboring Areas Without Benefited from the Project but, Seek Benefits
POL GR	Political Groups
PPP	Public Private Partnership
ROW	Right of Way
RTI	Right to Information
SD	Survey Department
SM	Stakeholder Management
St Dev.-	Standard Deviation
VD	Valuation Department
WLCD	Wildlife Conservation Department

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CHAPTER ONE: INTRODUCTION

1.1 Background

Infrastructure development is a strategic asset that determines the development of a country (Filipkowska, Dziadkiewicz, Dryl, Dryl, & Beben, 2019). Murphy and Nahod (2016) and Grimsey and Lewis (2002) confirmed that infrastructure development projects had been categorized into a wide variety of constructions: e.g., energy (power generation and supply), transport (toll road, light rail systems, bridges, and tunnels), water (sewerage, wastewater treatment, and water supply), and telecommunications and social infrastructure (hospitals, education institutes, government buildings). Further, Tyson (2018) proved that infrastructure is the crucial driver of economic growth. Subsequently, researchers have emphasized that infrastructure projects enhance the valuable financial benefits, social benefits, and the standard of living (Babatunde, Ekundayo, Udeja, and Abubakar, 2020; Filipkowska et al., 2019). Further, Lessard, Sakhrani, and Miller (2014) emphasized a wide variety of performances in infrastructure projects. Thus, Oching, Price, and Moore (2017) revealed that infrastructure projects had become more complex in nature.

Nguyen, Skitmore, and Wong (2009) and Project Management Institute (PMI, 2017) stated that completing infrastructure projects is not easy since satisfying stakeholder needs and interests is necessary. Accordingly, PMI has identified stakeholder management as a primary knowledge area under the project management domain (Liu, Xue, Meng, Chen, & Sun, 2020). Past researchers defined stakeholders as any group or an individual that can affect or be affected by the goals of an organization (Freeman 1984; Oppong, Chan, & Danosh, 2017; Ward & Chapman, 2008). However, Li (2007) explained that stakeholders as any individuals or groups that can affect or can be affected by either the organization or project performances. To recapitulate, Calvert (1995) and Winch (2002), as cited in Meding, McAllister, Oyedele, and Kelly (2013) defined a stakeholder as internal (members of project coalition or who provide finance) and external (those affected by the project in a significant way).

The considerations of external stakeholders are more vital than internal stakeholders in a project (Chan & Oppong, 2017). Hence, Ward and Chapman (2008) stated that

external stakeholders might affect projects positively or negatively. In addition, the external stakeholders are recognized as those who are affected or may be affected by a project and may not have a contractual relationship with the project owner (Nguyen, Chilshe, Rameezdeen, & Wood, 2019_a).

Yu and Leung (2018) identified legislative council members, political parties, non-governmental organizations, and media as external stakeholders. Moreover, past researchers identified traditional authorities, local communities, and national government authorities as external stakeholders (Cleland 1999; Ezeabasili, Dominic, & Okoro, 2015).

Manowong and Ogulana (2010) revealed that each stakeholder has different interests and objectives. Subsequently, identifying their expectations and level of influence is essential to the study. Erkul, Yitmen, and Celik (2019) supported this by expressing that stakeholder engagement varies throughout the project life cycle (PLC). Further, infrastructure projects have a long and complex life cycle (Yang & Yuan, 2009). Under these circumstances, Beach, Kreast, and Pickernell (2012) stated that stakeholder engagement mainly occurs either short term or long term. Thus, Altonen (2011), Bourne (2010), and Yang and Shen (2015) investigated some of the techniques explained to determine the most influential stakeholders in any project. Expressively, Roeder (2013) emphasized that stakeholder management is crucial in every project.

Careful management of stakeholders is essential to achieve the success of an infrastructure project (Nahyan, Sohal, Fildes, & Hawas, 2012; Nyugen et al., 2009). On the other hand, actions of external stakeholders may result in increasing direct operational costs and have negative consequences concerning the reputation of the focal organization (Eesley & Lenox, 2006). Hence, Mok, Shen, and Yang (2015), Ward and Chapman (2008), Wang, Gao, Ganbat, and Chen (2019), and Xia, Zou, Griffin, Wang, and Zhong (2018) have identified stakeholders as critical risk factors. Wang et al. (2019) emphasized that project managers should maintain a proper communication and stakeholder management method with the external stakeholders to mitigate their influences. Therefore, studying the stakeholder management concepts is beneficial for initiating a successful stakeholder management plan.

Stakeholder management plans, processes, and concepts were evolved by different authors such as Hanjeweale, Fewings, and Rwelamila (2013), Jayasuriya, Zhang, and Yang (2020), Karlson (2002), Prebel (2005), Sutterfield, Stroud, and Blackwell (2006), and Yang, Shen, Ho, Drew, and Chan (2009). However, Preble (2005) stated the main steps in stakeholder management strategy as identification of stakeholders, determining the nature of stakeholder claims and power implication, identifying the performance gaps, defining the expectations of stakeholders, prioritizing the stakeholder demands, and recognizing their strategic importance. This is followed by developing organizational responses, monitoring, and controlling the progress. Further, Mok et al. (2015) summarized the stakeholder management process into stakeholder identification, stakeholder analysis, strategy development, and control of the performances. Consequently, Ninan, Mahalingam, and Clegg (2020) argued that among the stakeholders, external stakeholder management in an infrastructure project is more complex than internal stakeholder management. Also, infrastructure projects get impacted by various external stakeholder issues (McDermot, Agdas, Diaz, Rose, & Forcael, 2020; Park, Kim, Kim, & Kim, 2017), including irrigation infrastructure projects (Tilt, Braun, & He, 2009). Therefore, it is essential to manage external stakeholders in infrastructure projects (Elmahroug, Tutesigensi, & Brookes, 2014).

Investing in irrigation is one of the main strategies for poverty alleviation (Abeysekara, Munasinghe, & Weerahewa, 2015; Japan Bank for International Cooperation, 2007). However, donor-funded irrigation infrastructure projects encounter stakeholder diversity (Suhadiman, Clement, & Bharati, 2015). Therefore, considering these perspectives in managing the influences of external stakeholders in donor-funded irrigation infrastructure projects is vital. Henceforth, the management of external stakeholders in donor-funded irrigation infrastructure projects is crucial for a detailed research study.

1.2 Problem statement

External stakeholders are more difficult to manage than internal stakeholders (Mok et al., 2015). Similarly, Derakhshan, Turner, and Mancini (2019) revealed the importance of identifying the external stakeholders' influences in infrastructure projects. Moreover, Aaltonen and Kujala (2010) emphasized that external stakeholders can

affect the decision-making at the investment preparation stage of those projects and cause goal conflicts. Thus, due to the involvement of a wide variety of stakeholders in infrastructure projects, some infrastructure projects are unable to complete within the time and budget limits (Aritua, Bower, & Turner, 2008; Guo, Richards, Wilkinson, & Li, 2014; Nandalal, 2007; Olander, 2007). The majority of researchers have focused on managing internal stakeholders (Doloi, 2013; Eesley & Lenox, 2006; McAllister et al., 2013; Nahyan et al., 2012). Furthermore, except Ninen et al. (2020), most studies were conducted on stakeholder management in general (covering both internal and external) for infrastructure projects (Bahadorestani et al., 2020; Enns, 2017; Erkul, Yitmen & Celik, 2019; Nahyan et al., 2012; Xue, Shen, Li, Wang, & Zafar, 2020_a).

Many globally dispersed studies on stakeholder management cover both internal and external together in infrastructure projects such as in Vietnam (Nguyen et al., 2009), United Arab Emirates (Nahyan et al., 2012), Kenya (Enns., 2017), and Ecuador (McDermot et al., 2020), but, less for irrigation infrastructure projects. The donor-funded irrigation infrastructure projects aim to magnify food production (D'agostino et al., 2020; Gebre, Getachew, & McCartney, 2008). Hofisi and Chizimba (2013) revealed that the objectives of external stakeholders might not align with the project deliverables. Thus, external stakeholders can influence donor-funded irrigation infrastructure projects.

Indeed, there is a shortage of literature especially discussing external stakeholder management in irrigation infrastructure projects in Sri Lanka. Further, limited studies on external stakeholder management are specifying for donor-funded irrigation infrastructure projects in Sri Lanka. Botwe, Ohis, and Wellington (2016) emphasized that stakeholder management strategies vary from developed countries to developing countries. Hence, stakeholder management strategies differ from country to country.

The literature gap and the industrial need mentioned above signify the importance of researching on effective management of external stakeholders' influences, explicitly focusing on irrigation infrastructure construction projects in Sri Lanka. Thus the study had to address the research question "*How to manage the external stakeholders' influences in donor-funded irrigation infrastructure projects in Sri Lanka?*"

1.3 Aim

The aim is to investigate how to manage the external stakeholders' influences on donor-funded irrigation infrastructure construction projects in Sri Lanka.

1.4 Objectives

1. To critically review the concept of stakeholder management,
2. To evaluate significantly influential external stakeholders in donor-funded irrigation infrastructure projects,
3. To evaluate the significant influencing strategies which affect the project performance by the above external stakeholders, and
4. To propose the significant stakeholder management strategies for managing the external stakeholder influence in donor-funded irrigation infrastructure projects.

1.5 Scope and Limitations

External stakeholders directly involved in the planning and design stage of the donor-funded irrigation infrastructure projects in Sri Lanka were considered. The land acquisition process was also considered (excluding in-depth study on resettlement) as a part of the planning and designing stage.

1.6 Research Methodology

Table 1.1 presents the adopted research method.

Table 1. 1: Research methodology

Literature Survey	Semi-Structured Interviews	Questionnaire Survey
❖ Journal articles, Seminal papers, Conference proceedings, Books, Unpublished research dissertations used	❖ Conducted to validate the findings of literature survey ❖ With industry experts in infrastructure development projects who have experience in stakeholder management	❖ Conducted with the findings of the expert interviews ❖ Carried out to rank the significant factors mentioned in objectives 3 and 4
The four objectives were progressively achieved by adapting the research methodology mentioned above		

A literature survey, semi-structured interviews, and questionnaire surveys were conducted to achieve the research objectives (Table 1.1).

1.7 Structure of the dissertation

Figure 1.1 illustrates the dissertation structure.

Chapter 1-Introduction to the study	•An overview of the study •Aim and objectives, scope, methodology
Chapter 2- Literature Review	•Literature survey for the study •Critical analysis related to the research problem
Chapter 3- Research Methodology	•Research Approach, research strategy •Data Collection Methods and Techniques
Chapter 4- Results and Discussion	•Data analysis and interpretation •Discussion on key findings
Chapter 5- Conclusions and Recommendations	•Formulate the conclusion •Suggestions on future research

Figure 1. 1: Structure of the dissertation

The dissertation consists of five chapters and the facts mentioned above in logical sequences.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter focuses on a comprehensive literature analysis to congregate the existing knowledge on managing stakeholder influences in infrastructure projects. From the inception, this chapter details the infrastructure types, the importance of irrigation infrastructure projects, donor-funded infrastructure projects, stakeholder management process, external stakeholder influences at various types of infrastructure projects, and finally emphasis on the research gap on the management of external stakeholder influences on donor-funded irrigation infrastructure projects in Sri Lanka.

2.2 What is infrastructure?

Infrastructure plays a vital role in people's everyday lives (Grum & Grum, 2020). This may indicate that defining infrastructure is essential to understanding its relevance to the users. The word "infrastructure" is derived from the French term 'Infra' meaning 'below,' and 'structure,' and refers to arrangement relation to some components from a complex thing (Ibanez, 2003; Cantu, 2017). Hence, infrastructure can be identified as mainly related to physical structures. Conventionally, the term infrastructure stemmed from the military language, meaning 'permanent installation as per military requirements' (Buhr, 2003; Torrisi, 2009; Momoh & Ezile, 2018). In the present scenario, Li (2017), Shen, Asce, Wu, and Zhang (2011), and Cantu (2017) mentioned that infrastructure covers a wide range of services to industries and households. Consequently, reviewing the above literature, infrastructure can be identified as a well-structured multi-level facilities system for providing services to the public to achieve the socio-economic progress of the society. In that sense, types of infrastructure facilities are essential to explore.

2.3 Classification of Infrastructure

Numerous types of infrastructures are classified as **Physical vs. Non-Physical** (Dimitriou & Field, 2020; Oching et al., 2017), **Hard vs. Soft** (Cantu, 2017; World Bank, 2010), **Economic vs. Social** (Dithebe, Aigbavboa, & Thwala, 2019; Diugwu, Mohammed, & Baba, 2015; Murphy & Nahod, 2017; Wurstbauer & Schäfers, 2015),

Physical vs. Social (Kumari & Sharma, 2016; Sahoo & Dash, 2009). Further, **Physical vs. Social** covers most of the classes and sub-classes of the infrastructure (Carlsson, Otto, and Hall, 2013; Cantu, 2017; Oughton & Tyler, 2013). Similarly, Kumari and Sharma (2016) ensured a well-descriptive infrastructure classification by covering a wide range of infrastructure classes and subclasses. Therefore, combining Carlson et al. (2013) and Kumari and Sharma (2016), Figure 2.1 illustrates the breakdown of infrastructure as follows.

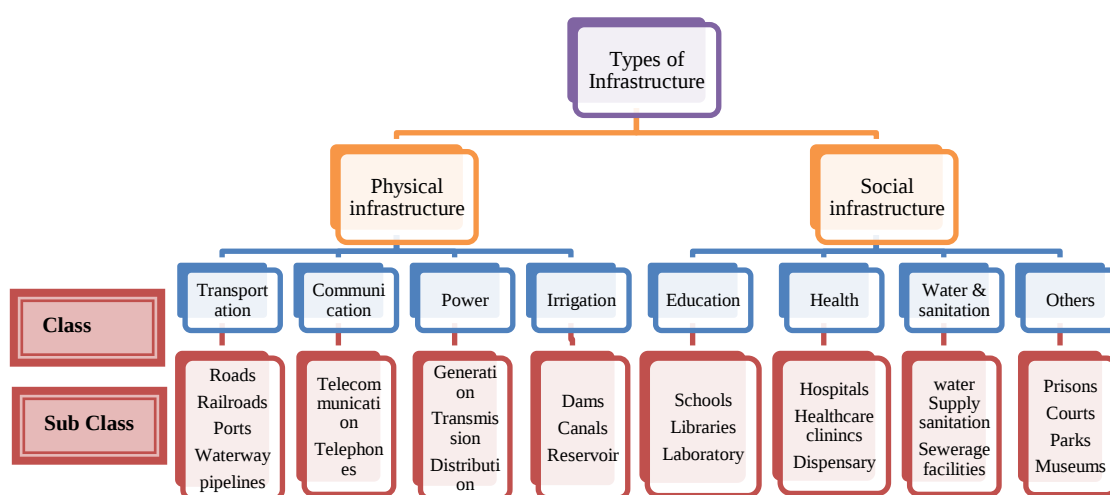


Figure 2. 1: Sectors/ Classes of Infrastructure

(Adapted from Carlsson et al., 2013; Kumari & Sharma, 2016)

Figure 2.1 consists of most infrastructure sectors/classes such as irrigation, energy, transport, water, information and communication technology, health, social welfare, and education; examples for the subclasses are also mentioned. According to the perspectives of the International Social Security Association (ISSA, 2019), studying the characteristics of infrastructure assets is beneficial before investing in infrastructure. Henceforth, infrastructure characteristics are discussed in the following topics.

2.4 Characteristics of infrastructure

Infrastructure reviews as an investment asset (Grimsey & Lewis, 2002; Thierie & Moor, 2016) include common characteristics to fixed-asset investment (Oyedele, McGreal, Adair, & Ogedengbe, 2013) with some distinctive features (Thierie & Moor,

2016; Filipkowska et al., 2019). **Highly capital intensive nature** is a prominent characteristic compared with other investments (Florian, Axel, & Christoph, 2010; Oyedele, Adair, & McGreal, 2014; Peng & Newell, 2007) and monopolistic (Oyedele et al., 2013). As a result of inflation, natural monopolies are easily enabled to change the price accordingly **inflation-linked returns** (Martin, 2010).

Infrastructure has a **long asset life cycle** (Panayioton & Medda 2014), ranging from 25 to 99 years (Anonymous, 2014). As a result of the **illiquid nature of infrastructure** investments, the active management of infrastructure assets is essential (Anonymous, 2014). On this phenomenon, Thacker et al. (2019) emphasized that investments for infrastructure projects are globally at a greater amount. Therefore, types of investment should be identified next.

2.5 Investment types in infrastructure

Woetzel, Garemo, Mischke, Hjerpe, and Palter (2016) disclosed that government funds, private sector investments, and public-private partnerships (PPP) (Chotia & Rao, 2018) could be applied to fulfill the global infrastructure investment gap. Aritua, Smith, and Bower (2011) and Baskakova and Malafeev (2017) expressed that generally, the public sector's purpose is to deliver service for the public interest. However, it was challenged due to financial constraints (Nguyen, Likhitrungsilp, & Onishi, 2020) and inefficient decision-making and institutional frameworks (Kwak, Chih, & Ibbs, 2009). Cai, Li, Cai, and Asce (2019) have reported that private sectors are more efficient than public sectors. Despite this, Kwak et al. (2009) argued that a purely private approach might cause inequalities in the distribution of infrastructure services. Thus, Kasper (2015) stated that PPP is a suitable approach to mitigate the above drawbacks. Certainly, PPP is highly applied in large infrastructure projects (Nederhand & Klijn, 2017). Risks associated with implementing and maintaining the assets and services will be transferred to a private entity (Amadi, Carrillo, & Tuuli, 2019; Nederhand & Klijn, 2017; Chen, Daito, & Gifford, 2015). Hence, PPP may facilitate transferring the financial burden from the public sector. In addition, donor funds are also another source of finance (Mwangi, 2016).

2.5.1 Donor-funded infrastructure

Donor funding for developing countries aims to alleviate poverty and ensure sustainable economic growth (Saleh & Harvie, 2017). As per the study by Ngowi, Pienaar, Akindele, and Iwisi (2006), international financial institutions were established along with the World Bank in the last three decades to provide funds due to the limitation of public funds for infrastructure projects. Especially, these funds are provided for public infrastructure projects in developing countries (Ahsan & Paul, 2018; Hermano, Paredes, Cruz, & Pajares, 2013; Hijazi et al., 2018; Ray, 2015). Further, donor strategies must be compatible with implementing countries' objectives (Anonymous, 2017). On the other hand, donor agencies' contributions to infrastructure development vary from region to region. For example, in 2019, Asian Development Bank's (ADB) commitment to the transportation sector was 56% in South Asia, while 34% in the South East Asia region (ADB, 2019_a). By reviewing the above facts, Muluh, Kimengsi, and Azibo (2019) have convinced the critical role played by donor funds in most of the developing nations. Therefore, donor funds are important in infrastructure projects in the South Asian region, and how it affects Sri Lanka will be analyzed next.

2.6 Infrastructure development in the Sri Lankan context

According to the Annual Report of the Finance Ministry [MoF] (2018), the highest portion of public investment (47.08%) was declared for infrastructure development during the 2018-2021 period because the government's main intention is to strengthen infrastructure development (MoF, 2018). According to the Annual Report of Central Bank (2019), expenditure on infrastructure as a percentage of Gross Domestic Product (GDP) amounts 4%-5% in 2015-2019. Similarly, public investment capacity is reduced through increasing recurrent expenditure and lowering the government income (MoF, 2017; MoF, 2018). Therefore, the use of donor funds is eminent for infrastructure investments.

2.7 Donor-funded projects in Sri Lanka

Sri Lanka receives official development assistance from bilateral (China, Japan, Saudi fund, Australia, France, etc.) and multilateral partners (ADB, World Bank, United

Nations funds, etc.) through accessing concessional loans, grants, and technical assistance (Department of External Resource [ERD] 2007; ERD 2017; ERD 2018; Lim & Mukherjee, 2017). Grants are not required to repay, while concessional loans include below-market interest rates with grace periods (United States Agency for International Development, 2018). However, Jeyakanthan (2010) mentioned that more than 90 percent might be concession loans, and the rest will be the grant even in the total aid portfolio. Table 2.1 tabulates the details of donor-funded infrastructure projects in 2019.

Table 2. 1: Ongoing project details, 2019

SECTOR	SUBSECTOR	TECHNICAL US\$ Mn	LOAN US\$ Mn
Infrastructure	Aviation	858	701
	Irrigation	205	114
	Port	45	45
	Power & Energy	1,641	1,239
	Regional Development	206	185
	Roads	6,104	5,107
	Transport	1,034	1,073
	Urban Development	3,046	1,017
	Water supply & Sanitation	3,823	2,913
Total		16,962	12,394

Source: (Adapted from the Department of External Resources, 2019)

According to Table 2.1, transportation has received the lion's share of investment, and irrigation has also received a considerable amount. Therefore, improving irrigation infrastructure becomes a thematic area in the present development scenario in Sri Lanka.

2.8 Importance of irrigation infrastructure

As per the Food and Agriculture Organization (2018), balanced water management is necessary to reach the Sustainable Development Goals to eradicate hunger. Further, Abeysekara et al. (2015) elaborated that the irrigation sector in Sri Lanka has immense value in agriculture production, mainly in the dry zone, which covers three –fourth of the land extent. In essence, investing more in irrigation infrastructure projects would improve land productivity and uplift the country's economy. Irrigation with infrastructure is known as a public good, and stakeholder influences for these projects are inevitable (Mostsfa, Gohary, & Asce, 2014; O'neill, 2016). On the other hand, Liu et al. (2020) expressed that infrastructure is a system that affects a wide range of

stakeholders, whereas managing stakeholders in projects is a difficult task (El-Wakeel & Andersen, 2019). Therefore, an in-depth study will next discuss the stakeholders' salient features.

2.9 Stakeholders

Filipkowska et al. (2019) mentioned that stakeholder theory could also be applied to different areas such as infrastructure and asset management, in addition to the organizational theory. Therefore, the stakeholder concept is widely accepted and used in social sciences. Further, there are a plethora of definitions for the term “stakeholder” (Eskerod & Huemann, 2013; Mainardes, Alves, & Raposo, 2012). Even though most past scholars (Freeman, 1984; Kolk & Pinkse, 2006; Mainardes et al., 2012; Michell, Agle, & Wood, 1997; Nguyen et al., 2009; Zhai, Xin, & Cheng, 2009) and recent scholars (Amoatey & Hayibor, 2017; Chan & Oppong, 2017; Hamdan, Andersen, & De Boer, 2021; Ramel, 2014; Xia, Zou, Griffin, Wang, & Zhong, 2018) have frequently interpreted stakeholders as any group or individual that may affect or may get affected through the achievement of an organization's objectives. Although El-Wakeel and Andersen (2019) argued that this definition emphasizes a broader view for stakeholders, various authors use the above definition as a base to develop their arguments. Eventually, a new stakeholder or a group could emerge according to the prevailing status of the organizational environment (Clarkson, 1995). Thus, Post, Preston, and Sachs (2002) introduced stakeholders as ‘risk bearers,’ and Ward and Chapman (2008) introduced stakeholders as ‘a source of uncertainty.’

Moreover, El-Wakeel and Andersen (2019) revealed the dearth of literature on the evolution of the stakeholder context of projects. Although the stakeholder concept is formulated for organizational context, it is applicable to the project environment (Henjewe, Fewings, & Rwelamila, 2013). Hence, authors have derived the basic definition of stakeholder in project organizations, for instance, Aaltonen and Kujala (2010), El-Gohary, Osman, and El-Diraby (2006), and Ireland (2004). Further, El-Gohary et al. (2006) introduced project stakeholders as individuals or organizations that affect or get affected by the project's development. By reviewing PMI interpretations on project stakeholders as any person, group, or organization actively engaged with any phase of the project or who can influence either positively or

negatively from initiation up to the completion of the project can be considered as a suitable definition for a project stakeholder. Management of stakeholders is required to study and discussed in the next sections.

2.10 Stakeholder Management (SM)

SM is a key knowledge area in project management's main body of knowledge (Aladpoosh, Shaharoun, & Saman, 2012; Rawlinson & Cheung, 2008; Saad, Zahid, & Muhammed, 2020; Walker, Bourne, & Shelley, 2008). Supportively, Jayasuriya et al. (2020) stated that SM had become an effective management approach to address the interests of a variety of stakeholders. In addition, McDermot et al. (2020) discovered that better management of stakeholders is the third success factor of the project progress. The authors' attempts were varied to tackle stakeholders' interests in the project environment. For instance, Dansoh, Frimpong, and Oppong (2019) have conveyed that the management of the relationship with stakeholders facilitates their support to achieve project objectives. Eskerod and Vaagaasar (2014) argued that SM is generally considered static in nature. Nevertheless, the entire SM process could identify as a dynamic process with problem-solving activities and reducing the project risks (Yang & Shen 2015; Mok et al., 2015). Therefore, the steps of SM may be diverse in nature and will be discussed in the next sections.

2.11 Steps in the stakeholder management process

Effective SM strategies aim to execute the projects and avoid controversial situations with stakeholders (Olander & Landin, 2008). Further, stakeholder management is not a systematic process where formal steps may not exist (Karlsen, 2002). Additionally, scholars tempted to explore the critical success factors of managing stakeholders' impacts. For instance, El Sawahli and Hammad (2015), Meding et al. (2013), and Oppong et al. (2017) have grouped into a logical sequence. Those steps of stakeholder management were evolved by various scholars, as mentioned in Table 2.2.

Table 2. 2: Different steps of the stakeholder management process

Step	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
Stakeholder identification/Information inputs	√	√	√	√	√	√	√	√		√	√		√	√		√	√			√	√	√	√		√
Stakeholder mapping/ Modeling stakeholder interests/ Stakeholder estimation/ Prioritize stakeholder demands/ Prioritization				√	√		√			√	√			√	√	√					√				√
Develop communication strategy/ Manage communication			√		√						√		√			√		√				√			
Stakeholder engagements/Involve					√			√				√			√	√						√	√		
Stakeholder assessments/ Analysis		√	√		√	√		√	√			√	√				√			√			√	√	
Sustainability/ Continuous support/ Monitoring & control/ Management support/ Performance control				√					√												√			√	√
Stakeholder dynamics/ Understanding										√										√	√				
Determine performance gaps																					√				
Build relationships											√			√											
Identify & manage concerns & conflicts/Stakeholder concerns & needs				√							√								√						
Educating/Consult															√					√					
Planning			√																						
Determine organizational support																					√				
Understanding & continuous consideration																√									
Collaborate/Empowerment																√						√			
Characterization/ Stakeholder documentation	√																						√		
Decision making	√								√															√	√
Action & evaluation/ Follow up													√	√										√	
Initial planning													√				√								

Step	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
Classification	√	√			√	√	√																		
Strategy development	√					√											√								
Precondition									√															√	
Information inputs									√						√										
Determine the purpose of SM/SM				√																√			√		
Evaluate the SM process				√				√																	
SM action plan		√		√																					
General nature of stakeholder claims & power implications																					√				
Project resource																			√						
Choice of implementation																			√						
Minimize negative impacts																			√						
Develop organizational response/ Agile response to change																		√			√				
Risk control																						√			
Having clear project objectives																		√							
A- Aaltonen (2010) B- Aaltonen, Jakko, & Tuomas (2008) C- Aapaoja & Haapasalo (2014), D-Amadi et al. (2019), E-Botwe, Aigbavboa, & Thwala (2020), F- Cleland (1989), G- Danosh et al. (2019), H- Elmahroug, Tutesigensi, & Brookes (2014), I- El Sawalhi & Hammad (2015) J- El-Wakeel & Anderson (2019), K- Hanjewe, et al. (2013), L-Jayasuriya et al. (2020), M- Karlsen (2002), N- Mainardes et al. (2012), O- Manowong & Ogunlana (2010), P- Meding et al. (2013), Q- Mok et al. (2015), R- Nguyen & Mohamed (2018), S- Olander (2006), T- Oyegoke (2010), U- Preble (2005), V- Rajablu, Marthandan, & Yusuff (2015), W- Saad, Zahid & Muhammad (2020), X- Yang & Shen (2015), Y-Yang et al. (2009)																									

A majority of processes initiated with stakeholder identification step, as the reviewed literature shows in Table 2.2. Even though, Aapaoja and Haapasalo (2014) and Yang and Shen (2015) included stakeholder mapping under the stakeholder analysis step, stakeholder mapping is considered a separate step in past and present studies. Meanwhile, De Oliveira and Rabechini Jr (2019) disclosed that mapping of stakeholders is essential to achieve project success. Hence, stakeholder mapping is a main step of the stakeholder management process.

Moreover, Beltran, Melon, and Valera (2017) and Saad et al. (2020) evaluated the stakeholder influences under the stakeholder analysis step; this emphasizes the requirement of a more comprehensive analysis. On the other hand, either stakeholder communication or stakeholder engagement step was mentioned in various studies; for instance, Aapaoja and Haapasalo (2014), Hanjeweale et al. (2013), Jayasuriya et al. (2020), and Karlsen (2002). Jayasuriya et al. (2020) further argue that communication activities are directly associated with stakeholder engagement. Thus, these steps are combined into stakeholder engagement. Furthermore, the monitoring and control step coincides with a follow-up (Karlsan, 2002) and evaluates the SM process (Amadi et al., 2019). Karlsen (2002) argued that there is no systematic process of SM, and Jayasuriya et al. (2020) confirmed that argument. By reviewing the above facts, steps in SM concerned in this study are mentioned below.

- ❖ Stakeholder identification
- ❖ Stakeholder mapping/modeling stakeholder interests/ Prioritization
- ❖ Stakeholder analysis
- ❖ Stakeholder engagement
- ❖ Monitoring & control

These steps are critically reviewed in the following headings.

2.12 Stakeholder identification

Saad et al. (2020) disclosed the difficulty in identifying stakeholders due to many stakeholders engaged. Still, stakeholder identification is the initial activity and documents the relevant information (PMI, 2017; Moodley, Smith, & Preece, 2008; Yang et al., 2018). On the other hand, the perspective of Elmahroug et al. (2014)

revealed that the harmonization between stakeholder identification and project initiation would reduce the time lag between the two processes. Notably, Ballejos and Montagna (2008) explored 12 different roles of stakeholders; hence, classification of stakeholders facilitates proper stakeholder identification.

2.12.1 Classification of stakeholders

Most previous authors have frequently followed either primary or secondary classification type (Clarkson, 1995; Cleland & Ireland, 2007; Mainardes, Alves, & Raposo, 2011; McElroy & Mills, 2000) or internal or external classification type (Aaltonen, Kujala, Havela, & Savage, 2016; Aladpoosh et al., 2012; Sutterfield et al., 2006; Winch, 2007). Out of them, internal and external stakeholder classification is the highly accepted type in the recent past. However, Altonen (2011), Altonen and Kujala (2010), and Stretton (2010) revealed primary stakeholder synonyms with internal stakeholder and secondary stakeholder synonyms with external stakeholder. Therefore, classifying stakeholders into an internal and external classification is accepted for the detailed study.

Internal stakeholders

As per Wartick and Mahon's (1994) and Clarkson's (1995) perspective, an organization will not survive without an internal stakeholder; hence, there is no exception for the project organization. Further, they are comprised of the client, customers, stockholders, suppliers, contractors, consultants, employees, architects, engineers, and vice versa (El Sawalhi & Hammad, 2015; Rowlinson & Cheung, 2008; Takim, 2009; Vuorinen & Martinsuo, 2018; Xia et al., 2018).

On the other hand, internal stakeholders have a contractual relationship with the project (Aaltonen & Kujala, 2010; Xia et al., 2018) and support the project (Aaltonen & Kujala, 2016). By compiling the above facts, internal stakeholders are usually considered the well-wishers for the betterment of the organization. In addition, Ninan, Mahalingam, and Clegg (2019) stated that compared to internal stakeholders, external stakeholders encounter more complexities, being outside the projects. Henceforth, the paramount features of external stakeholders are discussed in the next heading.

External stakeholders

Clarkson (1995) recognized the external stakeholders as those who affect/influence or are affected/influenced by the organization/project significantly and not involved in a transaction with the business (Ujene & Edike, 2015). Nguyen et al. (2009) pointed out that external stakeholders are not essential for the organization's survival. However, Ward and Chapman (2008) and Apaoja, Haapasalo, and Soderstrom (2013) mentioned that external stakeholders might positively or negatively influence via political lobbying, regulations, and direct actions. Further, Takim (2009) emphasized their impacts in favor, indifferent, or against the projects. However, Greets and Doms (2020) and Lawer (2019) argued that incorporating the concerns of external stakeholders at the planning stage will share mutual benefits. That emphasizes the requirement of tackling external stakeholders at the right time correctly. Table 2.3 depicts the types of external stakeholders initially identified by past researchers.

Table 2. 3: Types of external stakeholders

External Stakeholder/Group	Source																											
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W					
Residents/residents' proximity to projects/project-affected groups		√		√		√					√			√	√	√					√	√	√					
Environmentalists/ Environmental groups/ Green groups	√	√				√							√				√			√	√		√					
Public & Local authorities/departments		√	√				√			√	√				√						√		√					
Media				√			√	√						√	√	√				√		√						
Local & National government		√	√			√						√				√		√		√	√							
General public						√	√				√				√			√	√			√						
Non-Governmental organizations				√		√						√		√				√				√						
Local communities/representatives			√		√		√		√	√										√								
Regulators/ Regulatory agencies		√	√	√																√	√							
Political groups							√						√		√		√						√					
Industry/trade & industries						√	√								√			√										

External Stakeholder/Group	Source																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Social groups/pressure groups							√				√									
Community groups	√	√																		
Business representatives/ Local businesses/ Business owners																			√	√
Clients													√				√			
Competitors													√				√			
Suppliers													√				√			
Consumer groups													√				√			
End users									√	√										
Private organization						√												√		
Special interest groups								√								√				
Landowners														√						√
Court/ Legislation authorities														√						√
Police															√					
Traditional worshipers & deities							√													
Lobbyists	√																			
Archeologists																				√
Conservationists																				√
Neighboring areas										√										
Potential users																			√	
Indigenous people						√														
Human rights groups					√															
Owners		√																		
Municipality																√				
Administrative board																√				
Traditional authorities							√													
District councilors																				√
Trade Unions																				√
A- Aaltonen & Kujala (2010), B- Aaltonen & Kujala (2016), C- Aaltonen (2011), D- Aapaoja & Haapasalo (2014), E- Amadi et al. (2019), F- Bourne & Walker (2005), G- Chang & Oppong (2017), H- Clarkson (1995), I- Cleland & Ireland (2007), J- El Sawalhi & Hammad (2015), K- Li, Ng & Skitmore (2015), L- Lin, Mckenna, Ho & Shen (2019), M- Nguyen et al. (2009), N- Ninan et al. (2020), O- Olander & Landin (2008), P- Olander (2007), Q- Pinto (1996), R- Rowlinson & Cheung (2008), S- Vaoriven & Martinsuo (2018), T- Ward & Chapman (2008), U- Xia et al. (2018), V- Yu & Leung (2015), W- Leung & Olomobaiye (2010)																				

According to Table 2.3, a wide variety of external stakeholders are either affected or can influence projects. Environmental organizations, non-governmental organizations (NGO), local communities, public and local authorities, local and national governments, and the general public are prominent among them. Consequently,

scholars attempted to subcategorize the external stakeholders. For instance, Aapaoja and Haapasalo (2014) introduced two external stakeholder groups as tertiary and extended. In contrast, Chang and Oppong (2017) categorized them into three categories as government authorities, the general public, and affected local communities. Since past researchers have different opinions, the study focuses on further evaluating stakeholders.

2.13 Stakeholder mapping/ modeling stakeholder interest/ Prioritization

El-Wakeel and Andersen (2019) revealed that stakeholder management strategy depends on their attributes. The main key attributes are Power, Legitimacy, and Urgency (Michell, Agle, & Wood 1997; Aaltonen et al., 2016; Assudani & Kloppenborg, 2010; Bourne & Walker 2005). Attributes are used for stakeholder mapping (Michell, Agle, & Wood, 1997). Further, Scholes and Whittington (2005), Olander (2007), and Xue et al. (2020_b) referred to the stakeholder mapping techniques to assess stakeholders' interests and impacts by using their attributes.

2.13.1 Stakeholder mapping techniques

Nguyen et al. (2009) pointed out that stakeholders' influences are critical at projects, and Newcombe (2003) and Yang et al. (2009) mentioned the importance of mapping techniques in assessing their expectations. For identifying the critical stakeholders in the project, several stakeholder mapping techniques such as power vested interest matrix (Bourne & Walker, 2005; Nguyen & Mohamed, 2018), Stakeholder impact index (Bourne, 2005), and Stakeholder circle (Bourne, 2010; Goel, Ganesh, & Kaur, 2019; Nguyen et al., 2019_a) can be used. However, Aaltonen and Kujala (2010) argued that stakeholders' salience is not steady-state during the PLC. Thus, the analysis of stakeholders is required to study their behavior.

2.14 Stakeholder analysis

The perspective of Olander (2006), Yang (2014), and Zarewa (2019) emphasized that stakeholder analysis is a critical step in managing stakeholders. By reviewing Aaltonen (2010), Aaltonen (2011), and Mok et al. (2015), high priority was vested in analyzing external stakeholders' influences on stakeholder analysis. In fact, stakeholder

influences are types of attitudinal and behavioral related things (Lin et al., 2019). Admittedly, Nguyen and Mohamed (2018) and Yang and Shen (2015) supported by stating that understanding the stakeholders' influences is a critical success factor in projects. Henceforth, the study will focus on influencing stakeholders' strategies as follows.

2.14.1 Influencing strategies of stakeholders

Frooman (1999) investigated the influencing strategies of stakeholders based on the resource dependency and the power of stakeholder/firm. Although preliminary studies focused more on internal stakeholders, recent studies by Aaltonen, Jakko, and Tuomas (2008), Aaltonen and Kujala (2016), and Li et al. (2015) paid more concern to external stakeholders' influencing strategies. Even though Co and Barro (2009) and Lin et al. (2019) categorized influencing strategies as aggressive and cooperative strategies, most studies have not considered that classification: e.g., Aaltonen et al. (2008), Aaltonen and Sivonen (2009), Li, Zhang, Ng, and Skitmore (2018), Mok, Shen, and Yang (2016), De Oliveira and Rabechini Jr (2019). Thus, this study focuses on the influencing strategies of external stakeholders without using the aggressive and cooperative types of categorization. Further, Table 2.4 tabulates the influencing strategies studied by stakeholders in projects in both recent and past studies.

Table 2. 4: Stakeholder influencing strategies

Strategy	Description	Source																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Direct withholding	Stakeholders control the project's access to use resources which are controlled by stakeholders	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indirect withholding	Stakeholders influence the project's access to resources; Halt the funds	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indirect usage	Attempt to include additional conditions which are not directly related to business	✓	✓			✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Direct usage	The stakeholder attempts to include more conditions for resource usage	✓	✓			✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Communication strategies	Stakeholders use various types of media to communicate the urgency of their claims	✓	✓	✓				✓		✓	✓	✓	✓	✓	✓					✓
Resource building	Stakeholders able to access the resources which are critical to project execution	✓		✓							✓	✓	✓	✓	✓					✓
Conflict escalation	Stakeholders attempt to increase the conflict beyond initial project related causes	✓		✓							✓	✓	✓	✓	✓					✓
Coalition building	Stakeholders try to find an appropriate position in the project network and build alliances with other project stakeholders	✓		✓							✓	✓	✓	✓	✓					✓
Credibility building	Stakeholders increase their perceived legitimacy by acquiring credible and capable resources, such as competent individuals with good status	✓		✓							✓	✓	✓	✓	✓					✓
Direct action strategy	Stakeholders organize protests, boycotts, demonstrations, and road blockades	✓		✓							✓	✓	✓	✓	✓					✓

Multi-stakeholder dialogues	Forming alliances for exercising indirect influences		✓					✓	✓			✓	✓					✓
Letter writing campaigns	Petitioning for exerting influences for legitimate authorities		✓					✓	✓			✓	✓					✓
Boycotts	Nonviolent movement on rejecting to deal with a group or a person		✓					✓	✓			✓	✓					✓
Blockades	Control of firm assets to get the attention of other stakeholders		✓					✓	✓			✓	✓					✓
Lobbying	Influence on other stakeholders who have more legitimate power		✓					✓	✓			✓	✓					✓
Litigations	Go for court proceedings		✓					✓	✓			✓	✓					✓
Coercion	Negative in nature, include into manipulation strategy that leverage resources by either threat or reducing benefits or increasing cost to the firm		✓		✓				✓				✓					
Compromise	Positive in nature with involving improve the benefits or reducing the cost to the firm		✓		✓				✓				✓					
Direct	Stakeholder manipulates the flow of resources directly		✓		✓				✓				✓					
Indirect	Stakeholder manipulates the flow of resources with forming alliances		✓		✓				✓				✓					
Setting the rules and supervise the project	Stakeholder set rules or supervise the project deliverables								✓									✓
Using decision making authority	Stakeholders use their decision making authority								✓									✓
Complaints and disputes	Inform about the objections formally or informally																	✓
Complaints or protests	To raise the tension of public								✓									
Reports to the government	Communities submit on their complaints and concerns								✓									
Representative meetings	Seek for discussion on public concerns								✓									
Putting pressure on government	Engaged in receiving government attention which not adequately received								✓									

Lobby or appeals	To persuade other companies or government											✓								
Social responsibility campaigns	Launched by NGOs to build collaborations between decision makers											✓								
Voluntary consultations	Offer professional knowledge for socially responsible manner											✓								
Educational activities	NGOs try to enhance the public awareness											✓								
Regulations and punishments	Set bottom lines by government regarding environmental and social aspects											✓								
Incentive policies	Government offers incentive policies											✓								
Mediation and reconciliation	Mediation with stakeholders to resolve conflicts											✓								
A-Aaltonen et al. (2008), B- Aaltonen & Kujala (2010), C- Chan & Oppong (2017), D- Frooman & Murrell (2005), E- Frooman (1999), F- Hefferran & O'Brien (2010), G-Hendry (2005), H- Jergeas, Williams, Skulnoski & Thomas (2000), I- Lin et al. (2019), J- Mok et al (2015), K- Molwus (2014), L- Nguyen, Chileshe, & Rameezdeen (2018), M-Nguyen et al. (2019a), N- Nguyen, Mohamed, & Panuwatwanich (2018), O- Preamble (2005), P- Ten, Kloot, & Clarkson (2010), Q- Tsai, Yeh, & Wu (2014), R- Tsai, Yeh, Wu & Huang (2005), S- Vuorinen & Martinsuo (2018)																				

As per Table 2.4, most researchers followed the four main strategies: direct withholding, indirect withholding, indirect usage, and direct usage. These strategies are widely accepted without a time value and can be considered as the basic influencing strategies. Similarly, other strategies like letter-writing campaigns and boycotts are frequently used. However, recent studies by Aaltonen (2010), Aaltonen and Kujala (2010), and Nguyen et al. (2019_a) pointed out the use of new strategies, for instance, credibility building and coalition-building strategy. Consequently, stakeholder influencing strategies have become complex with forming alliances among external stakeholders. The purview of Olander and Landin (2005) argues that though media have no actual stake in the project, opponents of the projects extensively use to communicate their opinions through media. Hence, communication can be accepted as an effective influencing strategy.

Eventually, Lin et al. (2019) discovered that among external stakeholders, NGOs' role is an active promoter of social and environmental issues through lobbying governments, communicating with the public, and representing as a socially responsible entity. Furthermore, the author emphasized the government role is similar to a regulator, balancing stakeholders' claims and project requirements. In addition, Li, Ng, and Skitmore (2018) revealed the government's concern on economic growth and NGOs and the general public eagerness in land usage, environmental issues, and the use of sustainable practices. Subsequently, a concise analysis of those influences exerted by external stakeholders will be described next.

2.14.2 Examples for the influences of external stakeholders in infrastructure projects

Saad et al. (2020) stated that most projects had been terminated before implementation, mainly to avoid external stakeholders' concerns. Public opposition is a crucial source of uncertainty in infrastructure development (Valentin, Naderpajouh, & Abraham, 2018), and Table 2.5 presents a few examples of globally dispersed infrastructure projects affected by external stakeholders.

Table 2. 5: Influences by external stakeholders in infrastructure projects – globally dispersed studies

Influence	Engaged external stakeholder	Outcome	Used Influencing strategy	Source & the country
- Reported insufficiencies of environmental impact assessment (EIA) process - Rivalry to dump rocks, sand to the river at site preparation	- Environmental organizations - Media - Public	- Initially suspended the project - Suspend the building permit - Repeat the EIA report preparation	Lobbying	Adapted by Nguyen, Chileshe, & Rameezdeen (2018)
- Planned to relocate current fishing port - Fishermen claimed to have few spots for fishing at the same place	- Fishermen - Fishing community - School children	- Appeal for local and Provincial authorities - The overall project plan was changed	- Communication - Direct action - Lobbying	- Nguyen et al. (2019_a) - Nguyen et al. (2019_b) - Nguyen et al. (2019_c)
- Proposed construction site near to Cat Tien national park - Adversely affect to national park & downstream residents	- Dong Nai Authority - Saving Cat-Tien alliance - General public	- Conduct three different EIAs - National Authority had to suspend the project	- Communication - Indirect withholding - Lobbying	Nguyen et al. (2019_c) Vietnam
- Negative influences on changes of land in usage - Changes in cultural and social conditions - Loss of large extent of productive land in the rural area - Special objections by Pastoralists due to loss of land	- Local community - Indigenous people - Conservationists - Pastoralists - Politicians - Human rights organization	- Risk in adverse environment impacts - Resistant to displacement - Seeking higher compensation - Litigation - Settle the issues of changes into livelihoods in wildlife tourism	- Communication - Lobbying - Coalition building strategy - Conflict escalation strategy	Adapted by Enns (2017) Kenya
- Construction of railroad track through an urbanized area - Objections to increase the railroad traffic at the nearby residences	- Residents at the vicinity of a project - National Board of Housing	- Followed litigation procedure - Amend the plan by considering the proposed plan by the community	- Communication - Indirect withholding	Adapted by Olander & Landin (2005) Sweden
- Public opposition to the loss of cultural values - Environment degradation with habitat loss for birds	- Local community - Tema environment protection agency	- Engaged with litigation activity - Changes to the project plan - Compensation packages for affected people	Indirect withholding strategy	Adapted by Lawer (2019) Ghana

Influence	Engaged external stakeholder	Outcome	Used Influencing strategy	Source & the country
- Protest on the mill which may pollute the river - Conducted media campaign - Road blockages - Political support for the counterparties - Request to change the location - Influenced for funding organizations	- Local citizens in Argentina - Media - Politicians - Environmental organization	- Review EIA process - Closed the Uruguay and Argentina border temporary - The project was not stopped	- Direct withholding - Indirect withholding - Communication - Coalition building	- Adapted from Aaltonen et al. (2008) - Aaltonen & Kujala (2010) Argentina
- Public opposition to the continuous environmental damages such as surface water contamination, metallic deposits, excessive noise, and vibration at road construction projects - Public objections due to poor health and environmental safety practices	- Community stakeholders - Environmentalists - Traditional worshippers, deities	- Temporary halt the project - More than 60% of awarded projects were completed beyond the scheduled time period - Wastage of resources	Direct action strategy	Ezeabasili, Dominic, & Okoro (2015) Anambra State, Nigeria
Objections to relocate the Atomic Energy Authority building with storages of radioactive waste materials in a new location at Halbarawa, Malabe	Residents nearby new location	Change the project scope only to relocate building and radioactive waste may store at the existing place	- Lobbying - Direct action strategy	Adapted by Road Development Authority (2016) Sri Lanka
- Public opposition for the potential threat of ash particles generated as waste - Loss of livelihoods for fishermen - Loss of cultural values - Loss of cheap labor for businessmen	- General public - Religious leaders - Media - Environmentalists - Fishing community - Local-level politicians	- Delayed the project commencement from the late 1980s - Loss for Ceylon Electricity Board	- Indirect withholding strategy - Communication	Adapted by Jayarathna (2015) Sri Lanka

Table 2.5 discloses that whenever an infrastructure project affects the social, environmental, and cultural values of a community, external stakeholders have admittedly given their objections. Initially, the project would be halted for some time due to objections by external parties, and ultimately, the project scope would change (Zidane, Johansen, Ekambaram, & Hald, 2015). The stakeholder engagement process can be devised by analyzing the influencing strategies, which will be reviewed next.

2.15 Stakeholder engagement

Stakeholder engagement involves communicating and developing relationships with stakeholders (Greenwood, 2007). Further, the necessity of effective communication between the project team and the external stakeholders to build a stable relationship is convinced by Amadi et al. (2018), Chan et al. (2017), and PMI (2008). Thus, public consultations and participation are appropriate methods to communicate with the public (Chow & Leiringer, 2021; Mok et al., 2016). Further, Mathur, Price, and Austin (2008) and Herazo and Lizarralde (2016) revealed that stakeholder engagement is not only relying on communication but includes strategic management, ethical and social learning perspectives. Correspondingly, various authors have explored the approaches in stakeholder engagement as meetings, interviews, seminars, working groups, workshops, brainstorming, conferences, focus groups, and negotiations (Lehtinen & Aaltonen, 2020; Abbashi, Abbashi, Memon, Mustafa, & Leghar, 2020; Yang, Shen, Bourne, Hu, & Xue, 2011). Eventually, Lehtinen and Aaltonen (2020) and Loosmore, Raftery, Reilly, and Higgon (2012) argued that appropriate engagement of stakeholders is a risk management strategy. Thus, continuous monitoring and evaluation of the SM process are inevitable.

2.16 Monitoring and Control

In this step, the project manager must ensure the implemented strategies are according to the plan and evaluate the stakeholder effects (Yang & Shen, 2015). Therefore, corrective and efficient actions are necessary to address the gaps identified at monitoring the whole process (Hanjeweile et al., 2013). To support that, Ravesteijin, He, and Chen (2014) stated that Multi-stakeholder Advisory Committee was an

effective mechanism for resolving the issues among stakeholders. In addition, SM strategies are referred by scholars mentioned in Table 2.6.

Table 2. 6: Stakeholder management strategies identified by past researchers

Strategy	Description	Source
Avoidance	Transfer the responsibility to manage conflicts to an organization that have more responsibilities	Aaltonen & Sivonen (2009) Dooms (2019) Yang, Wang & Jin (2014) Manowong & Ogulana (2010) Mahalingam & Ninan (2019)
Compromise/ Negotiate	Bargaining and reaching a win-win situation	
Dismissal	Ignore the demands of stakeholders, which are not legitimate	
Adaptation/Concession	Adjust with the legitimate claims of stakeholders	
Influence/Manipulate	Proactively address the demands, share updated information, build and monitor relationships with proper public relations	
Persuasion	Inspire stakeholders to get the support	
Reactive	Deny responsibility	Lim, Ahn & Lee (2005)
Coordination by deputation	Get the support of deputed employees from the public sector to coordinate with govt. institutes	Mahalingam & Ninan (2019), Ninan & Mahalingam (2017) Ninan, Mahalingam, & Clegg (2020) Ninan, Mahalingam, & Clegg (2019)
Give and take behavior	Project acquire and compensate by cost implications	
Extra work for stakeholders	Extra effort to relocate public utilities (pipelines)	
Enable to design flexibility	Changes of design due to stakeholder's valid requests	
Framing strategy	Appoint a spokesperson to contact with media	
Hegemonizing Strategy	Create favorable perception in stakeholders' minds	
Proactive	Doing more than required collaborating with stakeholders, using interpersonal skills	Lim, Ahn & Lee (2005), Oching & Chileshe (2016) Yang, Wang & Jin (2014)
Defensive	Doing the least required	Yang & Shen (2015) Lim, Ahn & Lee (2005) Yang, Wang & Jin (2014)
Accommodative	Accept responsibility	Chan et al., (2017)
Mutual gains approach	Acquaintance with the objectives of stakeholders, Joint solution seeking	Jayasuriya et al. (2020)

Strategy	Description	Source
Develop Key Performance Indicators (KPI)	Required to measure the progress	Joos, Aufseb & Pidun (2020)
Appoint independent party to monitor	To strengthen the mutual trust	
Create system with lessons learned	Use case-based reasoning approach	
Using CSR activities	Involve in corporate social responsibility (CSR) services with public	Lim, Ahn & Lee (2005)
Continues with effective communication	Effective flow of information, maintain balanced, open communication via meetings	Mahalingam & Ninan (2019)
Effective leadership	Use leadership skills for effective stakeholder engagement	Joos, Aufseb & Pidun (2020)
Approach to each stakeholder directly or indirectly	Address each stakeholder separately	Oching & Chileshe (2016), Doh and Quigley (2014)
		Chan et al. (2017) Manowong & Ogulana (2010)

According to Table 2.6, although new strategies have been derived recently, conventional strategies such as negotiate, avoid, proactive, and avoidance are confirmed in past and recent studies. As per the perspectives of Chan et al. (2017) and Manowong and Ogulana (2010), a combination of the above strategies can be applied for each scenario. In conclusion, an ideal model can be formulated for each project context by reviewing the different stakeholder management strategies. Additionally, Heravi, Coffey, and Trigunarsyah (2015) and Olandar (2007) stated that the engagement of stakeholders varied from the initiation up to the completion of the projects. In that circumstance, discussing the effects of stakeholders with the PLC phases is vital to monitor their impact.

2.17 External stakeholder engagements throughout the PLC

Different stakeholders are engaged in various stages of the PLC (Hetemi, Gemunden, & Mere, 2020; Irfan, Thaheem, Gabriel, Malik, & Nasir, 2019). For instance, Lin, Ho,

and Shen (2018) discovered that government and the developers are the most powerful stakeholders at the project planning stage and gradually reduce at the execution phase. Similarly, influences by NGOs, communities, and environmental activists become a paradox in the project planning stage and gradually reduce when the project progresses. Hetemi et al. (2020) argued that politicians strongly influence the project front end, which would be an uncertainty factor that decides whether or not the project will launch. Hence, Aaltonen (2010) concluded that external stakeholders are more salient at the initial stage of PLC. External stakeholders' influences are critical to recapitulate at the planning and design stage.

2.18 The theoretical framework of the study

The concise version of the literature review with identified research gap is visualized in a theoretical framework. Additionally, it expresses the theory underpinned the existing research problem by providing a direction for the study. Accordingly, a theoretical framework is developed in Figure 2.2.

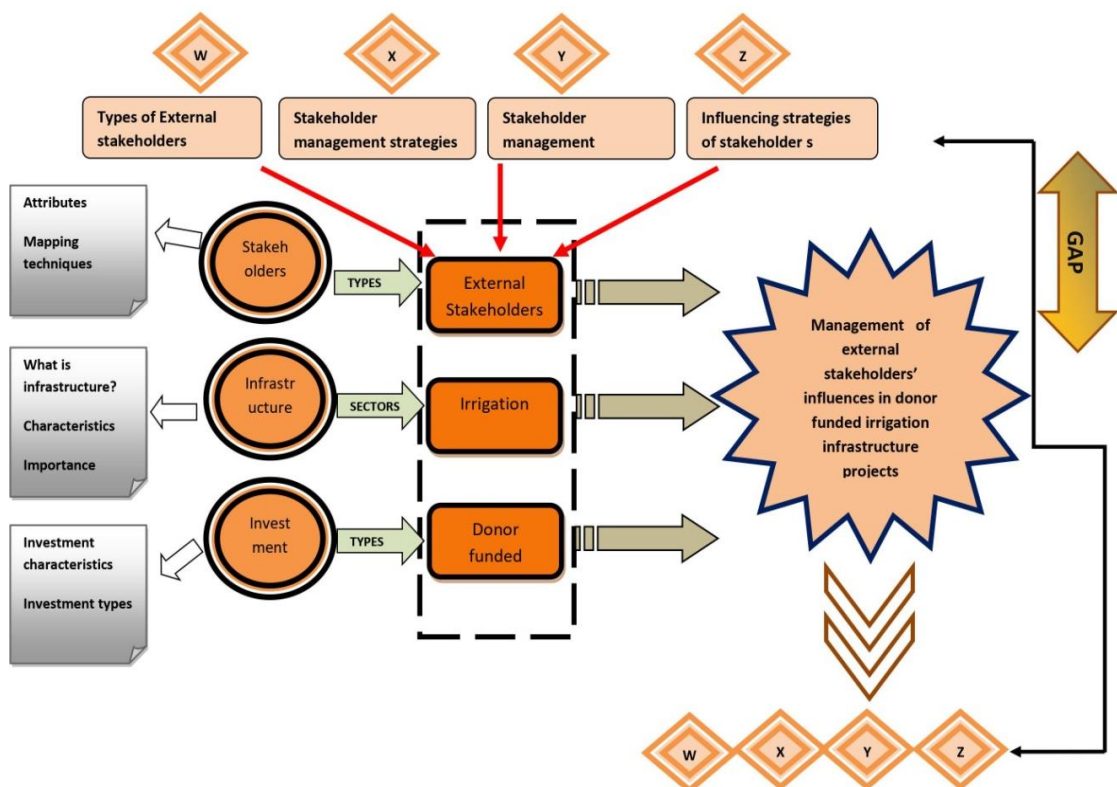


Figure 2. 2: Theoretical framework of the study

According to Figure 2.2, a literature synthesis was conducted under three main areas: stakeholders, infrastructure, and investment types. Among the stakeholder types, influences by external stakeholders are considered in the study, and the irrigation sector was chosen from different types of infrastructure projects. Moreover, donor-funded projects were highlighted under the types of investments.

The left side of the framework contains the areas that formulated the study background. On the contrary, the right side of the framework consisted of the areas in which the studies are continued. By combining key regions, the focus of the study was narrowed down as ‘the management of external stakeholders’ influences in donor-funded irrigation infrastructure projects.’ The following section discusses the detailed research gap of the study.

2.19 Research Gap

2.19.1 Management of external stakeholders in infrastructure projects

Digwu et al. (2015) convinced that with the rise in infrastructure assets by ten percent, GDP would increase by one percent. Thus, the improvement of infrastructure is positively correlated with GDP (Han, Su, & Thia, 2020). Besides, the dynamism of the social and political environment determines the progress of the infrastructure projects (Naderpajouh, Mahdavi, Hastak, Asce, & Aldrich, 2014). Hence, influences from the external environment for the project may not predict during the initial stages of PLC. Management of external stakeholders in infrastructure projects has become complex (Cuppen, Rekveldt, Pikaar, & Mehos, 2016) by engaging a wide variety of external stakeholders in such projects (Pirozzi, 2017); this is reported in all five continents (Allahaim and Liu, 2015). Authors comparatively studied the costs overrun between the United States of America, Europe, Middle East Asia, and African continents over the past four decades. Significantly, it is discovered that external stakeholder influences have caused cost overruns in each continent over the last two decades. Accordingly, exploring the effective management strategies for the emerging trend of negative impacts of stakeholders is required.

2.19.2 Influences of external stakeholders on donor-funded infrastructure projects

Julian (2016) explained that donor-funded agencies expect long-term social development due to their contribution. Donor agencies primarily fund infrastructure projects in developing countries, encouraging stakeholders' sustainable participation (Mwangi, 2020). In addition, ADB (2009) declared the safeguard policy is applicable for every project funded.

Further, the three main aspects have to be fulfilled: identifying possible impacts, assessing each impact at the initial stage of PLC planning to avoid or compensate for all impacts, and regularly consulting the vulnerable people.

As per the manifestation of ADB (2019_b), Julian (2016) stressed the adaptability of the mechanism for consultation and participation of project-affected parties with each stage of the project. This was supported by Ekanayakage and Halwatura (2012), who convinced that beneficiary participation is a primary requirement in donor-funded projects. Hence, external stakeholder impacts on donor-funded projects could be identified as a relevant research study, lacking so-called research that explicitly addresses donor-funded projects. Managing the influences of external stakeholders should be given higher priority in donor-funded infrastructure projects. Studies have tested the stakeholder influences for specific infrastructure projects such as transportation and energy, but only a limited number of studies have addressed the irrigation infrastructure projects.

2.19.3 External stakeholders' impact on donor-funded irrigation infrastructure projects: the global context

Since irrigation infrastructure is a (type of) public good (Li et al., 2019) that engages enormous external stakeholders, Gebre, Getachew, and McCartney (2008) investigated the external stakeholders' grievances for land redistribution process and compensation for resettled people in constructing the Koga dam project. Similarly, influences of external stakeholders have been recorded in building the Kpong dam in Ghana as the poor communication and loss of livelihoods of the downstream community (Owusu, Obour, & Nkansah, 2016). Further, Ricart, Ribas, and Pavon

(2016) discovered issues faced by the affected community by the Segar-Garrigues irrigation project in Spain, mainly on environmental, socio-economic influences. By considering these limited globally dispersed studies on irrigation infrastructure projects, proactive measures must be taken to minimize the external stakeholders' influences on project initiation. Despite this, most studies on stakeholder influences are concerned as a whole, without specifying external stakeholders (e.g., Li et al., 2018; Kivila, Martinsuo, & Vuorinen, 2017; Rao, Tiwari, & Hutchison, 2018; Siriwardhane & Taylor, 2017). Accordingly, this study expects to fill the lacuna mentioned above.

2.19.4 External stakeholders' influences on donor-funded irrigation infrastructure projects: Local context

Even though the donor-funded irrigation projects in Sri Lanka aim to supply continuous water supply for agriculture activities, hydropower generation, and drinking purposes, fulfilling the desired objectives are retarded due to the obstacles placed by external stakeholders. Accordingly, Withanage (2018) and Samarakoon and Bandara (2018) emphasized the social and environmental impacts of the execution phase of the Uma Oya project because a substantial number of communities in the nearby area were severely affected. This resulted in adverse public opposition, environmentalists' movements, and media campaigns and resulted in a litigation procedure that temporarily halted the project activities. Henceforth, the project has not yet reached its pipeline. Hence, a comprehensive study is necessary to manage those influences.

2.19.5 The novelty of the study

Paradoxically, the involvement of various external stakeholders in infrastructure projects, especially in irrigation infrastructure projects, should adequately address the external stakeholders' potential interests, threats, and influences from the initial stages of the projects. Similarly, Lehtinen, Aaltonen, and Rajala (2019) emphasized that suitable management strategies can be adapted to specific stakeholder types. Although available management strategies for managing external stakeholders' influences can be explored, a paucity of literature on specific management strategies for each external

stakeholder is encountered. By recapitulating the above literature gaps, it requires researching the management of external stakeholders' influences in irrigation infrastructure projects in Sri Lanka, executed as donor funds. Prudently, this study aims to address this research gap in forthcoming sessions.

2.20 Summary

A comprehensive literature review was accomplished on infrastructure, donor-funded projects, and stakeholders. Out of the stakeholders, external stakeholders' behaviors related to the infrastructure programme were identified. Here, the external stakeholder types, their influences, the influencing strategies used, and the management strategies were discovered, and a research gap was identified as lagging the analysis of so-called sections in donor-funded irrigation infrastructure projects in Sri Lanka. Chapter Three explains the methodology to address the above research gap.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the procedure to solve the research question under the main four objectives. The concepts of research design, research approach, and research method, the research process, are briefly discussed, and the selected research methodology is presented with necessary justifications.

3.2 Research design

Akhtar (2016), Boru (2018), Kumar (2014), and Saunders, Lewis, and Thornhill (2016_a) identified the research design as a well-structured road map followed to find a solution for the research problem. Hence, research design has depicted the holistic view of the research process from beginning to end. As discussed in the next section, Grover (2015) explained an interconnection between the research design and research approach.

3.3 Research approach

Creswell (2014) emphasized that the research approach consists of plans and procedures. On the other hand, Grover (2015) argued that selecting a research approach depends on the type of research problem, whether exploratory, explanatory, descriptive, prediction, evaluation or historical. It indicates some available research approaches that need to discuss.

3.3.1 Available research approaches

The main three research approaches explained by Creswell (2014) and Grover (2015) are follows.

Quantitative research approach

Goertzen (2017) and Rahman (2017) elaborated the main characteristics of quantitative research as dealing with numbers to assess the information, and data can be measured and quantified with the use of statistical analysis, objective, represent with variables, and the results can be either summarized, compared or generalized.

Qualitative research approach

A qualitative approach is appropriate when the research is more exploratory and lacks theoretical constructs in the study area (Madter, Brookes, Bower, & Hagen, 2012; Zulu & Khosrowshahi, 2021). Similarly, Ochieng (2009) and Merriam (2002) explored key characteristics of the qualitative research approach as it continues with views of people, i.e., socially constructed by experiences, a researcher involved with building concepts, theories, hypotheses. Thus, as per Fellows and Liu (2015), data collected under qualitative methods are rich in content and scope when the study becomes more exploratory (Saunders, Lewis & Thornhill, 2009). Therefore, this method applies to areas that lack previous research findings.

Mixed approach

Yin (2006) stated the mixed approach aims to answer different research questions, covering the requirement of both quantitative and qualitative data collection, analysis, and interpretation. As a result, a researcher may obtain a more thorough understanding of the research problem than researching with either qualitative or quantitative approaches (Creswell, 2014; Kumar, 2014; Bash, Smith, & Trantham, 2020). In addition, sequential exploratory (qualitative followed by quantitative) mixed-method may elaborate the preliminary findings (Saunders, Lewis, & Thornhill 2016_b).

3.4 Selected research approach

Studies relating to external stakeholder influences in donor-funded irrigation projects are lacking. Hence, the qualitative method is applicable to cater to the specific knowledge and experiences from the respective knowledge domain. As per Duffy and Chenail (2009) and Mariani and Baggio (2020), since the participants' views are required to collect, it is recommended to follow a qualitative approach. Hence, semi-structured interviews were conducted to validate the literature findings in the present research context. Further, the significant influencing strategies of external stakeholders and significant management strategies have to be ranked. Therefore, the quantitative approach was applied. A similar type of research question was answered by Karlsen (2002) and Olandar (2007) through a quantitative approach. A mixed approach was matched with achieving research objectives by reviewing the above justification. Only

a few research studies have used qualitative or quantitative methods on stakeholders in infrastructure projects in Sri Lanka. Hence this study became specific by using both approaches without limiting to one system.

3.5 Research method

A research method is a data collection tool (Leavy, 2017). Cresswell (2009) pointed out the main components of a research method as data collection, data analysis, and interpreting results. Data collection methods are basically classified into two parts as primary and secondary. Primary data collect sources which are first-hand information collected via observations, interviews, and questionnaires, whereas secondary data are extracted from publications (Kumar, 2014). The selected data collection methods will be described in the next section.

3.6 Selected data collection methods

Data collection techniques used in both qualitative and quantitative approaches were applied to follow the mixed approach.

3.6.1 Semi-structured interview

Semi-structured interviews collect qualitative information to thoroughly understand the research question (Senarathne, Karunasena, & Rathnayake, 2014; Saunders et al., 2016_b; Daberera, Perera, & Rodrigo, 2019). Further, Saunders et al. (2016_b) disclosed it as a purposeful conversation between two or more interviewees who can respond independently. Consequently, collecting the participants' new ideas may add value to the study. In the present study, experts' views helped to find influencing strategies and management strategies regarding the donor-funded irrigation infrastructure projects, which were not identified in the previous studies. Therefore, semi-structured interviews were held in this study.

3.6.2 Questionnaire survey

In the light of Saunders et al. (2016_a) and Young (2016) generalized the term "questionnaire" as 'all techniques of data collection which each person can answer for closed questions.' Answering the same set of questions by the respondents would make

this an efficient data collection technique from a large sample (Saunders et al., 2009). Hence, the research questions, i.e., identifying significantly influential external stakeholders, evaluating significant influencing strategies, and significant management strategies of external stakeholders, were efficiently answered by using a questionnaire survey. Roopa and Rani (2012) expressed this as a source of collecting primary quantitative data. Henceforth, Preston (2009) argued that a questionnaire survey might be valid when the respondents are knowledgeable in the respective subject and competent to answer the questions. Thus, a questionnaire survey was performed in two rounds to obtain the responses effectively.

3.7 Data analysis techniques

Data analysis is basically two types: qualitative data analysis and quantitative data analysis. These techniques are discussed as follows.

3.7.1 Content analysis for semi-structured interviews

White and Marsh (2006) and Elo et al. (2014) explained that content analysis is a systematic and abstract process of analyzing the information generated through interviews, observations, diaries, and vice versa. Similarly, Bengtsson (2016) emphasized that this method is applied to make valid inferences from verbal or written data. Elo et al. (2014) recommended this analysis method for the qualitative studies conducted with purposive sampling. By reviewing the above perspectives, content analysis was adopted to analyze the findings of the semi-structured interviews.

3.7.2 Mean Weighted Ratings (MWR) for the questionnaire survey

The Mean Weighted Rating is a statistical technique used to find the significant factor among the number of factors affecting certain phenomena (Gosavi, 2015) with simple and convenient interpretations (Grela, 2013; Roszkowska, 2013). The equation is mentioned as follows:

$$\text{MWR} = \sum_{i=0}^5 Xi * Fi / N$$

F_i - frequency of responses for an attribute (ranging from 1 to 5); X_i - responses to specific rating point of an attribute; N - total number of responses.

On the other hand, Everitt and Skrondal (2010) stated that weighted mean values determine the relative importance of each factor. Similarly, Roszkowska (2013) and Madushika, Perera, Ekanayake, and Shen (2020) declared that mean weighted rating rank factors according to their importance. This was applied to the present study by reviewing the merits of using MWR for data analysis.

3.7.3 Calculate Cronbach's Alpha–reliability test

Tavakol and Dennick (2011) mentioned that reliability is a fundamental evaluation of a measurement instrument such as knowledge, skills, attitudes, or questionnaire surveys. Further, Habidin, Zubir, Fuzi, Latip, and Azman (2015) and Taber (2018) stated that coefficient acts as an indicator of reliability or internal consistency of a test or a scale. Amirrudin, Nasution, and Supahar (2021) provided the following formula:

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum s_i^2}{S_x^2} \right)$$

k - Number of items, S_i^2 - The variance of an individual item, i -1, 2... K, S_x^2 - The variance of all items on the scale.

Table 3.1 presents the thumb rule according to the alpha value.

Table 3. 1: Thumb rule for the Alpha value

Coefficient of Cronbach's Alpha	Reliability Level
More than 0.90	Excellent
0.80-0.89	Good
0.70-0.79	Acceptable
0.6-0.69	Questionable
0.5-0.59	Poor
Less than 0.59	Unacceptable

According to Table 3.1, the alpha value lies between 0 -1. However, Taber (2018) added that high reliability might not ensure accuracy, but it provides the basis for making inferences about the changes.

3.7.4 Standard deviation (St Dev.)

Ayeni (2014) disclosed that St. Dev. indicates the data variation around the mean value and is highly used for measuring the spread. Hence, St. Dev. was applied to measure the dispersion around the mean value of the MWR in questionnaire surveys.

3.8 Research process

The research process is initiated with a research question, formulating design and methods to answer the research question scientifically (Drew, Hardman, & Hosp, 2007). Further, Arthur and Hancock (2007) simplified the research process by conceptualizing the study conduct and communicating the results. By reviewing the above concepts, the snapshot for the research process is depicted in Figure 3.1.

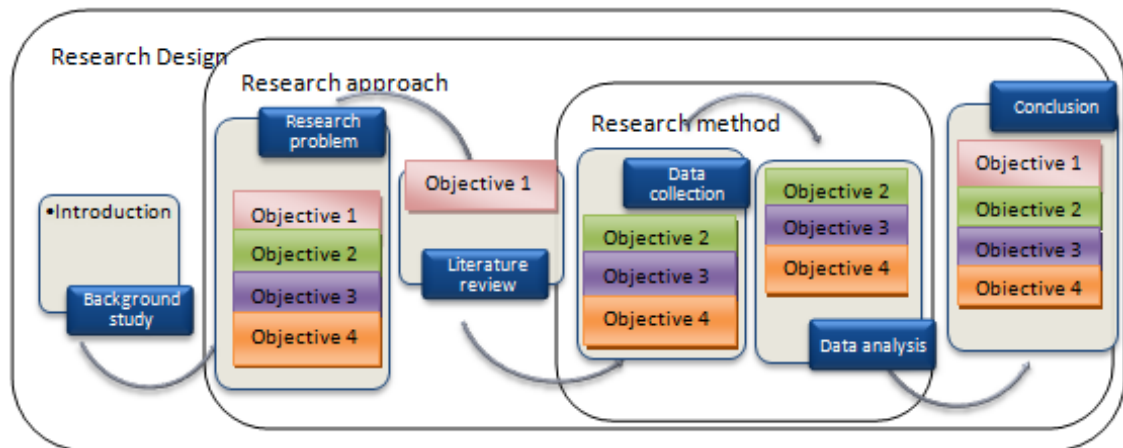


Figure 3. 1: The research process

According to Figure 3.1, the research design and research questions determined the study background. Four objectives were achieved throughout the research approach. Consequently, the data collected during the data collection stage were interpreted using data analysis methods. All research questions will be answered at the conclusion step.

3.9 Summary

This chapter described the scientific approach to determine the concepts of stakeholder management, significantly influential external stakeholders, their most important influencing strategies, and effective management strategies for external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Introduction

This chapter comprises data collection and analysis regarding the external stakeholder influences in selected donor-funded irrigation projects in Sri Lanka. The synthesized literature was validated in to present study via semi-structured interviews. The findings were analyzed through manual content analysis. The questionnaire surveys aimed to find the significantly influential external stakeholders and their influencing strategies and management strategies for each external stakeholder. These data were analyzed using MWR.

4.2 Semi-structured interviews

Semi-structured interviews with experts were a fundamental requirement to investigate the present status of external stakeholders' influences in donor-funded irrigation infrastructure projects. Taherdoost (2016) stated that the purposive sampling (non-probability sampling method) technique was pertinent in exploratory studies, which cannot derive from other types of sampling methods. Etikan, Musa, and Alkassim (2016) and Campbell et al. (2020) supported that this method can be applied to collect data from people who are knowledgeable or well experienced in a particular subject. Therefore, interviewees were selected by using purposive sampling. The objectives of conducting semi-structured interviews in this study are explained in the next section.

4.3 Objectives of the semi-structured interviews

The main objective of the semi-structured interviews was to validate the literature findings into the management of external stakeholders' influences in donor-funded irrigation infrastructure projects in Sri Lanka. The practices not explored through literature can determine via experts' opinions. The similarities of some stakeholder influencing strategies and stakeholder management strategies were ascertained through the open-ended questions. The outcome of the semi-structured interviews was to prepare the questionnaires in two rounds.

4.4 Outline of the interviews

The interviews were held either as face-to-face or telephone conversations. Generally, the interviews consisted of four main sections obtaining information regarding the curriculum of the interviewee: steps in SM, types of external stakeholders, influencing strategies of stakeholders, and management strategies of stakeholders **(Refer to Appendix A)**. Hence, the time duration varied from 70-90 minutes for each interviewee. The interviewees were free to give suggestions for effective stakeholder management.

4.4.1 Details of the interviewees

Interviewees were selected from both internal and external stakeholders to obtain more information related to the study. The chosen interviewees were experts in stakeholder management and experienced in irrigation related projects. Table 4.1 presents the interviewees' profiles.

Table 4. 1: Interviewee profile

Code	Designation	Profession	Experiences (Years)	Job profile	Key projects engaged
I1	Programme Director	Chartered Engineer	41	Overall supervision on projects under the programme	Engage in ongoing irrigation projects and previous key irrigation projects
I2	Social and Resettlement Safeguards Specialist (National)	Retired Secretary	47	Updating the approved Resettlement framework of the programme, as necessary Updating resettlement plans the projects	Engage in an ongoing irrigation project. Engaged in 5 key irrigation projects Engage in 2 ongoing other infrastructure projects
I3	Project Director	Chartered Engineer	37	Supervision, management of irrigation projects	Engage in an ongoing irrigation project Engaged in a key irrigation project
I4	Project Director	Chartered Engineer	35	Supervision, management of an irrigation project	Engage in an ongoing irrigation project
I5	Project Director	Chartered Engineer	22	Supervision, management of an irrigation project	Engage in an ongoing irrigation project
I6	Consultant Land acquisition and resettlement	Retired District Secretary	37	Consultation on land acquisition issues	Engage in an ongoing irrigation project Engaged in other infrastructure projects
I7	Senior environment, health, and safety officer	Environment, Health and Safety management	13	Implement EIA regulations	Engage in an ongoing irrigation project Engaged in other infrastructure projects

Code	Designation	Profession	Experiences (Years)	Job profile	Key projects engaged
I8	Deputy project director	Land acquisition and resettlement	25	Management of land acquisition and resettlement process	Engage in an ongoing irrigation project Engaged in two key irrigation projects
I9	Senior Superintendent of Surveying	Surveying	21	Coordination of surveying for land acquisition	Engage in an ongoing irrigation project Engaged in two key irrigation projects
I10	District Valuer	Valuation	28	Coordination and management of valuation	Engage in an ongoing irrigation project Engaged in two key irrigation projects
I11	Assistant Director-Wildlife conservation	Wildlife conservation	38	Coordination and management of wildlife conservation	Engaged in two key irrigation projects
I12	Divisional Secretary	Administration	15	Management and supervision of land acquisition process	Engage in land acquisition process in an ongoing irrigation project
I13	Communication specialist	Mass media and Communication	14	Communication for programme stakeholders	Engage in an ongoing irrigation project
I14	Senior communication officer	Mass media and Communication	14	Communication for project stakeholders	Engage in an ongoing irrigation project
I15	Senior communication officer	Mass media and Communication	6	Communication for project stakeholders	Engage in an ongoing irrigation project
I16	Environmental Engineer	Environment Management	25	Coordination of activities of EIA regulations Management of environment-related issues	Engage in an ongoing irrigation project Engaged in other key infrastructure projects
I17	Civil Engineer	Water resources specialist	7	Technical and management supervision of water management	Engage in an ongoing irrigation project

The number of interviews was restricted to 17 because data saturation was recorded from the 15th interview. Interviewees with over six years of experience in donor-funded irrigation projects were selected using purposive sampling. A Divisional Secretary, District Valuer, Senior Superintendent of Surveying, and an Assistant Director (wildlife conservation) represented external stakeholders, and the rest of the interviewees were internal stakeholders.

4.5 Findings of semi-structured interviews

The detailed analysis of the interviews conducted under the main sections mentioned in 4.4 was discussed under the following subheadings.

4.5.1 Steps in SM process identified for donor-funded irrigation infrastructure projects in Sri Lanka

Previous studies on the SM process have explored thirty-three different steps, and Table 4.2 was derived from the interviewees' perspectives.

Table 4. 2: Validation of main steps in the SM process

After Literature	After semi-structured interviews																
Step	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14	I15	I16	I17
Planning	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Stakeholder identification/Information inputs	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Stakeholder mapping/Modeling stakeholder interests/ Stakeholder estimation/ Prioritize stakeholder demands/ Prioritization	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Develop communication strategy/Manage communication	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Stakeholder engagements/Involve	√	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√
Stakeholder assessments/ analysis	√	√	√	√	√	√	√	√	√			√	√	√	√	√	√
Sustainability/Continuous support/ Monitoring & control/ Management support/ Performance control	√	√	√	√	√		√		√	√	√	√	√	√	√	√	√

According to Table 4.2, almost all interviewees have accepted planning, stakeholder identification, stakeholder analysis, stakeholder mapping, communication strategy development, stakeholder engagements, monitoring, and evaluation as the main steps in the SM process. The interviewees mentioned the necessity of including communication as a primary step in the SM process. The explanation by I3 revealed that the “*present living status of the project affected parties (PAP) should be improved through the social safeguard policy stipulated by the donor agency.*” Hence, communication among external stakeholders is a mandatory requirement to minimize disputes from PAP. Recruiting a communication officer for a donor-funded irrigation project ensures communication as a fundamental step. After reviewing the steps derived from literature, I5, I14, and I15, some steps could be amalgamated into above mentioned main steps. In addition, I16 declared that those steps could be categorized

as sub-steps of the main steps. Finally, the proposed sub-steps were reiterated by 80% of experts and adhered to in Figure 4.1.

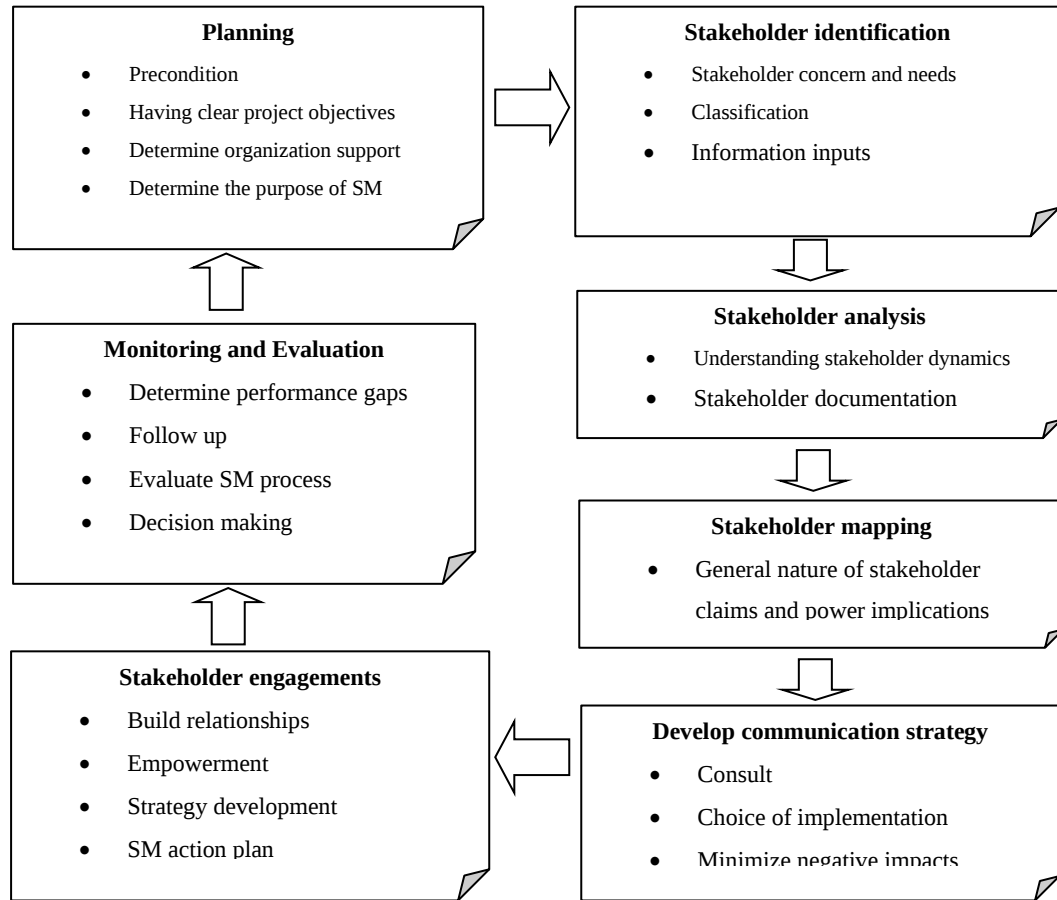


Figure 4. 1: SM process validated for donor-funded irrigation projects

Figure 4.1 pertains to the SM process with the leading seven steps and sub-steps of each main step. The above SM process commenced with the planning stage by considering the experts' perceptions. There, the project organization reviews the goals and milestones to achieve and the project's present status.

The stakeholder identification step I3 stated that *"many brainstorming sessions are accomplished to cater to possible stakeholders."* Simultaneously, mapping the external stakeholders using any mapping technique was recognized by every communication expert. Further, I 13 emphasized that *"Rs Mn 45.3 is allocated for implementing the communication plan for main three donor-funded irrigation projects under the program in 2021."* The next step, stakeholder engagements, is performed to establish mutual understanding between the external stakeholders and the project team. I13

reiterated, “*as illustrates, a high level of advocacy meetings, awareness of media, awareness with stakeholder site visits, and stakeholder consultation is planned to implement in 2021.*”

The next step comprises the monitoring and evaluation that continuously reviews the progress and fine-tunes the pitfalls. Hence, public consultations, steering committee meetings, and district coordination committee (DCC) meetings were accomplished to overcome such issues. The experts confirmed the appropriate SM process for donor-funded irrigation projects by analyzing the above perspectives.

4.5.2 Types of external stakeholders engaged in donor-funded irrigation infrastructure construction projects

More than 75% of the interviewees accepted 25 types of external stakeholders from the 38 types aggregated from the past studies. Ten out of the 25 types of external stakeholders were accepted without any modification, 14 were accepted with modifications, and a new external stakeholder was identified. In addition, six types of external stakeholders were confirmed, while eight types of external stakeholders were rejected in donor-funded irrigation infrastructure projects. Table 4.3 provides a summary of external stakeholders.

Table 4.3: Types of external stakeholders in donor-funded irrigation infrastructure projects

After literature review	After semi-structured interviews
Non-governmental organizations	Non-governmental organizations
Special interest groups	Special interest groups
General public	General public
Traditional worshipers & deities	Traditional worshipers & deities
Police	Police
Suppliers	Suppliers
Political groups	Political groups
Potential users	Potential users
Human rights groups	Human rights groups
Media	Media
Industry/trade & industries	<i>removed</i>
Indigenous people	<i>removed</i>
Municipality	<i>removed</i>

After literature review		After semi-structured interviews	
Administrative board		removed	
Owners		removed	
Clients		removed	
Competitors		removed	
Trade Unions		removed	
Local residents/residents' proximity to projects/project affected groups		Project affected parties (PAP)	
Neighboring areas		People in neighboring areas without benefited from the project but seek benefits	
Consumer groups		Direct Beneficiaries	
End users		Indirect Beneficiaries	
District councilors		Members in District Coordination Committee (DCC)	
Community groups		Community Based Organizations (CBO)	
Business representatives/ Local businesses		Business owners	
Public & Local authorities/authorities/departments		Local government authority	
		Government institutes (Detailed in Table 4.4)	
Traditional authorities		Traditional authorities (Religious leaders)	
Environmentalists/ Environmental groups/ Green groups		Environmentalists	
Archeologists		Archeology Department	
Court/ Legislation authorities		Court	
Social groups/pressure groups		Pressure groups	
Local & National government		National government	
Local communities/representatives		Same as CBO	
Regulators/ Regulatory agencies		Represented by government organizations	
Landowners		Same as PAP	
Lobbyists		Represented by pressure groups, political groups	
Conservationists		Represented by Environmentalists	
Private organization		Represented by business owners	
		Potential PAP	
	Modification of the name	Confirmation of stakeholder	New external stakeholder

As per Table 4.3, a new type of external stakeholder was identified as potential PAP. Twelve (I2) mentioned that “*although PAPs are pre-determined, some of the victims can arise due to headworks at the execution phase.*” On the other hand, most experts mentioned that the term ‘project-affected parties (PAP)’ was applied in donor-funded projects instead of using residents’ proximity to projects or local residents. These PAPs

are either directly affected by losing their land and other fixed assets (houses, buildings) or indirectly affected parties by noise, dust, and vibration. Nearly 60% of interviewees were renamed neighboring areas into neighboring areas without benefited from the project but seek benefits. Similarly, according to the Sri Lankan context, the term “district councilors” was changed to “DCC.” The term “potential users” was accepted without any changes since the people were not facilitated with irrigation facilities from the project execution but will benefit in the future.

Further, 82% of experts agreed to change “consumer groups” into “direct beneficiaries” and “end-users” into “indirect beneficiaries.” I8 mentioned that *“farmers and residents who are benefited from receiving water can be defined as direct beneficiaries in irrigation infrastructure projects while indirect beneficiaries are landowners who may not receive water but improve the water table of a respective area due to receive irrigated water to the cascade system.”* In addition, “business owners” was accepted instead of “business representatives” or “local businesses.”

4.5.3 Government institutions identified as external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka

As per the perspectives of I4, I8, I16 public and local authorities, the departments should be divided into local authorities and government departments. Subsequently, I7 emphasized, *“identifying each government institute is crucial since some departments are responsible for specific activities in the planning and designing stage.”* Further, this was confirmed by I1. By reviewing the above justification, determining every government institute as the external stakeholder may facilitate in-depth study of their influences on the project progress. Table 4.4 tabulates a list of identified government institutes.

Table 4.4: Government institutions engaged in donor-funded irrigation infrastructure projects

Divisional Secretary Office (DSO)	Geological Survey and Mines Bureau (GSMB)
Survey Department (SD)	Provincial Environmental Authority
Valuation Department (VD)	Road Development Authority (RDA)
Government Print	Provincial Road Development Authority (PRDA)
Wildlife Conservation Department (WLCD)	Plant Genetic Resources Center (PGRC)
Forest Conservation Department (FCD)	National Building Research Organization (NBRO)
Provincial Irrigation Department	Water Resource Board
Agrarian Development Department	Explosive controller
Central Environmental Authority (CEA)	District Secretary Office
Water Supply and Drainage Board	Ministry of Defense
State Timber Corporation	Herbarium
National Audit Institute	Medical Officer of Health (MOH)
Ceylon Electricity Board (CEB)	Ministry of Land (MoL)

As per Table 4.4, several government institutions were determined as the external stakeholders. I1 emphasized, *“identifying and coordination of government institutes responsible for the respective administrative areas is a key requirement since the irrigation canals are constructed across the several administrative boundaries,”* and I3 remarked that each institute has an identical role in different stages of PLC. Simultaneously, I8 included MOH as an external stakeholder due to Covid 19 global pandemic.

Additionally, I2 stated that *“CEA, WLCD, FCD, GSMB, NBRO, archeology department, herbarium, and PGRC were involved in EIA, archeological impact assessment processes”* and supported by I11. Nevertheless, I6, I9, I10, and I12 confirmed that DSO, SD, VD and MoL, and government print has the vested power at different stages of the land acquisition process. By involving many government institutes at the planning and designing stage for obtaining clearances, I5 declared that there might be a high possibility to delay the project implementation unnecessarily. Ultimately, altogether with government institutes, 51 types of external stakeholders were extracted for the present study.

4.5.4 Influencing strategies by external stakeholders in donor-funded irrigation projects in Sri Lanka

Thirty-four influencing strategies were identified through the literature. Out of them, seven influencing strategies were accepted without any amendments, five were validated by amending the strategy description relating to the present study, and four were subjected to changes in strategy name and description. Experts identified three strategies with the same meaning and combined them into one strategy. Moreover, 15 influencing strategies were rejected due to repetition or not being practiced in the planning and designing stage. In addition, seven new influencing strategies were determined from the interviews. Totally, 24 influencing strategies were applied for the questionnaire round two. Table 4.5 lists the validated strategies.

Table 4. 5: Influencing strategies by external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka

After literature review		After semi-structured interviews		
Influencing Strategy	Influencing Strategy Description	Influencing Strategy	Influencing Strategy Description	Remarks
Direct	Stakeholder manipulates the flow of resources directly	Direct Withholding		Use these strategies separately
		Direct Usage		
Indirect	Stakeholder manipulates the flow of resources by forming alliances	Indirect withholding		Use these strategies separately
		Indirect Usage		
Direct withholding	Stakeholders control the project's access to use resources which are controlled by stakeholders	Direct withholding	Control by issuing permits for resource supply	Practice in the Implementation stage
Indirect usage	Attempt to include additional conditions which are not directly related to business	Indirect usage	Include more conditions on resource usage which are not directly related to the project area	√
Coalition building	Stakeholders try to find an appropriate position in the project network and build alliances with other project stakeholders	Coalition building	Stakeholders try to find an appropriate position in the project network and build alliances, a coalition with other external stakeholders	√
Compromise	Positive in nature with involving improve the benefits or reducing the cost to the firm	Compromise	Positive in nature with involving improve the benefits	√
Reports to government	Communities submit their complaints and concerns	Reports to government	Voluntary submit proposals except to current designs	√
Direct usage	The stakeholder attempts to include more conditions for resource usage	Direct usage	The stakeholder attempts to include more conditions for resource usage	√
Indirect withholding	Stakeholders influence the project's access to resources. Halt the funds	Indirect withholding	Stakeholders influence the project's access to resources. Halt the funds	√

After literature review		After semi-structured interviews		
Influencing Strategy	Influencing Strategy Description	Influencing Strategy	Influencing Strategy Description	Remarks
Communication strategies	Stakeholders use various types of media to communicate the urgency of their claims	Communication strategies	Stakeholders use various types of media to communicate the urgency of their claims	√
Litigations	Go for court proceedings	Litigations	Go for court proceedings	√
Letter writing campaigns	Petitioning for exerting influences for legitimate authorities	Letter writing campaigns	Petitioning for exerting influences for legitimate authorities	√
Lobbying	Influence on other stakeholders who have more legitimate power	Lobbying	Influence on other stakeholders who have more legitimate power	√
Credibility building	Stakeholders increase their perceived legitimacy by acquiring credible and capable resources, such as capable individuals with good status	Credibility building	Stakeholders increase their perceived legitimacy by acquiring credible and capable resources, such as capable individuals with good status	√
Multi-stakeholder dialogues	Forming alliances for exercising indirect influences			Same as Coalition building strategy
Lobby or appeals	To persuade other companies or government			Confirmation of lobbying, letter-writing campaigns
Putting pressure on the government	Engaged in receiving government attention which not adequately received			Same as lobbying
Coercion	Negative in nature, include into manipulation strategy which leverages resources by either threat or reduce benefits or increase the cost to the firm			Practice in the implementation stage
Resource building	Stakeholders able to access the resources which are critical to project execution			Use in the implementation stage

After literature review		After semi-structured interviews		
Influencing Strategy	Influencing Strategy Description	Influencing Strategy	Influencing Strategy Description	Remarks
Conflict escalation	Stakeholders attempt to increase the conflict beyond initial project-related causes			Use in the implementation stage
Direct action strategy	Stakeholders organize protests, boycotts, demonstrations, and road blockades	Direct action strategy	Stakeholders organize protests, boycotts, demonstrations, and road blockades	√
Blockades	Control of firm assets to get the attention of other stakeholders	Direct action strategy	Stakeholders organize protests, boycotts, demonstrations, and road blockades	√
Boycotts	Nonviolent movement on rejecting to deal with a group or a person			
Complaints and disputes	Inform about the objections formally or informally			Confirmation of direct-action strategy, letter-writing campaigns
Complaints or protests	To raise the tension of public			
Setting rules and supervising the project	Stakeholders set rules or supervise the project deliverables			Same as indirect withholding strategy
Social responsibility campaigns	Launched by NGOs to build collaborations between decision-makers			Not practiced in irrigation projects
Educational activities	NGOs try to enhance the public awareness			Not practiced in irrigation projects
Regulations and punishments	Set bottom lines by the government regarding environmental and social aspects			Same as Direct usage strategy
Incentive policies	Government offers incentive policies	Seek benefits and incentives	Claim for incentives for extra works out of the leading job profile	√
Voluntary consultation	Offer professional knowledge for the socially responsible manner	Consultation	Provide expert's opinion for concerning the environment and social aspects	√

After literature review				After semi-structured interviews							
Influencing Strategy		Influencing Strategy Description		Influencing Strategy		Influencing Strategy Description		Remarks			
Mediation and Reconciliation		Mediation with stakeholders to resolve conflicts		Intervention		Intervention on issues		√			
Representative meetings		Seek for discussion on public concerns		Representative meetings		Request to face to face discussion		√			
Using decision-making authority		Stakeholders use their decision-making authority		Administrative bottlenecks		Delays due to bureaucratic decisions		√			
				Use Right to Information Act		Access to obtain information on the project		√			
				Lack of commitment		Less dedication for specific activities		√			
				Imbalanced coordination between departments		Unable to coordinate with other government institutes at the right time		√			
				Changes in priority		Not given the priority out of the heavy workload		√			
				Lack of transparency		Lack of information on procedures		√			
				Insufficient resources		Prevailing physical and human resources are not sufficient for achieving the targets		√			
				Imbalanced coordination between grass-root levels		Unable to coordinate with subordinates at the field level at the right time		√			
	Modification for the strategy name			Modification of the strategy description			New strategy		New strategy description		Rejection

Experts have mentioned that some influencing strategies have coincided with another influencing strategy. I12 and I15 revealed that the influencing strategies like blockades and boycotts were the repetition of the direct-action strategy. In addition, experts have agreed to amend some strategy descriptions. According to the present research context, indirect usage, compromise, and reports to the government were changed. Further, the compromise strategy was amended to positive in nature involving improving benefits. I5 further elaborated that politicians at the project-affected areas are getting more benefits to PAP but favorable to the project. Moreover, I13 and I14 confirmed that coalition-building strategy is generally practiced by most PAP and pressure groups, forming alliances or through multi-stakeholder dialogues.

Further, new strategies were derived through the experts' views. I13 added a new strategy, the Right to Information Act, to acquire knowledge about the project progress and the resettlement progress by special interested parties. Moreover, some departments have to work with more infrastructure projects simultaneously. Therefore, I3 and I8 proposed two influencing strategies: lack of commitment and imbalanced coordination between departments—I9 accepted these suggestions. In addition, I7 mentioned that changes in prioritization could be accepted as an influence. Additionally, **Appendix B** mentions examples of the influencing strategies in the present study. The next section discusses the management strategies for the influences of external stakeholders.

4.5.5 Stakeholder management strategies for external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka

The literature review explored 24 management strategies. Among them, 12 management strategies were accepted by the interviewees without any amendment. Further, seven existing strategies were amalgamated into three strategies due to their similarities, and one strategy was accepted after modifying the strategy description. In addition, the interviewees derived 12 new strategies and rejected four. Ultimately, 28 strategies were accepted as the output of the semi-structured interviews, as mentioned in Table 4.6.

Table 4.6: Management strategies for external stakeholders' influences in donor-funded irrigation infrastructure projects

After literature review		After semi-structured interviews		
Management Strategy	Management Strategy Description	Management Strategy	Management Strategy Description	Remarks
Dismissal	Ignore the demands of stakeholders, which are not legitimate	Dismissal	Ignore the demands of stakeholders, which are not legitimate	√
Coordination by deputation	Get the support of deputed employees from the public sector to coordinate with govt. institutes	Coordination by deputation	Get the support of deputed employees from the public sector to coordinate with govt. institutes	√
Give and take behavior	Project acquire and compensate by cost implications	Give and take behavior	Project acquire and compensate by cost implications	√
Enable to design flexibility	Changes of design due to stakeholders' valid requests	Enable to design flexibility	Changes of design due to stakeholders' valid requests	√
Develop Key Performance Indicators (KPI)	Required to measure the progress	Develop KPI	Required to measure the progress	√
Create a system with lessons learned	Use case-based reasoning approach	Create a system with lessons learned	Use case-based reasoning approach	√
Continues with effective communication	Effective flow of information, maintain balanced, open communication via meetings	Continues with effective communication	Effective flow of information, maintain balanced, open communication via meetings	√
Using CSR activities	Involve in social services with public	Using CSR activities	Involve in social services with public	√
Framing strategy	Appoint a spokesperson to contact media	Framing strategy	Appoint a spokesperson to contact media	√
Effective leadership	Use leadership skills for effective stakeholder engagement	Effective leadership	Use leadership skills for effective stakeholder engagement	√

After literature review		After semi-structured interviews		
Management Strategy	Management Strategy Description	Management Strategy	Management Strategy Description	Remarks
Approach to each stakeholder directly or indirectly	Address each stakeholder separately	Approach to each stakeholder directly or indirectly	Address each stakeholder separately	√
Accommodative	Accept responsibility	Accommodative	Accept responsibility	√
Avoidance	Transfer the responsibility to manage conflicts to an organization that has more responsibilities	Avoidance	Transfer the responsibility to manage conflicts to an organization that has more responsibilities. But act as a facilitator	√
Extra work for stakeholders	Extra effort to relocate public utilities (pipelines)	Utility shifting	Extra effort to relocate public utilities (pipelines, power lines)	Practice in the implementation stage
Compromise/ Negotiate	Bargaining and reaching a win-win situation	Negotiation	Bargain with parties for joint solution-seeking and achieve a win-win situation	√
Adaptation/Concession	Adjust with the legitimate claims of stakeholders			
Mutual gains approach	Acquaintance with the objectives of stakeholders, Joint solution seeking			
Proactive	Doing more than required collaborating with stakeholders, using interpersonal skills	Proactive	Proactively identify the demands and take measures to control the effect	√
Influence/Manipulate	Proactively address the demands, share updated information, build and monitor relationships with proper public relations			
Persuasion	Inspire stakeholders to get the support	Persuasion	Inspire stakeholders by creating a favorable perception in their minds	√
Hegemonizing Strategy	Create favorable perception in stakeholders' minds			

After literature review		After semi-structured interviews		
Management Strategy	Management Strategy Description	Management Strategy	Management Strategy Description	Remarks
Defensive	Doing the least required			x
Appoint an independent party to monitor	To strengthen the mutual trust			x
Reactive	Deny responsibility			x
		Appoint Grievance to readdress committee (GRC)	Through GRC, solve the disputes of PAP time effectively	√
		Active listening	Listen carefully if not legitimate to solve	√
		Mediation	Act as a mediator to solve the disputes which affect the project	√
		Impose to take policy decisions	Inform the responsible parties to take policy decisions regarding meeting the deadline	√
		Time-bound action plan	Work according to the action plan	√
		Contact with high officials directly	Contact with ministry secretaries at the steering committee	√
		Use Informal contacts	Use to acquire information that is negatively affected from outside the project	√
		Capacity building	Conduct capacity building programme for government officers	√
		Supply logistics	Provide facilities for government institutes	√

After literature review				After semi-structured interviews			
Management Strategy		Management Strategy Description		Management Strategy	Management Strategy Description		Remarks
				Provide additional benefits, incentives	Monetary and nonmonetary incentives for the extra efforts of the external stakeholders		√
				Monitoring the mechanism	Follow-up on the progress		√
				Appoint supporting staff	Appoint supportive staff temporary for external government institutes such as divisional secretaries		√
	Modification of the strategy description		Modification of strategy name		New strategy		Rejection

As per the purview of most experts, multiple strategies of external stakeholder management are practiced in donor-funded irrigation projects. Further, I3 mentioned that the *“avoidance strategy is implemented to some extent; not totally transfer the responsibility, but project team acts as a facilitator.”* Even though the land acquisition process is a vested power of the divisional secretary, project management speeds up the procedure by appointing project land acquisition officers to coordinate the process.

Furthermore, I8 and I12 emphasized that the objectives of the strategy’s adaptation and mutual gains approach are almost similar to the negotiation strategy. Similarly, proactive to tackle the issues given by pressure groups, media must align the project progress with the time frame. Similarly, the hegemonizing strategy description is comparable with the persuasion strategy.

As per the perspective of I1 *“In Sri Lanka, the infrastructure projects seem to be delayed due to following a long procedure in the line of command structure in government institutions.”* Hence, I3 declared that *“As project managers, our responsibility is to get equipped with **effective leadership, develop KPI and proper monitoring mechanism** to tackle external stakeholders like government institutes.”* In addition, the active listening, mediation, and appointing a Grievances Readdress Committee (GRC) mechanism were present. Particularly, GRC is formulated for addressing the issues and is recognized as a more applied method. There is a hierarchy of readdressing mechanisms mentioned in Figure 4.2.

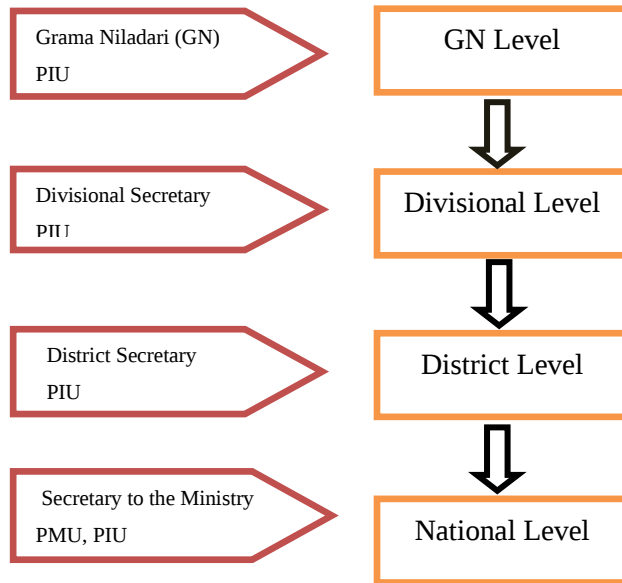


Figure 4.2: GRC Mechanism

Figure 4.2 illustrates the hierarchy of the GRC mechanism. External stakeholders like PAP can initially solve their issues on land and environment-related matters through the GN-level committee. Further, some issues are solved through a national-level committee. Ultimately, resolving the issues raised by the external stakeholders' **policy decisions** can facilitate the project's progress. According to the I1, I3, and I4 perspectives, occasionally, **direct contacts with department heads and secretaries to ministries** are crucial to getting the immediate concern when required. Thus, a steering committee is periodically appointed with the above officers and the project management. Further, project managers revealed that the project entity **provides logistics** such as office equipment, stationeries for divisional secretaries, transportations, lodging facilities for surveying to facilitate the land acquisition process. **Capacity-building** events, named outbound training, overseas workshops, and benefits and incentives for the officers for improving motivation and commitment to work. In addition, local training sessions for knowledge improvements and sessions for sharing lessons learned are arranged with external organizations. Further, Communication officers emphasized that **informal contacts** help resolve the issues raised by media, PAP, and political groups at the emerging state.

4.6 Questionnaire Survey

The questionnaire survey was conducted in two rounds with the findings of the semi-structured interviews. Here, the purposive sampling method was used by considering the work experiences with a minimum of 3 years of experience in at least one irrigation infrastructure project. Therefore, other than the professionals engaged in irrigation infrastructure projects, the relevant government officers were selected.

4.6.1 Respondents' profile

A range of government institutes is involved with the project teams from the initial stages of the PLC as it is a public infrastructure project. The detailed account of the respondents in both questionnaires is declared in Table 4.7.

Table 4. 7: Respondents' Details

	Round One Years of experiences						Round Two Years of experiences					
	3-5	5-10	10-20	20-30	30>	Sub Total	3-5	5-10	10-20	20-30	30>	Sub Total
Secretary (Retired)	-	-	-	1	-	01	-	-	-	1	-	01
District/ Additional District Secretaries	-	-	2	-	-	02	-	-	2	-	-	02
Divisional Secretaries	6	-	-	-	-	06	3	-	1	-	-	04
Civil Engineers	6	-	-	3	1	10	4	2	2	-	1	09
Irrigation Engineers	2	3	5	-	-	10	-	2	2	-	-	04
Surveyors	6	1	1	-	-	08	2	1	1	-	-	04
Engineering Assistants (Irrigation)	4	2	-	1	-	07	2	-	-	-	-	02
Communication Officers	1	1	1	-	-	03	1	1	1	-	-	03
Environmental Specialists	1	2	1	1	-	05	1	2	1	1	-	05
Acquisition officers	-	-	-	-	-	-	-	-	3	2	-	05
QS and other project officers	1	1	1	-	-	03	4	-	-	-	-	04
Total received	27	10	11	06	01	55	17	08	13	04	01	43
Total distributed	37	16	13	08	01	75	38	17	15	04	01	75
Percentage of responses (%)												
						73						57

Table 4.7 illustrates the types of respondents in the questionnaire rounds one and two. Overall, in questionnaire Round One, the percentage of responses is about 75%, and the response rate for the questionnaire Round Two was 57% with receiving 43 of 75

of totally distributed. Consequently, questionnaires were responded via email and through the face to face discussions.

4.6.2 Objectives of the questionnaire Round One

Objective two was ascertained from the first round of the questionnaire (**Refer to Appendix C**) to rank the significantly influential external stakeholders at the planning and designing stage. Consequently, a 5-point Likert scale questionnaire was applied for data collection in questionnaire Round One. Hence, the questionnaire Round One helped to achieve objective two of the study. Ultimately, Round One survey findings were used to prepare the questionnaire for Round Two.

4.6.3 Objectives of questionnaire Round Two

Objectives three and four were ascertained in questionnaire Round Two. The first part of the questionnaire aimed to rank the significantly used influencing strategies by each significantly influential external stakeholder. Next, the second part of the questionnaire ranked the significantly used management strategies for each significantly influential external stakeholder (**Refer to Appendix D**). 5-point Likert scale was employed in answering questions.

4.7 Findings of questionnaire Round One

Data collected from 55 respondents were analyzed by calculating the MWR of each rating at the 5-point Likert scale (**Refer to Appendix E**).

4.7.1 Significantly influential external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka

The 51 external stakeholders identified via semi-structured interviews were ranked using the questionnaire, and the Cronbach Alpha value was 0.918. Hence, the reliability level of the data was excellent. Further, the most influencing external stakeholders were marked in bold letters in Table 4.8.

Table 4. 8: MWR value for each external stakeholder

External Stakeholder	MWR	SD	Rank
Project affected parties (PAP)	4.618	0.593	1
Central Environmental Authority (CEA)	4.255	0.700	2
Wildlife Conservation Department (WLCD)	4.218	0.629	3
Divisional Secretary Office (DS)	4.200	0.848	4
Ministry of Land (MoL)	3.836	0.764	5
Survey Department (SD)	3.764	0.793	6
Valuation Department (VD)	3.745	0.886	7
Political groups (POL GR)	3.527	0.879	8
Media (MED)	3.382	0.707	9
Pressure groups (PG)	3.345	0.615	10
People in neighboring areas without benefited from the project but seek benefits (PNWOB)	3.327	0.771	11
Forest Conservation Department (FCD)	3.309	0.742	12
Environmentalists	2.964	0.693	13
Direct Beneficiaries	2.945	0.931	14
National Government	2.927	0.858	15
Agrarian Development Department	2.909	0.823	16
Community Based organizations (CBO)	2.909	0.867	17
General public	2.891	1.066	18
Traditional authorities (Religious leaders)	2.891	0.916	19
Special interest groups	2.873	0.904	20
Geological Survey and Mining Bureau (GSMB)	2.855	0.891	21
Potential PAP	2.836	1.316	22
District Secretary Office (DSO)	2.836	1.067	23
Archeology Department	2.818	1.278	24
Local government authority	2.818	0.983	25
Provincial Environmental Authority	2.764	1.170	26
Ceylon Electricity Board (CEB)	2.727	0.971	27
Members in District Coordination Committee (DCC)	2.709	0.809	28
Road Development Authority (RDA)	2.709	1.100	29
Suppliers	2.673	1.037	30
Provincial Road Development Authority (PRDA)	2.655	1.092	31
Water Supply and Drainage Board	2.600	1.132	32
Provincial Irrigation Department	2.582	0.994	33

External Stakeholder	MWR	SD	Rank
Business owners	2.564	0.977	34
State Timber Corporation	2.564	0.958	35
Potential users	2.527	1.230	36
Police	2.509	0.979	37
Court	2.491	1.318	38
Water Resource Board	2.436	1.085	39
Government Print	2.418	1.134	40
Traditional worshipers & deities	2.309	0.960	41
Indirect Beneficiaries	2.255	0.966	42
National Audit Institute	2.200	1.145	43
National Building Research Organization (NBRO)	2.182	1.073	44
Human rights groups	2.145	0.891	45
Explosive controller	2.091	0.948	46
Non-Governmental organizations	2.073	0.979	47
Plant Genetic Resources Center (PGRC)	2.036	0.962	48
Ministry of Defense	1.982	0.991	49
Medical Officer of Health (MOH)	1.873	0.944	50
Herbarium	1.782	1.083	51

Table 4.8 demonstrates the influencing level of each external stakeholder. The external stakeholder recorded with >3 MWR value was considered a significantly influential external stakeholder. Warmbrod (2014) emphasized that the scores yielded on the Likert scale are composited scores of individuals' correspondences. Hence, the sum of the mean values of each rating is given on a scale. Out of them, 4 and 5 optional are positive responses (Dawes, 2008). In addition, Chyung, Roberts, Swanaon, and Hankinson (2017) confirmed that 3 points in the 5-point Likert scale represent neutrality. By reviewing the above arguments, 12 external stakeholders were investigated as significantly influential.

Among the influential external stakeholders, **Project affected parties (PAP)** were the most influential type with recording the highest MWR as 4.618. PAPs are the individuals and households whose lands and immovable properties are acquired for construction and use as a right of way (ROW). As experts mentioned initially, people

in the vicinity of the project disagree to give up their properties to execute a project. Therefore, claims and objections occur frequently.

The next influential stakeholder is the **Central Environmental Authority (CEA)** and **Wildlife Conservation Department** with 4.255 and 4.218 MWR, respectively. In the EIA procedure, these government institutes are the leading external stakeholders. As a public infrastructure development project, the principal objective is to supply water for agricultural activities and supply drinking water. Thus, constructing new canals and reservoirs is heavy in conserved wildlife areas governed by the Wildlife Conservation Department. Further, CEA is the apex body for conducting the EIA process. Thus, CEA and Wildlife conservation department are highly affected during the project designing stage.

Divisional Secretary Office and **Ministry of Land** were the third and fourth influential external stakeholders. Those institutes are highly involved in the land acquisition process. Besides, the land is acquired according to the power vested to divisional secretaries, Ministry of Land from the Land Acquisition Act No. 09 of 1950. Hence, their roles are imperative in land acquisition and handed over to the project to initiate construction.

The **Survey Department** (3.764 of MWR) and the **Valuation Department** (3.745 of MWR) have become influential in surveying and valuing the land plots under the land acquisition process. The land acquisition process would become complex when most PAPs do not accept the total value for the acquired property. Hence it results in dragging the time for completing the land acquisition. In donor-funded projects, construction works cannot commence until the affected parties receive compensation. **Political groups, Media, and Pressure groups** were considered as the next influencing external stakeholders; their roles are unable to predict and need close monitoring. **People in the neighboring area without any benefits from the project but seek benefits** strongly claimed to supply water for their tanks and become significant in next, and at EIA process, the **Forest Conservation Department** was significantly impacted.

Reviewing the above significant 12 types of external stakeholders, the detailed account of their influencing strategies and management strategies were considered in questionnaire Round Two.

4.8 Findings of questionnaire Round Two

Various influencing strategies exerted by the selected 12 types of influential external stakeholders were critically evaluated by considering respondents' profiles of Round Two (Table 4.7).

4.8.1 Significant influencing strategies that affect the project performances of the significantly influential external stakeholders

Out of the various influencing strategies used by the significantly influential external stakeholders, the significant influencing strategies (**Refer to Appendix F**) were highlighted in Table 4.9.

Table 4. 9: Top five influencing strategies by significantly influential external stakeholders

External stakeholder		Influencing strategy	MWR	SD	External stakeholder		Influencing strategy	MWR	SD
PAP		Letter writing campaign	4.410	0.954	VD		Lack of transparency	3.558	0.874
		Lobbying	3.382	0.999			Changes in priority	3.349	0.956
		Compromise	3.000	0.877			Administrative bottle necks	2.953	0.999
Rank	MWR	Credibility building	1.308	1.227	Rank	MWR	In sufficient resources	2.535	0.960
01	4.618	Direct action strategy	1.256	1.254	07	3.3745	Lack of commitment	1.488	1.545
CEA		Consultation	3.605	0.908	POL GR		Intervention	3.667	0.996
		Compromise	3.581	0.972			Representative meetings	3.524	0.981
		Direct usage	2.535	0.918			Compromise	2.524	0.979
Rank	MWR	Representative meetings	0.977	0.970	Rank	MWR	Coalition building strategy	2.000	1.175
02	4.255	Indirect usage	0.884	1.437	8	3.527	Credibility building strategy	0.667	0.784
WLCD		Compromise	3.558	0.826	MED		Communication strategy	4.690	0.674
		Direct usage	3.488	0.957			Intervention	3.262	0.812
		Consultation	2.535	0.963			Coalition building strategy	2.667	0.950
Rank	MWR	Indirect usage	1.698	1.201	Rank	MWR	Credibility building strategy	1.024	0.933
03	4.218	Representative meetings	0.767	1.181	9	3.382	Compromise	0.810	1.131
DSO		Changes in priority	4.372	0.948	PG		Coalition building strategy	3.786	0.898
		Lack of commitment	2.674	0.994			Communication strategy	3.714	0.978
		Administrative bottle necks	2.651	0.970			Credibility building strategy	2.810	0.805
Rank	MWR	Imbalanced coordination between departments	2.605	0.980	Rank	MWR	Direct action strategy	2.524	0.966
4	4.200	Seek benefits and incentives	1.163	1.031	10	3.345	Lobbying	1.381	1.488

External stakeholder		Influencing strategy	MWR	SD	External stakeholder		Influencing strategy	MWR	SD
MoL		Administrative bottle necks	4.256	0.791	PNWOB		Coalition building strategy	4.326	0.801
		Changes in priority	3.558	0.958			Lobbying	3.698	0.800
		Lack of commitment	3.233	0.997			Communication strategy	3.093	0.994
Rank	MWR	Imbalanced coordination between departments	2.070	1.050	Rank	MWR	Credibility building strategy	1.186	1.113
05	3.836	Insufficient resources	1.140	0.958	11	3.327	Direct action strategy	1.512	0.835
SD		In sufficient resources	3.884	0.958	FCD		Compromise	3.744	0.736
		Changes in priority	3.791	0.917			Direct usage	3.395	0.970
		Lack of commitment	2.814	0.940			Consultation	2.070	0.993
Rank	MWR	Administrative bottle necks	1.558	1.165	Rank	MWR	Administrative bottle necks	1.256	1.281
6	3.764	Seek benefits and incentives	1.442	1.216	12	3.309	Representative meetings	1.000	1.068
PAP- Project affected parties, CEA- Central environmental authority, WLCD- Wildlife conservation department, DSO- Divisional secretary office, MoL- Ministry of land, SD- Survey department, VD- Valuation department, POLGR- Political groups, MED- Media, PG- Pressure groups, PNWOB- People in neighboring areas without benefited from the project but seek benefits, FCD- Forest conservation department									

Table 4.9 indicates the top 5 influencing strategies of each external stakeholder. Eventually, Haolader, Cicioglu, and Kassim (2017) used mean weighted rating interpretation for the Likert scale as 2.5 - 3.5 moderately relevant, whereas, 2.5 - 3.49 was moderately acceptable by Terano (2015). Admittedly, Mehr and Omran (2013) adapted 2.5 as the lower end for a moderately significant level. The 2.5 value was considered the cut-off point for the significant influencing strategies by reviewing the above judgments.

Accordingly, 17 significant influencing strategies were confirmed out of the 24 influencing strategies. Out of these influencing strategies, 11 were commonly practiced, while six were applied for specific external stakeholders.

The *Letter Writing Campaign* was a significantly influencing strategy (MWR 4.410), specifically used by PAP. At the baseline survey, PAP was initially aware of the project when marking the right of way (ROW) with tentative width; for instance, in the North-Western Province's Canal Project (NWPCP), ROW was marked as 100 m. Hence, many PAPs have raised their objections to lose their lands and buildings by starting letter-writing for more legitimate authorities and applying the *lobbying* (MWR 3.382) strategy with complaints to politicians, human rights commission, and divisional and district secretariats. The PAPs are fully aware of the project later in the design stage. Being a donor-funded public-owned infrastructure project, PAPs are willing to give up their property and engage with *compromising* (MWR 3.000) to earn a higher compensation for their acquiring property.

Next, *representative meetings* (MWR 3.524) were another significant influencing strategy specially used by political groups. These meetings aim to understand the benefited area from irrigated water, whereas the awareness about the compensation for affected parties is a secondary objective.

Pressure groups are temporarily formulated for a specific goal by the group of people relevant to the project. Further, these groups may consist of PAP and some non-affected parties collegiate for different purposes. For instance, pressure groups were created to oppose implementing some activities under the wildlife management plan

(protest for establishing elephant corridor through the conserved wildlife area but encroached by people), opposing the water diversion to another province, and vice versa. Moreover, some specific influences like *credibility building* (MWR 2.810) and *direct action strategies* (MWR 2.524) adhered with the claims of the pressure groups. Generally, some reputed religious leaders and community leaders may lead that pressure groups and conduct protests to convey their objections. As a result, conditions of EIA procedures cannot fulfill and extend the planning and designing stage.

Some of the specific influencing strategies were discovered among the government institutes. *Lack of transparency* (MWR 3.558) is a primary influence of the Valuation department since PAP receives the total value of the acquired property without any explanation for the value breakdown. Ultimately, PAP may reject the compensation and engage with litigation. These will result in extending the land acquisition process.

In addition, the *imbalanced coordination between departments* (MWR 2.605) was identified for DSO. The role of DSO is influential in the land acquisition process due to the power vested to the divisional secretary in land acquisition from Act no. 09 of 1950 Land Acquisition Act. Therefore, various government institutes' PAP should coordinate in a time-effective manner. With more duties on implementing government policies, land acquisition has become extended due to the inability to contact other institutes like VD, SD, and MoL on time. According to the land acquisition officers, typically, it requires 72 weeks to complete the land acquisition and a higher tendency to retard the acquisition process, over 72 weeks. However, PAP should be compensated and completed the acquisition before contractor mobilization in donor-funded projects. Hence, delaying the acquisition process during the initial PLC stage may delay the rest of the project activities.

Commonly used significant influencing strategies by the significantly influential external stakeholders

According to Table 4.9, various influencing strategies are common to many external stakeholders, as clustered in Figure 4.3.

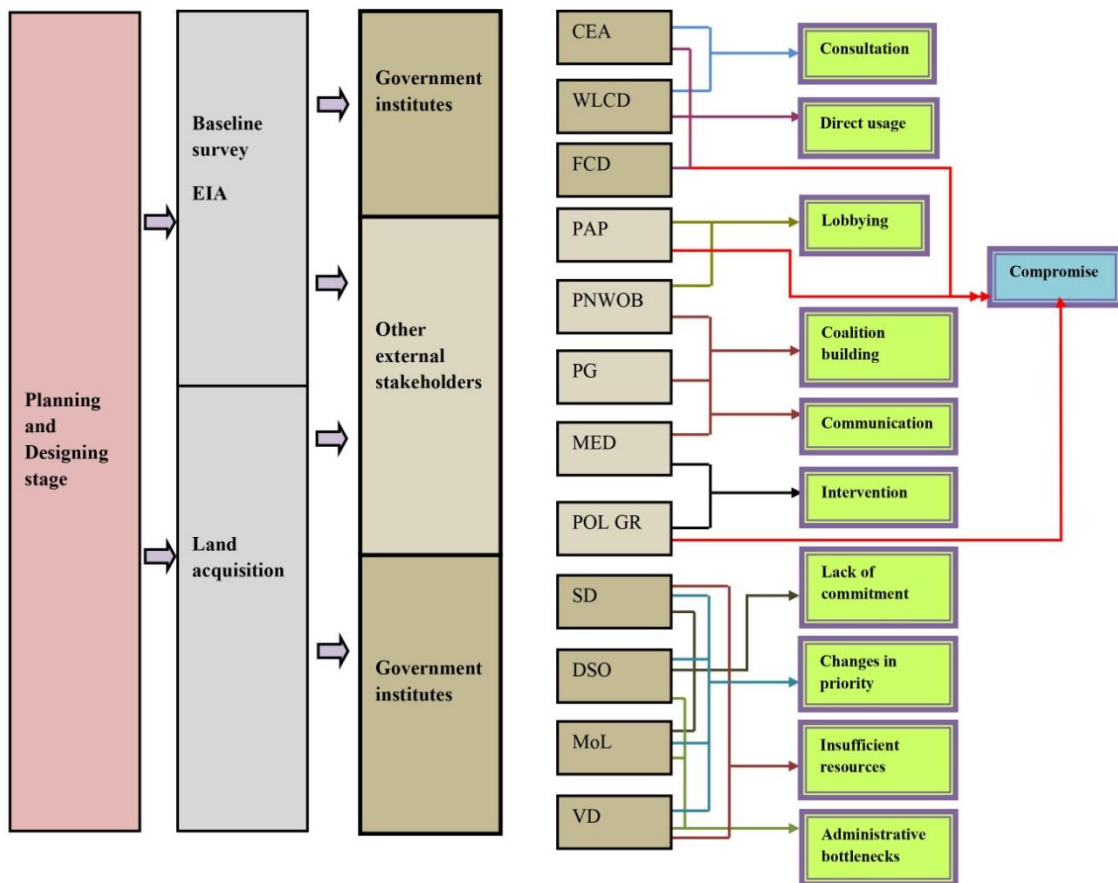


Figure 4. 3: Commonly used significant influencing strategies

As per Figure 4.3, external stakeholders can be clustered into government institutes and other external stakeholders. Both clusters were engaged in different processes in the planning and designing stage. At the EIA process, CEA, WLCD, and FCD used *compromising* and *direct usage* strategies. Separate conditions were imposed here, being utilizing a large extent of wildlife conserved and forest conserved area to irrigation construction works. Although this results in additional time and cost requirements, the donor agency may be keen on adapting such conditions.

PAP and PNWOB have applied the *lobbying* strategy to gain more attention for their claims concerning the common influences of other external stakeholders. Similarly, PNWOB and pressure groups use a *coalition-building strategy* with the alliance with different other stakeholders as media, traditional leaders, and NGOs.

Media and political groups have practiced *intervention* to the issues raised by other external stakeholders at the land acquisition and increased the benefited area from the

irrigated water. Apart from that, a *communication* strategy was the primary media for achieving the general public's attention and reporting the issues frequently; it will affect the image of the donor-funded project.

Due to the benefits from the irrigation projects, PAP and the political groups in the benefited area were applying a compromise strategy for their claims. CEA, WLCD, and FCD produced a similar influence as permitting to use their governed resources but with more conditions. Hence, both government institutes and external stakeholders were adapting a *compromise* strategy. Further, the land acquisition process tends to be extended with the joint influences of related institutes such as VD, SD, DSO, and MoL. Since many infrastructure projects are conducted, those institutes' prioritization (*changes in priority*) and commitment (*lack of commitment*) to the irrigation projects are not at the expected level.

Further, *insufficient resources* of VD and SD may retard the valuation and surveying processes that are mandatory for land acquisition. Similarly, administrative bottlenecks especially, rule of command, adhering to the stipulated sentences in the acquisition act, and receiving the minister's consent to gazette the stages of the acquisition process, are the main bottlenecks of DSO and MoL. Hence, the project management should collaborate with those institutes to effectively manage the time to complete the administrative processes during the acquisition process later in the designing stage. Therefore, suitable management strategies for manipulating the influences of the external stakeholders are required to explore in donor-funded irrigation projects during the planning and designing stage.

4.8.2 Significant stakeholder management strategies for significantly influential external stakeholders in donor-funded irrigation infrastructure projects

The second part of the questionnaire Round Two aimed to determine the significant management strategies (**Refer to Appendix G**) for managing the influences of the 12 significantly influential external stakeholders. Subsequently, the respondents were asked to rate the highly applied five main management strategies in descending order. Table 4.10 tabulates the MWR for top five management strategies for each significantly influential external stakeholder.

Table 4.10: Top five stakeholder management strategies for significantly influential external stakeholders

External stakeholder		Management strategy	MWR	SD	External Stakeholder		Management strategy	MWR	SD
PAP		Continues with effective communication	3.651	0.604	VD		Provide additional benefits, incentives	4.674	0.522
		Give and take behavior	3.209	0.693			Supply logistics	3.116	0.995
		Enable to design flexibility	2.535	0.728			Monitoring the mechanism	2.698	0.957
Rank	MWR	Using CSR activities	1.860	0.992	Rank	MWR	Contact with high officials directly	2.512	0.941
01	4.618	Appoint GRC committee	1.070	1.342	07	3.745	Time bound action plan	0.651	0.922
CEA		Coordination by deputation	3.535	0.861	POLGR		Continues with effective communication	3.419	0.305
		Enable to design flexibility	3.372	0.648			Approach to each stakeholder directly or indirectly	2.930	0.906
		Persuasion	2.721	0.921			Negotiation	2.698	0.722
Rank	MWR	Contact with high officials directly	1.256	1.093	Rank	MWR	Persuasion	1.163	0.985
02	4.255	Accommodative	1.093	1.390	08	3.527	Effective leadership	1.140	1.107
WLCD		Persuasion	3.860	0.599	MED		Continues with effective communication	3.558	0.822
		Coordination by deputation	3.302	0.576			Using CSR activities	2.907	0.927
		Enable to design flexibility	2.767	0.768			Framing strategy	2.651	0.984
Rank	MWR	Negotiation	2.512	0.942	Rank	MWR	Use Informal contacts	2.581	0.997
03	4.218	Contact with high officials directly	1.140	1.513	09	3.382	Proactive	0.721	0.999
DSO		Provide additional benefits, incentives	4.558	0.477	PG		Effective leadership	3.465	0.712
		Capacity building	3.674	0.989			Mediation	2.767	0.802
		Appoint supporting staff	2.581	0.823			Proactive	2.698	0.957
Rank	MWR	Supply logistics	2.535	0.827	Rank	MWR	Continues with effective communication	2.512	0.960
04	4.200	Monitoring the mechanism	0.884	1.316	10	3.345	Use Informal contacts	1.349	1.285

External stakeholder		Management strategy	MWR	SD	External Stakeholder		Management strategy	MWR	SD
MoL		Contact with high officials directly	4.605	0.742	PNWOB		Continues with effective communication	3.233	0.811
		Appoint supporting staff	3.326	0.885			Active listening	2.930	0.950
		Supply logistics	2.093	1.259			Negotiation	2.535	0.808
Rank	MWR	Provide additional benefits, incentives	1.721	0.989	Rank	MWR	Avoidance	2.512	0.966
05	3.836	Time bound action plan	1.488	1.078	11	3.327	Dismissal	0.628	1.043
SD		Supply logistics	4.140	0.915	FCD		Persuasion	3.977	0.639
		Provide additional benefits, incentives	3.930	0.832			Negotiation	3.581	0.659
		Time-bound action plan	2.907	0.966			Contact with high officials directly	2.674	0.648
Rank	MWR	Contact with high officials directly	2.535	0.960	Rank	MWR	Coordination by deputation	2.116	0.976
06	3.764	Monitoring the mechanism	1.023	0.657	12	3.309	Give and take behavior	0.512	1.109
PAP- Project affected parties, CEA- Central environmental authority, WLCD- Wildlife conservation department, DSO- Divisional secretary office, MoL- Ministry of land, SD- Survey department, VD- Valuation department, POLGR- Political groups, MED- Media, PG- Pressure groups, PNWOB- People in neighboring areas without benefited from the project but seek benefits, FCD- Forest conservation department									

Table 4.10 elaborates the top five management strategies for the influential external stakeholders. The respondents confirmed 27 out of the 28 management strategies. Agreeing with the justification mentioned in 4.8.1, MWR value ≥ 2.5 was considered the significantly used management strategy and highlighted in bold figures in the above table. Therefore, 22 management strategies were screened as significantly used management strategies, and 13 management strategies were filtered as specific for particular external stakeholders.

Give and take behavior (MWR 3.209) is a specific management strategy for managing the influences of PAP. The affected parties are compensated in land acquisition, but the donor-funded projects should have a proper compensation package that addresses the value for the loss of property and employment (temporally or permanently) for the households and the subfamilies encroachers vice versa. In ADB-funded infrastructure projects, a social safeguard policy was published in 2008 to uplift the living status of PAP from its present status. *Approach to each stakeholder, directly or indirectly* (MWR 2.930), was significantly used for managing political groups. For instance, local government politicians pressure the DCC when requesting irrigated water in nearby areas. Hence, separately addressing the DCC chairman is a suitable method for delivering the correct information.

Three specific management strategies were applied for media and pressure groups. Using *CSR activities* (MWR 2.907) is a significant practice to build a positive relationship with the media. For instance, celebrating Environment day, Water day, and conducting school quiz competitions are generally performed and published as newspaper articles at the initial stage in donor-funded irrigation projects. In addition, a spokesperson (*framing strategy*) was appointed as a communication officer to promote effective two-way communication to speak with the media. According to the project managers' point of view, "*this type of designation may not at the Government of Sri Lanka (GoSL)-invested project, and specific for donor-funded projects.*" Using *informal contacts* (MWR 2.581) is a popular method to receive information regarding the negative consequences of project activities.

Since the influences of pressure groups may be difficult, i.e., organizing protests and lobbying, explicit strategies like *effective leadership and mediation*, be *proactive* were determined as significantly applied. Besides, leadership skills are required in any situation, and decision-making in unpredictable circumstances (e.g., protest to wildlife management plan by encroachers) affect the project progress with reporting to the donor.

People in neighboring areas are mostly liable to receive irrigated water but do not receive it due to the demand and supply inequalities for water. Hence, *active listening* (MWR 2.930) is a significant management strategy to prevent formulating a coalition among external stakeholders. Moreover, *Avoidance* (MWR 2.512) has been significantly applied in order to cover by another existing water supply projects negotiate with respective parties.

Some specific management strategies were explored for particular government institutes. *Capacity building* (MWR 3.674) for DSO is significantly used to fill the gap of performances at the land acquisition process. The project conducted training sessions and workshops for field-level officers to equip the relevant legitimate officers in conducting land acquisition steps.

Furthermore, a *time-bound action plan* (MWR 2.907) is required to manage the lack of priority given by SD due to demand with other acquisition surveys. Therefore, the project implementation unit (PIU) and project management unit (PMU) arrange a time schedule with discussing SD to survey nearly 2000 land plots in ongoing donor-funded major irrigation infrastructure projects. Generally, SD engages in the land acquisition process twice, as *preparing advanced tracing* and the *final village plan*. Being mandatory and time-consuming steps, project management should be eager to monitor the progress to hand over the acquired land to the contractor to initiate the construction within the scheduled time.

Another key step in the acquisition stage is valuation and VD solely legitimate for that activity. Therefore, the *monitoring mechanism* (MWR 2.698) should implement the valuation in a limited period. Due to the many administrative bottlenecks at preparing valuation reports, the project management frequently monitors the progress.

Commonly used significant stakeholder management strategies for the significantly influential external stakeholders

Some management strategies were commonly applied for more than one external stakeholder and are depicted in Figure 4.4.

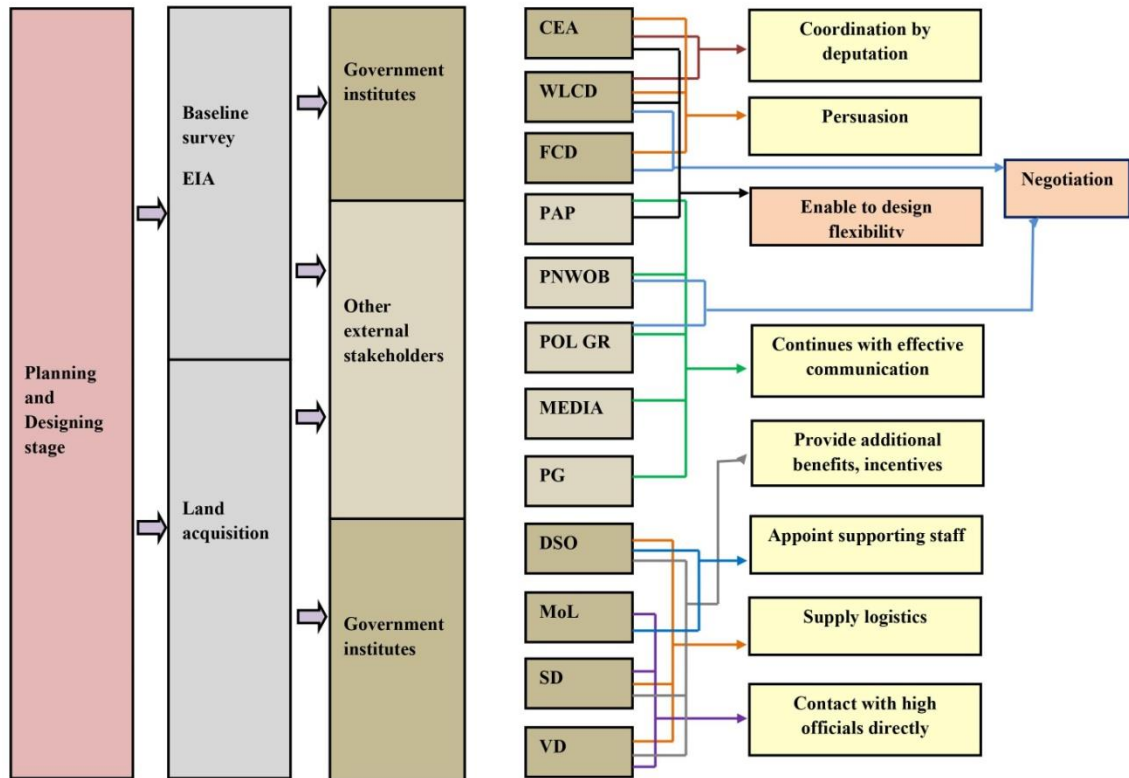


Figure 4.4: Commonly used significant stakeholder management strategies

Figure 4.4 discloses that most of the common management strategies were predominantly used to manage the government institutes' influences than other external stakeholders. The project staff comprises retired officials of WLCD and CEA to coordinate with those institutes to obtain the permissions at the EIA procedure. Further, *persuasion* is used for creating a favorable image regarding the project. At the EIA, CEA, WLCD, and FCD agreed to use their administered area with many conditions. Some designs were changed according to their regulations. For instance, the open canal system is substituted with the closed canal system to avoid the reduction of habitat segregation.

Confirming the interview findings provides *additional benefits and incentives, supply logistics, and direct contact with high officials*, Supply logistics were commonly

practiced to mitigate unnecessary delays during the land acquisition process. Out of the significant management strategies, *negotiation* and *enable to design flexibility* were practiced for both the government institutes and the other external stakeholders. *Negotiation* is a significant strategy for obtaining approvals from WLCD and FCD during the EIA. Moreover, negotiating with the suggestions from POL GR, PNWOB is necessary to finalize the water supplied area compared with the existing results of the water balance study. Obviously, PAP submitted requests to change the design from the baseline survey. The design team probably takes much effort to avoid building where a small portion is acquired. This can be done after issuing section 4 notice at the land acquisition process. Besides, considering the conditions given by WLCD, CEA *enables design flexibility*, which is significant at the EIA process at the planning stage. Next this report will discuss the amalgamated influencing and management strategies of the significantly influential external stakeholders.

4.9 Framework for the management of external stakeholders' influences in donor-funded irrigation infrastructure projects in Sri Lanka

The framework was formulated in Table 4.11 by amalgamating the significant influencing strategies and significant management strategies. As per table 4.11, the compiled influencing strategies and the management strategies related to significantly influential external stakeholders were depicted in a concise form.

The specific influencing strategies are highlighted in ash color here, while the specific management strategies are demarcated in blue. Unique influencing strategies for both government institutes and the other external stakeholders were determined by referring to Table 4.11. Further, a higher number of unique management strategies for other external stakeholders were discovered than that of government institutes. Moreover, commonly used influencing strategies and management strategies were discovered throughout the study. By using this framework, the significant influencing strategies of the significantly influential external stakeholders are easily detected, and the relevant significant management strategies for managing their influences can be decided in the donor-funded irrigation infrastructure projects.

Table 4.11: Framework for the management of external stakeholders’ influences in donor-funded irrigation infrastructure projects in Sri Lanka

External stakeholder		Influencing strategy	Management strategy	External stakeholder		Influencing strategy	Management strategy
PAP		Letter writing campaign	Continue with effective communication	VD		Lack of transparency	Provide additional benefits and incentives
Rank	MWR	Lobbying	Give and take behavior			Changes in priority	Supply logistics
01	4.618	Compromise	Enable to design flexibility	Rank	MWR	Administrative bottlenecks	Monitoring mechanism
CEA		Consultation	Coordination by deputation	07	3.745	Insufficient resources	Contact with high officials directly
Rank	MWR	Direct usage	Enable to design flexibility	POL GR		Intervention	Continue with effective communication
02	4.255	Compromise	Persuasion	Rank	MWR	Representative meetings	Approach to each stakeholder directly or indirectly
WLCD		Consultation	Persuasion	08	3.527	Compromise	Negotiation
		Direct usage	Coordination by deputation	MED		Communication strategy	Continue with effective communication
Rank	MWR	Compromise	Enable to design flexibility			Intervention	Using CSR activities
03	4.218		Negotiation	Rank	MWR	Coalition building	Framing strategy
DSO		Changes in priority	Provide additional benefits and incentives	09	3.382		Use informal contacts
		Lack of commitment	Capacity building	PG		Coalition building	Effective leadership
Rank	MWR	Administrative bottlenecks	Appoint supportive staff			Communication strategy	Mediation
04	4.2	Imbalanced coordination between departments	Supply logistics	Rank	MWR	Credibility building	Proactive
MoL		Administrative bottlenecks	Contact with high officials directly	10	3.345	Direct action strategy	Continue with effective communication
Rank	MWR	Changes in priority	Appoint supportive staff	PNWOB		Coalition building	Continue with effective communication
05	3.836	Lack of commitment				Lobbying	Active listening
SD		Insufficient resources	Supply logistics	Rank	MWR	Communication strategy	Negotiation
		Changes in priority	Provide additional benefits and incentives	11	3.327		Avoidance
Rank	MWR	Lack of commitment	Time bound action plan	FCD		Compromise	Persuasion
06	3.764		Contact with high officials directly	Rank	MWR	Direct usage	Negotiation
				12	3.309		Contact with high officials directly
	Specific influencing strategy				Specific management strategy		
PAP- Project affected parties, CEA- Central environmental authority, WLCD- Wildlife conservation department, DSO- Divisional secretary office, PG- Political groups, MED- Media, PREGR- Pressure groups, MoL- Ministry of land, SD- Survey department, VD- Valuation department, PNWOB- People in neighboring areas without benefited from the project but, seek benefits, FCD- Forest conservation department							

4.10 Pattern Matching

Pattern matching is an approach to determine whether the findings of data analysis of a study correspond with theoretical patterns (Marquart, 1990). Here, the research findings are compared with the existing literature to find the similarities/ disparities.

4.10.1 Pattern matching on significantly influential external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka

The findings of significantly influential external stakeholders in the projects mentioned above were derived from the entire data analysis. These findings are matched with the literature findings in Table 4.12.

Table 4.12: Significantly influential external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka

External stakeholder	Sources																	Research finding
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
Project affected groups	√		√	√				√	√	√	√	√			√	√	√	Project affected parties
Public and local authorities	√	√			√		√	√			√				√		√	Specified government institutes
Political groups					√				√		√		√					Political groups
Media			√		√	√				√	√	√		√		√		Media
Pressure groups					√			√									√	Pressure groups
Neighboring areas							√											People in neighboring areas without benefited from the project, but seek benefits
A- Aaltonen & Kujala (2016), B- Aaltonen (2011), C- Aapaoja & Haapasalo (2014), D- Bourne & Walker (2005), E- Chang & Oppong (2017), F- Clarkson (1995), G- El Sawalhi & Hammad (2015), H- Li, Ng & Skitmore (2015), I- Nguyen et al. (2009), J- Ninan, Mahalingam & Clegg (2020), K- Olander & Landin (2008), L- Olander (2007), M- Pinto (1996), N- Ward & Chapman (2008), O- Xia et al. (2018), P- Yu & Leung (2015), Q- Leung & Olomobaiye (2010)																		

As per Table 4.12, some of the significantly influential external stakeholders were identified as important in past studies. Olander and Landin (2005), Olander and Landin (2008), and Nguyen et al. (2009) have prioritized the stakeholders as political groups, government institutes relate to planning, nearby residents, and media in planning and designing stage of two construction projects as a housing complex and railway project. This was further confirmed at the planning and designing stage in donor-funded irrigation infrastructure projects. Further, Olander and Landin (2005) stated that project-affected parties opposed the housing construction project due to its impacts on the living environment. However, PAP in donor-funded irrigation projects was initially opposed due to losing their property or negative attitudes about the compensation. Further, Olander and Landin (2005), Olander and Landin (2008), and Nguyen et al. (2009) explored the influence of stakeholders by evaluating their attributes. Li et al. (2018) used the level of importance of stakeholders, whereas this study had become specific by considering the level of influence of external stakeholders at the planning and designing stage.

Further, neighboring areas were explored as the *affected people in neighboring areas* by El Sawalhi and Hammad (2015), Nguyen et al. (2019b), Olander and Landin (2008). Besides, in irrigation infrastructure projects, that external stakeholder group was renamed as *people in neighboring areas who are not benefited from the project but seek the benefits*. That depends on whether supplying (or not) irrigation water facility. Aaltonen and Kujala (2016), Leung and Olomolaiye (2010), Li et al. (2015), Mok, Shen, Yang, and Li (2017), and Yu and Leung (2015) assessed government authorities, media, environmentalists, national government, and pressure groups as important stakeholders generalizing to construction projects and major infrastructure projects. The two key contrasting findings determined in the present study are government institutes specified into various departments and institutes. Next, the government institutes influenced the project mainly at EIA and land acquisition processes in the planning and design stage.

By reviewing the external stakeholders involved in construction projects, Chan and Oppong (2017) clustered them into three main groups: the affected local community, the general public, and government authorities. Despite that, the general public is not

significantly influential in the present study, and the above classification could be amended into government institutes and other external stakeholders for the donor-funded irrigation infrastructure projects at the planning and designing stage. Ninan and Mahalingam (2017) categorized the external stakeholders based on land acquisition and existing services without specifying the PLC stage. Therefore, the present study proposes the above classification for the planning and designing stage of the donor-funded irrigation infrastructure projects.

Mok et al. (2016) explored that the general public is the most influential external stakeholder in large construction projects rejected for the donor-funded irrigation infrastructure projects. The national government and environmentalists were not identified as significantly influential external stakeholders in the project planning and designing stage. Being a donor-funded project, any government supports the project as a key requirement to the country. Furthermore, the qualitative studies by Aaltonen and Kujala (2010), Aaltonen and Kujala (2016), Dooms, Verbeke, and Haezendonck (2013), and Enserink (2000) explored the environmentalists' aggressive influences during the initial stages of infrastructure construction projects. Besides, environmentalists were not influential in the present study due to recruiting environment specialists to the project team.

Further, at the EIA process, consultations by ecologists and zoologists were coordinated with WLCD and CEA. Therefore, environment-sound construction practices were planned to implement from the initial stages. This is highly concerning in the EIA procedure, and the donor agency greatly attends to the sustainable practices of the project. As per the project environmentalists and project managers' perspectives, environmental activists can arise with the initiation of constructions (e.g., tunnel excavation, dust, damages to roads) or when misuse the property out of the ROW by the contractor (e.g., remove trees out of the ROW at conserved forest area). Thus, the influence level of environmentalists was not significant in this research. A similar pattern of effect from the environmentalists was investigated by El-Wakeel and Andersen (2019) and Locatelli, Invernizzi, and Brookes (2017) at the planning and design stage in other infrastructure projects except for irrigation infrastructure projects. Hence, this study has fulfilled that research gap.

4.10.2 Pattern matching on significant influencing strategies by significantly influential external stakeholders in donor-funded irrigation infrastructure projects

The significantly used influencing strategies were evaluated through the data analysis and superimposed with the literature findings to reveal the similarities and deviations. Therefore, the findings were summed up in Table 4.13.

Table 4.13: Significantly used influencing strategies by significantly influential external stakeholders in donor-funded irrigation infrastructure projects

Significantly influencing strategy	Sources																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
Communication strategy	√	√	√				√		√	√	√	√	√	√					√	
Letter writing campaign		√					√		√			√	√						√	
Changes in priority																				
Coalition building	√		√							√	√	√	√	√					√	
Administrative bottlenecks									√										√	
Compromise		√		√					√				√							
Insufficient resources																				
Lobbying		√					√		√			√	√						√	
Representative meetings									√											
Intervention									√											
Lack of commitment																				
Lack of transparency																				
Consultation									√											
Imbalanced coordination between departments																				
Credibility building	√		√							√	√	√	√	√						
Direct usage	√	√			√	√		√	√	√	√	√	√		√	√	√	√	√	
Direct action strategy	√		√							√	√	√	√	√					√	
New research findings					Renamed existing strategies															
A-Aaltonen et al. (2008), B- Aaltonen & Kujala (2010) C- Chan & Oppong (2017), D- Frooman & Murrell (2005), E-Frooman (1999), F- Hefferran & O'Brien (2010), G- Hendry (2005), H- Jergeas, Williams, Skulnoski, & Thomas (2000), I-Lin, McKenna, Ho, & Shen (2019), J- Mok et al. (2015), K- Molwus (2014), L- Nguyen et al. (2018), M- Nguyen et al. (2019a), N- Nguyen, Mohamed & Panuwatwanich (2018), O- Preable (2005), P-Ten, Kloot, & Clarkson (2010), Q- Tsai, Yeh, & Wu (2014), R- Tsai, Yeh, Wu & Huang (2005), S- Vuorinen & Martinsuo (2018)																				

Regarding the supplied Table 4.13, influencing strategies were arranged in descending order. Communication strategy is the significantly used influencing strategy from the significant influencing strategies. This strategy is used by affected parties to increase the urgency of their claims (Aaltonen et al., 2008; Aaltonen & Kujala, 2016). In the present study, media, people in neighboring areas without benefitted from the project but sought the benefits, and pressure groups I1 and significantly applied this strategy.

Letter writing campaign is a specific influencing strategy of PAP in donor-funded irrigation infrastructure projects. Although Aaltonen and Sivanen (2009) and Nguyen et al. (2019_a) explained that letter-writing campaigns or petitioning were done initially by the PAP, it was not determined as a significantly used.

Coalition-building, credibility-building, and direct action strategies were rather hard strategies. They were not significantly used by PAP, believing that they receive water to their land from the canal. While, it had been conversely recorded in past researches such as factory construction projects (Aaltonen & Kujala, 2010; Aatonen & Kujala, 2016), other infrastructure projects, housing projects, hydropower projects, and railway projects (Nguyen et al., 2019_a; Nguyen et al., 2019_b; Vuorinen & Martinsuo, 2018). Furthermore, Nguyen et al. (2019_a) emphasized that the communication strategies were used with either credibility-building strategies or building strategies among organized or unorganized groups of the external stakeholders. Similarly, the present study has proved the above finding for the influences of media, PG, and PNWOB.

In the past studies, Aaltonen and Sivanen (2009) and Frooman (1999) identified compromise and direct usage. Additionally, five new influencing strategies were identified in donor-funded irrigation infrastructure projects: *changes in priority, insufficient resources, lack of commitment, lack of transparency, imbalanced coordination between departments*. These influencing strategies were specific/common for government institutes. Neither a study nor any perspective focused on the influences of each government institute at the planning and design stage of the infrastructure projects. Hence, this study has become prominent with studying the significant influences of each government institute separately.

In addition, this research had focused on the planning and design stage, while most past research had coalition considered the implementation stage or performed as case studies without specifying to stage of PLC (Aaltonen & Kujala, 2010; Nguyen et al., 2009_a, 2009_b; Vuorinen & Martinsuo, 2018).

4.10.3 Pattern matching on significant stakeholder management strategies for the significantly influential external stakeholders in donor-funded irrigation infrastructure projects

Table 4.14 presents the significantly used management strategies listed according to the priority of the significance and compared with the past studies.

Table 4.14: Significant management strategies for the significantly influential external stakeholders in donor-funded irrigation infrastructure projects

Management strategy	Source												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Provide additional benefits, incentives													
Contact with high officials directly													
Supply logistics													
Persuasion							√		√	√			
Capacity building													
Appoint supportive staff													
Continues with effective communication					√						√		
Negotiation	√	√		√			√	√				√	√
Coordination by deputation							√			√			
Effective leadership			√								√		
Enable to design flexibility							√			√			
Give and take behavior							√			√			
Approach to each stakeholder directly or indirectly		√						√					
Active listening													
Using CSR activities						√	√						
Time bound action plan													
Mediation													
Monitoring the mechanism													
Proactive						√					√		√
Framing strategy							√		√				
Use informal contacts													
Avoidance	√			√			√	√					√
New research findings	Modification of strategy from past literature												
A- Aaltonen & Sivonen (2009), B- Chan et al. (2017), C- Doh & Quigley (2014) D- Dooms (2019), E- Joos, Aufseb, & Pidun (2020), F- Lim, Ahn, & Lee (2005), G- Mahalingam & Ninan (2019), H- Menowong & Ogulana (2010), I- Ninan & Mahalingam (2017), J- Ninan et al. (2020), K- Oching & Chileshe (2016), L- Yang & Shen (2015), M- Yang, Wang, & Jin (2014)													

As per Table 4.14, additional benefits and incentives, contact with high officials directly, supply logistics, and capacity-building strategies were specifically investigated for government institutes such as DSO, MoL, SD, and VD.

Ninan et al. (2019_c) stated that persuasion could be used for any external stakeholder to manage their influences. It has been proved that in megaprojects, that persuasion can be significantly applied for obtaining the consent of CEA, WLCD, and FCD at the

EIA process. In addition, effective communication was reported as a significantly used management strategy in present infrastructure projects. Similarly, Olander and Landin (2008) concluded that communication between external stakeholders is vital at the early stages of construction projects. However, Aaltonen (2011), De Oliveira, and Rabechini Jr (2019) revealed that management strategy should be continued throughout the PLC. Moreover, negotiation, determined by past authors as a strategy, was confirmed by the present study. In addition, the coordination by deputation, enable to design flexibility, give and take behavior, and framing strategy was aligned with the irrigation infrastructure projects, which were initially explored by Mahalingam and Ninan (2019), Ninan et al. (2020), and Ninan and Mahalingam (2017).

Further, findings of the previous studies' management strategies, such as the approach to each stakeholder directly or indirectly, using CSR activities, and avoidance of the stakeholder's influences, were confirmed to the present research scenario. Additionally, *active listening, time-bound action plans, mediation, monitoring the mechanism, and the use of informal contacts* were not investigated for any infrastructure project. Paradoxically, these strategies can be considered unique strategies for managing the external stakeholders' influences in the Sri Lankan irrigation infrastructure projects, which are invested as donor-funded projects.

4.11 Summary

Based on the expert interview results, two rounds of the questionnaire survey, the significantly influential stakeholders, their significantly used influential strategies, and significantly used management strategies were evaluated. The investigation also encountered common influencing strategies and influencing strategies exclusive to the particular external stakeholder and for the management strategies. Hence, more unique strategies had been recorded in managing external stakeholders' influences in donor-funded irrigation projects in Sri Lanka, contrary to previous research on other construction or infrastructure projects. After reviewing the above in-depth study findings, the next chapter will discuss the conclusion, recommendations, and suggestions for further studies.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter Four discussed data analysis which interprets the results. Then the pattern matching was accomplished to distinguish the unique and comparable features of this study and the previous studies. Ultimately, conclusions and recommendations based on the study's objectives were derived. Further, research limitations and areas for future studies were proposed.

5.2 Conclusions

Conclusions pertaining to each objective of the study are narrated in subsequent subheadings.

Objective 01: Identify the concept of stakeholder management

This objective pertained through literature review and semi-structured interviews. Out of the plethora of steps in stakeholder management, interviewees screened into seven main steps in stakeholder management: planning, stakeholder identification, stakeholder analysis, stakeholder mapping, developing a communication strategy, stakeholder engagements, and monitoring and evaluation. Each primary step included sub-steps.

Objective 02: Investigate the significantly influential external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka

The literature review anchored the identification of influential external stakeholders in various construction and infrastructure projects. Subsequently, the predetermine list was validated through the semi-structured interviews in donor-funded irrigation infrastructure projects at the planning and designing stage. Then, ranking the influential stakeholders out of the validated list was predominantly ascertained under questionnaire Round One. As a result, 12 significantly influential external stakeholders were discovered: project-affected parties, Central Environmental Authority, Wildlife

Conservation Department, Divisional Secretary Office, Ministry of Land, Survey Department, Valuation Department, political groups, media, pressure groups, people in neighboring areas without benefited from the project but seek benefits, and Forest Conservation Department.

Objective 03: Evaluate the significant influencing strategies which affect the project performance by the external stakeholders

Validated literature findings from the semi-structured interviews were ranked from Round Two of the questionnaire survey to align with the above objectives. Part one consisted of the external stakeholders influencing strategies, and the respondents were asked to select the top five influencing strategies for the identified external stakeholders in questionnaire Round One. It revealed that influential external stakeholders significantly used 17 out of the 24 influencing strategies. Among them, letter-writing campaigns, representative meetings, lack of transparency, imbalanced coordination between departments, credibility building, and the direct-action strategies were highlighted as specific influencing strategies for the particular influential external stakeholder type. On the contrary, 11 influencing strategies were commonly practiced by the so-called external stakeholders, such as consultation, direct usage, lobbying, coalition building, communication, intervention, lack of commitment, changes in priority, insufficient resources, administrative bottlenecks, and compromise vice versa.

Those specific influencing strategies are applied due to the specific impact on a particular type of external stakeholder. Therefore, the project team's responsibility is to proactively identify the specific influencing strategies of external stakeholders at the stakeholder analysis step. Moreover, commonly influencing strategies are needed to examine since the consequences of that influence may connect the affected external stakeholders and collectively influence the project. This may have ended with aggressive movements.

Objective 04: Evaluate the significant stakeholder management strategies for managing the external stakeholder influence in donor-funded irrigation infrastructure projects in Sri Lanka

Similar to objective 03, this concerns the initial literature reviews and validating to present research context. Consequently, the desired objective 04 was accomplished from the second part of the questionnaire Round Two. Out of the 28 management strategies, 22 management strategies were ranked as significantly used management strategies. Further, the give and take behavior, monitoring mechanism, using CSR activities, framing strategy, informal contacts, effective leadership, mediation, proactive, active listening, avoidance, capacity building, time-bound action plan, and approach to each stakeholder directly or indirectly management strategies were determined as specific to particular external stakeholder. Nine management strategies were demarcated as common to the significantly influential external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka.

The specific and commonly used management strategies have to be considered when designing the stakeholder engagement activities without practicing conventional management practices like ad-hoc meetings—alternatives are workshops, periodic progress meetings, and networking with government institutes at each stage of the PLC.

Further, influencing external stakeholders were mainly clustered as government institutes and other external stakeholders at the planning and designing stage. Many government institutes recommended and approved the project to declare the project site at the planning and design stage. Even though the set of standards and procedures are stipulated to follow, it takes too much time. This is encountered as per each government institutes' specific or common influences.

Although other external stakeholders are comparatively ranked lower than the government institutes, the influences will be the most significant at the proceedings with construction works.

External stakeholder's influences are not considered totally negative because the combined influences are exerted according to the consequences of the project

activities. Hence, this study concludes that the effects of any external stakeholder type should be considered at the initial stages of the PLC and especially addresses the significant influencing external stakeholders strategically.

5.3 Recommendations

Many external stakeholders can emerge because the irrigation infrastructure projects acquire a large extent of wildlife areas, forest conserved, temple claimed land and urban and rural areas. Therefore, the project entity should tackle their influences proactively. Thus, the two-way communication process has to improve further. Even though communication units are already established in donor-funded irrigation infrastructure projects, ongoing communication assignments have to implement for each external stakeholder. Although the GRC committee has established, that was not an effective management strategy in the present study. Therefore, the GRC mechanism should be activated to address the grievances of PAP.

There are some measures to enhance the transparency of the government procedures by introducing Right to Information (RTI) to the public. That right is not properly used by external stakeholders, especially for PAP. If yes, conflicts at the early stages could be minimized. Moreover, Government institutes separately function in their sphere in the land acquisition process. A monitoring body to coordinate the land acquisition procedure with incorporating each government institute into one place should be formulated to get the maximum utilization of donor funds in a time-effective manner. The progress of the work can be monitored by applying KPI for the effective management of the surveying and valuation processes. To recapitulate, by improving the existing management strategies and applying the above suggestions, external stakeholders' influences can be managed to achieve the ultimate objective of the donor-funded irrigation projects in Sri Lanka.

5.4 Contribution of this research

The study contributes to both industry and theory. Effective stakeholder management can be implemented by identifying the significantly influential external stakeholders and their significant influencing strategies and by applying appropriate and significant management strategies at the industrial level for the optimal use of donor funds,

especially in developing countries. This study contributes to theory by filling the research gap related to external stakeholder management in DFIIIPs in both global and Sri Lankan contexts. The study provides a benchmark for future studies on external stakeholder management in donor-funded irrigation infrastructure projects. The study findings may not directly apply to developed countries but are applicable in developing countries. The findings are relevant only to the planning and designing stages of DFIIIPs. The study does not reveal external stakeholder influence in sectors such as transportation, energy, housing, and telecommunication.

5.5 Limitations

This research aimed to manage the external stakeholders' influences, especially donor-funded irrigation infrastructure projects; it will not be generalized for GoSL-invested irrigation projects. The findings are only applicable for the planning and designing stage of the above-mentioned infrastructure projects. Similarly, the study does not reveal external stakeholders' influences in other infrastructure sectors such as transportation, energy, housing, and telecommunication.

5.6 Further research

With reiterate the research process of this study, the following research areas can be proposed for the betterment of the country's economy.

- ❖ Management of external stakeholders' influences in donor-funded highway projects in Sri Lanka; Client, Contractor perspectives
- ❖ Comparative study on management of external stakeholders' influences between donor-funded and GoSL-invested irrigation infrastructure projects
- ❖ Managing the influences of external stakeholders during land acquisition process in GoSL-invested infrastructure projects

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APPENDICES

Appendix A: Semi-structured interview – Guidelines

Ruwanpura U. D. R. E.

Seafield Estate,

7th-mile post,

Mawathagama.

04.04.2021

Dear Sir/ Madam,

Requesting permission for conducting an interview on “Management of external stakeholder influences in donor-funded irrigation infrastructure projects”

As a postgraduate student (Reg. No. 189632J) who has been following MSc. in Project Management in the Department of Building Economics, Faculty of Architecture, University of Moratuwa, I must fulfill the requirement to conduct a study in relation to project management discipline. Therefore, I have selected the above topic for my study.

Your professional experiences, knowledge, and perception regarding external stakeholder management are key requirements for validating the literature findings of the study into donor-funded projects in the Sri Lankan context.

Therefore, I kindly request an appointment from you for an interview. The confidentiality of the information is strictly maintained. Your invaluable cooperation in this regard is greatly acknowledged.

Thank you.

Yours sincerely,

Erandi Ruwanpura (071 8178 701)

eranditea@gmail.com

Date
Time
Venue

1) GENERAL INFORMATION

1. Profession

.....

2. Designation

.....

3. Years of experience

.....

2) TYPES OF EXTERNAL STAKEHOLDERS

1. Who are the external stakeholders as you define?

.....

2. Whether their influences are critical at planning and designing stage or not?

.....

3. If yes, what are the reasons? If not, what are the reasons?

.....

4. Identify various types of external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka. (Place ✓)

External Stakeholder/Group	Yes	No	Any Change....
Community groups			
Lobbyists			
Environmentalists/ Environmental groups/ Green groups			
Archeologists			
Conservationists			
Nongovernmental organizations			
Business representatives/ Local businesses			
Clients			
Competitors			

External Stakeholder/Group	Yes	No	Any Change....
Suppliers			
Political groups			
Consumer groups			
End users			
People in neighboring areas without benefited from the project but seek benefits			
Public & Local authorities/authorities/departments			
Local communities/representatives			
Potential users			
Regulators/ Regulatory agencies			
Local & National government			
Industry/trade & industries			
Private organization			
Local residents/residents' proximity to projects/project-affected groups			
Indigenous people			
Human rights groups			
Media			
Owners			
Special interest groups			
Municipality			
Administrative board			
General public			
Traditional authorities			
Traditional worshipers & deities			
Landowners			
Court/ Legislation authorities			
Police			
District councilors			
Social groups/pressure groups			
Trade Unions			
ANY OTHER??			

3. INFLUENCES BY EXTERNAL STAKEHOLDERS

5. What are the key issues raised through the external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka?

.....

.....

.....

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6. Who are the external stakeholders raised the above key issue?

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7. What are the influencing strategies practiced by external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka?

Strategy	Description	Yes	No	Any change
Direct withholding	Stakeholders control the project's access to use resources that are controlled by other stakeholders (Control issuing permits by the government)			
Indirect withholding	Stakeholders influence project's access to resources			
Indirect usage	The stakeholder attempts to include more conditions for resource usage			
Direct usage	Attempt to include additional conditions which are not directly related to business			

Communication strategies	Stakeholders use various types of media to communicate the urgency of their claims			
Multi-stakeholder dialogues	Forming alliances for exercising indirect influences			
Letter writing campaigns	Petitioning for exerting influences for legitimate authorities			
Boycotts	Nonviolent movement on rejecting to deal with a group or a person			
Blockades	Control of firm assets to get the attention of other stakeholders			
Lobbying	Influence on other stakeholders who have more legitimate power			
Litigations	Go for court proceedings			
Coercion	Include into manipulation strategy which leverages resources by either threat or reducing benefits or increasing the cost to the firm			
Compromise	Positive in nature with involving improve the benefits or reducing cost			
Direct	Stakeholder manipulates the flow of resources directly			
Indirect	Stakeholder manipulates the flow of resources by forming alliances			
Upwards	Indicates the direction of influences as managing sponsors and maintain the organization commitment			
Sidewards	Relationship with peers and communities of practice			
Outwards	Manage the relationship with other external parties, unions, customers, government			
Downward	Manage with teams			
Resource building	Stakeholders able to access the resources which are critical to project execution			
Coalition building	Stakeholders try to find a appropriate position in the project network and build coalition with other stakeholders			
Conflict escalation	Stakeholders attempt to increase the conflict beyond initial project related causes (e.g., political)			
Credibility building	Stakeholders increase their perceived legitimacy by acquiring credible and capable resources, such as capable individuals with good status			
Direct action strategy	Stakeholders organize protests, boycotts, demonstrations, and road blockades			
ANY OTHER....??				

8. How do those influences affect project performances of donor-funded irrigation infrastructure projects in Sri Lanka?

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9. Do you feel that managing the influences of external stakeholders is important? Why?

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4. MANAGEMENT OF EXTERNAL STAKEHOLDERS

10. Do you think that management of external stakeholders is important in donor-funded irrigation infrastructure projects in Sri Lanka? Yes/No Why?

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11. Budgetary allocation for managing external stakeholder influences

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12. Identify the basic steps in the stakeholder management process in donor-funded irrigation infrastructure projects in Sri Lanka?

Step	Place or ×
Having clear project objectives	
Stakeholder identification/Information inputs	
Stakeholder mapping/modeling stakeholder interests/ Stakeholder estimation/ Prioritize stakeholder demands/ Prioritization	
Develop communication strategy/ manage communication	
Stakeholder engagements/Involve	
Stakeholder assessments/ analysis	
Sustainability/ Continuous support / Monitoring & control/ Management support/ Performance control	
Stakeholder dynamics/Understanding	
Determine performance gaps	
Build relationships	
Identify & manage concerns & conflicts/ Stakeholder concern & needs	
Educating/Consult	
Planning	
Determine organizational support	
Understanding & continuous consideration	
Collaborate/Empowerment	
Characterization/ Stakeholder documentation	
Decision making	
Action & evaluation/ Follow up	
Initial planning	
Classification	
Strategy development	
Precondition	
Information inputs	
Determine the purpose of SM/SM	
Evaluate the SM process	
SM action plan	
General nature of stakeholder claims & power implications	
Project resource	
Choice of implementation	
Minimize negative impacts	
Develop organizational response/ Agile response to change	
Risk control	
ANY OTHER....??	

13. What are the strategies for managing external stakeholders you have practiced in donor-funded irrigation infrastructure projects in Sri Lanka?

Strategy	Description	Yes	No	Any change
Avoidance	Transfer the responsibility to manage conflicts to the organizations that have more responsibility			
Compromise/ Negotiate	Bargaining and reaching a win-win situation			
Dismissal	Ignore the demands of stakeholders, which are not legitimate			
Adaptation/Concession	Adjust with the legitimate claims of stakeholders			
Influence/Manipulate	Proactively address the demands, share updated information, build and monitor relationships with proper public relations			
Persuasion	Inspire stakeholders to get the support			
Coordination by deputation	Get the support of deputed employees from the public sector to coordinate with govt. org			
Give and take behavior	Project acquire and compensate by cost implications			
Extra work for stakeholders	Extra effort to relocate government utilities (pipelines)			
Enable to design flexibility	Changes of design due to stakeholders' valid requests			
Proactive	Doing more than required collaborating with stakeholders, using interpersonal skills			
Mutual gains approach	Acquaintance with the objectives of stakeholders, Joint solution seeking			
Defensive	Doing the least required			
Accommodative	Accept responsibility			
Develop Key Performance Indicators	Required to measure the progress			
Appoint an independent party to monitor	To strengthen the mutual trust			
Create a system with lessons learned	Use case-based reasoning approach			
Continues with effective communication	Effective flow of information, maintain balanced, open communication via meetings			
Using CSR activities	Involve in social services with public			

Framing strategy	Appoint a spokesperson to contact with media			
Hegemonizing Strategy	Create favorable perception in stakeholders' minds			
Effective leadership	Use leadership skills for effective stakeholder engagement			
Reactive	Deny responsibility			
Approach to each stakeholder directly or indirectly	Address each stakeholder			
ANY OTHER....??				

14. Are there any special management strategies for specific external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka?

Type of external stakeholders	Specific management practices

15. Suggestions (if any) for effective external stakeholder management?

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Thank you very much

Appendix B: Examples for influencing strategies

Influencing Strategy	Examples
Direct usage	• Force to implement wildlife management plan in order to use the wildlife area to the project • Change the design of the canal trace at the wildlife reserve • Enforce to rehabilitate the local government roads • Implement reforestation program while using forest conserved area
Indirect withholding	• Encroachers complained about the insufficient compensation to the donor • Landowners complained about the misuse of the right of way
Indirect usage	• Requires to establishing elephant corridor at the predetermined location, which is not located at the ongoing project area
Communication strategies	• Use social media to raise opposition for no compensation to encroachers
Letter writing campaigns	• Petitioning to supply water to additional tanks not identified at the initial stage • Letter writing to ministries requesting that not to divert water to another province
Lobbying	• Influences by political representatives that not to divert water to another province • Hotel owners try to get assistance from political bodies to avoid supplying water to a particular tank since the hotel was constructed at the reservation area
Litigations	• Some PAP who has given land to the project claim more compensation and appealed to a compensation committee • Complains to Human rights commission about not to supply water to particular tanks
Coalition building	• Alliances with PAP by land given to project and claim more compensation • Forming alliances to protect historical and religious places at the land to be acquired to the project • Forming alliances with rejecting establishing elephant corridor • Get the support of politicians, media, to get water supply to the other area not covered by the project • Some farmer organizations are not accepting the diversion of water to another province, predicting the scarcity of water and get support from political leaders. • Wildlife conservation, CEA, forest department collate and claim to establish elephant corridor strictly
Compromise	• Support the project, but request for better compensation packages, resettlement policy for PAP

	• Support the project with mitigating the effects for human-elephant conflicts, habitat losses of animals
Credibility building	• Opponents for establishing elephant corridor increase their legitimacy by getting the assistance of capable individuals, religious leaders to cease the activity • To avoid tunnel construction people, get support from retired armed personnel
Direct action strategy	• Opponents organize direct objections campaign through protests to gain additional water supply to tanks
Reports to government	• Submit proposals on canal trace design with covering many numbers of tanks instead of the current design by the people in neighboring villages requesting irrigated water
Consultation	• Experts' consultation regarding mitigating HEC, environment management, involuntary resettlement policy during EIA process and land acquisition process
Administrative bottle necks	• Delays occur in the land acquisition process
Intervention	• The intervention of different parties for PAPs' claims
Representative meetings	• Request for joint solution seeking for issues relating to irrigation water supply with representatives of people • Conduct more round table discussions with government stakeholders regarding the wildlife management plan
RTI	• Request information about compensation packages
Seek benefits and incentives	• Claim for benefits in surveying, valuation, and land acquisition process
Lack of commitment	• Expect incentive schemes for government institutes due to extra responsibilities held by government workers
Imbalanced coordination between departments	• Encountered in the land acquisition process
Changes in priority	• Can cause to time extension in the valuation process
Lack of transparency	• The valuation department only gives the total value for the property without a detailed description. Thus, PAP heavily object to step stage in the acquisition stage
Insufficient resources	• Shortages in logistics in Divisional secretariats, surveying, and Valuation departments
Imbalanced coordination between grass-root level	• Encountered in EIA, surveying process • Encountered in following regulations under land acquisition act

Appendix C: Questionnaire survey - Round One

Explore the influential external stakeholders in donor-funded irrigation infrastructure projects in Sri Lanka (Objective two)

Research topic

Management of external stakeholder influences in donor-funded irrigation projects in Sri Lanka

Aim

To investigate how external stakeholders' influences could be effectively managed in infrastructure construction projects in Sri Lanka.

Objectives

- ❖ To review the concept of stakeholder management
- ❖ To evaluate significantly influential external stakeholders in donor-funded irrigation infrastructure projects
- ❖ To evaluate the significant influencing strategies which affect the project performance by the above external stakeholders
- ❖ To propose the significant stakeholder management strategies for managing the external stakeholder influence in infrastructure construction projects in Sri Lanka

01. Personal Details

Work experiences in donor-funded irrigation projects infrastructure projects (Years)

1-5	
5-10	
10-20	
20-30	
30-40	
40>	

Work experiences in donor-funded other infrastructure projects (Years)

1-5	
5-10	
10-20	

20-30
30-40
40>

02. Influence means “a power of affecting a person or course of events on something to change”.

Even in a project environment, external stakeholders are influencing project activities for different purposes. This will result in changes in the project scope and lead to the project’s time and cost overruns. By considering these perspective rates, each external stakeholder’s level of influence on project performances at the planning and designing stage (up to the completion of the land acquisition process) of donor-funded irrigation infrastructure projects in Sri Lanka.

5- Very high

4- High

3- Moderate

2- Low

1- Very Low

External stakeholder type		Level of influences				
		5	4	3	2	1
	E.g.: Project affected parties (PAP)	√				
1	Project affected parties (PAP)					
2	People in neighboring areas without benefited from the project, but seek benefits					
3	Media					
4	Political groups					
5	Local government authority					
6	Divisional Secretary Office					
7	Ministry of Land					
8	Wildlife Conservation Department					
9	Forest Conservation Department					

External stakeholder type		Level of influences				
		5	4	3	2	1
10	Survey Department					
11	Valuation Department					
12	Central Environmental Authority (CEA)					
13	Agrarian Development Department					
14	District Secretary Office					
15	Ceylon Electricity Board (CEB)					
16	Environmentalists					
17	Community Based organizations (CBO)					
18	General public					
19	Pressure groups					
20	Special interest groups					
21	Human rights groups					
22	Non-Governmental organizations					
23	National Government					
24	Members in the District Coordination Committee (DCC)					
25	Business owners					
26	Direct Beneficiaries					
27	Indirect Beneficiaries					
28	Suppliers					
29	Traditional authorities (Religious leaders)					
30	Traditional worshipers & deities					
31	Potential users					
32	Potential PAP					
33	Government Print					
34	Ministry of Defense					
35	Water Resource Board					
36	Explosive controller					
37	Road Development Authority (RDA)					
38	Provincial Road Development Authority (PRDA)					
39	Geological Survey and Mines Bureau (GSMB)					

External stakeholder type		Level of influences				
		5	4	3	2	1
40	Provincial Environmental Authority					
41	Plant Genetic Resources Center (PGRC)					
42	National Building Research Organization (NBRO)					
43	Water Supply and Drainage Board					
44	State Timber Corporation					
45	National Audit Institute					
46	Provincial Irrigation Department					
47	Court					
48	Police					
49	Herbarium					
50	Medical Officer of Health (MOH)					
51	Archeology Department					

Thank you very much

Appendix D: Questionnaire survey –(Round Two)

To accomplish objectives Three & Four

Research topic

Management of external stakeholder influences in donor-funded irrigation projects in Sri Lanka

Aim

To investigate how external stakeholders' influences could be effectively managed in infrastructure construction projects in Sri Lanka.

Objectives

- ❖ To review the concept of stakeholder management
- ❖ To evaluate significantly influential external stakeholders in donor-funded irrigation infrastructure projects
- ❖ To evaluate the significant influencing strategies which affect the project performance by the above external stakeholders
- ❖ To propose the significant stakeholder management strategies for managing the external stakeholder influence in infrastructure construction projects in Sri Lanka

Work experiences in donor-funded irrigation projects/ infrastructure projects (Years)

1-5

5-10

10-20

20-30

30-40

40>

Influence means “a power of affecting a person or course of events on something to change”.

01. Even in a project environment, external stakeholders influence project activities for different purposes. This will result in changes in project scope and lead to the project's time and cost overruns. **By considering these perspectives,**

What are the influential strategies used by following external stakeholders to achieve their claims from the donor-funded irrigation projects in Sri Lanka at the planning and designing stage? (Please consider up to the completion of the land acquisition process).

Please **select a suitable influencing strategy (IS) code at the priority order**. To rank the priority order, follow the subsequent rating scale.

5- Very significantly influencing

4- Highly influencing

3- Moderately influencing

2- Less influencing

1- Very less influencing

List of codes mentioned below.

Code	Influencing strategy name	Strategy description
IS 1	Direct usage	The stakeholder attempts to include more conditions for resource usage
IS 2	Indirect withholding	Stakeholders influence the project's access to resources. Halt the funds
IS 3	Indirect usage	Include more conditions on resource usage which are not relevant to the project area
IS 4	Communication strategy	Stakeholders use various types of media to communicate the urgency of their claims
IS 5	Coalition building	Stakeholders try to find an appropriate position in the project network and build alliances, the coalition with other external stakeholders
IS 6	Compromise	Positive in nature with involving improve the benefits
IS 7	Letter writing campaign	Petitioning for exerting influences for legitimate authorities
IS 8	Lobbying	Influence on other stakeholders who have more legitimate power
IS 9	Litigations	Go for court proceedings
IS 10	Credibility building	Stakeholders increase their perceived legitimacy by acquiring credible and capable resources, such as capable individuals with good status
IS 11	Direct action strategy	Stakeholders organize protests, boycotts, demonstrations, and road blockades
IS 12	Consultation	Provide expert's opinion for concerning the environmental and social aspects
IS 13	Intervention	Intervention on issues
IS 14	Reports to government	Voluntary submit proposals except to current designs
IS 15	Representative meetings	Request to face to face discussion
IS 16	Seek benefits and incentives	Claim for incentives for extra works out of the main job profile
IS 17	Administrative bottlenecks	Delays due to bureaucratic decisions
IS 18	Lack of commitment	Less dedication for specific activities
IS 19	Imbalanced coordination between departments	Unable to coordinate with other government institutes at the right time
IS 20	Changes in priority	Not given the priority out of the heavy workload
IS 21	Lack of transparency	Lack of information on procedures
IS 22	Insufficient resources	Prevailing physical and human resources are not sufficient for achieving the targets
IS 23	Use Right to Information act	Access to obtain information on the project

IS 24	Imbalanced coordination between grass-root level	Unable to coordinate with subordinates at the field level at the right time
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External stakeholder	Mention the suitable influencing strategies - very high to very less				
	5	4	3	2	1
Projected affected parties (PAP)	IS_6	IS_7	IS_11	IS_10	IS_8
Projected affected parties (PAP)	IS_	IS_	IS_	IS_	IS_
Political groups	IS_	IS_	IS_	IS_	IS_
Media	IS_	IS_	IS_	IS_	IS_
Pressure groups	IS_	IS_	IS_	IS_	IS_
Environmentalists	IS_	IS_	IS_	IS_	IS_
Neighboring areas without benefited from the project but sought benefits	IS_	IS_	IS_	IS_	IS_
Central Environmental Authority	IS_	IS_	IS_	IS_	IS_
Wildlife Conservation Department	IS_	IS_	IS_	IS_	IS_
Forest Conservation Department	IS_	IS_	IS_	IS_	IS_
Valuation Department	IS_	IS_	IS_	IS_	IS_
Survey Department	IS_	IS_	IS_	IS_	IS_
Divisional Secretary Office	IS_	IS_	IS_	IS_	IS_
Ministry of Land	IS_	IS_	IS_	IS_	IS_

2. Determine the management strategies used to answer the influences exerted by external stakeholders in donor-funded irrigation infrastructure projects at the planning and designing stage.

Rank according to the priority of using the management strategies for each external stakeholder. The code for the management strategies is given below.

5- Very significantly used

4- Highly used

3- Moderately used

2- Low in use

1- Very Low in use

Codes for Management strategies

Code	Management strategy name	Strategy description
MS1	Dismissal	Ignore the demands of stakeholders, which are not legitimate
MS2	Coordination by deputation	Get the support of deputed employees from the public sector to coordinate with govt. institutes
MS3	Give and take behavior	Project acquire and compensate by cost implications
MS4	Enable to design flexibility	Changes of design due to stakeholders' valid requests
MS5	Develop Key Performance Indicators (KPI)	Required to measure the progress
MS6	Create a system with lessons learned	Use case-based reasoning approach
MS7	Continues with effective communication	Effective flow of information, maintain balanced, open communication via meetings
MS8	Using CSR activities	Involve in social services with public
MS9	Framing strategy	Appoint a spokesperson to contact with media
MS10	Effective leadership	Use leadership skills for effective stakeholder engagement
MS11	Approach to each stakeholder directly or indirectly	Address each stakeholder separately
MS12	Accommodative	Accept responsibility
MS13	Avoidance	Transfer the responsibility to manage conflicts to organizations that have more responsibilities but act as a facilitator
MS14	Negotiation	Bargain with parties for joint solution-seeking and achieve a win-win situation
MS15	Proactive	Proactively identify the demands and take measures to control the effect
MS16	Persuasion	Inspire stakeholders by creating a favorable perception in their minds
MS17	Appoint Grievance to readdress committee (GRC)	Through GRC, solve the disputes of PAP time effectively
MS18	Active listening	Listen carefully; if not legitimate to solve

MS19	Mediation	Act as a mediator to solve the disputes which affect the project
MS20	Impose to take policy decisions	Inform the responsible parties to take policy decisions regarding meeting the deadline
MS21	Time-bound action plan	Work according to the action plan
MS22	Contact with high officials directly	Contact with ministry secretaries at the steering committee
MS23	Use Informal contacts	Use to acquire information that is negatively affected from the outside of the project
MS24	Capacity building	Conduct capacity building program for government officers
MS25	Supply logistics	Provide facilities for government institutes
MS26	Provide additional benefits, incentives	Monetary and nonmonetary incentives for the extra efforts of the external stakeholders
MS27	Monitoring the mechanism	Follow-up on the progress
MS28	Appoint supporting staff	Appoint supportive staff temporary for external government institutes such as divisional secretaries

External stakeholder	Suitable stakeholder management strategy (very high to very low)				
	5	4	3	2	1
1. Eg: Projected affected parties (PAP)	MS_7_	MS_3_	MS_8_	MS_19_	MS_24_
Projected affected parties (PAP)	MS__	MS__	MS__	MS__	MS__
Political groups	MS__	MS__	MS__	MS__	MS__
Media	MS__	MS__	MS__	MS__	MS__
Pressure groups	MS__	MS__	MS__	MS__	MS__
Environmentalists	MS__	MS__	MS__	MS__	MS__
Neighboring areas without benefited from the project but seek benefits	MS_	MS__	MS__	MS__	MS__
Central Environmental Authority	MS__	MS__	MS__	MS__	MS__
Wildlife Conservation Department	MS__	MS__	MS__	MS__	MS__
Forest Conservation Department	MS__	MS__	MS__	MS__	MS__
Valuation Department	MS__	MS__	MS__	MS__	MS__
Survey Department	MS__	MS__	MS__	MS__	MS__

External stakeholder	Suitable stakeholder management strategy (very high to very low)				
	5	4	3	2	1
Divisional Secretary Office	MS__	MS__	MS__	MS__	MS__
Ministry of Land	MS__	MS__	MS__	MS__	MS__

Thank you very much

Appendix E: Questionnaire survey- (Round One) calculation of MWR

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Appendix F: Questionnaire survey – (Round Two) Calculation of MWR for influencing strategies

Respondent	Project Affected Parties Influencing strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1						4	3	2	1	5														
2				2	3	5	4	1																
3				4	2		3	5	1															
4					4	3	1	5							2									
5				3	2		5	4			1													
6							5	4	2	3	1													
7						5	4	3		2			1											
8							4		3	5			1		2									
9				5			4	3	2		1													
10						5	4	2	1		3													
11				4			5	3		2	1													
12						5	4	2		1													3	
13				2	4		5	1			3													
14	1						2			5		4			3									
15					2		5	4		1	3													
16						3	4	5	1	2														
17					1	5	4	3		2														
18				2	3				1	5					4									
19		1			4		5	3			2													
20					3		5	4		2	1													
21						4	3	5		2														
22					2	5		4		1	3													
23					2	5	4	3		1														
24					3		5	4		2	1													
25						5	4		1	2	3													
26						5	4	2	1		3													
27				3	1	4	5	2																
28	2				1		5	4			3													
29						4	5	3		1	2													
30					3		2	4		1	5													
31		1			2	4	5	3																
32		1				4	5	3			2													
33					1	5	4	3		2														
34						5	4	3		2	1													
35				2		5	4	3			1													
36						5	4	3	1		2													
37						5	4	3		2	1													
38				0		4	5	3	2	1														
39		1			2	3	5	4																
40				3			5	4		2					1									
41		1		3		2	5	4																
42				2		5	4	3			1													
43						3	5	4		2													1	
5				1	0	15	18	4	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4				2	3	7	17	12	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
3				4	5	4	3	16	1	1	7	0	0	0	1	0	0	0	0	0	0	0	1	0
2	1				5	7	1	2	5	3	13	4	0	0	0	2	0	0	0	0	0	0	0	0
1	1	4			0	4	0	1	2	8	7	10	0	2	0	1	0	0	0	0	0	0	1	0
MWR	0.077	0.103	0.000	0.897	1.154	3.000	4.410	3.282	0.436	1.308	1.256	0.000	0.154	0.000	0.308	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.103	0.000
SD	0.707	0.000		1.251	1.012	0.877	0.954	0.999	0.669	1.227	1.254		1.732		1.140								1.4142	

Respondent	Central Environmental Authority																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	5		2											4	1	3								
2	5		2		3	4				1														
3						3						5	2		4		1							
4	1		2			5						3		4										
5	5		4			3									2	1								
6					1	2						4		5						3				
7		2				5						4						1		3				
8						4								5	3	1	2							
9	3		5		1	4						2												
10	4					5						2	1	3										
11	4		5		2	3											1							
12	3		4		5										2	1								
13	4					5						3												
14	3					4						5				1		2						
15	3		1		5	2						4												
16	4					5						3						2		1				
17	3		2			5						4				1								
18			2			5						4			3		1							
19						5						3		1	2				4					
20	2		3									4		5			1							
21	4					3				2		5		1										
22	3											4			2	1	5							
23	3					5						4			1					2				
24	3		1			5						4				2								
25						3						5			4	1				2				
26	3					5						4					1	2						
27	4					2						3			1		5							
28	3				1	5						4			2		3							
29	3		1			2						5			4									
30	2					4						5							3	1				
31	3		1			4						5					2							
32	3					4						5	2				1							
33	5					3						4				2			1					
34				4	1	5						3							2					
35	3		1			4						5												
36	3					4						5		1	2									
37						4						5					3		1	2				
38	2		1			4						5			3									
39	3		1			4						5								2				
40						4						5						3	2	1				
41	3					4						5			2							1		
42	3					4						5			2		1							
43	4					3						5			2		1							
5	4	0	2	0	2	13	0	0	0	0	0	17	0	3	0	0	2	0	0	0	0	0	0	0
4	7	0	2	1	0	15	0	0	0	0	0	12	0	2	3	0	0	0	1	0	0	0	0	0
3	18	0	1	0	1	7	0	0	0	0	0	6	0	1	3	1	2	1	1	2	0	0	0	0
2	3	1	5	0	1	4	0	0	0	1	0	2	2	0	9	2	2	3	2	4	0	0	0	0
1	1	0	7	0	4	0	0	0	0	1	0	0	1	3	3	7	8	1	2	3	0	1	0	0
MWR	2.535	0.047	0.884	0.093	0.442	3.581	0.000	0.000	0.000	0.070	0.000	3.605	0.116	0.674	0.977	0.326	0.651	0.233	0.302	0.395	0.000	0.023	0.000	0.000
SD	0.918	####	1.437	#####	1.768	0.972	#####	#####	#####	0.707	#####	0.908	0.577	1.787	0.970	0.699	1.468	0.707	1.169	0.782	#####	#####	#####	####

Respondent	Wildlife Conservation Department																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	5		4									3				1		2						
2	4		3			5						2			1									
3	4		3									5					1					2		
4						5						4			3					2		1		
5	5		4			2						3				1								
6	5		3			4						1										2		
7	4		1			5						2			3									
8					1	4						3			5		2							
9	5		4		1	3						2												
10	4					5						3			2		1							
11	5		4		3	2									1									
12	4		5									3		2		1								
13	3		5			4						2			1									
14	4					5						3				1		2						
15	3		4			5						2										1		
16	4		2			5						3			1									
17	1		4			5											2					1		
18	3					4											1	2				5		
19	3															3	1	2				5		
20	5											4			3	2	1							
21			3			5						4				1		2						
22	4		2			5						3			1									
23	5		3									4			2									1
24			3			4						5			1	2								
25	5		2			4						3												1
26	4		3														5	1			2			
27	5				2							4					3							1
28	2					5						4										3		1
29			1			5						3				2						4		
30	4					5						3					2							1
31	4					5						3					2					1		
32	3					5											2			1				4
33	3		2			4						1												5
34	4					5						3			2	1								
35	4		1			5						3										2		
36	4		2			5									3		1							
37	5		1			4						3										2		
38	4		2			5						3			1									
39	2					4						5			3							1		
40	4		2			5						3					1							
41	4					5											3					1		2
42	4					5						3					2					1		
43	5											4					1					2		3
5	11	0	2	0	0	22	0	0	0	0	0	3	0	0	1	0	1	0	0	0	0	2	0	1
4	18	0	6	0	0	9	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	1	0	1
3	6	0	7	0	1	1	0	0	0	0	0	18	0	0	5	1	2	0	0	0	0	1	0	1
2	2	0	7	0	1	2	0	0	0	0	0	5	0	1	3	3	6	5	0	1	1	5	0	1
1	1	0	4	0	2	0	0	0	0	0	0	2	0	0	7	6	8	1	0	1	0	7	0	5
MWR	3.488	0.000	1.698	0.000	0.163	3.558	0.000	0.000	0.000	0.000	0.000	2.535	0.000	0.047	0.767	0.349	0.721	0.256	0.000	0.070	0.047	0.791	0.000	0.442
SD	0.957	#####	1.201	#####	0.957	0.826	####	#####	#####	#####	####	0.963	#####	#####	1.181	0.707	1.074	0.408	#####	0.707	#####	1.408	#####	1.537

Respondent	Divisional Secretary Office																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1															3		5	4	2					1
2																3	4	2		5				1
3																2	2	4	3	5		1		
4																1	3	2		5		4		
5																	4	3	5	2				1
6																	3	1	5	4				2
7																1	5	3	4					2
8																	2	3	5	4				1
9																2	3		4	5				1
10																4	3		5	2				1
11																2	3	1	4	5				
12																1	2	3	4	5				
13																1		3	4	5				2
14																2	1	3	4	5				
15																	4	3	5	2				1
16															1		2	4	3	5		3		
17																1	2	3	4	5				
18																1	5	4	2	3				
19																1	4	2		5				3
20																	2	1	4	5		3		
21						5										4	3			2		1		
22																	2	4		5		3		1
23																	2	3	4	5				1
24																1	2		4	5		3		
25																	2	1	4	5		3		
26																	2	4	3	5		1		
27																4	2		3	5		1		
28																3	2	4		5				1
29																2	4	3	1	5				
30																1	3	2	5	4				
31																2	3		4	5		1		
32																1	2	4		5		3		
33																1	2	3		5		4		
34																1	2	4	3	5				
35																1	3	4		5		2		
36																	3	4		5		2		4
37																	2	3	4	5		1		
38																	2	3	4	5		1		
39																3	2	4		5		1		
40																	2	4	3	5	1			
41																1	2	4	3	5				
42																2	3	4		5				
43																1	3	4		5		2		
5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	6	33	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	16	14	3	0	2	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	12	13	7	1	0	6	0	1
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	21	4	2	4	0	3	0	3
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15	1	4	1	0	1	8	0	10
MWR	0.000	0.000	0.000	0.000	0.000	0.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.093	1.163	2.651	2.674	2.605	4.372	0.023	0.930	0.000	0.535
SD	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	1.414	1.031	0.970	0.994	0.980	0.948	#####	1.100	#####	0.915

Respondent	Ministry of Land																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1																	5	3	4	2	1			
2																	4	1	3	2			5	
3																1	4		5	3			2	
4																		3	5		1	2		
5																	5	4	2	3	1			
6																	5	4	3	2			1	
7																	5	3	2	4			1	
8																	4	3	2	5			1	
9																	5	1	3	4			2	
10																1	3		5	4			2	
11																1	4	5	2	3				
12																1	5	3	2	4				
13																	4	3	2	5			1	
14																	5	2	3	4			1	
15																3	5	2		4			1	
16																	5	2	1	3			4	
17																	5	3	2	4			1	
18																2	4	3	1	5				
19																2	5	3		4			1	
20																	3	4	2	5			1	
21																1	5	4	2	3				
22																	5	2	1	4			3	
23																	3	4	1	5			2	
24																2	5	4	3			1		
25																	5	3	2	4			1	
26																	4	5	1	3			2	
27																	3	5	2	4			1	
28																1	5	4	3			2		
29																1	3	4	2	5				
30																	4	5	1	3			2	
31																1	3	4	2	5				
32																	3	4	2	5			1	
33																1	4	3	2	5				
34																	5	4		3	2		1	
35																	5	4	2	3			1	
36																	5	3	2	4			1	
37																	5	3	2	4			1	
38																	5	4	2	3			1	
39																	5	4	3	2	1			
40																		3	5	2	4	1		
41																1	5	3		4			2	
42																2	4	3	1	5				
43																	4	3	2	5			1	
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	5	3	11	0	1	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	14	1	15	0	1	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	16	7	10	0	1	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	21	4	1	9	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	2	7	0	5	19	0	0
MWR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.488	4.256	3.233	2.070	3.558	0.163	1.140	0.000	0.000
SD	#####	#####	#####	####	####	#####	####	#####	#####	#####	#####	#####	#####	####	#####	0.632	0.791	0.997	1.050	0.958	0.408	0.958	#####	####

Respondent	Survey Department																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1															3	5	2	4	1					
2															1		2	3		5		4		
3																2		5	1	4		3		
4																1	3	2	3	5		4		
5																1	2	3		4		5		
6																	5	4	1	3		2		
7																4	2	1		5		3		
8						2									3			1		4		5		
9																	2	4	3	1		5		
10																1	2	3		4		5		
11																1	5	4		2		3		
12															2		1	3		4		5		
13																	5	4	1	2		3		
14						2										1		3		4		5		
15																	2	4			3	5		
16															2	1		5		4		3		
17																2	1			5	3	4		
18															1	2		3		4		5		
19															3			2	1	4		5		
20						2									1	3				4		5		
21					5										4	1				3		2		
22																2	1	3		3		5		
23															1	2		3		4		5		
24																2	3	1		4		5		
25																2	3	3		4		5		
26																2	1	3		5		4		
27																5	2	3		4				1
28																	3	5		4		2		1
29																1	2	3		5		4		
30																	1	3		4		5		2
31																	2	3	4					1
32																5	1	2		4		3		
33																1	2	3		5		4		
34																2	1	3		5		4		
35																1		3		5	2	4		
36																1	2	3		4		5		
37															2	1		3		4		5		
38																2	3		1	5		4		
39															2	1		3		5		4		
40																2		3		4		5		
41																2	1	3		4		5		
42																1	2	3		5		4		
43																	2	3	1	5		4		
5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	3	3	0	13	0	19	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	7	0	21	0	12	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	6	23	2	3	2	6	0	0
2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	4	13	13	3	0	2	1	3	0	1
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	14	8	3	7	1	0	0	0	3
MWR	0.000	0.000	0.000	0.000	0.000	0.256	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.581	1.442	1.558	2.814	0.302	3.791	0.186	3.884	0.000	0.116
SD	#####	#####	#####	#####	#####	1.500	#####	#####	####	####	#####	#####	#####	####	0.996	1.216	1.165	0.940	0.882	0.917	0.577	0.958	#####	0.500

Respondent	Valuation Department																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1													1	2			3	4				2		
2																1	2			4	5	3		
3																	1	3		4	5	2		
4																	2	4	1	5		3		
5																1	2	4			3	5		
6																	5	2		1	4	3		
7																3	2	1		5		4		
8																1	5			4	2	3		
9																	2	4		5	3	1		
10																	4	1		3	5	2		
11																2	1	5			4	3		
12																5	2	1			4	3		
13																1	3			4	5	2		
14																	5	1		3	4	2		
15																5	3		2	4		1		
16																5	2	1			4	3		
17																1	2	5		4		3		
18																2	3			5	4	1		
19																	5	1		2	4	3		
20																3	5	1		2		4		
21																	3	1		4	5	2		
22																	2	1		5	4	3		
23																	3	1		5	4	2		
24																1	3	5		4		2		
25																	3	1		5	2	4		
26																1	3			5	4	2		
27																	2	1		3	5	4		
28																	3	1		4	5	2		
29																	3	1		4	5	2		
30																	4	1		3	5	2		
31																	3	1		4	5	2		
32																	3	1		4	5	2		
33																1	2			5	3	4		
34																1	3			4	5	2		
35																1	3			4	5	2		
36																1	3			5	4	2		
37																	3	1		4	5	2		
38																1	4	5			3	2		
39																	3	1		4	5	2		
40																1	3			5	4	2		
41																1	3	2			4	5		
42																	3	1		4	5	2		
43																	3	1		4	5	2		
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	4	0	11	17	2	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	18	13	5	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	22	1	0	4	4	10	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	11	2	1	2	2	23	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	14	2	21	1	1	0	3	0	0
MWR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.047	0.000	0.907	2.953	1.488	0.070	3.349	3.558	2.535	0.000	0.000
SD	#####	#####	#####	####	####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	1.459	0.999	1.545	0.707	0.956	0.874	0.960	#####	#####

Respondent	Political Groups																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	5										3			2	4		1							
2					3	4	2	1							5									
3				2	3					4			1		5									
4					2		5						4		3	1								
5						5				2	1		4		3									
6					1	4							5		3									
7					3	2				1			5		4									
8				1	4	3							2		5									
9				3		4		2					5		1									
10						4	2				1		5		3									
11				2		3					1		4		5									
12						4				1			3		5	2								
13				1	5	2							3		4									
14						5		2		1			4		3									
15					5	1		4		2			3											
16							4	2		1			3		5									
17					3	4	2	1							5									
18					2	3				1			5		4									
19					2			3			1		5		4									
20					5	4				2	1				3									
21				1		3		5					4		2									
22				2	3	4					1		5											
23				1	5	3		2							4									
24					2	3					1		5		4									
25					4		1			2			5		3									
26						4	1	3		2					5									
27					2			3		1			5		4									
28						3		2					5		4	1								
29				3	1	2							4		5									
30					4	3		2		1					5									
31					3		2				1		5		4									
32					3	4		1					5		2									
33					3					2	1		5		4									
34					2	4		1					5		3									
35					2	4	1						5		3									
36					2	4					1		5		3									
37				1	2	4							5		3									
38				1	4					2			5		3									
39					2	4				1			5		3									
40				1				4					5		3	2								
41						4				1	2		5		3									
42					2	1	3			1			5		4									
43				2		3	1						5		4									
5	1	0	0	0	4	2	1	1	0	0	0	0	23	0	10	0	0	0	0	0	0	0	0	0
4	0	0	0	0	4	16	1	2	0	1	0	0	6	0	12	0	0	0	0	0	0	0	0	0
3	0	0	0	2	8	8	1	3	0	0	1	0	4	0	15	0	0	0	0	0	0	0	0	0
2	0	0	0	3	11	3	4	6	0	7	1	0	1	1	2	2	0	0	0	0	0	0	0	0
1	0	0	0	7	2	2	4	4	0	10	10	0	1	0	1	2	1	0	0	0	0	0	0	0
MWR	0.119	0.000	0.000	0.452	2.000	2.524	0.571	0.905	0.000	0.667	0.357	0.000	3.667	0.048	3.524	0.143	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SD	#####	#DIV/0!	#####	0.768	1.175	0.979	1.328	1.204	#####	0.784	0.622	#####	0.996	#####	0.981	0.577	####	####	#####	#####	#####	#####	#####	#####

Respondent	Media																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1			1	5			3				2		4											
2				5		3	2	1					4											
3				5	1	3				2			4											
4				4	2			1			3		5											
5				5	3	2					1		4											
6				5	3	1					2		4											
7			3	5		1				4			2											
8				5				2		3	1		4											
9				5						3			4											
10				5				1		3		2	4											
11				5	4						2		3											
12				5	4			1		3			2											
13				5	4								3											
14	1			5	4			3					2											
15				5				2		3			4		1									
16				5	3					1	2		4											
17				5	4	1				2			3											
18				5	3					2			4											
19				5	2					3			4											
20				5	3								4											
21				3			1						2											
22				5	4			2					3											
23				5	3	2		1					4											
24				5						3	2		4											
25				5	3			2		1			4											
26				5	3						2		4											
27				5	3						2		4											
28				3	4	1		2					5											
29				5	2			1					4											
30				4	5			1		2			3											
31				5	3	2				1			4											
32				2	4	5				1			3											
33				5	3	2				1			4											
34				4	2						3		5											
35				5	4		1	3	2															
36				4	3	1				2			5											
37				4	5	1				3														
38				5	4								3											
39				5	4	3																		
40				5	4						3													
41				5	4	3																		
42				4	5	3																		
43				5	2	3					1		4											
5	0	0	0	33	3	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	6	13	0	0	0	0	1	0	0	22	0	0	0	0	0	0	0	0	0	0	0
3	0	0	1	2	12	5	1	2	0	8	3	0	7	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	1	4	4	1	5	1	5	7	1	4	0	0	0	0	0	0	0	0	0	0	0
1	1	0	1	0	1	6	2	7	0	5	2	0	0	0	1	0	0	0	0	0	0	0	0	0
MWR	0.024	0.000	0.095	4.690	2.667	0.810	0.167	0.548	0.048	1.024	0.595	0.048	3.262	0.000	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SD	#####	#####	1.414	0.674	0.950	1.131	0.957	0.745	#####	0.933	0.707	#####	0.812	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

Respondent	Pressure Groups																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1		1		4	5					3	2													
2				4	5			1		3	2													
3				5	4			1		3	2													
4				5	4			2		2	3				1									
5				2	5					3	4		1											
6				4	3			1		5	2													
7				5	4					3	2				1									
8				4	5			1		3	2													
9				2	5			1		3	4													
10				4	5					2	3				1									
11				4	5			1		2	3													
12				4	5		3	2		1														
13				5	4			1		3	2													
14				5	4			1		3	2													
15				5		2			1	4	3													
16				5	4			1		3	2													
17				3	5			1		4	2													
18				5	4					3	2			1										
19				4	5			1		2	3				1									
20				5	4			1		3	2													
21				4	5					2	3				1									
22				2	5			4		3	1													
23	1			4	5					3	2													
24				3	5		1	2			4													
25				5	4		1			3	2													
26				3	5					4	2		1											
27				5				3			4				2							1		
28				4	5			2		3	1													
29				5	4					3	2		1											
30				5	3			1		4	2			2	3									
31					4			5		3	2				1									
32	1							2		5	3				4									
33				2	4			1		3	5													
34				5	2			1		3	4													
35				3	4			5		1	2													
36					5			4		2	3				1									
37					4		2	1		3	5													
38				5	4			1		3	2													
39				4			1	5		3	2													
40				4	1			5		3	2													
41				5			2			3	4													
42				4	5		1			3	2				1									
43				5	4					3	2				2									
5	0	0	0	16	18	0	0	4	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	14	15	0	0	2	0	4	6	0	0	0	1	0	0	0	0	0	0	0	0	0
3	0	0	0	4	2	0	1	1	0	26	8	0	0	0	1	0	0	0	0	0	0	0	0	0
2	0	0	0	4	1	1	2	5	0	6	23	0	0	1	1	0	0	0	0	0	0	0	0	0
1	2	1	0	0	1	0	4	17	1	2	2	0	3	1	8	0	0	0	0	0	0	0	1	0
MWR	0.048	0.024	0.000	3.714	3.786	0.048	0.262	1.381	0.024	2.810	2.524	0.000	0.071	0.071	0.405	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.000
SD	0.000	#####	#####	0.978	0.898	#####	0.787	1.488	#####	0.805	0.966	#####	0.000	0.707	0.996	#####	#####	#####	#####	#####	#####	#####	#####	#####

Respondent	People in neighboring areas without benefited from the project but seek benefits																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1				3	5			4			2				1									
2				5	4			3		1	2													
3				3	5			4		1	2													
4				1	5			4		3	2													
5				2	4		3	5			1													
6				5	4			3		1					2									
7					4		3	5		2	1													
8					4		3	5			2				1									
9				2	5		1	4		3														
10				3	5			4			2			1										
11				4	2			5		1	3													
12				3	4			5			2			1										
13				3	4			5		2	1													
14				3	4			5		2	1													
15				2	5			4			3				1									
16				2	5			3		4	1													
17				5	4			3						2	1									
18				3	5			4		1	2													
19				3	5		2	4			1													
20				2	5			3		4	1													
21				3							5		2	1	4									
22				5	4					2	3			1										
23				4	2			5		3	1													
24				3	5			4			2				1									
25				2	4			3		5	1													
26				3	5			4			2				1									
27				3	5			4		2	1													
28				3	5			4		2	1													
29				2	3		4	5			1													
30				4	5		3	2			1													
31				3	4			5		1	2													
32				3	5			4			2				1									
33				4	5			3		1	2													
34				3	5			4			2				1									
35				3	5			4		1	2													
36				4	5			3		2	1													
37				3	5			4			2				1									
38				5	4		3			2	1													
39				4	3			5		2	1													
40				5	4			3		1	2													
41				3	5		2	4			1													
42				4	5		2	3			1													
43				3	5		2	4			1													
5	0	0	0	6	24	0	0	11	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	7	14	0	1	18	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0
3	0	0	0	20	2	0	5	10	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	7	2	0	4	1	0	9	17	0	1	1	1	0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	0	1	0	0	11	17	0	0	4	9	0	0	0	0	0	0	0	0	0
MWR	0.000	0.000	0.000	3.093	4.326	0.000	0.651	3.698	0.000	1.186	1.512	0.000	0.047	0.140	0.349	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SD	#####	#####	#####	0.994	0.801	#####	0.820	0.800	#####	1.113	0.835	#####	#####	0.447	0.924	####	####	#####	#####	#####	#####	#####	#####	#####

Respondent	Forest Conservation Department																							
	Influencing Strategies																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1													1	2	3	4	5							
2	5					4						3				2	1					2		
3	4		3									5					1							
4			2									3					5					1		4
5	5		4			2						3				1								
6	5		3			4								1								2		
7			2			5						4			3							1		
8						4						3						2						1
9	5		3			4						2				1								
10	4					5						3		2			1							
11	2		1		3	5									4									
12	5					4						3		2		1								
13	4					5						3					2							1
14																1	5	2		4		3		
15	5					4									3		1					2		
16	4		1			5						2			3									
17	4					5											3					2		1
18	3					5									1		4					2		
19	4					3						2					1					5		
20	2					5						4		3			1							
21			4			5								3		1		2						
22	4					5						3			2		1							
23	5					4						3			2									1
24	5					4						2			3							1		
25	4											5			3		2							1
26	5					4											1					3		2
27	5											4					3					2		1
28	2					5						4										3		1
29	3		1			4						5										2		
30	4					5										3	2							1
31	3					4						5			2									1
32	3					5											2			1				4
33	3		1			3									2									5
34	4					5						3			2	1								
35	5					4									1		2					3		
36	4					5										3	2					1		
37	3					5											4					1		2
38	4					5						2			1		3							
39	2					5						4			3							1		
40	4		3			5						2					1							
41	4					5											3					1		2
42	4					5						3					2					1		
43	5											4					1					2		3
5	12	0	0	0	0	21	0	0	0	0	0	4	0	0	1	0	2	1	0	0	0	1	0	1
4	15	0	2	0	0	12	0	0	0	0	0	6	0	0	1	1	2	0	0	1	0	0	0	2
3	6	0	4	0	1	2	0	0	0	0	0	11	0	2	7	2	4	0	0	0	0	4	0	1
2	4	0	2	0	0	1	0	0	0	0	0	6	0	3	5	1	7	3	0	0	0	8	0	3
1	0	0	4	0	0	0	0	0	0	0	0	0	1	1	3	6	10	0	0	1	0	8	0	9
MWR	3.395	0.000	0.651	0.000	0.070	3.744	0.000	0.000	0.000	0.000	0.000	2.070	0.023	0.302	1.000	0.419	1.256	0.256	0.000	0.116	0.000	0.953	0.000	0.721
SD	0.970	####	1.155	####	#####	0.736	#####	#####	#####	#####	#####	0.993	####	0.753	1.068	1.135	1.281	1.500	#####	2.121	#####	1.024	#####	1.340

Appendix G: Questionnaire survey - (Round Two) Calculation of MWR for management strategies

Respondents	Project Affected Parties																												
	Management Strategies																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
1			3	4			5	8		2	1			13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
2			5	3			4		2									1											
3			5	4				2											1		3								
4							5	3			2					1		4											
5			3	2			5	4									1	1											
6			4	3			5	2						1				1			3								
7		2	4				5	3															1						
8			4	3			5	2																					
9	1						5	3		2						4													
10			5	4				3									1	2											
11				3			5						2				1	4											
12			5	3			4	2													1								
13				3			5								4														
14							4	3		2								5	1										
15			5	4			3		2				1																
16				3			4	5	1	2																			
17				3		1	5	2	4																				
18				4			5												3										
19			4	5															2		2		1	3					
20									1		4				5				2		3								
21			4	3			5					1							2				3					4	
22			5	4		1		2				3																	
23			5	3			4	2										1											
24			5	3	1													4	2										
25			4				5											3	2		1								
26			4	3			5	2										1											
27			4	3			5	2											1										
28			3	4				5			2								1										
29			5	3			4	2											1										
30			5	2			3	1											4										
31			4	3			5	2											1										
32			5	3			4	2			1																		
33			5	3		2	4	1																					
34			5	4		1		2											3										
35			4	3		1	5																						
36			5	4				3								1	2												
37			3	5			4	2						1															
38			4	2			5	3											1										
39				3			5	4	2																				
40			4				5	3										2						1					
41			4				5	2										1									3		
42			4				5	2										1									3		
43							5	4																					
5	0	0	14	2	0	0	23	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4	0	0	14	9	0	0	9	3	1	0	1	0	0	1	1	0	4	0	0	0	0	0	0	0	0	0	0	1	0
3	0	0	4	19	0	0	2	8	0	0	1	0	0	0	0	0	2	1	0	2	0	1	1	0	0	2	0	0	
2	0	1	0	3	0	1	0	16	3	4	2	0	1	0	0	0	4	4	0	0	1	0	0	0	0	0	0	0	
1	1	0	0	0	1	4	0	2	2	0	2	1	1	2	1	3	11	2	0	2	1	0	3	0	0	0	0	0	
mwr	0.023	0.047	3.209	2.535	0.023	0.140	3.651	1.860	0.279	0.186	0.302	0.023	0.070	0.256	0.116	0.070	1.070	0.302	0.000	0.186	0.070	0.070	0.140	0.000	0.000	0.140	0.093	0	
sd	#####	#####	0.693	0.728	#####	0.447	0.604	0.992	1.095	0.000	1.169	#####	0.707	2.062	2.121	0.000	1.342	0.690	#####	1.155	0.707	#####	1.000	#####	#####	0.000	#####	#####	

respondent	Central Environmental Authority																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1		5		4		3	2			1						1						3						
2		5		4		2				1						1						3						
3				5			4							3		2						1						
4				5							2			3				1								4		
5		5		4								2				3						1						
6		5		4								1		2		3												
7		4		5												3					2	1						
8				3								2				1		4							5			
9		4		5												3						1	2					
10		4		5								2				3									1			
11		5		4										1		3						2						
12		5		3								1		2		4												
13		4		5										2	1	3												
14		5		4								1				3					2							
15		4		5								1				3												
16							4							3		5						2					1	
17		3												2	1				5							4		
18		5											4			3						1					2	
19												5	4									3					2	1
20	2			5								4				1												
21		1		4												3			2			5						
22		5		4												3						2				1		
23		5		4								2				3						1						
24		4	3											2	5							1						
25		5		4										1		3						2						
26		5										1				4						3			2			
27				4								3				5						2				1		
28		4		5								1				3						2						
29		3		4								2				5						1						
30		4										5		2		3			1									
31		5		4								2		1		3												
32				3									5			4										1	2	
33				3											1	4						5					3	
34		5		4							2					3						2						
35		5		3									2			4											1	
36		5		4											2	3			1									
37		5		4								1				2						3						
38		4		5		1										3						2						
39		5		4								1	2			3												
40		5		4												3								2	1			
41		4		5								1				3						2		3				
42		5		4												3						2		3			1	
43		5		4								1				3						2						
5	0	21	1	10	0	0	0	0	0	0	0	3	0	0	1	3	0	0	1	0	0	2	0	0	1	0	0	0
4	0	10	0	20	0	0	2	0	0	0	0	1	2	0	0	5	0	1	0	0	0	0	0	0	1	1	0	0
3	0	2	1	5	0	1	0	0	0	0	0	1	0	3	0	25	0	0	0	0	0	4	0	2	0	0	1	0
2	1	0	0	0	0	1	1	0	0	1	1	8	0	7	0	2	0	0	1	0	2	12	1	1	1	0	3	0
1	0	1	0	0	0	1	0	0	0	1	1	9	0	4	2	3	0	1	2	0	0	8	0	0	2	4	2	1
mwr	0.047	3.535	0.186	3.372	0.000	0.140	0.233	0.000	0.000	0.070	0.070	1.093	0.186	0.628	0.163	2.721	0.000	0.116	0.209	0.000	0.093	1.256	0.047	0.186	0.302	0.186	0.256	0.023
SD	#####	0.861	1.414	0.648	#####	1.000	1.155	#####	#####	0.707	0.707	1.390	0.000	0.730	2.309	0.912	#####	2.121	1.893	#####	0.000	1.093	#####	0.577	1.817	1.342	0.753	#####

Respondent	Wildlife Conservation Department																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1		4		3			2			1						5												
2		4		3												5					2	1						
3				4										3	2	5						1						
4							5							3	1				2						4			
5		4		3										2		5				2							1	
6		5		3								1		2		4												
7		4		3										2		5						1						
8		5		3										2		4												1
9		4		3										2		5						1						
10		5		3										2		4									1			
11		3		5										2		4											1	
12		4		3										2		5						1						
13		4		3										2		5						1						
14		5		2										3		4								1				
15		4		3										2		5						1						
16		5		4								1		3								2						
17		4		3										2		5						1						
18		4		2										3		5						1						
19				3										5		4										1		2
20		4		3										2		5						1					1	
21		4		2										3		5						1						
22				3		1								5		4									3			
23				3										2		5						4					1	
24		4												3		5						2						1
25		5		4										1		3						2						
26		3		5									4		2										1			
27				3										2		5						4				1		
28				3										2		4						5			1			
29		4		2										3		5						1						
30		4		2										3		5				1		5						
31		5												3	2					1		4						
32		4		3										2		5						1						
33		5		3										2		4						1						
34		4		3										2		5				1								
35		4		2								1		3		5												
36				4										3		5						1			2			
37		4		2										3		5					1							
38				3	1						4			2		5												
39		4		2										3						5	1							
40		5		3										2		4								1				
41		4		2										3								5					1	
42		3		4										5												2		1
43		4		2										5		3						1						
5	0	9	0	2	0	0	1	0	0	0	0	0	0	4	0	24	0	0	0	1	0	3	0	0	0	0	0	0
4	0	22	0	5	0	0	0	0	0	0	1	1	0	0	0	10	0	0	0	0	0	3	0	0	1	0	0	0
3	0	3	0	23	0	0	0	0	0	0	0	0	0	15	0	2	0	0	0	0	0	0	0	0	1	0	0	0
2	0	0	0	10	0	0	1	0	0	0	0	0	0	21	2	0	0	0	1	0	1	3	0	0	1	1	1	0
1	0	0	0	0	1	1	0	0	0	1	0	3	0	1	1	0	0	0	1	2	2	16	0	2	3	2	5	2
mwr	0.000	3.302	0.000	2.767	0.023	0.023	0.163	0.000	0.000	0.023	0.093	0.163	0.000	2.512	0.116	3.860	0.000	0.000	0.070	0.163	0.093	1.140	0.000	0.047	0.279	0.093	0.163	0.047
SD	#####	0.576	#####	0.768	#####	#####	2.121	#####	#####	#####	#####	1.500	#####	0.942	0.577	0.599	#####	#####	0.707	2.309	0.577	1.513	#####	0.000	1.265	0.577	0.408	0.000

Respondent	Divisional Secretary Office																												
	Management Strategies																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
1																1								5	3	4		2	
2																						1		4	2	5		3	
3																								4	2	5	1	3	
4																						1		4	2	5		3	
5																						1		3	2	5		4	
6																						5		2	3	4		1	
7																								4	2	5	1		
8																					1			2	5	4		3	
9																						1		4	2	5		3	
10																						1		3	5	4		2	
11																								4	2	5	1	3	
12																								2	4	5	1	3	
13																								4	2	5	1	3	
14																					1			4	2	5		3	
15																								4	2	5	1	3	
16																								5	2	4	3	1	
17																								2	3	5	4	1	
18																							1	5	2	4		3	
19																							1	3	4	5		2	
20																								3	4	5	1	2	
21																							1		4	2	5		3
22																						1			3	4	5	2	
23																								4	2	5	1	3	
24																								4	3	5	2	1	
25																								5	3	4	1	2	
26																								4	3	5	1	2	
27																				1				5	2	4		3	
28																						1		4	2	5		3	
29																				1				4	2	5		3	
30																								3	2	4	5	1	
31																								4	2	5	1	3	
32																								4	2	5	1	3	
33																							1	5	3	4		2	
34																							1		4	2	5		3
35																								4	3	5	1	2	
36																					1			5	2	4		3	
37																								4	2	5	1	3	
38																							1		5	2	4		3
39																								1	3	5	2	4	
40																3						4	2		5	3		1	
41																								4	2	5	1	3	
42																								5	2	4	2	3	
43																3							1			2	5		4
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	10	2	28	2	0	
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	21	3	14	1	3	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	5	11	0	1	25	
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	27	0	3	9	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	12	2	1	0	0	15	6	
mwr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.163	0.000	0.000	0.000	0.047	0.163	0.442	0.047	3.674	2.535	4.558	0.884	2.581	
SD	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	1.155	#####	#####	#####	0.000	1.500	1.082	0.000	0.989	0.827	0.477	1.316	0.823	

Respondent	Ministry of Land Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1																					2	5			1		3	4
2																					1	4		2	5			3
3																3					1	5			4			2
4																					5	1			2		3	4
5																1					3					5	2	4
6																					3	5			2	1		4
7																						5		2	4	1		3
8																					1	5			4		2	3
9																5					2	4			1		2	3
10														1							2	5			3			4
11																							3	5		4	1	2
12																					1	5	4			2		3
13																					1	4			2		3	5
14																					2	5			4		1	3
15															1						4	5			3		2	
16																					3	5			2		1	4
17														1								5			4		3	2
18																					1	5			2		3	4
19														1							2	5					3	4
20														1							2	5					3	4
21																					2	5			1		3	4
22																					2	5			1		4	3
23																					2	4			1		5	3
24																					2	5			4		1	3
25														3		4						5			1			2
26																					1	5			2		3	4
27														2		3						5			1			4
28														3								5			2		1	4
29														3							4	5			1			2
30																3						5			1		2	4
31														1								5			3		4	2
32														4							1	5			3			2
33														3							1	5			4			2
34														3							1	5					2	4
35																					3	5			2		2	4
36																					1	5			3		2	4
37																					1	5			4		2	3
38																					2	5			1		3	4
39																					2	4			1		3	5
40																					4	5		2	1			3
41																						4			3	1	2	5
42																						5			4	1	2	3
43																					2	5			3		1	4
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	34	0	1	1	1	1	3
4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	3	6	1	0	9	1	2	19
3	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	3	0	0	0	0	3	1	1	0	7	0	11	12
2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	13	0	0	3	8	1	11	8
1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	1	0	0	0	0	12	1	0	0	12	4	6	0
mwr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.605	0.023	0.442	0.000	0.000	0.000	0.000	1.488	4.605	0.163	0.256	2.093	0.349	1.721	3.326
SD	####	####	####	####	####	####	####	####	####	####	####	####	####	1.115	####	1.329	####	####	####	####	1.078	0.742	0.707	1.500	1.259	1.676	0.989	0.885

Respondent	Survey Department																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1																					2	4		3	5		1	
2																					4	5		1	3	2		
3																					3	2			4	5		
4																					5	3			2		3	4
5																					1	4			3	5	2	
6																					2	3		2	4	5		3
7																					4	5			2	3	1	
8																					4	3			5		2	1
9																					3	5			4	2		
10																						2			5	4	1	
11																					3	2			3	5	4	
12																						3			5	4	1	2
13																					3	2			4	5	1	1
14																					5	2			4	3	1	
15																					3	4			2	5	1	1
16																					5	2			3	4	1	1
17																					5	2			4	3	1	
18																					3	2			5	4	1	
19																					3	2			5	4	1	
20																					3	2			5	4	1	
21																					3	2			5	4	1	
22																						2		3	4	5	1	1
23																					2	3			5	4	1	
24																					3	2			4	5	1	
25																					5	1			3	4	2	
26					5																3	2		1	4	5		
27					1																2	3			4	5	1	
28																					3	2			4	5	1	1
29																					3	2			5	4	1	2
30																					4	2		1	3	5		
31																					3	2			4	5	1	1
32																					3	2		1	5	4		
33																					2	3			4	5	1	
34																					3	2			4	5	1	
35																					3	2			5	4	1	
36																					3	1			5	4	2	
37																					2	3			5	4	1	1
38																					3	2		1	5	4		
39																					2	3			4	5	1	
40																					3	2			5	4	1	
41																					2	3			5	4	1	1
42																					4	2			5	3	1	1
43																					3	2			4	5	1	
5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0	0	18	17	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0	0	16	17	1	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	10	0	2	6	4	1	1
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	25	0	1	3	2	4	2
1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	5	0	0	29	10
mwr	0.000	0.000	0.000	0.000	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.907	2.535	0.000	0.302	4.140	3.930	1.023	0.488	
SD	#####	#####	#####	####	2.828	#####	####	#####	####	#####	####	#####	#####	####	####	#####	#####	#####	#####	#####	0.966	0.960	####	0.916	0.915	0.832	0.657	0.941

Respondent	Valuation Department																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1																				1		2			3	5	4	
2																				1		3			2	4	5	
3																					1	4			2	5	3	
4																					1	2			4	5	3	4
5																					1	2			4	5	3	
6																					1	4			2	5	3	
7																1					4	5			3	4	2	
8																5				1		2				4	3	1
9																					1	3			4	5	2	
10																1						2			4	5	3	
11														1								3			4	5	2	1
12					1																	2			3	5	4	2
13																1						2			3	5	4	
14																					2			1	5	4	3	
15														1								2	3		4	5		
16						1															1		3		2	5	4	
17					1																	3			2	4	5	
18																						1			5	4	3	
19														1								4			3	5	2	
20																			1			2			4	5	3	
21														4								1			3	5	2	
22																					2	3			1	4	5	
23																					1	2			3	5	4	
24																					1	4			2	5	3	
25																					1	3			4	5	2	
26						1																3			4	5	2	
27																1						2			4	5	3	
28																2					1	3			4	5		
29														1								2		3	5	4		
30						1								5								2				4	3	
31																					2	3		1	4	5		
32						1										5						2				4	3	
33																	1					3			4	5	2	
34																					3	1			5	4	2	
35														1								2			4	5	3	
36																			2			1			4	5	3	
37																						2			3	5	4	1
38																2					1	5			4	3		
39																		1				3			4	5	2	
40		1																				2			3	5	4	
41		1																				3			2	5	4	
42																						3	2		4	5	1	
43																5						1	2			4	3	
5	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	0	4	30	3	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4	0	0	18	12	8	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13	1	1	9	1	16	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3	20	0	0	7	0	10	1
1	0	2	0	0	2	4	0	0	0	0	0	0	0	5	0	5	0	1	1	3	12	3	0	2	1	0	1	3
mwr	0.000	0.047	0.000	0.000	0.047	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.442	0.000	0.442	0.000	0.023	0.070	0.070	0.651	2.512	0.070	0.116	3.116	4.674	2.698	0.209
SD	#####	0.000	#####	####	0.000	0.000	#####	#####	####	#####	#####	#####	#####	1.923	####	1.691	#####	#####	0.707	0.000	0.922	0.941	#####	1.155	0.995	0.522	0.957	1.304

Respondent	Political Groups																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1							5				4			3		2												
2								2						5	4	3				1								
3				3							4			2		1		5										
4				1						2	3								5		4							
5								4			3				5		1	2										
6							5	3			4			2			1											
7											5	1		4	3								2					
8								8	1	4				2					3									
9	1						5	3		2					4					3								
10	1						5							4		3	2											
11														4	3	5		2	1									
12											4			3	5	1	2											
13							5							4		3												
14							4			2	5												3					
15						5					1	4			3			1			2				3			
16							5	2		3	4		1							2								
17									1	5	3			4		2												
18							4			1	5			3				2		1								
19							5				4		2		3				1									
20					3	4				2	1		5															
21												1		3		2						4					5	
22							5		2	1	4			3		3												
23							5	3			4							1										
24							5							3		2			4				1					
25							5			1	4			3									2					
26							5			2	4			3		1												
27							5	4			3			2	1													
28							4				3	5			3		2		1									
29							5			1	4			3		2												
30							5			1	2			4		3												
31							5				1	2		3		4												
32							5			1	4			3		2												
33							5			3		4		3	1	2												
34					2		5				1	4		3														
35											5			4		2						3						1
36							5			2	4			3		1												
37							5				4			3									1				2	
38							5			2	4			3									1					
39							5			2	3			4									1					
40							5			2	3			4									1					
41							5			1	3			4		2												
42							5				1	3		4		2												
43	3						5				1	4		2														
5	0	0	0	0	0	1	27	0	0	1	5	0	1	1	2	1	0	1	0	1	0	0	0	0	0	0	1	0
4	0	0	0	0	0	1	3	2	0	2	18	0	0	11	2	1	0	0	1	0	1	1	0	0	0	0	0	0
3	1	0	0	1	1	0	0	3	0	2	8	0	0	19	2	5	0	0	1	0	0	1	1	0	0	0	0	0
2	0	0	0	0	1	0	0	2	1	9	2	1	0	5	0	11	2	3	1	0	0	0	2	0	0	0	1	0
1	2	0	0	0	1	0	0	0	0	2	12	1	2	1	0	2	4	3	3	1	1	0	0	5	0	0	0	1
wmr	0.116	0.000	0.000	0.093	0.116	####	3.419	0.488	0.093	1.140	2.930	0.093	0.140	2.698	0.605	1.163	0.163	0.326	0.233	0.140	0.093	0.163	0.279	0.000	0.000	0.000	0.163	0.023
SD	1.155	#DIV/0!	#DIV/0!	1.414	0.707	####	0.305	1.923	0.577	1.107	0.906	0.577	2.828	0.722	1.581	0.985	0.548	1.414	1.291	2.828	#####	0.707	0.756	####	#####	#####	2.121	####

respondent	Media																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1				4			1		3		5					2												
2							5		1						4	3							2					
3								4	3						1			5					2					
4				1					5		3								4				2					
5							5	1							2		3						4					
6				5		2			4						1								3					
7				1			5								4							2	3					
8								4	1	3									5				2					
9	2					1		3	4														5					
10							4	3	5							2										1		
11								5	4									2					3					
12							4	5							3			1					2					
13							4	5	2						1	3												
14								3	5		1	2				4												
15									4						1	5			2				3					
16				5	2		4		3	1										2				5				
17				1			5	4	3														2					
18							5	4	2	1													3					
19				5		4		2	3	1																		
20				4			5								1					2			3					
21							5	3	2														4					
22							5		3		1				2								4					
23							5	3	2						1								4					
24						1	5	4	3														2					
25							5	3	2						1								4					
26							5	4	2														3					
27							5	4	3		1												2					
28							5	4	2						1								3					
29							5	4	2										1				3					
30							5	4	3										1				2					
31							5	2	4						1								3					
32							3	5	4						1								2					
33							4	5	3	1													2					
34								4	3						2			1					5					
35							5	4	2						1								3					
36							5	4	3														2				1	
37				1			5	4	2														3					
38							5	4	2						1								3					
39							5	4	3						1								2					
40							4	5	3		2				1								5					
41							5	4	3														2			1		
42							5	4	3														2			1		
43				1			5		3		4												2					
5	0	0	0	3	0	0	25	6	3	0	1	0	0	0	0	1	0	1	1	0	0	0	4	0	0	0	0	0
4	0	0	0	0	2	0	1	6	18	6	0	1	0	0	0	2	1	0	0	1	0	0	5	0	0	0	0	0
3	0	0	0	0	0	0	0	1	6	17	1	1	0	0	0	1	2	1	0	0	0	0	13	0	0	0	0	0
2	1	0	0	0	0	1	1	0	2	11	0	1	1	0	0	3	2	0	1	1	1	0	16	0	0	0	0	0
1	0	0	0	2	3	0	2	1	1	2	4	3	0	0	0	14	0	0	2	2	0	0	0	0	2	1	1	0
mwr	0.047	0.000	0.047	0.605	0.047	0.186	3.558	2.907	2.651	0.163	0.395	0.047	0.000	0.000	0.721	0.442	0.070	0.209	0.302	0.047	0.000	0.047	2.581	0.000	0.047	0.023	0.023	0.000
SD	#####	####	0.000	1.909	#####	1.414	0.822	0.927	0.984	0.894	1.618	#####	#####	#####	0.999	1.169	#DIV/0!	1.893	1.817	#####	#####	#####	0.997	#####	0.000	#####	#####	#####

Respondent	Pressure Groups																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1							2			5					3				4				1					
2							2			5					4				3				1					
3							5			4					2				3				1					
4							2			4				1	5				3									
5							3		4			1	2	5														
6							2			4					5				3				1					
7							4			2					3				5				1					
8							2			4				1	5				3									
9						1	2			5					3				4									
10							2			4					3	5			5				1					
11							2			5				1	3				4									
12							1			5					3				4				2					
13							1			4					3				5				2					
14							3			4		1			2				5									
15						1	5			3				4					2				1					
16							2			5					3				4									
17							2			4					3				5				1					
18							2			5					3				4							1		
19							3			4					2				5				1				1	
20							2				5		1		4								3					
21							2			5		4			3								1					
22							2			5			1		4								3					
23	2						4			5					3				3				1					
24							2			5		1			4				3									
25	1						2			5					3				4									
26							3			5		1							4				2					
27				1			2								4				3				5					
28				1			5								2				4				3					
29							2			4					5			1	3									
30						1	3			5					2								4					
31				1			2							4					3				5					
32							2								3			1	5				4					
33	1						2			5									4				3					
34						1	2											5	4				3					
35	1						3						2		5				4									
36							3			5					4			1					2					
37							2	5					3						4				1					
38							3			5					4						2		1					
39							3			4	2	1			5													
40				3			2			5		4											1					
41							2							5	3	4							1					
42							2			5					3	4							1					
43							4			5					2	3							1					
5	0	0	0	0	0	0	3	1	0	20	1	0	0	2	6	1	0	1	7	0	0	0	2	0	0	0	0	0
4	0	0	0	0	0	0	3	0	1	11	0	2	0	2	7	2	0	0	13	0	0	0	2	0	0	0	0	0
3	0	0	1	0	0	0	9	0	0	1	0	0	1	0	16	0	0	0	10	0	0	0	5	0	0	0	0	0
2	1	0	0	0	0	0	26	0	0	1	1	0	2	1	5	0	0	0	1	0	0	1	4	0	0	0	0	0
1	3	0	0	3	0	4	2	0	0	0	1	4	2	3	0	0	0	3	0	0	0	0	17	0	0	1	0	0
wmr	0.116	0.000	0.070	0.070	0.000	0.093	2.512	0.116	0.093	3.465	0.186	0.279	0.209	0.535	2.698	0.302	0.000	0.186	2.767	0.000	0.000	0.047	1.349	0.000	0.000	0.023	0.000	0.000
SD	0.500	#####	#####	0.000	#DIV/0!	0.000	0.960	#####	#####	0.712	2.082	1.549	0.837	1.808	0.957	0.577	#####	2.000	0.820	#####	#####	#####	1.285	#####	#####	####	#####	#####

respondent	People in Neighbouring Areas Without Benefited from the Project but Seek Benefits																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1							4						3	2			1	5										
2	1						5						3	2				4										
3	2						4								1			5					3					
4	1						5						2	3				4										
5	1						5						2	3				4										
6							5						2	4	1			3										
7							2				1		5	3				4										
8							4		5					2		1							3					
9	2			1									5	3			4											
10	1			5							2		3	4														
11	1												3	2	4			5										
12	1						5						2	3	1			4										
13							5					1	2					4	3									
14				5			4		2		1		3															
15	1			5			4						3	2														
16							3				2			5	1			4										
17	1						5		4				4					3	2									
18							5						2	3				4			1							
19								5					2								1	4					3	
20					1		5						3	4				2										
21							5					3	1	2				4										
22	1											5	2					4	3									
23				5									4	3				2	1									
24	1						5						4							2			3					
25	1						5						2	3				4										
26										1			2	3	4				5									
27				1			5						2	3				4	3									
28						1	5						2	3					4									
29													4	5				3	2	1								
30	2					1	3						4					5										
31										1			3	4	2			5		1								
32							5						2	4			1	3										
33						1	4						2	3				5										
34	1						5						4	3				2										
35	1									5			2	4				3										
36	5			1									3	4												2		
37								5					2	3				4					1					
38							3					1	2	4				5										
39	3						5				1		2					4										
40							5						4	3				2					1					
41							4			1			2	3				5										
42							5						2	3		1		4										
43							5						2	4		1		3										
5	1	0	0	4	0	0	20	2	1	1	0	1	2	2	0	0	0	8	1	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	7	0	1	0	0	0	7	9	2	0	1	15	1	0	0	1	0	0	0	0	0	0
3	1	0	0	0	0	0	3	0	0	0	0	1	9	17	0	0	0	6	3	0	0	0	3	0	0	0	1	0
2	3	0	0	0	0	0	1	0	1	0	2	0	21	6	1	0	0	4	2	1	0	0	0	0	0	1	0	0
1	13	0	0	3	0	4	0	0	0	3	4	1	1	0	4	3	2	0	1	2	2	0	2	0	0	0	0	0
mwr	0.628	###	0.000	###	0.000	0.093	3.233	0.233	0.256	0.186	0.186	0.209	2.512	2.535	0.326	0.070	0.140	2.930	0.535	0.093	0.047	0.093	0.256	0.000	0.000	0.047	0.070	0.000
SD	1.043	###	#####	###	#####	0.000	0.811	0.000	1.528	2.000	0.516	2.000	0.966	0.808	1.414	0.000	1.732	0.950	1.246	0.577	0.000	#####	1.095	#####	####	#####	#####	####

Respondent	Forest Conservation Department																											
	Management Strategies																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1		2								1				4		5						3						
2		3												4		5						2		3			1	
3		2	1											5		4						3						
4				1						2				4		5						3						
5		1										2		5		4						3						
6														5		4						2				3		1
7		2	4											5								3					1	
8										4		2						5								3		1
9		2												4		5						3		1				
10		2												4		5						3			1			
11		4	1					3					2		5													
12														4		5						3					1	2
13		2												5		4						3		1				
14		2	1											3		5						4						
15		2												3	1	5						4						
16		2												4		5						3			1			
17			1					2						5		3						4						
18														4		5						3					1	2
19														4		5						3					1	2
20		1				2								3		5						4						
21		4	1	2												5						3						
22		2				1										5						3					4	
23		2												4		5	1					3						
24			2			5								4								3						1
25		1	2											4		5						3						
26		2												4	1	5						3						
27		4												3		5						2				1		
28		2												4		5						3				1		
29		3										1		4		5						2						
30		3		1										4		5						2						
31		3		1										5		4						2						
32		3										1		5		4						2						
33		2		1										5		4						3						
34		3	1											4		5						2						
35	1	5											2			3						4						
36		4	2													5						3					1	
37		2	1											5		3						4						
38		2												5		4						3			1			
39		3												4	1	5						2						
40		3	4													5						2			1			
41		4												5								3		2			1	
42		3												5														
43		4	1	3												5						4	2				1	2
5	0	1	0	0	0	1	0	0	0	0	0	0	0	14	0	26	0	1	0	0	0	0	0	0	0	0	0	0
4	0	6	2	0	0	0	0	0	0	1	0	0	0	18	0	8	0	0	0	0	1	6	0	0	0	0	1	0
3	0	9	0	1	0	0	1	0	0	0	0	0	0	4	0	3	0	0	0	0	0	23	0	1	0	2	0	
2	0	16	3	1	0	1	0	1	0	1	0	3	1	0	0	0	0	0	0	0	0	11	0	1	0	0	1	
1	1	3	8	4	0	1	0	0	0	1	0	2	0	0	3	0	1	0	0	0	0	0	0	2	4	3	7	
mwr																												
	0.023	2.116	0.512	0.209	0.000	0.186	0.070	0.047	0.000	0.163	0.000	0.186	0.047	3.581	0.070	3.977	0.023	0.116	0.000	0.000	0.093	2.674	0.000	0.163	0.093	0.209	0.302	
SD	#####	0.976	1.109	0.837	#####	2.082	#####	#####	####	1.528	#####	0.548	####	0.659	0.000	0.639	#####	#####	#####	#####	#####	0.648	#####	0.957	0.000	1.095	1.014	

