PUBLIC-PRIVATE PARTNERSHIPS:

THE CASE STUDY OF THE COLOMBO PORT CITY

MASTER OF SCIENCE

(By Research)

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Sri Lanka

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THE CASE STUDY OF THE COLOMBO PORT CITY

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Declaration

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Abstract

Public Private Partnerships (PPPs) are defined as "…a cooperative venture between the public and private sectors, built on the expertise of each partner that best meets clearly defined public needs through the appropriate allocation of resources, risks, and rewards". It is noted that not all PPP projects are successful. This has resulted in a number of studies focused on identifying critical success factors in order to maximize advantages and reduce risks for all parties involved in the project.

The Colombo Port City Project (CPCP) is widely regarded as the largest and most ambitious Sri Lankan PPP and Foreign Direct Investment (FDI) undertaking to date and is a collaborative project between the Government of Sri Lanka (GOSL) and the China Harbour Engineering Corporation (CHEC) Port City Colombo (Pvt) Ltd. The project faced early setbacks and controversy due to alleged mishandling of key processes. This study provides an in depth analysis of the CPCP which provides valuable insights on the nature of PPP projects in the Sri Lankan context. This in turn helped establish the factors to be considered for the successful implementation of future PPP projects in Sri Lanka and other developing nations.

Information was gathered from the review of various types of literature, key informant interviews and a questionnaire survey. Attempts were made to contact a wide range of respondents with various levels of involvement in the project in order to obtain a holistic view of the project and its issues. The Summary Cost Benefit Analysis (CBA) was reviewed and the separation of the CBA based on GOSL and CHEC perspectives indicated that the GOSL receives a lower Net Present Value (NPV) and Internal Rate of Return (IRR) compared to the Summary CBA, while the CHEC receives a negative NPV. This indicates that the Chinese backed CHEC's motives for the project are likely to be strategic, long term economic and political benefits.

The findings revealed that fewer than 66.7% ($2/3^{rd}$) of the population support the CPCP due to environmental, social and political concerns. Fewer than 66.7% ($2/3^{rd}$) of the population believe that the CPCP is a PPP, although there is agreement of the presence of some PPP characteristics in the CPCP. The analysis of major issues indicated that although the media primarily reported on environmental issues, political and governance issues too were considered very important.

The ranking of Critical Success Factors (CSFs) indicated that there is a considerable difference between the ranking of CSFs in the Sri Lankan context and in other countries such as Australia and the UK. The Sri Lankan study reveals that overall, respondents placed greater importance on non-economic CSFs relating to governance and politics in comparison to rankings by other countries in previous studies. However, the ranking of CSFs based on the perspective of supporters of the CPCP preferred to assign greater importance to economic CSFs, indicating that their support is based on the perceived economic benefits of the project. In contrast, those who oppose the project ranked political and governance issues much higher than most economic CSFs indicating that their opposition is based on concerns over political and governance issues. The general percentage agreement between the two groups was very low at only 34.4%. However, the ranking of 'a favourable legal framework' and 'conducting in-depth studies for a through and sufficient EIA' were ranked in the top 5 by all parties, while 'the ability of regulatory authorities to act independently' and 'consideration of demands placed by the project on existing infrastructure were ranked in the top 2 spots overall.

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Last, but certainly not least, my heartfelt gratitude is extended to my parents and brother for their unwavering encouragement and support throughout my studies, especially to my mother who uncomplainingly sacrificed her time and energy to assist me whenever I required it.

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List of Abbreviations

ADB : Asian Development Bank

AG : Attorney General

Aus : Australia

Avg : Average

BII : Bureau of Infrastructure Investments

BOI : Board of Investments

BOOT : Build Own Operate Transfer

BOT : Build Operate Transfer

CBA : Cost Benefit Analysis

CBD : Central Business District

CCCC : China Communications Construction Co

CCD : Coast Conservation & Coastal Resources Management Department

CDC : Commonwealth Development Corporation

CEA : Central Environmental Authority

CHEC : China Harbour Engineering Corporation

CMC : Colombo Municipal Council

CMR : Colombo Metropolitan Region

CPC : Colombo Port City

CPCP : Colombo Port City Project

CSF : Critical Success Factor

CSP : Colombo South Port

DBF : Design Build Finance

DBFO : Design-Build-Finance-Operate

ECBA : Extended Cost Benefit Analysis

ECT : East Container Terminal

EIA : Environmental Impact Assessment

EMP : Environmental Management Plan

EPC : Engineering, Procurement, Construction

EU : European Union

FDI : Foreign Direct Investment

GOSL : Government of Sri Lanka

GSMB : Geological Survey and Mines Bureau

HK : Hong Kong

IEE : Initial Environmental Examination

IFC : International Finance Corporation

IMF : International Monetary Fund

IRR : Internal Rate of Return

IT : Information Technology

LHI : Lanka Hydraulics Institute

Max : Maximum

Min : Minimum

MOU : Memorandum of Understanding

MPPA : Marine Pollution Protection Authority

NARA : National Aquatic Resources Research and Development Agency

NBT : Nation Building Tax

NHO : National Hydrographic Office

NPV : Net Present Value

PA : Percentage Agreement

PAA : Project Approving Agency

PC : Project Company

PD : Percentage Disagreement

PFI : Private Finance Initiative

PLC : Public Limited Company

PPP : Public Private Partnership

RAF : Rank Agreement Factor

RFP : Request For Proposal

SAGT : South Asia Gateway Terminals

SCARC : Standing Cabinet Appointed Review Committee

SEIA : Supplementary Environmental Impact Assessment

SI : Stakeholder Involvement

SLLRDC : Sri Lanka Land Reclamation & Development Corporation

SLPA : Sri Lanka Ports Authority

SPV : Special Purpose Vehicle

SSFs : Sub Success Factors

TEC : Technical Evaluation Committee

TOR : Terms of Reference

UDA : Urban Development Authority

UK : United Kingdom

UNCLOS : United Nations Convention on the Law of the Sea

UoM : University of Moratuwa

USD : United States Dollar

VAT : Value Added Tax

VFM : Value For Money

XDR : External Data Representation

1.0 Introduction

1.1 Background

A Public Private Partnership (PPP) is defined as "…a cooperative venture between the public and private sectors, built on the expertise of each partner that best meets clearly defined public needs through the appropriate allocation of resources, risks, and rewards" (Canadian Council for Public-Private Partnerships, 2004 cited in Kwak et al, 2009). PPP have been well utilized for delivering construction and building projects in many developed nations such as the United Kingdom (UK), America and Australia (Cheung et al, 2012). A key perceived benefit of PPP is increasing the "value for money" spent on infrastructure services by providing more efficient, low cost, and reliable services (Kwak et al, 2009). The reduced burden of cost and risk on the public sector makes PPP an attractive solution to infrastructure funding and construction in developing countries.

However, not all PPP projects are successful. This has resulted in a number of studies focused on identifying critical success factors (Tang et al, 2010). According to Zhang (2005), the identification of critical success factors will help fulfil an urgent need to develop a procurement protocol for constructive public-private partnerships. Cheung et al (2012) noted that it is even more vital for countries new at adopting PPP to identify success factors in order to maximize advantages and reduce risks for all parties involved in the project.

The Colombo Port City Project (CPCP) is widely regarded as the largest and most ambitious Sri Lankan PPP undertaking to date and is a collaborative project between the Government of Sri Lanka and China Harbour Engineering Corporation (CHEC) Port City Colombo (Pvt) Ltd (the Project Company), a subsidiary of China Communications Construction Co (CCCC) (Chowdhury, 2015; SEIA, 2015 p. xv). The project faced early setbacks and controversy due to alleged mishandling of key processes (Nathaniel, 2015). An in depth analysis of the project is bound to give valuable insights on the nature of PPP projects in developing countries. This in turn will help establish factors to be considered for the successful contracting and implementing of future PPP projects in developing nations.

1.2 Research Problem

Although PPP have been successfully implemented for the procurement of infrastructure and services in developed countries such as the UK and Australia, it is still a relatively new concept in developing countries, especially in Sri Lanka. As Cheung et al. (2012) noted, it is extremely important for countries new at adopting PPP to have a clear understanding of factors which contribute to its success.

A number of studies have been conducted on identifying the Critical Success Factors (CSFs) of PPP. However, most of these studies have been conducted in Europe, East-Asia or Australia (Qiao et al., 2001; Li, 2009; Zhang 2005). These studies also indicate that the importance levels of different CSFs differ by location due to each country's unique economic, political and social situation (Cheung et al., 2012). Thus, it is a worthwhile objective to identify CSFs in the context of Sri Lankan projects.

The Colombo Port City project (CPCP) is sometimes referred to as a PPP. If so, it is the largest PPP undertaking in Sri Lanka to-date, and the first of its size and complexity. The CPCP has also faced numerous setbacks, and at one time looked to be a failure. Therefore, the CPCP is an ideal case study for identifying the CSFs for a successful PPP in Sri Lanka.

The greatest opposition to the CPCP was based on Environmental and Political concerns. This is interesting to note, as while previous studies on CSFs recognize the political concerns as a CSF, they rarely rank it in the top 5. Environmental concerns on the other hand do not make a significant appearance on CSF lists at all.

Therefore, the research questions were formulated as below:

- What factors contribute to the success of PPP in Sri Lanka?
- How important are Political and Environmental aspects in planning and implementing a PPP successfully in Sri Lanka?

1.3 Research Aim and Objectives

The research questions posed in the previous section may be addressed by the following Research Aim and Objectives.

The aim of this research study is to establish the most significant factors and aspects to be addressed in contracting and implementing a successful PPP for construction projects in Sri Lanka.

To achieve the aim, the following research objectives were identified.

1. Explore common issues and Critical Success Factors (CSFs) for PPP projects identified in previous research on a broad range of sectors not limited to construction.
2. Analyze the representation of such factors in Colombo Port City and identify any new factors arising from the project.
3. Develop a list of important critical success factors (CSFs) and areas to be addressed for the successful implementation of similar PPP in Sri Lanka by consolidating results of objectives 1 and 2.

1.4 Research Scope

The scope of the research is limited to identifying Critical Success Factors as perceived by various actors with direct and indirect involvement in the CPCP. This research includes a survey of 44 respondents. When selecting respondents, the focus was on the breadth of representation. However, representatives from all actor organisations could not be included due to difficulties in obtaining appointments and other time constraints. The 'population' for the purpose of this research is the population of the represented categories of actors.

The research study will be primarily based on a case study on the CPCP. The CPCP is an on-going project, undergoing numerous contractual, administrative and technical changes. It will not be completed within the time period allowed for this research study. Therefore, the study will be limited to the reclaimed land area and the basic services infrastructure provided to it (eg: water and electricity connections), though it is acknowledged that some issues of this phase have a spill-over effect on the next phase (i.e: township development). In such instances, the current master plan of the Colombo Port City was used as a document of reference.

1.5 Main Findings

The main findings of the research are as below:

- Fewer than 66.7% (2/3rd) of the population (as per the definition provided in Section 1.4) believe that the CPCP takes the form of a PPP.
- Fewer than 66.7% (2/3rd) of the population (as per the definition provided in Section 1.4) support the CPCP to proceed with the current EIA and agreement. Of the 44 respondents, around 75% are willing to support the project if further studies are conducted to a satisfactory level and if the agreement is renegotiated to be more favourable for Sri Lanka. About 25% of the respondents stated that they will not support the Port City project under any circumstances.
- Although the media focused mainly on Environmental issues relating to the CPCP, investigation of the issues, especially in relation to the root causes, identified a spill-over effect into other categories of issues.
- Respondents' perception on the importance of various Success Factors was analysed and ranked. There appears to be very low agreement (approx. 35%) of the important success factors between supporters and opponents of the CPCP. Both groups assigned similar importance to a thorough and complete EIA and a favourable legal framework. Overall, the top success factor was the ability of regulatory authorities to act independently, without political interference.
- Respondents highlighted the need for strong policy, institutional and legal frameworks, transparency and the implementation of projects under a national development plan after the completion of a 'needs assessment'.
- In summary, the findings indicate that although economic factors are important, at least in the Sri Lankan context, environmental, political and governance factors may trump some economic factors which are generally highly ranked in other studies.

1.6 Structure of the Thesis

The thesis report comprises seven chapters. The next chapter details the literature found on previous studies of a similar nature. Research findings on characteristics of PPP, types of PPP, reasons for adopting PPP, success factors for PPP and the world-wide utilization of PPP are discussed in this chapter.

Chapter 3 describes the case study for this research, the Colombo Port City Project (CPCP). The chapter provides the background of project information on the CPCP, the key events of the project, the proposal for the CPCP, the benefits and the major issues of the CPCP.

Chapter 4 outlines the research framework adopted for this study. Various research designs, methods, data collection and analysis techniques were considered and the selection along with the relevant justifications are presented in this chapter. It also describes the theoretical aspects of various data analysis techniques used such as the Binomial Test, Chi Square Test, Fisher's Exact Test, Significance Index and Agreement Analysis.

Chapter 5 examines the summary Cost Benefit Analysis (CBA) provided in the SEIA (2015) and discusses the replication of the CBA to create Extended CBAs (ECBA) from the perspectives of the GOSL and CHEC.

Chapter 6 illustrates the characteristics and analysis of data obtained from the questionnaire survey, along with the results obtained. The results are then discussed as research findings supplemented by information gathered from interviews.

The conclusions of the study are presented in Chapter 7. This chapter also includes a summary of the study, main findings, limitations, as well as recommendations for future research.

2.0 Literature Review

2.1 Introduction

A Public Private Partnership (PPP) is defined as "…a cooperative venture between the public and private sectors, built on the expertise of each partner that best meets clearly the defined public needs through the appropriate allocation of resources, risks, and rewards" (Canadian Council for Public-Private Partnerships, 2004 cited in Kwak et al. 2009, p.53). However, numerous authors agree that a single definition for PPP cannot be formulated. This has resulted in multiple definitions (Rakic & Radenovic, 2011). Some such definitions are, "all business ventures in which public and private sectors combine their resources and knowledge in order to satisfy clearly defined public needs in a best way, with shared responsibility, risks and profits" (Ahadzi & Graeme, 2004, p.968), and "a risk-sharing relationship between the public and private sectors based upon a shared aspiration to bring about a desired public policy outcome" (Institute for Public Policy Research, 2002 as cited in Flinders 2005, p.216). PPP was first introduced in the United Kingdom in 1992 as a method to procure public infrastructure through private sector funds, where the private sector builds and operates the asset under contracts lasting 2-3 decades (Tieman, 2003 cited in Cheung et al, 2012). PPP have since gained popularity and have been well utilized for delivering construction and building projects in many developed nations such as the United Kingdom, America and Australia (Cheung et al, 2012). However, it is still in the process of being established in many developing nations (Jamali, 2004).

"Value for money" is a key concept of PPP, which implies efficient spending on infrastructure services by providing more efficient, low cost, and reliable services (Kwak et al, 2009). The reduced burden of cost and risk on the public sector makes PPP an attractive solution to infrastructure funding and construction in developing countries. Following the presentation of the 2016 Budget in Parliament, Finance Minister Ravi Karunanayake stated, "….Public private partnership is the way forward…" indicating that Sri Lanka will be looking towards PPP as a vehicle for her development goals (Fernando T, 2015).

This review will examine the characteristics of PPP, various types of PPP, success factors, and the application of PPP in various countries, including Sri Lanka.

2.2 Characteristics of PPP

The following are Characteristics of PPP's as listed in a document on PPP prepared by the Fiscal Affairs Department of the International Monetary Fund (in consultation with other departments, the World Bank, and the Inter-American Development Bank) in 2004 (Hereafter referred to as IMF report (2004)). The report states that there is no clear agreement on what does and what does not constitute a PPP, however it is stated that service provision and investment by the private sector, and the transfer of risks by the government to the private sector is emphasized in PPP. Other characteristics are as given below:

- Takes the form of DBFO (design-build-finance-operate) scheme.
- The government is the main purchaser of services provided under a PPP.
- The term PPP is used to describe a wider range of arrangements and may exclude functions that characterize DBFO schemes.
- The private sector can raise financing for PPP investment in a variety of ways including but not limited to income from a concession (eg: toll revenue), service payments under operating contracts, equity.
- PPP financing is often provided via a Special Purpose Vehicle (SPV). An SPV is typically a consortium of banks and other financial institutions. However, the SPV can be the front behind which the government controls a PPP. SPVs are specific to individual projects.

In contrast, Rakic and Radenovic (2011) combine various features observed in previous studies. The result is the following list of characteristics:

- Long-term contractual agreement, typically around 25 or 30 years.
- A contract which defines the integration of all phases of the project, sharing of investments, responsibilities and credits for as long as the contract is valid.
- A contract which defines expected performances as the final output specifications.
- Aims of the construction in the public interest and sets the demands in terms of construction, maintenance and service quality standards, all defined by the Public partner.

- Risks that would otherwise be taken by the public sector, are taken by the private sector although the format of risk sharing differs in each individual case.

- The public partner pays the fee to the private partner for the construction and operation of the constructed building and undertakes the obligation to use the building for the contract-envisaged purpose.
- After the expiration of the contractual period, the constructed building is returned into the public sector ownership.

Akintoye et al. (2015) noted similar characteristics of PPP. These characteristics have been frequently cited in a number of publications on PPP:

- **Partnership** involving two or more actors, at least one of which is public and another is a private entity.
- Each participant is a **Principal**, meaning that they may each bargain on their own behalf without seeking other sources of authority.
- A **Long-term** and **stable** relationship for the duration of the contracted period.
- Each partner must c**ontribute to the partnership.** Both Private and Public parties must bring something into the partnership, material or immaterial.
- **Shared responsibility for outcomes and activities** between the Public and Private parties.

Nijkamp, van der Burch, & Vindigni (2002), in their study of PPP in relation to Urban Land-use and Revitalization projects in the Netherlands, state that a PPP "means that the administrative decisions on a particular urban development plan is not exclusively a public responsibility, but is also a result of private and public negotiation and agreement processes". This results in the involvement of multiple stakeholders who have different policy objectives and targets.

Numerous literature agrees that PPPs cannot be easily defined (Xie & Stough, 2002). However, PPP characteristics stated in those studies are compatible with those described in this section.

2.3 Types of Public Private Partnerships

Various types of Public Private Partnerships have been created in order to reflect different project objectives and requirements. These vary depending on the level of private involvement. Figure 2.1 depicts a continuum reflecting the degree of private involvement and the relevant PPP type.

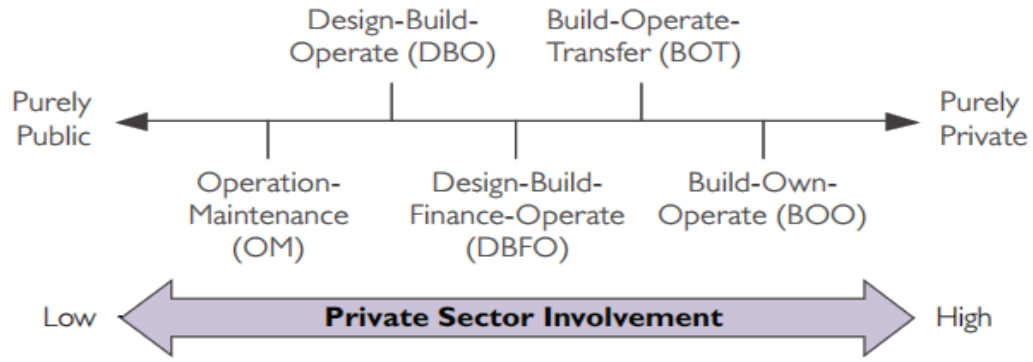


Figure 2.1 Types of PPP – (Source: Kwak et al., 2009)

The table below is an excerpt from Kwak et al. (2009) based on a number of descriptions from various sources. The key to success is to select the most suitable type of PPP depending on the objective of the project and available resources.

Table 2.1 Types of PPP – (Source: Kwak et al., 2009)

Types of PPP	Descriptions
Operation-Maintenance (OM)[a]	• The private sector is responsible for all aspects of operation and maintenance. • Although the private sector may not take the responsibility of financing, it may manage a capital investment fund and determine how the fund should be used together with the public sector.
Design-Build-Operate (DBO)[b]	• The private sector is responsible for the design, construction, operation, and maintenance of a project for a specified period prior to handling it over to the public sector.
Design-Build-Finance-Operate (DBFO)[c]	• The private sector is responsible for the finance, design, construction, operation, and maintenance of a project. • In nearly all cases, the public sector retains full ownership over the project.
Build-Operate-Transfer (BOT)[d]	• The private sector is responsible for the finance, design, construction, operation, and maintenance of a project for a concession period. • The asset is transferred back to the government at the end of concession period, often at no cost.
Build-Own-Operate (BOO)[e]	• Similar to a BOOT project, but the private sector retains the ownerships of the asset in perpetuity. • The government only agrees to purchase the services produced for a fixed length of time.

a. The World Bank, Public-Private Partnership Units: Lessons for their Design and Use in Infrastructure, Washington D.C., 2007.
b. E.S. Kelly, S. Haskins, and P.D. Reiter, "Implementing a DBO Project," Journal of American Water Works Association, 90/6 (June 1998): 34-46
c. U.S. Department of Transportation, "PPP Options," Federal Highway Administration (FHWA), <www.fhwa.dot.gov/PPP/dbfo.htm>.
d. M.M. Kumaraswamy and X.Q. Zhang, "Governmental Role in BOT-led Infrastructure Development," International Journal of Project Management, 19/4 (May 2001): 195-205.
e. W. Chege and P.D. Rwelamila, "Private Financing of Construction Projects and Procurement Systems: An Integrated Approach," in Proceedings of CIB World Building Congress, Wellington, New Zealand, April 2001.

Similar to this type of classification is the one presented by an IMF report (2004) which is depicted in Table 2.2.

Table 2.2: PPP Schemes and Modalities (Extracted from IMF, 2004)

Schemes	Modalities
Build-own-operate (BOO) Build-develop-operate (BDO) Design-construct-manage-finance (DCMF)	The private sector designs, builds, owns, develops, operates and manages an asset with no obligation to transfer ownership to the government. These are variants of design-build-finance-operate (DBFO) schemes.
Buy-build-operate (BBO) Lease-develop-operate (LDO) Wrap-around addition (WAA)	The private sector buys or leases an existing asset from the government, renovates, modernizes, and/or expands it, and then operates the asset, again with no obligation to transfer ownership back to the government.
Build-operate-transfer (BOT) Build-own-operate-transfer (BOOT) Build-rent-own-transfer (BROT) Build-lease-operate-transfer (BLOT) Build-transfer-operate (BTO)	The private sector designs and builds an asset, operates it, and then transfers it to the government when the operating contract ends, or at some other pre-specified time. The private partner may subsequently rent or lease the asset from the government.

Nijkamp et al. (2002) state a different classification of PPP models with examples such as (1) building-claim model, (2) the joint venture model, and (3) the concession model. It was stated that such models could be distinguished based on the division of competence between the public and private sectors, or the degree of risk-sharing or financing.

Akintoye et al. (2015) notes the following categories of PPP as cited by the World Bank in 2005.

- *Management and lease contracts*: Where the private entity is responsible for the management of an enterprise/asset owned by the state for a fixed period and is paid for it while the state retains ownership and investment decisions. In this case, the private party takes on the operational risks.

- *Concessions*: The private entity is responsible for the management of an enterprise/asset owned by the state during a fixed period, where it assumes a significant investment risk. This type of arrangement may have several functions, namely: (1) rehabilitate, operate and transfer; (2) rehabilitate, lease or rent and transfer; (3) build, rehabilitate, operate and transfer.

- *Greenfield projects*: Four categories are identified by the World Bank under this type of PPP, namely: (1) build, lease and own; (2) build, own, transfer, or build, own, operate and transfer; (3) build, own, operate; (4) when the private

and public parties form a joint venture to build and operate a new facility for a fixed period of time. This typically occurs in merchant projects.

- *Divestures*: Either the full (100%) or partial transfer of a state-owned equity to a private party that buys an equity stake in the government owned enterprise as a part of a mass privatisation programme, asset sale or public offering.

A comparative study by Leväinen & Altes (2005) on PPP in land development contracts in Finland and the Netherlands note the following classification based on 4 dimensions, namely: type of land, owner of land, model of co-operation, type of contract (Table 2.3).

Table 2.3 Classification of PPP co-operation (Source: Leväinen & Altes, 2005)

Dimension	**Category**
Type of land	Raw land Unbuilt sites Renewal
Owner of land	Municipality Constructor Housing developer Other Mixture
Model of co-operation	Traditional Exchange for building rights Integral Joint Concession
Type of contract	Framework Pre-agreement Site disposal Infrastructure construction

The various models of co-operation as described by Leväinen & Altes (2005) are as below.

(1) Traditional: A method that is still used in the Netherlands, the Traditional model of co-operation is where the municipality takes care of land development in total and disposes building sites to the constructors.

(2) Exchange for building rights: Where developers buy land in potential areas and often willingly sell their land to the municipality, not with the interest of primarily making a profit on the land, but as method of acquisition for building and project development (i.e: They generally receive less money than they acquired the land for, along with the municipality permits building volume for the land). Thereafter, the municipality implements the necessary infrastructure. Subsequently the private partner

gets the possibility of buying building sites. In such cases, the private partner is often allowed to influence the town plan of the area. The municipality bares most of the financial risks of land development on this model, and in cases where building rights agreements are made, the market risks of selling the plots are not transferred from the developer to the municipality as the developer is often obliged to buy the plot from the municipality.

(3) Joint: In this case, either the municipality or a private company owns the land and it may be transferred to a joint public-private company. The risks and the management of the area are borne by a joint venture company which is made up of the municipality and the private parties. The share of the municipality may differ (eg: 30% in Leidschenveen near The Hague, and 50% in other areas). In this model, the risks are shared between the public and private parties.

(4) Concession: The development is primarily private and the municipality recovers costs for the infrastructure outside the plan. Market risk is not shared by the municipality in this model. The private partner bears the risks, therefore this model is mostly used in economically sound projects. The agreement includes stipulations between the private and the public parties.

2.4 Reasons for adopting Public Private Partnerships

This section attempts to answer the question, 'why should a government adopt Public Private Partnerships?'

"Value for money" is a key concept of PPP, which implies efficient spending on infrastructure services by providing more efficient, low cost, and reliable services (Kwak et al., 2009). The reduced burden of cost and risk on the public sector makes PPP an attractive solution to infrastructure funding and construction in developing countries.

A study by Robert et al. (2014) on reasons for adopting PPP in Ghana indicates the five major reasons as 'reduces public sector administration cost', 'allows for shared risk', 'reduces the problem of public sector budget constraint', 'private sector possesses better mobility' and 'private sector has ability to raise funds for project'. Results of factor analysis enabled the study's 17 factors to be grouped into the following major categories: innovation enhancement and economic benefits, private

sector efficiency, opportunities for market penetration and innovation, effective project risk management and business growth incentives for the private sector.

Bojović (2006) and Juričić (2008, as cited in Rakic & Radenovic, 2011) note the following as benefits of PPP to the public sector: (1) Improving the public sector capacity for the development of integrated solutions, (2) Facilitating the developing process of creative and innovative solutions, (3) Reduction of necessary costs and time for project implementation, (4) Risk transfer, (5) Attracting major and potentially more sophisticated project bidders, (6) The access to skills, experience and technology, (7) Reducing the amount of administration accompanied by increasing public investments, (8) Economies of scale, which enables minimizing costs per provided service unit, (9) Better monitoring and quality control of the delivered public services due to well established controls and audits in the private sector, and (10) Avoiding the limits concerning the level of public debts. The private sector also benefits in some ways, mainly through (1) the reduction in sub-investment and agency costs, and (2) the reduction of the debt of the parent company.

Robinson et al. (2009) noted that a key driver for PPP is that "the private sector is able to achieve greater efficiency and value for money in service delivery due to innovation to reduce whole life costs, risk management and the level of competition". Secondly, it is noted that PPPs may be fiscally, technically and, in some cases, environmentally sustainable as they avoid the pitfalls of the traditional method where capital costs and operational costs are separated. The fragmented nature of a project, where design, construction (by private parties) and operation (by public parties) are separated, often results in the drive to reduce capital costs at the expense of increased operational costs. This can be avoided in a PPP where all three stages are handled by the private sector.

However, an IMF report (2004, p.3) warns that PPPs cannot be taken for granted to always be more efficient than public investment for the supply of services as "PPPs can be used mainly to bypass spending controls, and to move public investment off budget and debt off the government balance sheet, while the government still bears most of the risk involved and faces potentially large fiscal costs".

2.5 Success Factors for PPP

According to Jefferies et al. (2002), Rockart and the Sloan School of Management developed the concept of 'Critical Success Factors' (CSF) and first used the phrase in the context of information systems and Project Management. CSFs are defined as:

> "Those few key areas of activity in which favourable results are absolutely necessary for a particular manager to reach his or her own goals...those limited number of areas where 'things must go right'" (Rockart, 1982 as cited in Jefferies et al., 2002, p.354).

However, Rockart's concept was found to have the weaknesses in its practical application. Some such weaknesses suggested by Morledge & Owen (1999) are: (i) subjectivity, (ii) bias, (iii) human inability to process complex information, (iv) change in relation to the surrounding environment, (v) time dependency, (vi) imprecise definitions and generalization, (vii) qualitative performance measures.

Jefferies et al. (2002) state that CSFs are the fundamental issues in a project which must be maintained for efficient and effective team work. This requires daily attention throughout the life of the project.

A number of research studies have been carried out to determine the CSFs of Public Private Partnerships. It is interesting to note that while these studies generally identify the same factors as important, the ranking or importance of the factors vary depending on the sample of respondents surveyed and the geographical location of the PPP.

Several critical success factors have been identified in Jefferies et al. (2002) with regard to the case study of the Stadium Australia which was built for the Olympic Games. The following were identified as vital CSFs: (1) A high profile, experienced consortium with expertise and a good reputation, (2) An efficient approval process which helps stakeholders in tight timeframes, and (3) The consortium's ability to come up with a 'winning' strategy in terms of financial matters.

In a survey conducted by Zhang (2005), respondents have identified several factors as important. These factors were grouped into five main aspects, namely: (1) economic variability, (2) appropriate risk allocation, (3) sound financial package, (4) reliable concessionaire consortium with strong technical strength, and (5) favourable investment environment including a stable political system.

Chan et.al (2010) conducted a study of 18 CSFs as identified by previous literature. The factors were then ranked based on input by Chinese experts, and grouped into five underlying factors as depicted in Figure 2.2 below.

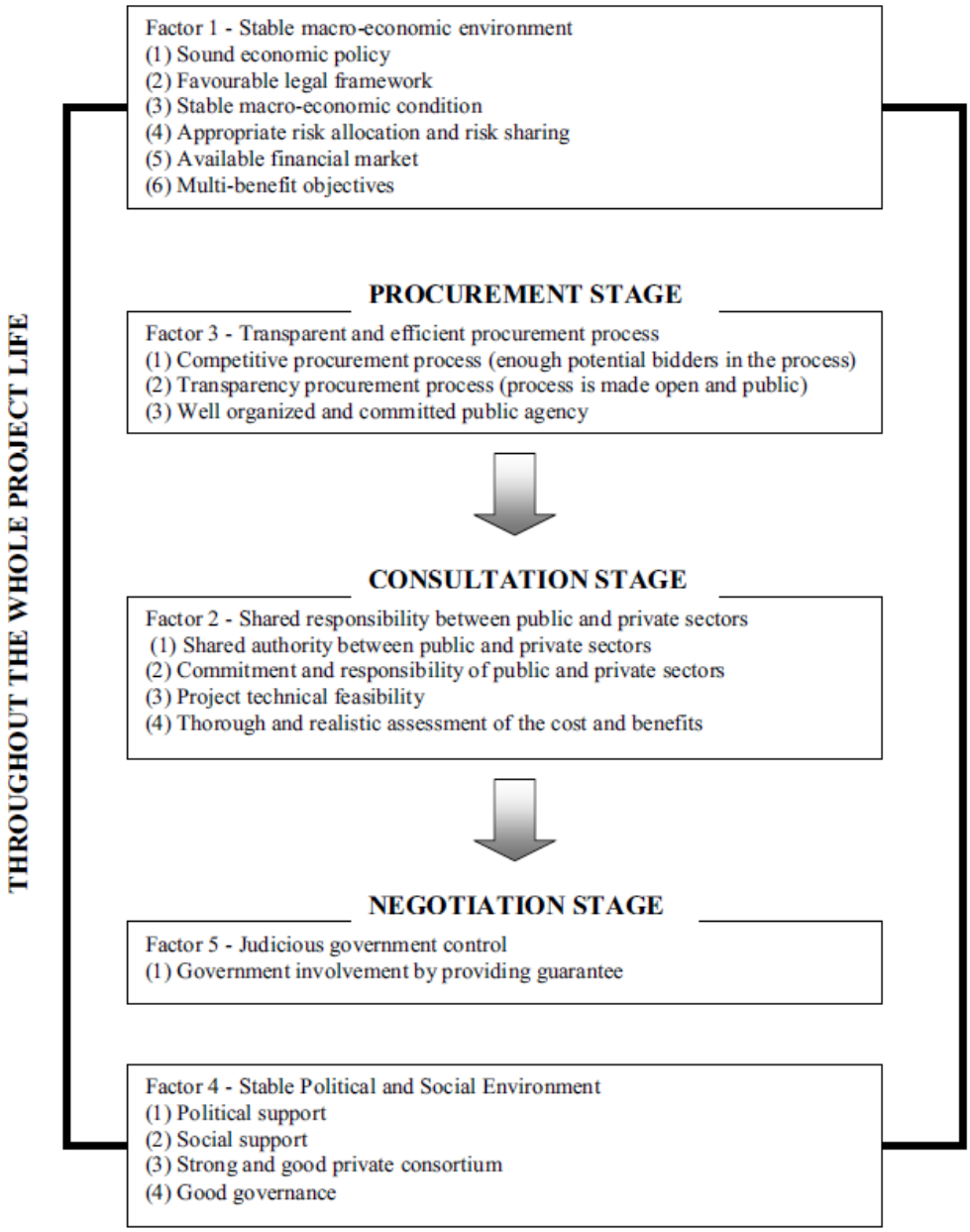


Figure 2.2 Five factor groups and the relevant CSFs (Extracted from Chan et al., 2010)

Cheung et al. (2012) conducted a study in which they compared CSFs as ranked by respondents from three different geographical locations; Hong King, Australia and the United Kingdom. It was noted that the top ranking of CSFs differed by geographical location. The top five CSFs as ranked by respondents from Hong Kong were: (1) Favourable legal framework, (2) Commitment and responsibility of public private

sectors, (3) Strong and good private consortium, (4) Stable macro-economic condition, and (5) Appropriate risk allocation and risk sharing. The second, third and fifth CSFs were also ranked highly by Australia and the United Kingdom, indicating that the importance of those factors is universal and unaffected by geographical location. However, respondents from both Australia and the United Kingdom assigned medium importance to Hong Kong's top factor, perhaps implying that their legal systems are developed well enough for the successful implementation of PPP projects. Hong Kong's fourth success factor was ranked much lower by Australia and United Kingdom. This reflects the stable macro-economic conditions enjoyed by those countries in comparison to Hong Kong's unstable macro-economy due to its handover from the British to the Chinese.

Some studies have proceeded beyond the identification of CSFs, as in Zhang (2005)'s study where Sub Success Factors (SSFs) for five CSFs are introduced, and in Seghal et al. (2015)'s study where variables for each CSF are identified. Table 2.4 summarises the literature reviewed in relation to Critical Success Factors.

The next sections discusses some Success Factor categories. These areas are examined in detail in the following sections, as they have great significance to the proposed study.

2.5.1 Political Factors

As noted by Zheng (2005) and Cheung et al. (2012), a favourable environment with political and economic stability and a favourable legal framework are viewed as two important success factors, especially in Asian countries. Findings of a study conducted by Sachs et al. (2007) on the political risks and opportunities in PPPs appear to support these conclusions. Data were obtained from 29 respondents to a questionnaire survey, out of whom 24 were based in Asia. The study concluded that "…The key to successful PPP implementation in Asia are stable legal and regulatory environments with reliable governmental counterparties that allow for a fair and balanced partnership between the public and private sectors..."

Table 2.4 Summary of CSFs identified and listed in reviewed literature (Includes extractions from Chan et al., 2010).

Critical Success Factor	**Citation**
Stable macro-economic condition	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Favourable legal framework	Cheung et al. (2012); Chan et al. (2010); Sachs et al. (2007); Sehgal et al. (2015)
Sound economic policy	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Available financial market	Cheung et al. (2012); Chan et al. (2010); Li (2005); Corbett & Smith (2006); Zhang (2005); Jefferies et al. (2002); Akintoye et al. (2001); Sehgal et al. (2015)
Multi-benefit objectives	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Appropriate risk allocation and risk sharing	Cheung et al. (2012); Chan et al. (2010); Zhang (2005); Qiao et al. (2001); Grant (1996); Sehgal et al. (2015)
Commitment and responsibility of public and private sectors	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Strong and good private consortium	Cheung et al. (2012); Chan et al. (2010); Abdul-Rashid et al. (2006); Corbett & Smith (2006); Zhang (2005); Jefferies et al. (2002); Tam et al (1994); Tiong (1996); Birnie (1999); Sehgal et al. (2015)
Good governance	Cheung et al. (2012); Chan et al. (2010); Sachs et al. (2007); Lora and Panizza (2003); Sehgal et al. (2015)
Project technical feasibility	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Shared authority between public and private sectors	Cheung et al. (2012); Chan et al. (2010); Sachs et al. (2007); Sehgal et al. (2015)
Political support	Cheung et al. (2012); Chan et al. (2010); Abdul-Rashid et al. (2006); Corbett & Smith (2006); El Gohary et al. (2006); Jamali (2004); Tam et al (1994); Kanter (1999); Sehgal et al. (2015)
Social support	Cheung et al. (2012); Chan et al. (2010); El Gohary et al. (2006); Sehgal et al. (2015)
Competitive procurement process	Cheung et al. (2012); Chan et al. (2010); Li (2009); Jefferies (2006); Corbett & Smith (2006); Zhang (2005); Qiao et al. (2001); Jefferies et al. (2002); Sehgal et al. (2015)
Transparency procurement process	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Government involvement by providing guarantee	Cheung et al. (2012); Chan et al. (2010); Li (2009); Zhang (2005); Tiong (1996); Kanter (1999); Sehgal et al. (2015)

Thorough and realistic assessment of the cost and benefits	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Project economic viability	Li (2009); Abdul-Rashid et al. (2006); Corbett & Smith (2006); Zhang (2005); Qiao et al. (2001); Nijkamp et al. (2002); Tam et al (1994); Tiong (1996)
Clear project brief and client requirements	Jefferies (2006); Corbett & Smith (2006); Jamali (2004)
Business Diversification	Jefferies (2006); Corbett & Smith (2006)
Well-Organized and committed public agency	Cheung et al. (2012); Chan et al. (2010); Sehgal et al. (2015)
Good partner's relationship	Abdul-Rashid et al. (2006); Corbett & Smith (2006); Zhang (2005); Tam et al (1994); Kanter (1999)
Consultation with end-users	Corbett & Smith (2006); El Gohary et al. (2006)
Stable and transparent political/social situation	Qiao et al. (2001); Nijkamp et al. (2002); Jamali (2004); Tam et al (1994);
Appropriate project identification	Qiao et al. (2001); Jamali (2004); Tam et al (1994); Tiong (1996)
Effective management control	Qiao et al. (2001); Tam et al (1994);
Technology transfer	Qiao et al. (2001)
Sustainable procurement and operation	Qiao (2001); Zhang (2005); Sehgal et al. (2015)
Involvement of civil society	Sehgal et al. (2015)

The study by Sachs et al. (2007) also found a positive correlation between perceived political risks and PPP opportunities indicating that countries with risky or unstable political environments will have less PPP opportunities due to a lower possibilities of success.

A convenient political climate and public support are noted as important factors for successful PPP implementation (Rakic & Radenovic, 2011). Lawless (1994) notes that most PPPs underestimate the important influence of the local political context and political conflict within the partnership while overestimating the influence of the local business community.

An example of a PPP which was unsuccessful as a result of an unstable political environment is the failed rail project in Thailand. The frequent change of governments in Bangkok resulted in the cancellation of many PPP infrastructure projects (Khang, 1998 as cited in Cheung, 2012; Cobb, 2005 as cited in Cheung, 2012). Lora and Panizza (2003) note that widespread corruption in governments is a serious obstacle to successfully implementing PPPs.

2.5.2 Legal Factors

It is noted that an appropriate legal framework is important to the success of PPPs (Rakic & Radenovic, 2011; Sehgal et al., 2015). In order to achieve this, countries may be required to make changes or additions to existing laws. Some such instances are the 1994 Merloni Law in Italy (De Pierris, 2003) and the 2003 Concession Law of Spain (Montesino & Benito, 2000; Acereite, 2003 as cited in IMF, 2004). The IMF (2004) notes that the legal frameworks for PPPs must be supplemented by strong dispute resolution mechanisms.

2.5.3 Governance Factors

An IMF report (2004) notes that a proper policy and institutional frameworks for PPPs are important. Policies should include non-discriminatory taxation and regulation regimes for PPPs. According to the report, the state of Victoria in Australia has a particularly well developed policy framework for PPPs. It places more emphasis on value for money and focuses on public interest. Decision are made on merit and outcomes are judged based on public benefits received. The policy notes that PPP should focus on the specification of the end result rather than the means of delivery. Both parties should have compatible mutual goals. Lam & Javed (2013) note that an

output specification outlining what is required from the project rather than how it should be delivered is an important inclusion in contract documentation for procuring and monitoring PPPs.

The report also states that an appropriate institutional framework is characterized by political commitment ensure, good governance, establishing clear channels of responsibility and accountability for government involvement, clear supporting legislation, the government's ability to develop the necessary skills for managing a PPP, and proper refinement of project appraisal and prioritisation. Countries without such frameworks in place are likely to face challenges in the implementation of PPPs. Rakic & Radenovic (2011) note that institutional division and complexity increases both risks and the odds for failure. Robinson et al. (2009) stress the requirement for a Need Assessment and the development of a Business Case which should cover the output specification, risk transfer and risk pricing.

In terms of governance, the government should develop the expertise necessary for managing a PPP programme and be able to provide financial, legal and technical advice and assistance to support contract negotiations and procurement. The government will also have to develop and refine its skills in relation to project appraisal and prioritization which should ideally involve a number of interested government ministries and agencies (Rakic & Radenovic, 2011). Robinson et al. (2009) support this, and emphasis on having a proper management strategy in place with particular attention to team composition, stakeholder engagement, and contract and interface management. Special emphasis is placed on organisational structure, and control and monitoring mechanisms in project delivery which should encompass all stages, namely, the planning and development phase, the construction phase, and the operation and service delivery phase.

El-Gohary et al. (2006) identified stakeholder opposition as the main reason for the failure of PPPs in several instances. Therefore, they state that stakeholder input is crucial to the success of PPPs. This may be achieved through Stakeholder Involvement (SI) programmes.

2.5.4 Economic Factors

A considerable number of studies have been conducted on the various economic aspects of PPPs; particularly on accounting, financial environments and government guarantees (Broadbent & Laughlin, 2003). However, literature regarding these aspects was not reviewed in detail as the case study for this research, the Colombo Port City, is entirely funded by the private entity with no government guarantees (SEIA, 2015).

Zhang et al. (2005) note that project economic viability is dependent on a number of factors: (1) long-term demand for the products/ services offered by the project; (2) limited competition from other projects; (3) sufficient profitability of the project to attract investors; (4) long-term cash flow that is attractive to the lender; and (5) long-term availability of suppliers needed for the normal operation of the project. Four methods of financial evaluation are traditionally used, namely: payback period, discounted payback period, net present value, and internal rate of return methods. However, due to the uncertainties of the project due to lead time and long operation periods, methods such as risk analysis and resulting risk adjusted discount rate methods, probabilistic statistical methods, sensitivity analysis are used for a more realistic viability calculation.

Two aspects of PPPs which may have great economic consequences are Transaction Costs and Risk Management. These two topics are reviewed in the following sections.

A. Transaction Costs

Transaction costs are another important factor which has some effect on the successful implementation of PPPs. The concept of 'economics in contracting' is derived from transaction costs. Parker & Hartley (2003, p.99) state that "Transaction costs 'arise from the costs of seeking out buyers and sellers and arranging, policing and enforcing agreements or contracts in a world of imperfect information".

Ho and Tsui (2009) have written of several different types of Transaction Costs which occur in PPPs. The first type of Transaction Cost occurs due to the promoter's profit structure of PPPs. The gist of this is that the source of the promoter's returns do not only come from returns on equity investments. They also gain returns from construction and operation contracts. As most construction firms rely heavily on short term debt, the long period-slow return nature of PPPs lead them to invest their capital in construction contracts instead of PPP equity.

Another type of Transaction Cost occurs due to Renegotiation and Hold-up Problems. The general understanding is that during negotiation, the party which can hold up the other party will dominate the renegotiations and obtain better payoffs. Ho and Tsui (2009) also note soft budget constraints as a reason for Transaction Costs. The gist of this is that the governments are inclined to bail out projects on the brink of bankruptcy due to the greater social and economic welfare of the country.

B. Risk Factors

The appropriate allocation of risk was identified as a critical success factor for PPPs. In addition to this, adequate risk transfer and proper assessment must be conducted and transferred, retained and shared risks must be determined (Sehgal et al., 2015). Rakic & Radenovic (2011) note that a property cannot be considered a public sector asset if the majority of risks are borne by the private party. Therefore, a risk analysis under three major categories is recommended. The categories are: (1) Construction risk, (2) Availability risk, and (3) Demand risk.

The UK, in its appraisal of projects, recognizes the importance of risk transfer. The government generally bears demand risk for services it purchases, and by convention, inflation risk. The private sector generally bears risks related to asset building and delivering contracted services, and when it has the right to use the asset, the private sector will also bear the demand risk (IMF, 2004).

Ranasinghe & Russell (1991) in their study of economic risk analysis for large engineering projects note the importance of quantifying economic and time risks. Bing, et al. (2005), in their study of risk allocation of PPP/PFI projects in the U.K., note that although one purpose of PPP is to transfer the public party's risks to the private sector, some such risks should be retained by the public sector. Risks may be identified into macro, meso and micro level risks. Macro level risks are those that arise in relation to political and government policy, macroeconomic, legal, social and natural environments. Meso level risks are those that are in relation to project selection, finance, residual risk, design and construction. Micro level risks are risks which are related to relationships and third parties such as staff crises and liabilities.

A survey across different sectors showed that risks associated with nationalisation/expropriation, poor political decision making process ,political opposition, site availability and government stability should be borne by the public

sector (Bing et al., 2005). Respondents believed that risks associated with tax regulation change, late design changes, residual risk, inflation, the tradition of private sector provision of public services, staff crisis, third party tort liability, influential economic events, the financial attraction of the project, the level of demand for the project, and different working methods should be *primarily* allocated to the private sector. In contrast, results showed that a preference for risks associated with industrial regulation change, interest rate volatility, weather, environment, ground conditions and financial market, high financing cost and availability of finance, design deficiency, construction and operation, organisation and coordination should be *solely* allocated to the private sector.

Both the private and public sectors should share risks associated with force majeure, legislation change, lack of commitment from a partner, responsibilities and risk distribution and authority distribution. It was indicated that the allocation of some risks such as the level of public support, project approval and permit, contract variation and lack of experience is strongly dependant on specific circumstances. Bing et al. (2005, p.34) states that, "Those risks do not relate clearly to project type, project value, procurement method, or revenue resource. Thus there is no significant clue as to how they should be allocated to either of the project parties".

2.5.5 Environmental Factors

Some previous studies, such as Jamali (2004) and Li et al (2005), have casually referenced the impacts on the Environment, but little or no studies have included the commitment to keeping low environment impacts as a success factor. Qiao et al. (2001) has mentioned "Sound Environment Impact" as a critical success factor, but this is limited to the operational phase and does not consider other phases of the project. Sehgal et al. (2015) has included "Sustainable Procurement and Operation", but this too does not encompass all stages of the project. Zhang (2005) states "Low Environment Impact" as the 11th sub-factor out of 12 in the "Reliable concessionaire consortium with strong technical strength" category.

2.6 Utilization of Public Private Partnerships

This section will examine the past applications and the current status of Public Private Partnerships. First, available official handbooks and guidelines are reviewed. Next the application of PPP in relation to urban land development is examined due to its relevance to the proposed study. Finally, an overview of the application and status of PPP in different countries is provided.

2.6.1 Official information for Public Private Partnerships

With the rise of popularity of PPPs, several organisations and governments which employ PPP for the implementation of their projects have published a number of documents relating to it. These documents generally take the form of guidelines and handbooks, and generally include a range of information on PPP. This section explores some such documents and their components.

In 2004, the International Monetary Fund (IMF) published a document prepared by its Fiscal Affairs Department in consultation with other departments, the World Bank, and Inter-American Development Bank. The report notes that while a number of countries have developed PPPs, only a few general lessons can be drawn from these experiences, particularly from emerging market economies and developing countries.

In addition, various countries have their own guidelines and handbooks for the successful implementation of PPPs within those countries. These are summarised in Table 2.5.

Table 2.5 Summary of PPP handbooks and guidelines

Country and citation	Components
International Monetary Fund (IMF): *Public Private Partnerships (2004)*	Introduction to PPP; Ownership and contracting; Risk analysis; Competition, regulation and efficiency; Institutional framework for PPPs; Risk transfer and leasing; Assessing risk transfer and ownership; Fiscal accounting and reporting; Contractual obligations and government guarantees
Asian Development Bank (ADB): *Public-Private Partnerships Handbook (September 2008)*	Overview of PPP; Recent experiences; Sector diagnostic and sector road map including requirements, expectations, technical issues; Legal, regulatory and policy framework; Institutional structures; Financial and Commercial issues; Stakeholder consultation; Strategies and goals; Available PPP options; Selecting options; PPP preparatory work; Implementing PPP; Framework for measuring, monitoring and reporting on results.
European Commission: *Guidelines for successful Public-Private Partnerships (2003)*	Introduction to PPP; PPP structures, suitability and success factors; Legal and regulatory structures; Financial and economic implications of PPPs; Integrating grant financing and PPP objectives; Conception, planning and implementation of PPPs
The United Kingdom: *A new approach to public private partnerships (2012)*	Review of PFI; Equity finance; More efficient delivery; Flexible service provision; Greater transparency; Appropriate risk allocation; Efficiency and value for money; Future debt finance

Singapore: *Public Private Partnership Handbook (Version 2, 2012)*	Introduction to PPP; Structuring a PPP deal including characteristics, competencies, win-win deals, payment mechanisms; the PPP procurement process; Identifying the right PPP provider; Managing PPP relationship; Contractual issues
Malaysia: *Public Private Partnership (PPP) Guideline (2009)*	Conceptual Framework including principles for adopting PPP, key features; Developing PPP projects including submission of proposals, general criteria, structure of a PPP project, roles and responsibilities of the private and public sectors; Process flow
Australia: *NSW Public Private Partnership Guidelines (2012)*	Roles and agencies in PPP procurement; Approval processes; Project phases and relevant information such as evaluation, structure, budget, accounting, negotiation parameters, contract management, change in ownership/control; Disclosure requirements and project reviews outlining various requirements
Sri Lanka: *Government Guidelines for Private Sector Infrastructure Projects (Part II, Chapter XIV: BOO/BOT/BOOT Projects) (n.d.)*	This is a guideline prepared by the Board of Investments (BOI) Sri Lanka during the late 90's/ early 00's. Only this chapter was made accessible. Covers topics such as co-ordination; preliminary screening; procedure for processing of proposals; procedures for issuing request for proposals (RFP) and assisting bidders, preliminary evaluation of proposals including technical, financial and cost screening; evaluation criteria; final report of the project committee; negotiations and award of contract; finalising solicited and unsolicited projects

2.6.2 Application of Public Private Partnerships in various countries

This section reviews the application of PPP in selected countries and continents.

A. The United Kingdom

The United Kingdom's Private Finance Initiative (PFI), developed in 1992, is perhaps the best-developed PPP programme in the world (IMF, 2004). The project is currently responsible for around 14% of public investment, the majority of which are in key infrastructure areas. To assist with this, the UK government website provides access to a number of publications relating to various aspects of PPP such as policy and finance guidance, procurement and contract management guidance and information on early termination of contracts etc. PFI projects are primarily used for the provision of services rather than the acquisition of assets. The UK takes a rigorous approach to assessing 'Value for Money' (VFM) and uses the 'Green Book', the government investment appraisal manual, for this purpose. Standard PFI contracts have been developed to ensure greater consistency, reduce transaction costs and increase transparency.

B. Other European countries

Ireland has a significant PPP program while many countries in the European Union (EU) such as Finland, Germany, Greece, Italy, the Netherlands, Portugal and Spain do engage in PPP projects, but their share of PPP in total public investments is relatively low when compared to that of the UK. Eastern European countries such as the Czech

Republic, Hungary, and Poland have also begun implementing PPPs in order to meet large scale infrastructure development needs while overcoming their weak fiscal positions (IMF, 2004). The European Council (2003 as cited in IMF 2004) states that the EU Growth Initiative envisages the use of PPP type arrangements for developing a trans-European road network.

In terms of guidelines, most of these countries have guidelines for PPPs, some of which are longstanding, such as Ireland's 'Framework for Public Private Partnerships in Ireland' published in November 2001.

C. American continent

According to IMF (2004), the USA has considerable experience with PPP involving leasing. Canada has fledgling PPP programs.

Mexico and Chile have a well-established PPP program that is largely used for the development of transportation, airports, prisons, and irrigation. Mexico in particular pioneered the use of PPP in Latin America with highway projects in the 1980's and public investment projects in the energy sector in the 1990's. In Chile, successful PPPs are primarily credited to a solid institutional framework which includes proper identification and evaluation of tender projects, adequate sharing of risks between the two parties, and the availability of private financing. Secondly, Chile also has a solid legal framework which includes crucial elements such as well-defined PPP contracts, clear descriptions of each party's rights and obligations and effective mechanisms for conflict resolution. The country also has in place adequate measures to identify, evaluate and tender infrastructure projects where project proposals are thoroughly evaluated in terms of their financial, social and environmental impacts. Chile also attempts to minimise contract renegotiations by improving project specifications and the tender process (Cruz et al., 2000; Gomez-Lobo & Hinojosa, 2000; IMF, 2004).

Other countries, such as Brazil, are planning significant use of PPPs in the future. There also appears to be a proposal for a regional approach to infrastructure development in Latin America, similar to that of the EU. This proposal plans to involve PPP-type arrangements for the implementation of such a network.

D. Asia

The IMF report of 2004 notes that PPPs are beginning to take effect in Asia, particularly in Korea and Singapore, whereas progress in other countries is rather limited. Japan is another Asian country which has recently begun embarking on PPP.

Jamali (2004) notes that PPPs have begun to take off in Lebanon where the economy was traditionally dominated by the private sector. The need for implementing PPPs in Lebanon arose after nearly two decades of civil unrest which resulted in the deterioration of the performance of the public sector due to physical damage, lack of resources and lack of supervision. PPPs were a less costly alternative to restructuring and reforming public enterprises. In Lebanon, PPPs have been utilized across several sectors such as telecommunications, post and solid waste management.

- **China**

Thieriot & Dominguez (2015) state that the Shajia B power plant in Shenzen, implemented in 1988, was the fitst BOT PPP project in China. Since then, PPPs have been implemented in various sectors, more commonly in energy, water and transporation.

Xie et al. (2002) note that since recent economic reform, the private sector has become an important sector in the Chinese economy, with an increasing presence of private presence. The local governments are also facing increasing fiscal constraints in urban economic development. These circumstances are ideal reasons for exploring PPPs.

A report by Thieriot & Dominguez (2015) on behalf of the International Institute for Sustainable Development noted the following factors as impediments for the implementation of PPP in China: (1) uncertainties for private actors, (2) improper risk evaluation and allocation, (3) lack of grounded evaluations, and (4) limited financial diversity. The report also suggests the following factors for getting the most out of PPPs: (1) seek efficiency and innovation before funding, (2) seek value for money for the whole asset life cycle, (3) the need for performance based specifications, and (4) mitigating political and regulatory risks.

- **Sri Lanka**

The Government of Sri Lanka (GOSL) has declared its intent to utilize PPP in Sri Lanka as a means for delivering infrastructure in 1995 (Ranasinghe, 1999). The Research Intelligence Unit (2007) claims that PPP investments in Sri Lanka in the 15 years prior to the report consisted of 15 projects amounting to a total investment of USD 1,651.9 million and has been implemented in a range of projects such as water and sewerage treatment plants, ports, waste disposal, power stations etc.

Wijesinghe (n.d.) (Chariman, BOI 1995-2001) notes in a report to the GOSL on a framework to build capacities for PPPs, that "history has proven that line Ministries or statutory bodies in Sri Lanka do not have the required policy formulation, structuring and legal skills to successfully execute PPPs. This must necessarily be brought under the aegis of the Ministry of Policy Planning & Economic Development". He notes three specialised institutions set up to facilitate PPPs, particularly the Bureau of Infrastructure Investments (BII) which was set up in 1996 as a Division of the BOI and functioned under the Ministry of Finance and/or the President. The following operating model was noted:

- **A management team** headed by a Deputy Director General: the team was carefully selected to ensure skills lacking in the government such as investment banking, economic and financial anaysis and forecasting, and legal. Two State Counsel from the AG's Department were seconded to the BII almost full time.

- **Staff**: recruited through a rigorous selection process and employed on short-term contracts of up to 2 years. Salaries were on par with the private sector. Incompetent employees were terminated with one month's notice.

- **Specialized technical skills** were hired though a USAID grant of USD 2 million. Eg: Hiring of Port Consultants for the Queen Elizabeth Quay BOT project.

- **Important Decisions** were referred to the Board of Directors of the BOI (which included the Secretary to the Treasury), and when required, to the Cabinet of Ministers.

The BII facilitated a number of projects worth more than USD 800 million over four years. Some BII projects are as follows. The first ever BOT in Port Development in South Asia (a joint venture); A competitive process in the telecom industry which resulted in the setting up of Lanka Bell and Suntel; structuring various financing packages and DBF opportunities; largest PPP in middle income housing and township development in Athurugiriya and Ekala and other projects (Wijesinghe, n.d.).

The South Asia Gateway Terminals (SAGT) located at the Queen Elizabeth Quay is widely regarded as the most successful Sri Lankan PPP to-date. The SAGT operates as a BOOT, and is a USD 240 million project partly financed by the ADB, IFC and the former CDC (World Bank Group, 2015). The SAGT website lists the project as a 30- year BOT. The SAGT is owned by a consortium of international and local entities, namely, John Keells Holdings PLC, A.P Moller Group, Evergreen International SA, Peony Investments SA and the Sri Lanka Ports Authority (SAGT, 2016). The largest shareholder of this project, John Keells Holdngs PLC, has expressed interest in taking part in more PPPs, specifically in the construction and operation of the East Container Terminal (ECT) in Colombo (Daily Mirror, 2016).

In September 2014, the GOSL entered into an agreement with the China Harbour Engineering Corporation (CHEC) for the reclamation of land south of the Colombo South Port breakwater to construct the Colombo Port City (CPC) (SEIA, 2015). This project has been referred to as a PPP. If so, it is the largest PPP undertaking in Sri Lanka to-date with a reported FDI of USD 1.4 billion.

2.7 Summary

Public Private Partnerships are excellent vehicles for delivering public assets and services without increasing public debt. Therefore, it is especially useful for developing nations that need to develop public infrastructure and services despite the nation's fiscal difficulties.

Generally, PPPs are implemented for large-scale projects. Therefore, failure of the projects is likely to result in a large number of costly issues for both the public and private sectors. A considerable number of studies have been conducted on critical success factors (CSF). The importance of these CSFs may differ according to the nature of the project, the geographical location of the project and a number of other

variables. Although CSF studies have been conducted in countries such as the UK, Australia and China, none have been conducted in the Sri Lankan context. Thus, a study of CSFs in the Sri Lankan context will be very beneficial to the country.

The review of literature revealed the extent of utilization of PPP across the world. Several international organisations and countries have published guidelines and handbooks for the implementation of PPPs. Despite the success of the South Asian Gate Terminals, a similar guide for Sri Lanka could not be found.

Sri Lanka's latest attempt at a PPP project is the Colombo Port City, a large land reclamation and township development project which has faced a number of challenges. The Netherlands and Finland have a wealth of experience in implementing PPPs for land development. Sri Lanka could obtain some valuable knowledge from PPP studies conducted in those two countries.

The findings of this literature review suggest that PPPs are an excellent method for delivering public assets/services if implemented correctly with adequate consideration given to the numerous critical success factors, especially when tailored to suit country specific political, economic, social, technological, environmental and legal contexts.

3.0 Colombo Port City Project: The case study

3.1 General

The Colombo Port City Project (CPCP) is widely regarded as the largest and most ambitious Sri Lankan PPP undertaking to date and is a collaborative project between the Government of Sri Lanka and a private entity, China Communications Construction Co (CCCC) (Chowdhury, 2015). The CPCP faced early setbacks and controversy due to alleged mishandling of key processes (Nathaniel, 2015). The CPCP is considered as the case study for this research. As such, this chapter examines the information available on the CPCP. The next section looks at the background of the project information on CPCP. Section 3.3 describes the key events of the CPCP. This is followed by the proposal for the CPCP and its benefits. Finally, the major issues of the CPCP are presented in five main categories, namely Environmental Concerns, Political Issues, Governance Issues, Legal Issues and Social and Economic Impacts.

3.2 Background of Project Information on the CPCP

There appears to be little or no information on the CPCP available to the public, which has resulted in the expression of a myriad of conflicting statements in local and international literature. According to Fernando (2015 a), certain important facts were either "deliberately or unintentionally omitted or misrepresented" resulting in confusion among the public as to the nature of the project and its impact on Sri Lanka.

Chamikara (2015) reports that the CPCP was proposed as a part of the Colombo Metropolitan Regional Structure Plan and the first draft was completed in 1998 by a Singaporean company, CESMA. He states that the project was abandoned due to the extreme cost of constructing the proposed break water. Fernando (2015 a) notes that a proposal to create a Port City was first made in 2004 with plans produced by a Sri Lankan team and CESMA for a Western Region Megapolis where the port city was included as a part of the Colombo city development. Urban infrastructure elsewhere in Colombo was expected to increase market prices first, thus justifying the cost of reclaiming land. The proposed plan was to fill only an area impacted by the construction of the South Harbour breakwater and suggested a city development owned by Sri Lanka on a smaller scale of land reclamation subject to further detailed studies. Reasons for abandoning the plan are cited as the change of government and the conflict situation which prevailed in the country (Fernando, 2015 a; SEIA, 2015).

Although not included in the project information in the SEIA of 2015, a news article from 2007 notes that President Mahinda Rajapakse viewed a presentation at a Cabinet Sub-Committee on BOI Investment on a 459 acre (186ha) Port City project to be undertaken by the John Keells Holdings conglomerate and the SLPA on a 45-45 joint venture with the approval of Enterprise Development and Investment Promotion Minister Sarath Amunugama. The estimated cost of the project was USD 480 million (Sunday Island, 2007).

The article states that "the Sri Lanka Ports Authority will get 45% of the new project's equity with no cash infusion while JKH, contributing 45% cash will take identical equity. The balance 10% is to be contributed by an institutional investor such as a multilateral lender or a global infrastructure fund from whom the required debt for the project would also be obtained". The article states that the SLPA will not be putting any cash into the project.

The Project was envisioned to create a "well defined Special Economic Zone catering exclusively to global and regional players in the financial services industry". The report notes that the JKH was to receive approval in a matter of days (Sunday Island, 2007). A news report from February 2008 noted that "John Keells Holdings (JKH) was preparing the formalities to sign the relevant agreements with the authorities" to reclaim land under a Public Private Partnership (Chandrasekara, 2008 a). A report from June 2008 noted that the JKH group had received an in-principle approval from the government for the 'Port City' (The Nation, 2008).

No direct information could be found as to why this proposal was abandoned later. However, a news report from July 2008 notes a court ruling against the JKH group on a Supreme Court Petition filed by Presidential Advisor Vasudeva Nanayakkara in January 2008 in relation to a dealing with the GOSL in August 2002 (Chandrasekera, 2008 b). This may have had a negative influence on JKH's bid to work on the Port City.

Initially conceived as a public sector/government funded project, the Sri Lanka Ports Authority (SLPA) commissioned an 'initial technical feasibility study' for the reclamation of land south of the breakwater for the Colombo South Port (CSP) in April 2010. In June 2010, an Environmental Impact Assessment (EIA) was commissioned by the SLPA, for which the University of Moratuwa (UoM) was the

lead consultant and the Coast Conservation & Coastal Resources Management Department (CCD) was the Project Approving Agency (PAA) (SEIA, 2015).

In January 2011, The Sunday Leader reported that the then Chairman of the Ports Authority, Dr. Priyath Wickrama, stated that the Port City would include an eight lane Formula One track. The same report states that the city will include a monorail, shopping complexes, hotels, office complexes, a marina and other water based activities. Construction was set to begin in March 2011; the filling of land was expected to take 2 years and infrastructure construction was expected to take another 1.5 years. The initial budget was USD 450 million, and Dr. Wickrama stated that many local and foreign investors have shown interest in investing in the project and confirmed that funding is likely to come from a Chinese source. He also stated that bonds will be issued to raise funds in addition to private investments. General Manager of SLPA, Capt. Nihal Keppetipola, stated that "The New Port City project more than anything else will be a massive revenue earner for the Ports Authority" (Azeez, 2011).

3.3 Key events of the Colombo Port City Project

The key events from 2011 up until early 2016 are as follows.

- April 2011: EIA was released (EIA, 2011).
- 29 April 2011: An initial concept proposal for a reclamation area of 200ha submitted to SLPA by the China Communications & Constructions Company (CCCC) proposing to provide the entire financial investment for the reclamation project as a Foreign Direct Investment (FDI) without any government guarantees.
- August 2011: Standing Cabinet Appointed Review Committee (SCARC) reviewed the proposal and recommended (1) that the SLPA sign a non-committal Memorandum of Understanding (MOU) with the CCCC and (2) the appointment of a Technical Evaluation Committee (TEC).
- November 2011: MOU between SLPA and CCCC was signed.
- According to a news report, "the Environment Evaluation Certificate for the project was obtained in December 2011, following compilation of all environmental evaluation reports and fulfilling all activities therein, adhered to relevant procedures" (Sirimane, 2014). In slight contradiction, the CHEC (2015)

states that the CCD notified SLPA that the TEC granted *preliminary* approval to the EIA on *four conditions.*

- October 2012: a detailed project proposal for a reclamation area of 233ha submitted by CCCC was forwarded by SLPA to the SCARC for review and the TEC for evaluation.
- March and July 2013: The TEC submitted two technical evaluation reports.
- September 2013: An addendum to the EIA reflecting the design changes proposed by CCCC's proposal from October 2012, particularly in relation to the increase of reclamation land area to 233ha, was released.
- A news report on 2014 notes that "the total administrative responsibility is vested upon Sri Lanka Ports Authority (SLPA), the Board of Investment and the Urban Development Authority" (Sirimane, 2014).
- 4th September 2014: the Cabinet of Ministers decided inter alia to implement the CPCP and, subject to approval by the Hon. Attorney General (AG), authorized the Secretary to the Ministry of Highways, Ports and Shipping to enter into an Agreement on behalf of the Government of Sri Lanka with CHEC Port City Colombo (Pvt) Ltd, the BOI approved company set up to implement the project (the Project Company). SLPA was authorized to carry out the required obligations under the agreement between GOSL and the Project Company (PC) (SEIA, 2015).
- 16th September 2014: SLPA, on behalf of the GOSL, and the Project Company (CCCC) entered into an Agreement in the presence of the Sri Lankan President at the time, President Mahinda Rajapakse, and President Xi Jinping of China. The physical land reclamation process was started.
- 17th September 2014: The Agreement was extended.

3.4 The proposal for the Colombo Port City Project

The initial proposal from October 2012 was for 233 hectares of reclaimed land, out of which 30 hectares of freehold land and 90 hectares of land on lease for 99 years (total of 120ha) were requested by the CCCC. However, the agreement of September 2014 granted 20 hectares of freehold land and 88 hectares of leasehold land for 99 years (total 108 ha). The estimated investment by CCCC was reported at USD 1.4 billion (Colombo Page, 2016). The CPCP is separated into two stages: Phase I (Reclamation only) and Phase II (Development of land/ construction).

The media reported that the CPCP was to include “roads, water, and electricity, communication facilities to set up shopping areas, water sports area, mini golf course, hotels, apartments, recreation areas and marinas and, in initial plans, a Formula One track” (Nathaniel, 2015). Some reported that of the 233 hectares, 170 hectares (420 acres) are to be used for commercial purposes, while the remaining 63 hectares (156 acres) are to be used for infrastructure such as roads (Chamikara, 2015).

After the Presidential Election of 2015, the new government formed on 21 January 2015 established a review committee chaired by Prime Minister Ranil Wickremesinghe to review the CPC project. On 12th February, acting Cabinet Spokesperson, Minister Lakshman Kiriella stated that the project was suspended. Minister Arjuna Ranatunga (Ports, Shipping and Aviation) stated that a decision on the project will be taken in the following weeks (Dalima, 2015 a). The Port City project was officially suspended for a period of one year beginning on 6 March 2015. A Supplementary Environmental Impact Assessment (SEIA) was commissioned and released in November 2015. The new SEIA is for a total reclaimed area of 269 ha, of which 173 ha is marketable (110 ha allocated to CCCC and 63 ha allocated to GOSL) and 96 ha were allocated for Public Spaces including parks and roads. The resulting percentages from total area for marketable land for CCCC, marketable land for GOSL and Public Spaces is 41%, 23% and 36% respectively. Azwer (2016) reports that although the Port City is expected to facilitate commercial and residential facilities, no industrial activities are allowed within the area. Figure 3.1 shows the land use plan for the CPC as found in a document prepared by Sweco (SEIA,2015). According to the diagram, the Port City’s lad will be used for commercial, hotel, cultural/education/health, leisure, marina, open space, public facility and residential purposes.

Subsequently, the Cabinet of Ministers granted approval for resumption of the project on 9 March 2016 (Nathaniel, 2015), and the Cabinet Committee on Economic Management recommended allowing resumption of the project subject to limitations and conditions stipulated in the EIA report. The Agreement was extended for a period of 6 months from 15 March 2016 (Lanka Business Online, 2016). The GOSL has stated that they have renegotiated some terms of the agreement so that the CCCC is no longer allocated any freehold land; all land allocated to the CCCC will be on a 99 year lease (Antonio, 2016; Colombo Gazette, 2016). By April 2016, the GOSL was

reviewing the possibility of converting the CPCP to a joint venture (Press Trust of India, 2016).

Land Use	Area	%
Commercial	371,126 m²	13.3%
Commercial & Residential	53,128 m²	1.9%
Cultural/Educational/Health	103,919 m²	3.7%
Hotel	69,989 m²	2.5%
Leisure Entertainment	131,292 m²	4.7%
Marina Facility	4,739 m²	0.2%
Open Space (Beach)	86,076 m²	3.1%
Open Space (Parks & Squares)	302,385 m²	10.8%
Open Space (Waterfront)	132,809 m²	4.7%
Public Facility	19,497 m²	0.7%
Public Streets	528,430 m²	18.9%
Public Utility	3,325 m²	0.1%
Residential	508,106 m²	18.1%
Residential (RM-1)	329,146 m²	11.8%
Residential (RM-2)	155,857 m²	5.6%
	2,799,825 m²	100.0%

Figure 3.1 Land use plan for the Port City (Extracted from SEIA, 2015)

The SEIA (2015) reports the following as some of the terms and conditions of the project agreement. In short, the Private Company is responsible for the reclamation of land, and development of public infrastructure (such as roads, power lines etc.) within the Port City while the GOSL is responsible for obtaining all permits (environmental and other), and providing supporting infrastructure (power, water, access points and roads etc.) to the boundary of the Port City.

3.5 The benefits of the Colombo Port City Project

The main benefit highlighted by the project proponents is that the Colombo Port City comes at no financial cost to the GOSL, which is a very rare occurrence, especially one of this scale. The USD 1.4 billion investment in the form of a FDI by CHEC for reclamation and the expected USD 15-20 billion investment by foreign entities for developing the land are highlighted (Sirimane, 2014; Pathfinder Foundation, 2015). According to CHEC, the Port City will provide socio-economic benefits to Sri Lanka (Colombo Gazette, 2015).

Benefits during the reclamation and construction phase: An article published by the Sri Lankan think-tank, Pathfinder Foundation (2015), stated that the reclamation and construction of the Port City will itself create sub-contracting and employment opportunities for the local community. Samarasinghe (2015) notes that the creation of a large number of construction jobs is the one significant economic upside to the project while a significant number of service sector jobs will be created if the new facilities are fully utilized. However, Samarasinghe (2015) envisages that there are alternative avenues of investment available to Sri Lanka to create comparable jobs.

As a business hub: The major benefit of the Colombo Port City is the expectation that it would become a major financial hub in the Asian region. The media reports that the benefits as stated by the project proponents include greater economic activity, leisure and living space (Colombo Gazette, 2015; Azwer, 2016). The rationale behind this is explained in the SEIA; global trend shows that service sector economic activities are the way to get ahead, and the CPC has the capacity to enable such activities. The SEIA also notes that the waterfront view and available land will enable the Central Business District (CBD) of Colombo to form within the Port City. The article also states that as the Port City will not be replacing any existing economic activity in the area, the benefits generated by the land will become and additional asset

to Sri Lanka (Colombo Gazette, 2015).

Jayawardane (2015) quotes the former Chairman of the SLPA, “We will receive a large financial benefit by granting these land extents on long-term lease that will enable the SLPA to receive a large financial benefit that will enable the SLPA in return, to pay back all loans”. The loans referred to here are speculated to be the ones obtained for the construction of the Hambantota and Oluvil harbours (Jayawardane, 2015).

Sri Lanka’s Ambassador to China, Karunasena Kodituwakku, stated that a financial hub connecting South Asia, Southeast Asia and the Middle East is expected to be set up in the Colombo Port City. He also claimed that “the project will create employment, tax income and indirect opportunity for other services… Everybody will benefit” (Daily News, 2016). Prime Minister Ranil Wickremesinghe also stated that the Colombo Port City will compete against Dubai and Singapore as an economic hub (Colombo Gazette, 2015). The Port City is also expected to attract local and international investments and buyers for shopping malls, hotels, real estate, educational centres etc. According to the Daily News (2016), in November 2013, China’s Ministry of Commerce has stated that the Colombo Port City will become a high-end urban complex in South Asia concentrating industries and creating over 80,000 jobs. Making the Port City an international business hub is expected to create opportunities for Sri Lankan youth in many modern economic sectors in the long term (Pathfinder Foundation, 2015).

As a tourism hub: In addition to creating a business hub within the Port City, the proponents also believe that it could be used to make Colombo a tourist destination instead of just a stop-over location (Dibbert, 2016). Numerous tourism, shopping and entertainment facilities are to be expected (Colombo Gazette, 2015).

Other: The Port City is also expected to become a leisure centre for locals and foreigners. Other benefits include “positive revenue generation to the government, transfer of technology and value added contribution to the national economy”. The SEIA notes that the CPC has the capacity to contribute towards the economic well-being of Colombo city and the Colombo Metropolitan Region (CMR) (Colombo Gazette, 2016).

The project is also expected to attract high profile FDI's from which indirect socio-economic benefits are expected. Examples of such benefits are the creation of direct employment in professional and technical occupations. The Colombo Gazette (2015) states that these employees are expected to be well paid and have the capacity to create indirect employment in the national economy due to high disposable income. An increase in GDP and foreign exchange earnings are expected as immediate impacts. Fostering modern management practices and upgrading the living standards of Colombo are other expected benefits (Colombo Gazette, 2015).

In summary, the SEIA (2015) states the following objectives of the Port City project:

- To foster integrated oceanfront living within the CBD to provide high quality of life through world-class office, residential and recreational spaces that will attract tourists, professionals, entrepreneurs, managers and retirees.
- To position Colombo as the most liveable city in South Asia
- To create a regional business hub, a city with a distinct brand with high quality public spaces and infrastructure facilities, attractive to local and international developers and investors
- To create a tourism hub with a unique character that reflects the distinctive local culture and the existing urban fabric
- To design and build a sustainable urban city space that adapts to local climate, creates a comfortable micro-climate and make efficient use of energy resources

3.6 Issues of the Colombo Port City Project

The project is generally advertised as having no cost to Sri Lanka, only benefits. However, since late 2014, the media reported several issues in relation to the CPCP which may result in monetary, economic, social, political and environmental costs.

The benefits and issues pertaining to the Port City project as available in literature are discussed in detail in the following sub-sections.

3.6.1 Environmental Concerns

Most of the opposition for the project was fuelled by concerns for the environment. As discussed in Section 3.2, the initial EIA (proposed area 133 ha, but may be increased to 200ha) was commissioned in 2011. An addendum was published in 2013 for 233ha. With the change of the government, a Supplementary EIA was published in 2015. This

SEIA is said to address the increase in size to 269ha and deficiencies in the previous two documents. Therefore, this section will attempt to create a distinction between the environmental concerns expressed prior to the SEIA of 2015, and those expressed post publication of the SEIA.

Incomplete EIA: There appears to be conflicting reports on the status of the Environmental Impact Assessment (EIA). Some political figures and environmental activists have stated that no EIA was compiled or that the EIA was incomplete. The Cabinet Media Spokesperson Minister Dr. Rajitha Senaratne refuted these claims, but confusion was caused when Leader of the House Minister Lakshman Kiriella later stated that the EIA is incomplete (Nathaniel, 2015). On 13th February 2015, the media reported that the government decided to suspend the CPC project as it was being conducted without "proper environmental and project assessment" (Dalima, 2015 b).

Jayawardane (2015) notes that the Central Environment Authority (CEA), Marine Pollution Protection Authority (MPPA) and the National Hydrographic Office (NHO) of National Aquatic Resources Research and Development Agency (NARA) appears to have not been consulted in the EIAs and feasibility studies prior to 2015.

The EIA was criticised that it "narrowly focused on identifying 'impacts on the project from the environment', but not 'on the environment by project construction and operation" (Fernando, 2015 a).

Staged EIAs: Another issue reported in the media appears to be the separation of the EIA into two parts, where the current EIA addresses the reclamation stage only, and a separate EIA will be issued later for the construction/township development. This is considered to be a major loophole, as some wonder what the point of it is if the EIA is conducted after sand dredging activities (Azwer, 2016). CHEC (2015) notes that a separate EIAs will be needed on a building-by-building basis as justification for the two phased EIA system.

Ocean currents and coastal erosion: Prior to the release of the SEIA of 2015, Jawayaedane (2015) and Samarasinghe (2015) quoted a statement made by the CEO of Lanka Hydraulics Institute (LHI) Ltd., Mr. Malith Mendis as saying, "although an in-depth study has not been carried out by the LHI or any other institute, there is unlikely to be a major impact on the environment, beach and erosion", but with a qualifier, "not rule out the (*sic*) long-term impact on marine resources".

The Palm City in Dubai was used as an example and justification for the reclamation of sea. However, Samarasinghe (2015) notes that the reclamation of the Palm City has reportedly caused damage to the natural beachfronts of the country, along with unconfirmed reports denied by Dubai authorities that the city is sinking at a rate of 5mm per year. The article also notes that the Palm City's artificial beach undergoes erosion and must be maintained artificially. Jayawardane (2015) notes that as Sri Lanka's wave front is comparatively more energized than Dubai's, the Port City could result in similar or worse erosion.

Fernando (2015 a) points out that the EIA had disregarded possible diffraction effects on the South Port and its access channel with an unqualified conclusion that, "no impacts on the existing South Port".

Effects of dredging sea sand: Fernando (2015 a) notes that although the CEA (regulatory authority for burrowing areas) and the CCD (regulatory authority for the reclamation area) issued a TOR for the project EIA incorporating sand dredging activities with reclamation, the EIA prepared by consultants in April 2011 had no impact assessment for sand burrowing (Corea, 2016). The EIA had also allegedly not looked into the methodology and transportation aspects of the extracted sand and does not state a quantity.

The CHEC (2015), in an article responding to these claims stated that the CEA requested an IEE to be conducted for sand extraction and subsequently "did not reject the IEE report, but withheld full approval pending the compensation process for fisherman being finalised prior to issuing the extraction permit". Chamikara (2015) notes that a number of breeding sites for fish have been destroyed as observed by fishermen. The effects on fishermen are discussed in Part E of this same section.

It appears that the SLPA then granted permission to the CHEC for sand dredging activities via written consent in order to meet the project inauguration requirements of September 2014. However, according to news reports, the SLPA had granted permission for sand to be extracted from the access channels of the Colombo South Port (CHEC, 2015; Fernando 2015 a; Fernando 2015 b).

Another claim is that rocky reefs, coral reefs and sand dunes are at risk of being smothered or unstable due to sand excavation (Chamikara, 2015; Karunarathne, 2015; Corea, 2016). Even after the SEIA was released, Azwer (2016) reported that

environmentalists claim negative effects in the Dikkowita fisheries harbour due to dredging activities close to it which have resulted in the harbour filling up with sand, thus preventing fishing vessels from entering and creating problems for fishing communities in the area.

Effects of Quarrying: The EIA and Addendum reportedly did not mention the quantity of quarry material required, impacts on the local construction industry, impacts on surrounding community (i.e: noise pollution, destabilization of soil etc.), impacts due to mode of transport and road network used for transport. All that is stated, inadequately, is that material will be sourced from GSMB approved quarries (Chamikara, 2015; CHEC, 2015). Environmentalists claim negative effects on residents close to quarry sites due to the explosives used to obtain 2.83 million cube of quarry materials (Azwer, 2016).

Partial blockage of the Beira Lake: Fernando (2015 a) notes that minimal attention is paid to the environmental impact caused by the partial blockage of the Beira lake outfall. He claims that the negative impact of the land reclaimed at the time could be clearly seen in the area.

Impacts during the construction and operational phase: The EIA, Addendum and SEIA were criticised for not adequately addressing impacts during construction and operational phases including issues such as management of mass dust emittance and transportation of large quantities of material during construction, and management of solid waste etc. during the operational phase (Fernando, 2015 a).

Impacts on Archaeological items: Chamikara (2015) states that the CPCP is located at a marine archaeology site and that adequate studies were not included in the EIA.

3.6.2 Political Issues

Background- China's interest in the Port City project: The attendance of the Chinese President Mr. Xi Jinping at the opening ceremony of the Port City project highlights the importance of the project in China's perspective. Samaranayake (2015 b) theorises that "importance appears to underlie two reasons: China's accumulation of foreign reserves and the CPC's geo-political advantage to China".

China is the world's second largest economy and the country with the largest foreign reserves (estimated at a little over USD 3.8 trillion). While having high levels of

foreign reserves is better than having low levels, it poses a problem for countries like China as they must find ways to use the reserves without causing adverse effects on their economy. Common options such as running trade deficits for extended periods or selling USD may result in unemployment, slow economic growth or an appreciation of the Yuan. Therefore, China resorts to two other options: lending to countries such as USA and investing in asset build up in countries outside of China. The CPCP provides an excellent opportunity for China to invest as it has the "potential of acquiring an asset in a fast developing region in the world and using it for China's commercial interests". It also provides an opportunity for China to gain revenue through commercial activities in the Port City, pursue other business interests in the region and in Africa with emerging economies as the 99 year lease enables a long-term presence in the region (Samaranayake, 2015 b).

The second reason is having a geo-political advantage in the region which includes Colombo's location in a major shipping route, as well as its proximity to the other emerging superpower in the region, India (Samaranayake (b), 2015).

Sri Lanka's diplomatic relationship with China: The implementation of the Port City would have been absolutely certain, had the Rajapakse administration returned to power at the last presidential election. The change of government may have resulted in China facing some uncertainty regarding the continuation of the project. This concern and the strategic importance of the Port City project is highlighted by China's decision to send top-ranking representatives (Samaranayake (b), 2015). Samarasinghe (2015) notes that cabinet spokesperson Dr. Rajitha Senaratne once tried o justify the decision of the present government to go ahead with the CPCP by stating that it was a "'business venture' done together with one of Sri Lanka's 'long-standing friends', China". The article states that this implies that the GOSL does not wish to displease China.

Sri Lanka's diplomatic relationship with India: There is some speculation that Sri Lanka's reliance/ close relationship with China in the past few years strained Sri Lanka's relations with India (Samaranayake (b), 2015). India is reportedly concerned about the CPCP project as they view the presence of China, another superpower, in the Indian Ocean as a security threat, especially to the large number of India-bound cargo

passing via the Colombo Port (Nathaniel, 2015). This concern was escalated when two Chinese submarines allegedly docked in Colombo in 2014 (Chowdhury, 2015).

Jayawardane (2015) quotes from an article published in the Times of India on June 2, 2013, "China is working on a draft for international seabed exploration that would enable it to explore the deep sea resources of the Indian Ocean and other seas far from its shores" and "The move is likely to worry New Delhi that keeps a close watch on China's strategic moves in the Indian Ocean with the help of countries like Sri Lanka. Colombo recently supported increased Chinese presence in the Indian Ocean saying China needed to protect its sea trade routes".

In fact, Former Defense Secretary, Mr. Gotabaya Rajapakse, stated that India's National Security Advisor, Mr. Ajit Doval, has personally requested "to stop the Colombo Port City project. The reason he gave was that the Port City" and that he had assured the Indian National Security Advisor that the project posed no threat to India" (The Sunday Times, 2015).

Environmentalist Sajeewa Chamikara (2015) stated in an article that President Maithripala Sirisena had agreed to allow India to be a stakeholder of the project during a visit to India. This could be an attempt by the new Sri Lankan government to pacify India and protect diplomatic relations.

Sri Lanka's sovereignty and security: Further, Sri Lanka's Civil Aviation Authority has issued a warning to the government stating that the airspace over the Chinese-held area would be under China's exclusive control (Chowdhury, 2015). It is claimed that the CPC will provide an opportunity for Chian to engage in fishing activities in Sri Lankan waters. The idea that China will be inviting their own investors for the Chinese-held areas is viewed as a threat to the sovereignty of Sri Lanka by some critics of the project (Chamikara, 2015). However, media reports are not clear on the extent to which Sri Lankan authorities will have a say in what is constructed and operated in the free-held and lease-held areas by the Chinese. As such, the CPCP could result in a number of issues in relation to regional security and sovereignty.

Election promises: The political events of late 2014/ early 2015 have been credited with the suspension of the Port City project (Azwer, 2016). During pre-election times, the then leader of the opposition, Ranil Wickremesinghe, declared that his government would scrap the Colombo Port City project (Perera, 2014; Samaranayaka, 2015 a;

Samarasinghe, 2015). The reason for this was that the project would end up destroying the coastal belt from Negombo to Beruwala (Perera, 2014). Samarasinghe (2015) notes that if the CPCP is to proceed, the new government will have to resolve some inconsistencies in its declared policies, specifically in relation to a more equitable distribution of wealth. .

It is noted that although the current ruling party was opposed to the CPCP project and promised outright cancellation of the project post-election, concern about the diplomatic relationship between Sri Lanka and China, along with other issues such as the plight of the workers, cancellation costs and monetary losses prove to be barriers to outright cancellation (Samaranayaka, 2015 a). The Pathfinder Foundation (2015), in an article published in early 2015, notes that the present government leaders "Should not allow personal animosities, vengeance and petty political considerations to prevail in making policy decisions".

Foreign Influences: According to the Pathfinder Foundation (2015), "here are some hidden hands behind the objections to the CPCP, based on misconceived notions promoted and supported by countries that are annoyed by the Chinese emergence as a major economic power and investing in countries which they consider as within their sphere of influence".

Influences of NGOs: The Pathfinder Foundation (2015) suggests that Non-Government Organizations funded by various foreign and local interest groups have opposed the CPCP on the basis of unfounded environmental concerns. They cite such instances relating to projects such as Kandalama Hotel and Norochcholai Power Plant, and recommend that "no government in a country like Sri Lanka should abandon or even delay multifaceted, long gestation projects such as the Port City development, highway construction or establishment of industries on the basis of unsubstantiated protests by so-called environmental groups".

Political influences on consultant and regulatory authorities: Some media report that officials of certain regulatory authorities (such as the CCD) were politically pressured into proceeding with the project despite gaps in the EIA (Jayawardane, 2015).

3.6.3 Governance Issues:

Lack of Project Feasibility Study: Fernando (2015 a) notes that despite searching through all available information, a comprehensive project feasibility study for the project could not be found. Only an Initial Technical Pre-Feasibility study for a small scale development of 80ha was conducted by some senior professionals in their respective capacities (Corea, 2016). The CHEC (2015) disputes that the consultants conducted the assessment in their individual capacities; they state that the study was conducted by specialists handpicked by SLPA from UoM, Scott Wilson of the UK, and LHI. The only other document available was the developer's project proposal (prepared in October 2012) submitted to the BOI. Fernando (2015 b) stated that a project feasibility from the investor's perspective is different to a feasibility study which should have been carried out by the government encompassing "technical, socioeconomic, environmental and financial feasibility from a country's perspective", and that no such document was available (the time of publishing the article was August 2015). Hence, the project had proceeded to reclamation stage without a proper feasibility study assessing its technical, financial and socio-economic viability.

Such a study would have identified alternative development concepts, appropriateness of having multiple phases, socio-economic benefits, impacts on the country, financial returns, land use plan, environmental concepts, utilisation level of the country's natural resources and required upgrading of existing utility services. (Fernando, 2015 b). Specific instances of information absent from the EIA (2011), Addendum (2013) are below; the project construction/land reclamation was carried out without these details.

- Quantity of material (i.e. sea sand and rock) was unknown until the publication of the SEIA.
- No infrastructure development plan was in place; a draft master plan was only submitted to the UDA in late January. This was returned for further improvement.

The lack of proper feasibility processes is not an issue unique to the CPCP. Thoradeniya et al. (2011) on the economic analysis of water infrastructure development projects in Sri Lanka notes "the lack of a competent process to establish the baseline situation leading to non-inclusion of some important social and environmental impacts, both positive and negative, by the project" and "deviations

from reasonable practices either due to negligence or on purposes that give decision makers optimistic data which could result in questionable decisions" as two major shortcomings which has resulted in erroneous economic feasibility indicators.

Ad Hoc nature of the project: The Colombo Port City is often referred to as an unsolicited proposal. Fernando (2015 b) claims that the CPCP is an ad-hoc project due to the seemingly random decisions of increasing its size without adequate studies (120ha to 233ha to 269ha), where the only reasoning seems to be providing the developer with adequate returns on the investment.

Ethical and professional background of the Project Company: The media reports that the CCCC is banned from undertaking any projects funded by the World Bank from July 2011 to July 2017 due to a history of unethical and corrupt practises involving the Philippines National Roads Improvement and Management project. Although not illegal, it is concerning that a company black listed by the World Bank was engaged by Sri Lanka on a project of this scale (The World Bank, 2011; Sri Lanka Guardian, 2014; Samaranayaka, 2015 a; Samarasinghe, 2015).

Conflicts of interest: The Sri Lanka Ports Authority (SLPA) then entered into a Memorandum of Understanding (MoU) with the CCCC and obtained a detailed proposal which was then evaluated by the Technical Evaluation Committee of the SLPA. This is viewed as a possible conflict of interest as the SLPA is one of the project proponents (Jayawardane, 2015; Chamikara 2015).

The Coast Conservation Department (CCD) is one of the main regulatory bodies for the EIA. Jaywaradane (2015) notes that "the CCD was brought under the Defence Ministry, the secretary of which was also in charge of the UDA, a partner to the Port City administration, thus reflecting a glaring conflict of interest and it appears that the officials of the CCD were overawed and prevented in (The World Bank, 2011)calling for an in-depth EIA".

Other conflicts of interest reported in the media are that a consultant engaged by the GOSL for the EIA was (1) also a consultant to the CCCC, and (2) appointed a member of the committee charged with reviewing the EIA (Corea, 2016).

Confusion within the Public party: Various members of the government of Sri Lanka, issued a number contradictory statements in 2015 creating some confusion

among the public as to whether the project was abandoned, suspended or to proceed with an amended agreement (Samaranayaka, 2015 b). Examples of such instances were: (1) the status of the EIA as discussed in Part A. Environmental Issues (Nathaniel, 2015), and (2) regarding obtaining approval of the cabinet where the spokesperson, Mr. Rajitha Senarathne, declared in early 2015 that the project has received approval, which was later rejected by the Prime Minister who stated that the government had not yet completed the review of the EIA, and the information on the project was 'incomplete' (Samaranayaka, 2015 b; Samarasinghe, 2015).

Lack of availability of information in the public domain: Several media articles have stated that there is a lack of project information available to the media (Samarasinghe, 2015; Jayawardane, 2015). The detailed project proposal, the existence of which is debated, was not available to the public, and the previous regime was said to control the release of information. The media states that the public has a right to know the full details of the project and has requested that the new government make it available (Samarasinghe, 2015). Lack of transparency is quoted as an issue of the project (Corea, 2016).

Public protests: Some members of the public including environmentalists and the fishermen community have staged protests against the Colombo Port City project. The People's Movement Against Port City organises such protests (The Sunday Times, 2016).

3.6.4 Legal Issues

A number of news articles have been critical of the legal basis for approving and implementing the CPCP.

Laws for reclamation of the sea: Mr. Anura Kumara Dissanayake, the leader of the political party 'Janatha Vimukthi Peramuna', has stated that there are no existing laws in Sri Lanka in relation to land reclamation of the sea (Nathaniel, 2015).

Jayawardane (2015) states that some aspects of the United Nations Convention on the Law of the Sea (UNCLOS) may be applicable to the Port City: particularly Part VIII Regime of Islands and Part XII Protection and Preservation of the Environment. Further, it is noted that as the materials used for the construction of the land is from a sovereign state, offshore permanent land built by such materials should be owned by

that state. It was unclear if the GOSL had sought legal opinion on the rights and obligations the foreign entity will have on this offshore area.

Legal Authority of SLPA: Sirimane (2014) reports that questions were raised as to why the SLPA was implementing the project. The responses reported in the article are that the SLPA is "the only institution in Sri Lanka who possesses experience and technical expertise to implement and carry out such activities". However, the SEIA (2015) notes that the SLPA had to handover the project to the Ministry of Megapolis as it had no authority to reclaim land.

Laws for sand mining and quarrying: The extraction of non-renewable resources require permits issued under the Mines Mineral Act No. 33 of 1992. In early 2015, the media queried if such permits were issued for the project and if the relevant royalties and fees were collected by the government (Jayawardane, 2015).

Environmental clearances: Section 16 of the Coast Conservation Act states that it is mandatory to conduct a comprehensive EIA by the project entity in order to obtain the Environmental Clearance Certificate (Jayawardane, 2015).

Petitions and court cases against the Port City: Media has reported on at least two court cases and petitions against the Port City. Karunaratne (2015) reported on a Court of Appeal hearing petitioned by the Centre for Environmental Justice against the SLPA, CCD, CEA, BOI, CHEC and AG. The other is a Fundamental Rights Case at the Supreme Court petitioned by the All-Ceyon Fisher-folk Trade Union against the AG, SLPA, CCD, GSMB, UDA and CCCC relating to lack of transparency and due process in the Port City along with damages to the environment (Sooriyagoda, 2016).

3.6.5 Perceived Social and Economic Impacts

Doubts about the necessity of the project: Several articles in the media have expressed doubts regarding the necessity and appropriateness of the Port City project. Samarasinghe (2015) notes the following reasons: (1) Reclamation of CPCP is to cost USD 1.5 billion while various media outlets state that the development of the port city is estimated to require an investment of USD 15-20 billion. It's a project of enormous financial investment, especially when considering that Sri Lanka's proposed allocation for capital expenditure in January 2015 was USD 4 billion, and Sri Lanka's total investment in 2013 (public and private sectors combined) was USD 19.6 billion; (2) Port City is supposed to compete with similar projects such as the Palm City in Dubai.

The Palm City was built as a luxury tourist resort as Dubai is due to run out of oil soon. In contrast, Sri Lanka has other alternatives to develop the economy. Further, Sri Lanka (per capita GDP of USD 4,000) may not be able to provide facilities of a similar level as in Dubai (per capita GDP $60,000); (3) High-end tourism is a fickle industry sensitive to political instability in host countries and economic recessions in the tourists' home countries. Questions arise if Sri Lanka should risk a project of this scale when other stable alternatives are available. While the article notes that Sri Lanka should not opt out of the worldwide trend of mega urban development projects, the CPCP would not yield the highest possible social and economic benefits for Sri Lanka as the Port City is likely to be isolated from mainstream society.

Financial and Economic Viability: There appears to be a general consensus in the media that the financial and economic benefits of the project cannot be properly estimated at this stage. Samaranayake (2015 a) states that the recent failures of other ambitious development projects undertaken by the previous government such as the Hambantota harbour, Mattala airport and Suriyawewa cricket stadium, despite allegedly being subjected to extensive economic and financial analysis, highlights the risk of uncertainties in large scale development projects in Sri Lanka. This casts doubts on the ability of the Colombo Port City to yield the estimated benefits.

On the SLPA's estimated benefit of USD 20 billion, Jayawardene (2015) notes that "it is impossible to make a realistic assessment on the economic impact of the Port City project as a detailed financial evaluation with reliable capital and recurrent expenditures for generating an income of US $ 20 billion is completely from the 'blues'". He also noted that the statement is akin to "counting the chicks before the eggs hatch". Although the project proponents have estimated the creation of between 80,000 to 100,000 new jobs, the estimates are generally seen to be misleading as a basis for the estimation is unavailable. Another concern is the ability to attract the necessary amount of customers (estimated at 1 million) to retain these employment numbers (Samaranayake, 2015 b).

According to Samaranayake (2015 b), a press release on the SLPA's web site (link: http://www.slpa.lk/news_events_14075.asp) included a quote from the Chinese Ambassador Wu Jinangho: "under the second phase China will invest US$13 billion to develop the land it would own, while Sri Lanka has to develop its own land area.

China will not assist Sri Lanka in developing its part of the land and it has to find its own finances to develop the land". This raised the issue of Sri Lanka's difficult to meet equal amounts of funds to develop infrastructure on Sri Lanka's land to a competitive level, thus losing commercial value. However, the SEIA (2015) notes that the provision of all public infrastructure (i.e: roads and power/water etc.) within the Port City is the responsibility of the CHEC provided that the GOSL provides connection points to the boundary of the Port City. Thus, this may no longer be an issue. It is noted that Sri Lanka will have to rely heavily on foreign investments in order to develop the plots of land allocated to it within the Port City due to the nation's current fiscal standing.

Suspension of the project: The suspension of the CPCP for has resulted in the CHEC claiming compensation for project overruns and because some of the work already completed may have to be redone (eg: the project was suspended prior to installing proper retaining structures. Therefore, some of the material used for reclamation may have washed away) (Samaranayake, 2015 b). In 2015, the losses were reported at USD 380,000 per day (Karunarathne, 2015). As at April 2016, the CHEC has demanded USD 125 million in compensation or permission to reclaim more land than what was assigned (Wickramasekara, 2016).

Samaranayake (2015 b) notes that should the project fail, Sri Lanka would be unable to bear the financial costs of this project due to Sri Lanka's fiscal position, especially in terms of foreign debt.

Cost of natural resources: Fernando (2015 a) states that the cost of natural resources (i.e. sea sand) provided by the GOSL for the CPCP has not been calculated. The article calculates the opportunity cost foregone by Sri Lanka at around USD 1.7 billion for sand and notes that the opportunity cost foregone for the seabed of the Port City had also not been considered. This issue is addressed in detail in Chapter 5, Section 5.4.3.

Tax concessions: Chamikara (2015) and Corea (2016) report that the project has been given a 25 year tax concession through the Strategic Development Projects Act. Samarasinghe (2015) reports that the previous regime announced an unidentified investor for the development phase willing to invest USD 2.5 billion in return for a plot of reclaimed land on a long-term lease along with tax holidays.

Costs of maintenance and supporting structure: Samarasinghe (2015) notes that the beaches in Dubai's Palm City erode and must be artificially maintained. Such a situation could result in additional costs to the GOSL which is likely to be responsible for the maintenance of public spaces within the Port City. The GOSL is also responsible for providing supporting infrastructure (i.e: meeting water, power, waste management and traffic demands) to the boundary of the Port City at great cost (SEIA 2015; Corea 2016).

Effects on land price: Addition of a large area of beachfront property could depreciate the price of existing land in the area, which could be good for buyers and new investors, but bad for current landowners (Samarasinghe, 2015).

Increase of cost of construction materials: The project, specifically in the township development stage, could increase the cost of construction especially in the Colombo District by boosting demand for rock, metal, sand other building material (Samarasinghe, 2015).

Fishing industry and the livelihood of Fishermen: Azwer (2016) reports that environmentalist, Mr. Tilak Kariyawasam has stated that the dredging activities for the Port City has a negative impact on the livelihood of fishermen in the area. He also stated that "the SEIA report underestimates the actual numbers of the fishing community who are likely to be affected by ongoing Port City related activities" (Karunarathne, 2015). The same report notes that although the SEIA has acknowledged this issue, and has proposed an "income support and benefits programme for fishermen", the extent of the impact of fishermen remains to be seen as the project is in its initial stages (The Sunday Times, 2016).

Separate community: This high-end living is mostly affordable to foreigners, expatriates and a very small proportion of locals. Some believe that the benefits of the Port City may be reaped by an elite few, while others believe that the CPCP could potentially increase the gap between the rich and poor significantly. The different in purchasing power between the locals and foreigners could mean that the residential and commercial facilities in the Port City may be largely occupied by foreign citizens, forming a small foreign enclave attached to Colombo (Jayawardene, 2015; Samarasinghe, 2015; Azwer, 2016; The Sunday Times, 2016).

Other: Chamikara (2015) points out that the effects of large scale quarrying on people living close to quarry sites is an issue to be addressed, along with the impacts on coastal tourism, should the beaches be eroded due to the CPCP.

3.7 Summary

The CPCP appears to be based on proposals dating as far back as 1998, but with considerable changes made to it. The project was revisited and revived in several instances only to be abandoned until it was officially implemented in September 2014. Since then, the CPCP has been expanded into a 269ha city based on reclaimed land, of which the Project Company is to receive around 110 ha, the GOSL around 63 ha and the remaining area is to be used as public space for roads, parks, a public beach etc.

Numerous benefits from the CPCP have been predicted of which the main benefits are those received during the reclamation and construction phases in terms of employment and benefits received as a financial hub and tourist destination.

The project was suspended from March 2015 to March 2016 in order to review several issues reported by members of the public and the media, mainly in relation to the environment. However, review of literature reveals more political, governance, legal, social and economic issues to be addressed in addition to these environmental concerns.

4.0: Research Methodology

4.1 General

Research methodology encompasses the type of research, its approach, the research designs and method, the most appropriate techniques for data collection, and the suitable tests for data analysis.

This chapter describes the available methodological options, and the reasoning and justification behind the selections used in this research study. Section 4.2 describes the overview of the research framework. Section deals 4.3 with the different classifications of research, research methods and research designs. Section 4.4 provides an overview of available data collection techniques and tools, as well as the justification for the selected techniques and tools. Section 4.5 describes the same for methods of data analysis. A brief summary of the sections is provided at the end of this chapter.

4.2 Research Framework

The Research Gap was identified through the literature review, leading to the formation of the research question, aim and objectives. Next, the research scope was determined, followed by the development of the Research Framework depicted in Figure 4.1.

Interview questions were formulated based on the reviewed literature on the CPCP. These interviews were conducted with two professionals who had reviewed documents relating to the CPCP and had previously been quoted in/written news-paper articles. These were conducted with the objective of obtaining more details, clarifying existing information and identifying issues pertaining to the CPCP which were not identified in the literature review.

Next, the research process was split into two directions. One direction involved the combined analysis (Appendix 1) of information from the literature review and interviews to form a Pilot Questionnaire. The questionnaire was revised several times. The feedback on the Pilot Questionnaire was used to revise and develop a Final Questionnaire (see Appendix 2). The Final Questionnaire was used to conduct structured interviews for a sample size of 40. The responses were then analysed in accordance with Section 4.6 of this report.

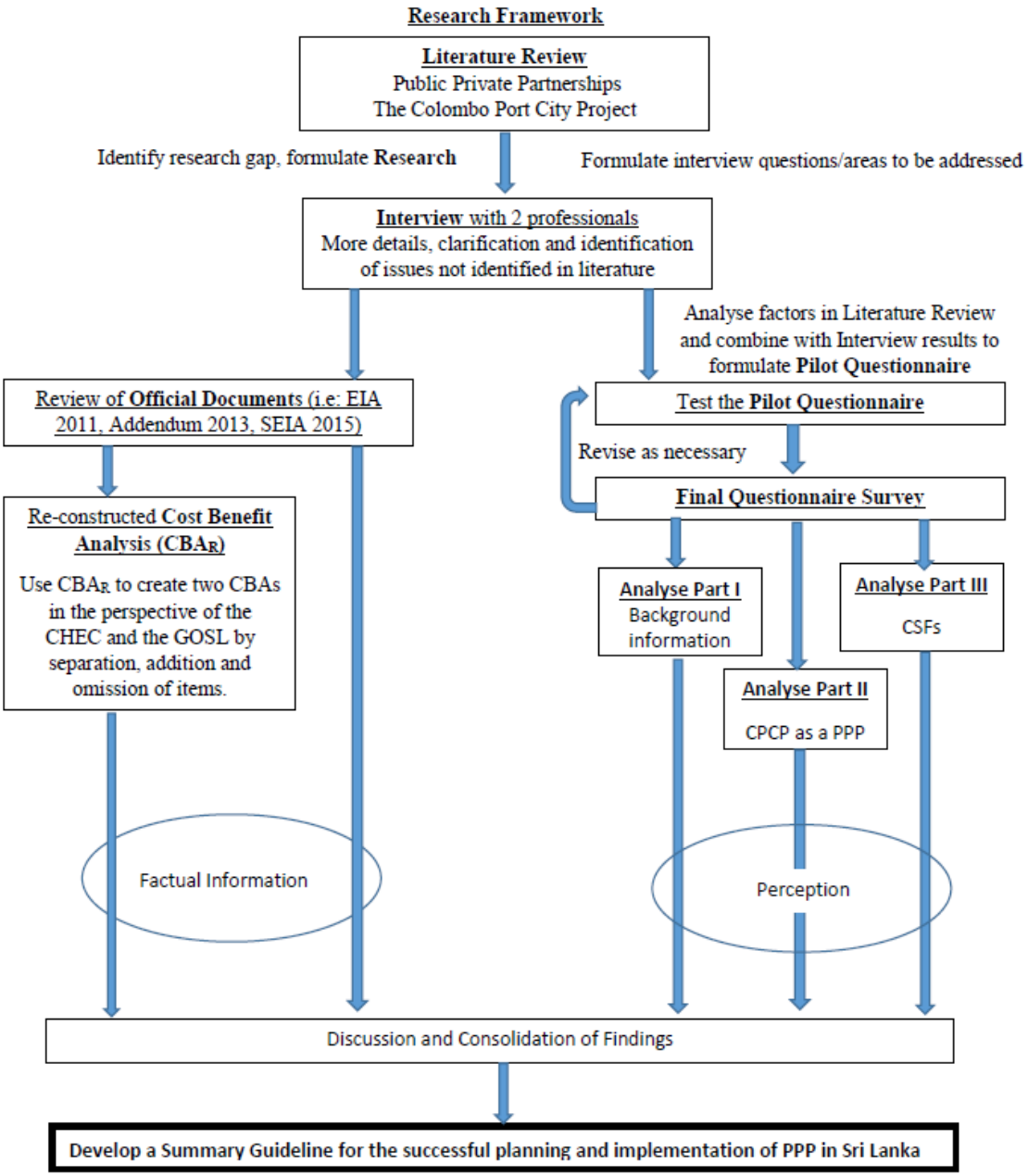


Figure 4.1 Research Framework

The other direction of the research process involved reviewing official documents (such as the Environmental Impact Assessment, Feasibility Studies etc.) produced by the project principals. Changes to the EIAs were noted and analyzed. The information was used to analyse the Extended Cost Benefit Analysis produced in the SEIA (2015).

The research produced three separate analyses: (1) Review and analysis of the Summary CBA, (2) Analysis of official documents (i.e. EIA, Addendum and SEIA), and (3) Analysis of Questionnaire responses. These provided a mix of factual

information as well as perceptions or various project stakeholders and members of the public. The findings are discussed in Chapter 5.

Finally, the results were compiled to develop a list of critical success factors for the successful planning and implementation of PPP in Sri Lanka.

4.3 Research Types, Methods and Designs

Research can be classified in a number of different ways based on the purpose of the research, methods of data collection and data analysis. There are three different ways of classifying research types as presented in Table 4.1

Table 4.1 Classification of Research Types

Author	Research Type	Description
Gratton & Jones (2010) Oo (2013)	Exploratory	Little or no existing knowledge on the research topic. Involves hypothesis testing.
	Descriptive	Describes "what is occurring" or "how much is occurring" of the phenomenon being studied.
	Explanatory	To determine why a particular phenomenon would occur. Requires a theoretical framework.
	Predictive	Future phenomena are forecasted based on findings.
Gratton & Jones (2010) Oo (2013)	Pure	Undertaken to gain a general understanding of the overall picture of issues and concepts. Viewed as academic. Further work required to determine practical application.
	Applied	Undertaken where a specific solution is required for a practical question, or to test if a theory applies to a practical situation.
Charles Sturt University	Primary	Generated by a process where questions are designed and raw data is collected with the research aim in mind.
	Secondary	Based on findings from previous studies, and involves the collection and analysis of existing data

The research methodology adopted to achieve the objectives of this study was to describe "what" was occurring in the CPCP "how" it may be improved or made successful, ultimately developing a list of CSFs for PPP in Sri Lanka. This was achieved by analysing data gathered from professionals involved in the project and perusing official project documentation. Therefore, this research study can be classified in the Descriptive, Applied and Primary Research categories.

Denscombe (2007), states that a Research Method is essentially the nature and approach of the research. It can be classified into three methods as depicted in Table 4.2.

Table 4.2. Classification of Research Methods

Author	Research Method	Description
Denscombe (2007) Kumar (2005) Cresswell (2003)	Qualitative	Undertaken when the purpose of the study is to describe a phenomenon. Information gathered is nominal or ordinal.
	Quantitative	Perceived as being more scientific. enables faster analysis and can provide for more effective presentation of data and results.
	Mixed	Uses both Quantitative and Qalitative methods for greater benefit. Cancels out weaknesses of individual methods

This study uses a Mixed Method so that it can benefit from advantages of both Qualitative and Quantitative methods while cancelling weaknesses of each method. A Mixed Method approach also helped in strengthening results by confirming and/or clarifying quantitative information obtained from the questionnaire with qualitative information obtained from documentation and interviews.

The Mixed Method approach can be further classified into two types: namely, Dominance based and Sequence Based as explained in Table 4.3.

Table 4.3 Classification of Mixed Method Approach

Author	Mixed Method Type	Description
Daigneault & Jacobs (2013) Denscombe (2007)	**Dominance Based**	
	Multilevel Designs	One method is used at Macro level and the other at Micro level
	Equivalent Status	Both methods are given the same status in terms of usage and importance
	Dominant Status	One method will be used more than the other
	Sequence Based	
	Sequential Studies	One method will be used first, followed by the other
	Simultaneous Studies	Both methods will be used at the same time

Simultaneous Studies approach with the Qualitative method having a Dominant Status was selected to enable a more comprehensive and in-depth analysis of the information available. A quantitative approach was undertaken with statistical analysis to establish the representation of characteristics and CSFs of PPP in the CPCP. A qualitative approach was then utilized to describe the reasons behind the quantitative results.

The "Research Design" is the overall strategy applied to a research in order to effectively address the research question and to coherently and logically combine various components and procedures of the study (Kirshenblatt-Gimblett 2006,

Trochim & Donnelly 2006). The classification of Research Design is presented in Table 4.4.

Table 4.4 Classification of Research Design

Author	Research Design	Description
Fetterman (2010) Ruspini (2004) Jackson (2008)	Ethnography	An in-depth description of cultures and everyday life are provided in qualitative form. Popular in Social Research.
	Longitudinal Study	Corelational research design that uses observational techniques to study the same set of variables repeatedly over a period of time.
	Cross Sectional Study	A design which observes a population at a certain point in time.
Denscombe (2007) Creswell (2003)	Surveys	Used to gain a broad view on the basis of a comprehensive set of data for analysis. Conducted at a specific point in time and focus on empitical research. Eg: Questionnaires, Internet Surveys, Interviews
	Experiments	Empirical investigations concerned with determining causes of changes that occur to the subject or issue being studied. Extends itself beyond the establishment of links and relationships. Two types: (1) Laboratory experiments (2) Field experiments.
	Case Studies	Focus on just one particular or a limited few instances of the subject to be investigated, rather than taking the general view. Enables a more in-depth study and can reveal more important insights.

As evident from Table 4.4, there are numerous types of Research Designs. However, the most commonly used types are Surveys, Experiments and Case Studies. This study utilized both Surveys and a Case Study. The justification for this selection is as below.

Denscombe (2007) states that Questionnaires, Internet Surveys and Interviews are all types of Surveys. They allow for broad coverage, and in turn generalisability of findings. This is important when attempting to establish the representation of PPP characteristics and CSFs in the CPCP, as a survey would accumulate the views of a broad range of professionals. It would not be relying on information provided by a single source.

The disadvantage of Surveys is the lack of detail and depth of data. The accuracy and honesty of the respondents may also not be entirely reliable and may affect the findings (Creswell, 2003). This weakness can be somewhat mitigated by the use of Case Studies which allow for a more in-depth study which can reveal important insights. In addition to providing a holistic view of what is being studied, Case Studies also allow for the investigation of relationships and processes than just outcomes. These characteristics help in the study's aims to understand the impacts of different issues on the CPCP, as well as how the issues are inter-related. Most weaknesses of

Case Studies, such as an abundance of qualitative data, are mitigated by the use of Surveys in conjunction with the Case Study.

4.4 Techniques for Data Collection

The techniques used for data collection play a vital role in research as the quality of the technique and data would directly affect the quality of the results and findings. Table 4.5 explores the most popular options.

Table 4.5 Data Collection Tools

Author	Data Collection Tool	Description
Brace 2013	Questionnaires	Designed to collect information directly from a sample through a list of questions. The data collected may be factual or the opinions of the respondents.
	Documents	Perceived to be one of the most reliable methods of data collection if obtained from a credible source.
Denscombe (2007) Gillham (2000)	Interviews	Used when the research requires in depth and/or privileged information and covers sensitive topics. May be (1) Structured, (2) Unstructured or (3) Semi-Structured

This study utilized all three Data Collection Tools, but at different points of the study and for different purposes.

The hard facts may be obtained by perusing *Documents*. Documents are a source of secondary data. Information obtained from documents produced by a credible source is generally perceived to be one of the most reliable methods of data collection. In the context of this study, the comparison of original and revised documents helped to identify the improvements made on the perceived adverse impacts of the original documentation. This in turn helped to develop the list of CSFs for successful implementation of PPP in Sri Lanka.

Most of the previous studies on CSFs were conducted by *Questionnaire* surveys. However, most of these studies were conducted in Australia, the UK, Hong Kong and China. Therefore, this study used the same data collection tool to establish if the ranking of CSFs in Sri Lanka would be different to the studies conducted elsewhere. It is important to note that the surveys generally collect perceptions rather than hard facts, although it does enable the collection of primary data. The questionnaire was developed in stages; a pilot questionnaire was conducted and the responses were used to revise and create the final questionnaire. The Questionnaire was not self-administered; it was conducted face to face in the form of a structured interview so that the respondent could clarify and query, while the interviewer could ensure that the

questions were properly understood. The respondents were provided with a 'reading copy' while the interviewee filled in the questionnaire. Where permission was granted, responses to the questionnaire were also digitally recorded.

The third data collection tool is the *Interview* method. Another source of primary data, this technique is generally used when the research requires in depth or privileged information that cover sensitive topics. In the context of this study, interviews were conducted as a method to clarify, verify, and expand on responses to the questionnaires and information obtained from documents. The interviews were mostly "Semi-Structured" so that while the issues to be addressed are made clear, there is flexibility in the range of topics to be covered. This flexibility is important, as it leaves room for the interviewee to provide answers that are less skewed towards the pre-conceived biases of the researcher. This interview technique enabled most respondents of the questionnaire to elaborate their answers, something which they seemed to value. Respondents with certain expertise were asked an additional set of questions pertaining to their field and the CPCP.

In summary, all three methods of data collection were used to enable a more thorough and credible analysis.

4.5 Consideration of Ethics

The University of Moratuwa does not require formal approval from its administration to conduct interviews or questionnaire surveys. However, as a precaution, all interviews will be recorded with the consent of the interviewee, and all questionnaire surveys will be conducted with the consent of the participants. All participants will be given the option of remaining anonymous.

4.6 Formulation of Questionnaire and Interviews

This section provides details of the process of formulating the questionnaire and interview questions.

4.6.1 Pilot Questionnaire

The pilot questionnaire was developed after completing the Extended Cost Benefit Analysis (see Chapter 5) for the Port City project. The questionnaire placed a greater emphasis on stakeholder perspectives, especially those of the members of the public.

Key informant interviews and informal discussions were conducted before the

formulation of the pilot questionnaire. The participants were as given below:

- A consultant for the EIA in relation to environmental impacts.
- An engineer with experience in the Environmental Management of construction projects, and who sits on the review committee appointed by the current government.
- An environmental lawyer with experience in multiple Environmental Law issues.
- A third interviewee (an Environmentalist) was contacted, but declined to comment due to on an on-going court-case. However, he directed the researcher to his website in which he addressed most issues in relation to the CPCP.

A list of the issues discussed and comments made by these interviewees is available in Appendix 1. In general, the interviews identified two other CSFs (not given prominence in previous literature) which were included in the development of the Pilot Questionnaire, and later in the Final Questionnaire.

- Commitment to achieving low environmental impacts
- Support from the general public

The new questionnaire was divided into four parts, several questions in each section. Table 4.7 summarizes the structure of the questionnaire.

The pilot questionnaire was conducted with 3 respondents: a journalist, an environmentalist and a member of public. The feedback on the questionnaire from the respondents as well as the general observations of the researcher are as per Table 4.8.

Table 4.7 Structure of Pilot Questionnaire

<u>Part I: Participant Information</u> 1. Respondent's category or level of involvement (i.e: Private entity, public party, environmentalist, journalist, hotelier, consultants etc.) 2. Occupation 3. Years of relevant experience 4. Method of obtaining information, perceived reliability of the method and reasons 5. Opinion on if the CPCP should proceed without further reviews or assessment	Existing question, revised. Existing question Existing question New question New question
<u>Part II: PPP and the CPCP</u> 1. Awareness of PPP 2. Opinion on whether CPCP is a PPP and reason for negative answer 3. Characteristics of PPP as displayed in the CPCP 4. Factors for successful implementation of the CPCP	Existing question Existing question Existing question, revised. Existing question, revised.
<u>Part III: Major issues relating to the CPCP</u> 1. Support for the CPCP 2. Reasons for not supporting the CPCP **Section A: Political, Legal and Governance Issues** 1. Alleged malpractices of CPCP (extractions from interviews and new articles) **Section B: Environmental Issues** 1. Opinion on sufficiency of current SEIA 2. Concerns regarding environmental impacts of CPCP 3. Opinion on technical knowledge and resources of project proponents for tackling environmental issues 4. Support for CPCP provided that environmental issues are handled	New question New question New question New question New question New question New question
<u>Part IV Risk analysis for Political, Legal and Some Economic Issues</u> 1. Rate the likelihood (scale of 0 to 5) of issue occurring and the potential cost or benefit (6 options - low, moderate, high cost or benefit).	Existing question, revised with some new issues.

Table 4.8 Feedback on Pilot Questionnaire

From the respondents	
Part 1, Q 1	Make it a bit clearer so that the respondent does not have to sift through so many options
Part 1, Q 3a	Confusion over the Project Company being a private entity as it is backed by a foreign government
Part 1, Q3d and Q3e	State if risks and benefits need to be shared equally or just shared in general.
Part II, Q4	Omit 'Colombo Port City' in the heading to "projects of this nature" as some of the sub questions lead to no use in the context of the Colombo Port City (i.e: the project is already being implemented, so why does it matter?)
Part II, Q4	In the heading, define "successful implementation"
Part III, Q1	The question is about the respondents support for the CPCP, and had a 'yes' or 'no' answer. However, some respondents who answered 'yes' stated that they only answered 'yes' as it seems like there is no choice but to support the CPCP now. This indicates that a simple yes/no answer might fail to take into account the complex reasoning behind a person's answer. Revision of answer options is advised.
Part IV:	The answering options appear to be a bit confusing for some questions. • Some questions were stated in a way where the impact has both benefits and costs, and it is difficult to estimate the overall impact. Solution: Impacts need to be revised so that it is more specific. • Some requested space to explain their answers. Action: No space, as this will complicate data analysis. Revise questions instead. • No option to mark equal costs and benefits. Solution: insert an option. However, this will be difficult to transfer across to the Risk Matrix. • Some questions are on impacts which have occurred already, and therefore the likelihood seems an irrelevant point. Solution: change explanation of 'Likelihood' at the start of the question to read "probability of an event occurring/having occurred resulting in yielding the specified outcome. Rate from 1 (will not occur) to 5 (will definitely occur/has occurred).
General	Make language simpler. Eliminate or limit technical jargon and language specific to the field of study.
The researcher's observations	
One respondent took 1 hour 15 minutes to complete the questionnaire. This is a very long time. The time needed to be reduced by (1) making questions clearer and easier to understand, (2) making answer options easier to understand, and (3) reducing and revising content.	
Font size can be increased.	

Part IV can be better formatted to take up less space and look more streamlined.
One respondent questioned the general assumption of the questionnaire that the Port City, if implemented, will be successful (i.e: bring in the forecasted economic prosperity to the country). They were of the opinion that it could fail, leaving Sri Lanka with assets that will have to be used for other functions (eg: Mattala International Airport). This was an interesting view as it is a fresh perspective.
Part III, Q2: Currently to be addressed by those who answer 'No' for Q1. This question might be more useful if revised to ask respondents to rank their concerns, if any, rather than just ticking all that is applicable.
Part IV: Likelihood ranking scale is from 0 to 5. Therefore, there is no midpoint for those who believe there is an equal chance of it occurring/not occurring. Solution: Scale to be revised from 1 to 5.

4.6.2 Final Questionnaire and Results

The feedback from the Pilot Questionnaire highlighted the need to simplify the questionnaire. The research objectives were revisited and it was noted that some questions did not directly contribute to the objectives of the research (eg: risk analysis, specific environmental issues etc.). Instead, emphasis was placed on the connection between PPP and the Port City Project and Critical Success Factors. Some of the CSFs were extracted from previous literature as detailed in Part A. The other CSFs were created based on corresponding issues identified in literature as well as in key informant interviews as described in Part B.

A. Analysis of Critical Success Factors for PPP in Literature

Table 4.9 presents the number of citations for each CSF based on three main studies found in the review of existing literature. It also ranks the top five CSFs based on the total number of citations.

Research on the Critical Success Factors for PPP often build upon previous studies. Chan et al. (2010)'s study on CSFs includes a comprehensive list of CSF's identified by 17 studies conducted by other researches between the years 1994 and 2006. This number is represented under the column titled Chan et al (2). The column titled Chan et al (1) represents the CSF's studied and deemed important in their research on PPP in China. The column titled Sehgal represents CSF's as deemed important in a research on PPP in India conducted by Sehgal et al. (2015).

Table 4.9 Critical Success Factors as represented in literature

Category	Success Factor	Author			TOTAL	Rank
		Sehgal	Chan et al (1)	Chan et al (2)		
Favourable Economic Condition	Sound Economic Policy	1			**1**	
	Favourable legal framework	1			**1**	
	Stable Macro Economic Condition	1			**1**	
	Appropriate Risk Allocation and Sharing	1	1	3	**5**	5
	Available Financial Market	1	1	5	**7**	3
	Multi Benefit Objectives	1			**1**	
	Project Economic Viability		1	8	**9**	1
	Business diversification		1	2	**3**	
Project Implementability	Shared Authority between public and private sectors	1			**1**	
	Commitment and Responsibility of the Public and Private	1			**1**	
	Project Technical Feasibility	1			**1**	
	Thorough and realistic assessment of the cost and benefi	1			**1**	
	Appropriate project identification		1	4	**5**	5
Effective Procurement	Competitive procurement process	1	1	7	**9**	1
	Transparency procurement process	1		7	**8**	2
	Well-organized and committed public agency	1			**1**	
	Sustainable procurement and operation	1			**1**	
	Clear project brief and client requirement		1	3	**4**	
	Effective management control		1	2	**3**	
	Technology transfer		1	1	**2**	
Stable political and social and environment	Political Support	1	1	6	**8**	2
	Social Support	1			**1**	
	Strong and good private consortium	1	1	7	**9**	1
	Involvement of civil society	1			**1**	
	Good governance	1			**1**	
	Good partner's relationship		1	5	**6**	4
	Consultation with end users		1	1	**2**	
	Stable and transparent political/social situation		1	4	**5**	5
(Judicious) Government Control	Government Guarantee	1	1	4	**6**	4

Table 4.10 presents the results of two studies which attempted to rank the most important success factors. Zhang (2005) conducted a worldwide survey with two types of participants: (1) Industrial sector and, (2) Academic sector. The results in the column titled Zhang WW indicate the combined ranking as per responses from both sectors. Cheung et al. (2012) conducted a similar study, but categorised participants based on their location. As mentioned in the literature review and as evident from the table below, the ranking differed based on location, in this case Hong Kong (HK), the United Kingdom (UK) and Australia (Aus).

Table 4.10 Ranking of Top 5 success factors identified in previous research

Success Factor	Ranking as per Author		
	Zhang WW	Cheung HK	Cheung UK/Aus
Favourable legal framework		1	4
Stable Macro Economic Condition		4	5
Appropriate Risk Allocation and Sharing	2	5	1
Available Financial Market	3		
Project Economic Viability	1		
Commitment and Responsibility of the Public and Private Sectors		2	2
Strong and good private consortium	4	3	3
Stable and transparent political/social situation	5		

While the results of Tables 4.9 and 4.10 help to identify the most important CSFs according to previous literature. Although only the top few CSFs were included in the Pilot Questionnaire, the Final Questionnaire included 20 CSFs to be rated in the Sri Lankan context. These 20 CSFs were chosen based on the analyses of Tables 4.9 and 4.10 and each CSFs relevance to the case study.

It was of utmost importance that the questionnaire could be completed within a short period of time. Therefore, the Final Questionnaire was structured as noted in Table 4.11. The Final Questionnaire is given in Appendix 2, and it was translated into Sinhalese to capture a greater variety of respondents.

Table 4.11 Structure of Final Questionnaire

Part I	
Q1	Name and option to remain anonymous
Q2	Have the respondents publicly expressed an opinion on the Port City?
Q3	Do the respondents support the CPCP to proceed without further studies or amendments to the agreement?
Q4	If answered 'No' to Q3, what circumstances will lead to the respondent supporting the CPCP?
Q5	Category of respondent
Q6	Occupation and designation of respondent
Q7	Respondents' methods of obtaining information on the CPCP and the perceived reliability of the methods
Part II	
Q1	Respondents' awareness of PPP
Q2	Do the respondents believe the CPCP takes the form of a PPP
Q3	Respondents' opinion of presence of PPP characteristics in the CPCP
Part III	
Q1	Critical Success Factors as per previous published studies (importance to be rated on Likert Scale)
Q2	Major issues of the CPCP as reported in the media (agreement to be stated in Yes/No form) and corresponding success factors (importance to be rated on Likert Scale)

When the Final Questionnaire was tested, respondents on average took less than 30 minutes to complete the questionnaire. However, it was noted that most respondents wished to clarify questions and elaborate their answers. Therefore, it was decided that the questionnaire will be administered in the form of a structured interview. Each session typically lasted 45 minutes to 1 hour, although in the case of experts (eg: Project proponents, consultants, regulatory authorities) some interviews lasted around 2 hours.

The sampling technique used for the questionnaire/interview survey was similar to quota sampling as conscious effort was made to interview representatives from each category of actor/stakeholder with some kind of link to the project. These categories are discussed in Chapter 6. With the exception of some journalists and some environmentalists, all respondents from other categories held very senior roles within their respective organizations. This enabled the researcher to gather top level information, and provided greater credibility for the responses gathered through the questionnaire and interviews. The 'snowball' sampling technique was also used to obtain other contacts from some of the respondents (eg: The UDA provided some details of government sector professionals involved in the Port City project).

4.7 Methods of Data Analysis

The data obtained during this study is both qualitative and quantitative. Qualitative data was gathered during (1) interviews where the respondents volunteered or were requested to elaborate on their responses or provide their view on subjects of their expertise, or from (2) the questionnaire, when respondents were requested to elaborate on the reasons behind some terminating or negative responses (i.e: No). These responses were used to support the arguments made in the discussion chapter.

The responses to the remaining questions of the questionnaire provided quantitative data. When selecting the method of data analysis for quantitative data, two main factors were considered (1) The nature of data, and (2) the analysis techniques used in a previous research.

4.7.1 The nature of data

The nature of data may be divided into *Nominal* and *Ordinal* (Brace, 2013). In the questionnaire, responses with 'Yes/No' fall within the Nominal category, where data may be categorized, but not ranked. In the event of other options, or if the respondent

chooses not to answer, the answer may be taken as a third category depending on the purpose of the analysis (Denscombe 2007; Neideen & Brasel, 2007; Brace, 2013).

The analysis of Nominal data is generally conducted through Non-Parametric Data Analysis Techniques as it does not meet a criterion for Parametric testing, i.e. data must be of an Interval, Continuous or Ration level (Denscombe, 2007). General descriptive statistics such as percentages, mean, median etc. were used for Part I-Questions 2, 4, 5, 6, 7 and Part II-Question 1 as these questions provide more background details (eg: personal details, prior knowledge and experience) of the respondents and is only indirectly related to the main objectives of the study.

Part I-Question 3, and Part II-Question 2 play a major role in dividing the respondents into major categories (i.e: those who support the CPCP/those who don't and those who believe the CPCP takes the form of a PPP/those who don't).

Further, two tests of hypotheses are proposed to analyse the responses for Part I-Question 3, and Part II-Question 2 as the responses to these two questions warrant to draw statistical inferences on the population using the sample for concerns important to meet the objective of this research.

A. Tests of Hypothesis

Hypotheses tests are used to decide assumptions on populations based on the observed sample statistics. Null hypothesis (H_0) is the hypothesis that is tested for its rejection. If the null hypothesis is not rejected, it means that the data do not provide sufficient evident to reject the statement. Hypothesis tests are carried out within a specific level of significance, usually at 5% which means there is a 5% chance that a true null hypothesis is rejected as false (Palawatta et al., 2008).

The collected data for Part I-Question 3, and Part II-Question 2 could be considered as 'Binomially Distributed'. In order to perform hypothesis tests, it is required to establish the probability of the population that could be expected to agree or disagree to the given conditions. Let '$\hat{p}$' be the probability of success (agreement) in N trials. For large samples (N≥30), the distribution of proportions of success '$\hat{p}$' is given by

$$\hat{p} \sim N(p, \frac{pq}{n})$$

The assumption is that the population is at least 10 times as large as the sample size. Both np and n(1-p) are 10 or more.

Next the test statistic 'z' is calculated. In the equation below, p_0 is the Hypothized Value and $q_0 = (1 - p_0)$.

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}} \sim N(0,1)$$

Test are formed using one of the two Alternative Hypothesis: H1: p>p or H1: p<p
The null hypothesis (H_0) is rejected when by performing 1 tail test, and 'z') ≤ Critical Value (z_c) at α level of significance. The Critical Value (z_c) is set for different levels of significance (α).

B. Chi square test

A Chi Square test was used to determine if there is a relationship between the responses for Part I-Q3 and the type of respondent (i.e: those with direct involvement in the project such as project proponents, consultants, regulatory authorities and government services providers, vs. those with indirect involvement/members of the public such as environmentalists, fishermen, hoteliers, journalists, industry professionals and academics).

The Chi Square test is generally used to confirm the possible relationship between two categorical variables. Observation counts are used to calculate the expected count which is created by a two way (2x2) table, also known as contingency tables, in this test. According to Moore et al. (2008) "the chi-square statistic is a measure of how much the observed cell counts in a two-way table diverge from the expected cell counts". The following hypotheses can be created for the Chi Square test (Smith et al., 2008; Palawatta et al.s, 2008):

H_o - There is no significant difference (Independent) between the results of the row and column variables. (i.e. there is no relationship between the row and column variables)
H_1 - There is significant difference (not Independent) between the results of the row and column variables. (i.e. there is a relationship between row and column variables).

The assumptions which are used in this test are,

i) All observations are independent of one another

ii) The sample size 'n' should be large

However, the Palawatta et al. (2008) considers the second assumption as follows.

If, df = 1, then n ≥20 and $E_i \geq 5$ in all cell

If, 1 < df < 30 then $E_i \geq 5$ in at least 80% of cell and $E_i \geq 2$ for the rest of cell.

If, df > 30 then the all $E_i \geq 1$

where, df – degrees of freedom, E_i – Expected frequency, O_i – Observed Frequency

Thus, the chi square test static is calculated as**:** Kothari (2004, p.273),

$$\chi^2_{cal} = \sum \frac{(O_{ij} - E_{ij})}{E_{ij}}$$

O_{ij} – Observed frequency in i^{th} row and j^{th} column

E_{ij} – Expected frequency in i^{th} row and j^{th} column under the assumption in null hypothesis.

The calculated χ^2 is then compared with the critical value of the chi- square distribution ($\chi^2_{(r-1)(c-1),\alpha\%}$) with a given value for α %, the level of significance and the appropriate value of the degrees of freedom (r-1)(c-1). If $\chi^2_{cal} > x^2_{(r-1)(c-1),\alpha\%}$, the null hypothesis is rejected at α% level and If $\chi^2_{cal} > x^2_{(r-1)(c-1),\alpha\%}$, the null hypothesis is accepted at the given level of significance (Palawatta et al., 2008).

C. Fisher's Exact Test

In Part II-Question 3, the 7 characteristics were analyzed with data obtained from Part II-Question 2 (those who believe the CPCP is a PPP/ those who don't) in order to determine if there is a significant association between the two variables (V_1=is CPCP a PPP, V_2=Is PPP characteristic *x* represented in the CPCP). For nominal values, a Chi-square test is generally proposed. However, the Chi-square test is generally discouraged if the sample size is less than n=30, and if class size is less than n=5. In such scenarios, Fisher's Exact Test is said to be more suitable for providing a more accurate analysis (Statistics Solutions, 2016). Therefore, due to the final sample size and class size for these questions, the Fisher's Exact Test was used for statistical analysis.

The Fisher's Exact test is generally used in one tailed tests. The formula for the p value is as below.

$$p = ((a + b) ! (c + d) ! (a + c) ! (b + d) !) / a ! b ! c ! d ! N !$$

where, ‘a,’ ‘b,’ ‘c’ and ‘d’ are the individual frequencies of the 2x2 contingency table, and ‘N’ is the total frequency.

4.7.2 Analysis techniques used in previous research

The other questions all required responses on a Likert Scale where respondents were requested to assign importance to CSFs from a scale of 1 to 5. The analysis for these responses will be based on the methodology used in similar published research (Zhang, 2005; Chan et al., 2010; Cheung et al., 2012). This ensures greater credibility. The purpose of the analysis of the CSFs is two-fold: (1) to rank establish the most important critical success factors, (2) to determine the degree of agreement between various categories of stakeholders (eg: Project Proponents vs. Members of the Public etc.).

Of the previous studies on CSFs, studies conducted by Zhang (2005) and Cheung et al. (2012) had methodologies which appeared to be the most helpful in achieving the objectives of this study. Cheung et al. (2012) used the Mean Score Ranking Technique for raking the CSFs and Kendall’s Concordance Analysis for determining the agreement between stakeholder categories. In contrast, Zhang uses a Relative Significance Index for ranking CSFs while a Rank Agreement Factor is used for the agreement analysis. Zhang’s method was adopted due to the availability of greater information on the methodology.

A. Relative Significance Index

In Zhang (2005)’s study, the scale of 1-5 was modified to include 0 (where 0=no response/ not applicable), and the scale of 0-5 is converted to a scale of 0-100 where the values 0, 1, 2, 3, 4, 5 have significance indexes of 0, 20, 40, 60, 80, 100 respectively. The formula for the Significance index is as below (Zhang, 2005).

$$\text{significance index } S_i = \frac{R_{i0} \times 0 + R_{i1} \times 20 + R_{i2} \times 40 + R_{i3} \times 60 + R_{i4} \times 80 + R_{i5} \times 100}{R_{i0} + R_{i1} + R_{i2} + R_{i3} + R_{i4} + R_{i5}}$$

$$= \frac{20R_{i1} + 40R_{i2} + 60R_{i3} + 80R_{i4} + 100R_{i5}}{R_{i0} + R_{i1} + R_{i2} + R_{i3} + R_{i4} + R_{i5}}$$

where S_i=significance index for the ith factor or subfactor; R_{i0}=number of responses as "0" for the ith factor or subfactor; R_{i1}=number of responses as "1" for the ith factor or subfactor; R_{i2}=number of responses as "2" for the ith factor or subfactor; R_{i3}=number of responses as "3" for the ith factor or subfactor; R_{i4}=number of responses as "4" for the ith factor or subfactor; and R_{i5}=number of responses as "5" for the ith factor or subfactor.

Figure 4.2 Significance Index (source: Zhang, 2005)

However, in this study, R_{i0} was deleted as the 'no responses' (i.e: 0 in likert scale) were only obtained when the respondent did not know how to rate the success factor, and not because they deemed the success factor unimportant. Therefore, the inclusion of R_{i0} could incorrectly skew the results. The CSFs were then ranked based on their Significance Indexes in two lists (1) overall, and (2) based on each group (groups are those who support the CPCP, and those who oppose the CPCP). An agreement analysis was conducted on the overall CSFs of each list. It is noted that some were likely to overlap.

B. Rank Agreement Factor (RAF)

The agreement analysis will be conducted using RAF which shows the average absolute difference in the ranking of CSFs between two groups (Zhang, 2005). If for any two groups, consider R_{i1} = rank of the ith CSF in Group 1, R_{i2} = rank of the ith CSF in Group 2, N = number of CSFs, and $j = N - i + 1$,

Then RAF was defined as (Zhang, 2005),

$$\text{RAF} = \frac{\sum_{i=1}^{N} |R_{i1} - R_{i2}|}{N}$$

The maximum rank agreement factor (RAF_{max}) was as below.

$$\mathrm{RAF}_{\max} = \frac{\sum_{i=1}^{N} |R_{i1} - R_{j2}|}{N}$$

The percentage disagreement (PD) was defined as (Zhang, 2005),

$$\mathrm{PD} = \frac{\sum_{i=1}^{N} |R_{i1} - R_{i2}|}{\sum_{i=1}^{N} |R_{i1} - R_{j2}|} \times 100$$

The percentage agreement (PA) was defined as,

$$\mathrm{PA} = 100 - \mathrm{PD}$$

Zhang (2005) notes that the higher the value of RAF, the lower the agreement between the two groups. Therefore, a RAF of zero is a perfect agreement.

4.8 Summary

This research study belongs to the Descriptive, Applied and Primary Research categories. A Mixed Method was used so that it may benefit from advantages of both Qualitative and Quantitative methods while cancelling weaknesses of each method. A Simultaneous Studies approach with the Qualitative method having a Dominant Status was selected to enable a more comprehensive and in-depth analysis of the information available.

Research Design of the study utilized both Surveys and a Case Study. Data were collected form documents, and a questionnaire interview which enabled respondents to elaborate on their answers. This was supplemented with data from some semi structured questions for experts.

A qualitative descriptive analysis using key words for questions asking ‘why’ was used while other descriptive and qualitative data were used in the discussion. Data gathered from the questionnaire underwent a quantitative analyses. Responses providing Nominal data were analysed using Binomial tests and Chi-square and Fisher's Exact tests depending on sample size. Ordinal data from the Likert scale were analysed using the Relative Significance Index for ranking. Subsequently, the Rank Agreement Factor method was used for the agreement analysis as per a previous study on CSFs by Zhang (2005).

5.0: Extended Cost Benefit Analysis

5.1 Introduction

The Economic Times (2016) defines a Cost Benefit Analysis (CBA) as "a procedure for estimating all costs involved and possible profits to be derived from a business opportunity or proposal". This is generally limited to financial and economic costs/benefits while little or no attention is paid to costs relating to environmental impacts. Ranasinghe (1994) notes that "at present, many indirect costs are included in the economic analyses by means of environmental and non-market valuation" resulting in a process called the Extended Cost Benefit Analysis (ECBA).

This chapter aims to critically analyse the Summary CBA provided in Chapter 6 of the Supplementary Environment Impact Assessment 2015 (SEIA 2015). An initial review of the SEIA indicated that the Summary CBA was created for the entire project, with no differentiation between costs/benefits for Sri Lanka as a nation/public entity or the private entity/ Project Company, CHEC. Therefore, this chapter builds upon the Summary CBA provided in the SEIA to create two amended ECBAs: one in the perspective of the CHEC, and the other in the perspective of the GOSL and the nation.

The process for this exercise is detailed as below:

1. Replication of the Summary CBA

   The Summary CBA included in the SEIA of 2015 (hereafter to be known as the original ECBA) was recreated to fulfil two objectives, namely to (a) gain an understanding of its methods and structure and (b) to eliminate and correct errors in the original, if any. The resulting ECBA will be known as the "Replicated ECBA".
2. Amendments to suit the perspective of the Project Company/CHEC

   To gain an understanding of the overall costs and benefits incurred by the CHEC for the CPC project.
3. Amendments to suit the perspective of GOSL and the nation

   To gain an understanding of the overall costs and benefits incurred by the GOSL as well as Sri Lanka as a nation for the CPC project.

Information on the original ECBA was obtained through officials involved in the SEIA. Information underlying economic principles were obtained from economists with extensive experience in the field of Economics.

5.2 Replicated ECBA

The first step of recreating the ECBA was to understand the basis and assumptions behind each of the costs and benefits included in it. Most of these were explained in the SEIA while further details and clarifications were obtained from interviews. A summary of explanations is included in Table 5.1 below.

Table 5.1 Rationale behind values for costs and benefits

Financial Costs and Benefits	
Financial Benefits (Land Sale income)	The SEIA (Chapter 1 – p.18) notes that the CPCP is estimated to contain 173ha of marketable land of which 63ha will belong to the GOSL, and 110ha will be given to CHEC. Land price is estimated at the current average market price of Rs. 9 million per perch (approx. USD 2570 per perch).
Financial Costs (Construction costs and other)	Provided by CHEC. Includes their equity, loan and interest as well as construction costs.
Economic Benefits	
Employment Creation (Direct)	The SEIA states that 80% of these jobs will be held by Sri Lankans (Chapter 6 – p.4). However, other sources indicate that 60% was a more suitable figure which was proposed, but was adjusted for the final SEIA.
Employment Creation (Indirect)	According to interviews, a ratio of 1:1 was used for the calculation of indirect jobs. This ratio as based on industry experience, evidence and the economy. By conventional standards, this is a fairly reasonable estimate. Predicted job creation is 4,500 per annum in the first 10 years of operations. Assumption included a myriad of service sectors such as the IT and banking/finance industries in typical urban centres which could potentially set up in the Port City. These were used along with CMC databases to hypothise an employment structure for the CPC. It is believed that 100% of these jobs will be held by Sri Lankans. However this then contradicts the presence of the item "backward linkage effect of foreign firms".
Consumption Effect of Foreign Employment	According to interviews, this is based on the Marginal Propensity to Consume (Tucker, 2013), which is higher in foreign workers earning in USD vs local currency. Therefore, they can spend more than a local worker. That benefit percolates down to the national economy.
Income from municipal services	As per estimates by experts based on past data and experiences.
Value added contribution of firms in Port City	Interviews revealed that this is based on a concept in economics called 'value added', that is each individual or organisation makes a contribution to the national economy. Four categories of value added: Salaries and Wages, Rents, Profits, and Interest Payments. According to interviews, national income statistics indicate that 22% of the total value added is salaries/wages. This was applied to the industry profile created for indirect job

	calculation in order to obtain a monetary figure for value added contributions.
Backward linkage effect of foreign firms	As noted in the SEIA, this is a result of foreign companies consuming materials, service facilities etc. and is conservatively estimated at 12% of foreign employee wages (Chapter 6 – p.7).
Revenue from utilities (electricity and water)	No details are given for the calculation of this figure. However it is noted that figures for water demand (Chapter 2 – p.83) and power demand (Chapter 2 – p.81) are given in the SEIA. It is possible for the researcher to use average electricity and water prices to determine the revenue generated from utilities and determine any differences.
Economic Costs	
Operating costs (cost of municipal services)	According to the SEIA, the assumption is that 35% of the municipal revenue will be utilized for maintenance purposes of the Port City (Chapter 6 – p.8).
Economic impact on hotels located nearby	The potential impacts on hotels located nearby (i.e: Kingsbury and Galadari hotels) are discussed in page 6, Chapter 6. The conclusion in the SEIA is that there will be no significant impacts on these hotels and that any adverse impacts faced by the hotels during construction along Chethiya Road will be mitigated by the income generated by foreign consultants and investors to the project who may choose to stay at the hotels. Kingsbury Hotel will lose its waterfront view to the Port City, but the SEIA notes that it will have a view of a linear park instead. Opinions from the hotel management in relation to this are not reported. The ECBA does not allow for any economic costs/benefits for this item.
Loss of income to government on royalty, NBT and VAT for sea sand	These are in relation to the sea-sand required for the project. The SEIA states that the government has decided to forgo applicable royalties and taxes as the developer will be using their own dredging equipment (Chapter 6 – p.5). Interviews have confirmed that the royalty was calculated at Rs. 68/m^3 for 75 million m^3 of sand. The price of sand used was Rs. 2450 per m^3. These figures were provided by the Geological Survey and Mines Bureau (GSMB). Value Added Tax (VAT) is at 11% and Nation Building Tax (NBT) at 2%.
Cost of utilities, waste disposal facilities	These costs were provided by engineers with experience in the power and water fields. It is evident that the current national capacity is not adequate to provide utilities to the Port City. Therefore, new infrastructure will have to be provided, and some of the costs for this should have been included in this item. It is assumed that these costs were included, although it cannot be confirmed. This item also includes costs for utility connection points up to the Port City boundaries.
Cost of fisherman compensation	The allowance was as per studies conducted and advice from the Ministry of Fisheries. Interviewees suggested that instead of giving out money as compensation, the funds can be used to improve facilities for local fishermen (eg: better boats, docks etc.), therefore increasing their productivity.
Cost of maintenance	According to interviews, the maintenance activities will likely

	be the responsibility of an Enterprise formed for the Port City, where beneficiaries will pay tariff. However, it is unclear if maintenance costs for the parks and public spaces will be shared, or will be borne by GOSL alone.
Cost of road connection	This cost includes an allowance to connect existing road systems to the Port City. The SEIA notes as the responsibilities of the GOSL, "the required upgrading of roads, junctions together with implementing Necessary traffic management plans giving regards to the forecast and progress of developments on the Project Company land and GOSL/SLPA owned lands" (Chapter 2 – p.80). It is unclear if this item has allowed costs for upgrading Colombo's existing road and transportation systems to accommodate the increased volume traffic as a result of the activities within the Port City.
Environmental Costs	
Aquaculture Resources	These estimates were provided by an expert academic from a local university along with the National Aquatic Resources Research and Development Agency (NARA).
Archaeological and Cultural Aspects	Bases on assessments carried out by the Department of Archaeology, six archaeological localities exist within the area to be reclaimed, of which three sites may be removed after detailed recording, and one (the Cannon) must be salvaged and protected with chemical conservation actions). The estimated cost for this is Rs.1.2 million (Chapter 3 - page 93).
Possible accident costs	As stated in the SEIA (Chapter 6 – p.6), accident costs during reclamation are based on the insurance cost of the EPC contractor and considers construction and transportation activities.
Mitigation costs	These costs were also provided by other experts on the team and have been allowed for Environmental mitigation costs. Mitigatory measures are included in Chapters 5 and 7 of the SEIA.
Monitoring costs	The SEIA (Chapter 6 – p.6) states that these are based on the Environmental Management Plan (EMP) and cover costs for monitoring air, noise, vibration, water quality, cultural heritage, ecology etc.

The Summary CBA was recreated using by duplicating figures shown in "Table 6.5: Summary of the cost benefit analysis" (Chapter 6-page 11) in the SEIA. A few minor errors/obscure entries were noted, and were followed up in interviews with the relevant professionals. Table 5.2 below summarises the key errors/obscure entries which were noted along with explanations provided by interviewees and resulting actions taken by the researcher.

Table 5.2 Explanations for key errors/obscure entries in the ECBA and resulting actions taken by the researcher

Key error/ obscure entry	Explanation by Interviewee (Econ) and resulting action
Values in the "Total" column: Minor differences between SEIA and recreated values.	These differences are generally within USD 0.3 million of each other and have an insignificant effect on calculating IRR and other measures. The researcher has therefore included manually calculated values.
Operating Costs under Economic Costs: Total value is $500,000 whereas only $100,000 each was allowed in years 2037 and 2038 in the schedule.	The total value of this item is USD 0.5 million which is not very significant compared to other itemised costs (eg: USD 48.6 million for utilities etc.). However, the researcher has redistributed the cost by allowing USD 100,000 roughly every 5 years starting from 2019 to make a total of USD 0.5 million.
Archaeological Costs under Environmental Costs: The total value is shown as 0 million dollars. However, this is likely due to the cost being less than USD 10,000 and not showing up in the current format of rounding to the first decimal point in millions.	The Archaeological costs of Rs.1,200,000 was converted into USD value (using 1 USD = Rs.140 from previous calculations) and included in the ECBA.

The NPV values at a discount rate of 6.5% were obtained, along with benefit cost ratios and IRR values. These were compared against the values in the SEIA. There was no considerable difference. The ECBA is shown in Figure 5.1 while the results of the replicated ECBA are shown in Table 5.3.

Table 5.3 Descriptions for Extended Cost Benefit Analysis

	NPV	Benefit Cost ratio	IRR
Financial	USD 350 million	1.17	8.68%
Financial + Economic	USD 2,358 million	2.04	15.66%
Financial + Economic + Environmental	USD 2,347 million	2.03	15.57%

Year	TOTAL	2016	2017	2018	2019	2020
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	1729998	0	0	0	56000	56000
Land Price (USD/Square meter)		$ 2,160	$ 2,089	$ 2,020	$ 1,953	$ 1,890
Financial Benefits (Land Sale income)	**$ 2,385,661,303**	**$ -**	**$ -**	**$ -**	**$ 109,391,124**	**$ 105,821,043**
Financial costs (construction cost)	**$ 1,163,648,097**	**$ 320,187,793**	**$ 300,645,815**	**$ 282,296,540**	**$ -**	**$ -**
Equity	$ 349,095,814	$ 96,056,338	$ 90,193,745	$ 84,688,962	$ -	$ -
Loan	$ 814,552,283	$ 224,131,455	$ 210,452,071	$ 197,607,578	$ -	$ -
Equity as of total investment		30%	30%	30%		
Loan share of total investment		70%	70%	70%		
Financial Costs	**$ 872,385,340**	**$ -**	**$ -**	**$ -**	**$ 108,980,697**	**$ 102,402,281**
Sales and General Item Expense	$ 71,488,223				$ 3,264,757	$ 3,138,488
- at 3% of land sale value as per Chap6, page 5						
Investment Insurance	$ 4,139,830				$ 621,858	$ 583,905
Repayment of Loan	$ 796,757,286				$ 105,094,082	$ 98,679,889
Repayment of Loan (cumulative)					$ 105,094,082	$ 197,359,778
Net cash flow (Financial)	**$ 349,627,867**	**-$ 320,187,793**	**-$ 300,645,815**	**-$ 282,296,540**	**$ 410,427**	**$ 3,418,762**
Economic Benefits						
Employment Creation - Direct	$ 24,166,049	$ 8,638,498	$ 8,904,759	$ 6,622,793	$ -	$ -
Employment Creation - Indirect	$ 317,633,485	$ 17,464,789	$ 18,779,343	$ 14,570,144	$ -	$ -
Consumption effect of foreign employment	$ 44,804,804	$ 563,380	$ 617,161	$ 496,709	$ -	$ -
Income from municipal service	$ 506,646	$ -	$ -	$ -	$ -	$ -
Value added contribution of firms in Port City	$ 1,773,651,448	$ -	$ -	$ -	$ -	$ -
Backward linkage effect of foreign firms	$ 19,200,176	$ -	$ -	$ -	$ -	$ -
Revenue from utilities	$ 55,215,786	$ -	$ -	$ -	$ -	$ 510,917
TOTAL ECONOMIC BENEFITS	$ 2,235,178,395	$ 26,666,667	$ 28,301,263	$ 21,689,646	$ -	$ 510,917
Economic Costs						
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 77,732	$ -
Loss of income to government on royalty, NBT & VAT	$ 32,946,105	$ 11,830,986	$ 10,932,575	$ 10,182,544	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 13,575,784
Cost of Fisherman compensation	$ 6,008,709	$ 2,159,624	$ 2,027,816	$ 1,821,268	$ -	$ -
Cost of maintenance	$ 14,682,675	$ -	$ -	$ -	$ -	$ -
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ 101,015,508
TOTAL ECONOMIC COST	$ 227,125,400	$ 13,990,610	$ 12,960,391	$ 12,003,812	$ 77,732	$ 114,591,291
Net Cash Flow (Financial + Economic)	**$ 2,357,680,861**	**-$ 307,511,737**	**-$ 285,304,944**	**-$ 272,610,706**	**$ 332,694**	**-$ 110,661,613**
Environmental Costs						
Aquaculture Resources	$ 6,008,709	$ 2,159,624	$ 2,027,816	$ 1,821,268	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ 8,048	$ -	$ -	$ -	$ -
Possible Accident costs	$ 3,360,233	$ 1,220,657	$ 1,146,157	$ 993,419	$ -	$ -
Mitigation Costs	$ 358,744	$ 187,793	$ 88,166	$ 82,785	$ -	$ -
Monitoring Costs	$ 869,967	$ 69,402	$ 65,166	$ 61,189	$ 57,454	$ 53,948
TOTAL ENVIRONMENTAL COSTS	$ 10,605,701	$ 3,645,525	$ 3,327,305	$ 2,958,661	$ 57,454	$ 53,948
Net Cash Flow (Financial + Economic + Environmental)	**$ 2,347,075,160**	**-$ 311,157,262**	**-$ 288,632,249**	**-$ 275,569,367**	**$ 275,240**	**-$ 110,715,561**

Figure 5.1 Replicated ECBA discounted at 6.5% (part 1 of 4)

Year	TOTAL	2021	2022	2023	2024	2025
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	1729998	54000	65714	66714	66714	65714
Land Price (USD/Square meter)		$ 1,827	$ 1,767	$ 1,709	$ 1,653	$ 1,599
Financial Benefits (Land Sale income)	**$ 2,385,661,303**	**$ 98,663,441**	**$ 116,121,111**	**$ 114,038,912**	**$ 110,296,075**	**$ 105,057,684**
Financial costs (construction cost)	**$ 1,163,648,097**	**$ -**	**$ -**	**$ -**	**$ 131,172,066**	**$ 129,345,881**
Equity	$ 349,095,814	$ -	$ -	$ -	$ 39,374,314	$ 38,782,455
Loan	$ 814,552,283	$ -	$ -	$ -	$ 91,797,752	$ 90,563,426
Equity as of total investment					30%	30%
Loan share of total investment					70%	70%
Financial Costs	**$ 872,385,340**	**$ 96,083,843**	**$ 90,863,078**	**$ 85,438,290**	**$ 80,280,482**	**$ 75,487,279**
Sales and General Item Expense	$ 71,488,223	$ 2,946,937	$ 3,474,934	$ 3,444,118	$ 3,290,649	$ 3,143,084
- at 3% of land sale value as per Chap6, page 5						
Investment Insurance	$ 4,139,830	$ 479,734	$ 386,104	$ 302,116	$ 283,677	$ 319,636
Repayment of Loan	$ 796,757,286	$ 92,657,173	$ 87,002,040	$ 81,692,057	$ 76,706,156	$ 72,024,560
Repayment of Loan (cumulative)		$ 277,971,519	$ 348,008,161	$ 408,460,283	$ 460,236,938	$ 504,171,920
Net cash flow (Financial)	**$ 349,627,867**	**$ 2,579,598**	**$ 25,258,033**	**$ 28,600,622**	**-$ 101,156,473**	**-$ 99,775,477**
Economic Benefits						
Employment Creation - Direct	$ 24,166,049	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 317,633,485	$ -	$ -	$ 3,383,695	$ 6,297,621	$ 8,683,434
Consumption effect of foreign employment	$ 44,804,804	$ -	$ -	$ 543,808	$ 1,021,236	$ 1,385,088
Income from municipal service	$ 506,646	$ -	$ -	$ -	$ -	$ -
Value added contribution of firms in Port City	$ 1,773,651,448	$ -	$ -	$ 22,598,246	$ 41,586,992	$ 59,292,408
Backward linkage effect of foreign firms	$ 19,200,176	$ -	$ -	$ 241,692	$ 453,883	$ 639,271
Revenue from utilities	$ 55,215,786	$ 959,468	$ 1,544,415	$ 2,175,232	$ 2,723,295	$ 3,409,447
TOTAL ECONOMIC BENEFITS	$ 2,235,178,395	$ 959,468	$ 1,544,415	$ 28,942,674	$ 52,083,026	$ 73,409,648
Economic Costs						
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 56,735	$ -
Loss of income to government on royalty, NBT & VAT	$ 32,946,105	$ -	$ -	$ -	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 5,327,260
Cost of Fisherman compensation	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Cost of maintenance	$ 14,682,675	$ -	$ -	$ -	$ -	$ 1,651,451
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ 46,613,528
TOTAL ECONOMIC COST	$ 227,125,400	$ -	$ -	$ -	$ 56,735	$ 53,592,239
Net Cash Flow (Financial + Economic)	**$ 2,357,680,861**	**$ 3,539,065**	**$ 26,802,448**	**$ 57,543,296**	**-$ 49,130,182**	**-$ 79,958,068**
Environmental Costs						
Aquaculture Resources	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ -	$ -	$ -	$ -	$ -
Possible Accident costs	$ 3,360,233	$ -	$ -	$ -	$ -	$ -
Mitigation Costs	$ 358,744	$ -	$ -	$ -	$ -	$ -
Monitoring Costs	$ 869,967	$ 50,655	$ 47,564	$ 44,661	$ 41,935	$ 39,375
TOTAL ENVIRONMENTAL COSTS	$ 10,605,701	$ 50,655	$ 47,564	$ 44,661	$ 41,935	$ 39,375
Net Cash Flow (Financial + Economic + Environmental)	**$ 2,347,075,160**	**$ 3,488,410**	**$ 26,754,885**	**$ 57,498,636**	**-$ 49,172,117**	**-$ 79,997,444**

Figure 5.1 Replicated ECBA discounted at 6.5% (part 2 of 4)

Year	TOTAL	2026	2027	2028	2029	2030
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	1729998	65714	65714	61714	110600	110600
Land Price (USD/Square meter)		$ 1,546	$ 1,495	$ 1,446	$ 1,399	$ 1,353
Financial Benefits (Land Sale income)	**$ 2,385,661,303**	**$ 101,604,098**	**$ 98,273,329**	**$ 89,244,243**	**$ 154,710,669**	**$ 149,611,659**
Financial costs (construction cost)	**$ 1,163,648,097**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ 349,095,814	$ -	$ -	$ -	$ -	$ -
Loan	$ 814,552,283	$ -	$ -	$ -	$ -	$ -
Equity as of total investment						
Loan share of total investment						
Financial Costs	**$ 872,385,340**	**$ 34,614,687**	**$ 32,549,022**	**$ 30,474,258**	**$ 30,684,828**	**$ 28,928,693**
Sales and General Item Expense	$ 71,488,223	$ 3,051,295	$ 2,959,002	$ 2,690,202	$ 4,637,923	$ 4,471,505
- at 3% of land sale value as per Chap6, page 5						
Investment Insurance	$ 4,139,830	$ 250,106	$ 187,873	$ 176,407	$ 124,230	$ 116,648
Repayment of Loan	$ 796,757,286	$ 31,313,286	$ 29,402,147	$ 27,607,649	$ 25,922,676	$ 24,340,540
Repayment of Loan (cumulative)		$ 504,714,150	$ 503,312,147	$ 500,201,215	$ 495,595,177	$ 489,688,125
Net cash flow (Financial)	**$ 349,627,867**	**$ 66,989,411**	**$ 65,724,307**	**$ 58,769,985**	**$ 124,025,840**	**$ 120,682,966**
Economic Benefits						
Employment Creation - Direct	$ 24,166,049	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 317,633,485	$ 11,204,754	$ 13,338,993	$ 15,082,773	$ 16,481,190	$ 17,536,076
Consumption effect of foreign employment	$ 44,804,804	$ 1,800,764	$ 2,160,541	$ 2,425,592	$ 2,650,242	$ 2,838,434
Income from municipal service	$ 506,646	$ 50,021	$ 46,968	$ 44,102	$ 41,410	$ 38,883
Value added contribution of firms in Port City	$ 1,773,651,448	$ 75,982,239	$ 89,850,330	$ 101,169,246	$ 110,026,436	$ 116,959,019
Backward linkage effect of foreign firms	$ 19,200,176	$ 800,340	$ 939,366	$ 1,102,542	$ 1,200,891	$ 1,244,245
Revenue from utilities	$ 55,215,786	$ 3,701,571	$ 3,898,368	$ 3,969,151	$ 3,892,542	$ 3,810,500
TOTAL ECONOMIC BENEFITS	$ 2,235,178,395	$ 93,539,689	$ 110,234,566	$ 123,793,406	$ 134,292,711	$ 142,427,156
Economic Costs						
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 41,410	$ -
Loss of income to government on royalty, NBT & VAT	$ 32,946,105	$ -	$ -	$ -	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 3,888,265
Cost of Fisherman compensation	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Cost of maintenance	$ 14,682,675	$ 1,550,658	$ 1,409,049	$ 1,323,050	$ 1,200,891	$ 1,127,597
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 227,125,400	$ 1,550,658	$ 1,409,049	$ 1,323,050	$ 1,242,301	$ 5,015,862
Net Cash Flow (Financial + Economic)	**$ 2,357,680,861**	**$ 158,978,442**	**$ 174,549,825**	**$ 181,240,340**	**$ 257,076,250**	**$ 258,094,259**
Environmental Costs						
Aquaculture Resources	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ -	$ -	$ -	$ -	$ -
Possible Accident costs	$ 3,360,233	$ -	$ -	$ -	$ -	$ -
Mitigation Costs	$ 358,744	$ -	$ -	$ -	$ -	$ -
Monitoring Costs	$ 869,967	$ 36,972	$ 34,716	$ 32,597	$ 30,607	$ 28,739
TOTAL ENVIRONMENTAL COSTS	$ 10,605,701	$ 36,972	$ 34,716	$ 32,597	$ 30,607	$ 28,739
Net Cash Flow (Financial + Economic + Environmental)	**$ 2,347,075,160**	**$ 158,941,469**	**$ 174,515,109**	**$ 181,207,744**	**$ 257,045,643**	**$ 258,065,520**

Figure 5.1 Replicated ECBA discounted at 6.5% (part 3 of 4)

Year	TOTAL	2031	2032	2033	2034	2035	2036	2037	2038
Financial Benefits: Yearly Sales (Square Meter)									
Total Land (Square Meter)	1729998	110600	110600	110600	110600	110600	110600	110600	110600
Land Price (USD/Square meter)		$ 1,308	$ 1,265	$ 1,224	$ 1,184	$ 1,145	$ 1,107	$ 1,071	$ 1,035
Financial Benefits (Land Sale income)	**$ 2,385,661,303**	**$ 144,679,904**	**$ 139,944,502**	**$ 135,354,999**	**$ 130,904,707**	**$ 126,587,608**	**$ 122,427,747**	**$ 118,414,815**	**$ 114,513,634**
Financial costs (construction cost)	**$ 1,163,648,097**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ 349,095,814	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Loan	$ 814,552,283	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equity as of total investment									
Loan share of total investment									
Financial Costs	**$ 872,385,340**	**$ 27,272,621**	**$ 25,710,939**	**$ 4,087,999**	**$ 3,959,394**	**$ 3,831,260**	**$ 3,704,018**	**$ 3,578,036**	**$ 3,453,634**
Sales and General Item Expense	$ 71,488,223	$ 4,344,634	$ 4,182,313	$ 4,055,810	$ 3,929,170	$ 3,802,880	$ 3,677,370	$ 3,553,014	$ 3,430,140
- at 3% of land sale value as per Chap6, page 5									
Investment Insurance	$ 4,139,830	$ 73,019	$ 68,563	$ 32,189	$ 30,224	$ 28,380	$ 26,648	$ 25,021	$ 23,494
Repayment of Loan	$ 796,757,286	$ 22,854,968	$ 21,460,063	$ -	$ -	$ -	$ -	$ -	$ -
Repayment of Loan (cumulative)		$ 482,656,024	$ 474,658,208	$ 445,688,458	$ 418,486,815	$ 392,945,366	$ 368,962,785	$ 346,544,015	$ 325,393,441
Net cash flow (Financial)	**$ 349,627,867**	**$ 117,407,283**	**$ 114,233,563**	**$ 131,267,000**	**$ 126,945,313**	**$ 122,756,348**	**$ 118,723,729**	**$ 114,836,780**	**$ 111,060,000**
Economic Benefits									
Employment Creation - Direct	$ 24,166,049	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 317,633,485	$ 18,400,805	$ 18,888,970	$ 20,568,751	$ 21,882,454	$ 22,902,420	$ 23,636,429	$ 24,120,464	$ 24,410,382
Consumption effect of foreign employment	$ 44,804,804	$ 2,993,782	$ 3,051,031	$ 3,315,464	$ 3,536,253	$ 3,717,741	$ 3,837,256	$ 3,903,312	$ 3,947,011
Income from municipal service	$ 506,646	$ 36,510	$ 34,281	$ 32,189	$ 30,224	$ 28,380	$ 26,648	$ 50,042	$ 46,988
Value added contribution of firms in Port City	$ 1,773,651,448	$ 122,270,425	$ 125,332,255	$ 136,288,093	$ 144,835,246	$ 151,320,576	$ 156,021,747	$ 159,160,034	$ 160,958,156
Backward linkage effect of foreign firms	$ 19,200,176	$ 1,314,343	$ 1,371,250	$ 1,480,693	$ 1,571,668	$ 1,646,023	$ 1,705,447	$ 1,726,465	$ 1,762,058
Revenue from utilities	$ 55,215,786	$ 3,650,953	$ 3,496,688	$ 3,347,653	$ 3,173,560	$ 3,008,249	$ 2,824,646	$ 2,652,250	$ 2,466,882
TOTAL ECONOMIC BENEFITS	$ 2,235,178,395	$ 148,666,818	$ 152,174,475	$ 165,032,842	$ 175,029,405	$ 182,623,388	$ 188,052,172	$ 191,612,568	$ 193,591,477
Economic Costs									
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 30,224	$ -	$ -	$ -	$ 23,494
Loss of income to government on royalty, NBT & VAT	$ 32,946,105	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 2,837,970	$ -	$ -	$ -
Cost of Fisherman compensation	$ 6,008,709	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cost of maintenance	$ 14,682,675	$ 1,022,267	$ 959,875	$ 901,291	$ 816,058	$ 766,252	$ 692,838	$ 650,552	$ 610,847
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 227,125,400	$ 1,022,267	$ 959,875	$ 901,291	$ 846,283	$ 3,604,222	$ 692,838	$ 650,552	$ 634,341
Net Cash Flow (Financial + Economic)	**$ 2,357,680,861**	**$ 265,051,833**	**$ 265,448,163**	**$ 295,398,550**	**$ 301,128,435**	**$ 301,775,514**	**$ 306,083,063**	**$ 305,798,796**	**$ 304,017,136**
Environmental Costs									
Aquaculture Resources	$ 6,008,709	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Possible Accident costs	$ 3,360,233	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mitigation Costs	$ 358,744	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring Costs	$ 869,967	$ 26,985	$ 25,338	$ 23,792	$ 22,340	$ 20,976	$ 19,696	$ 18,494	$ 17,365
TOTAL ENVIRONMENTAL COSTS	$ 10,605,701	$ 26,985	$ 25,338	$ 23,792	$ 22,340	$ 20,976	$ 19,696	$ 18,494	$ 17,365
Net Cash Flow (Financial + Economic + Environmental)	**$ 2,347,075,160**	**$ 265,024,848**	**$ 265,422,825**	**$ 295,374,758**	**$ 301,106,095**	**$ 301,754,538**	**$ 306,063,367**	**$ 305,780,302**	**$ 303,999,771**

Figure 5.1 Replicated ECBA discounted at 6.5% (part 4 of 4)

5.3 Perspective: CHEC (CHEC ECBA)

This section attempts to adjust the Replicated ECBA to depict the costs and benefits from the CHEC's point of view only. The objective of this exercise is to estimate the returns gained by the Project Company.

Table 5.4 Rationale for Costs and Benefits included in the CHEC ECBA

Cost/ Benefit Item	Rationale
Land Revenue	Based on SEIA's note that the Project Company would be given 110ha of the total marketable area of 173ha (Chapter 1 –p.18).
All Financial Costs	Attributed solely to the Project Company as the GOSL will not contribute with equity or debt according to the agreement.
Economic Benefit: Direct Employment	SEIA notes Sri Lankan to Foreign employee ration of 80:20 (Chapter 6 – p.4), however the suggestion of economists was 60:40. The researcher has allowed for a ratio of 70:30. Foreign Employment benefits during the reclamation stage have been allocated to the Project Company.
Economic Benefit: Indirect Employment	Interviews note that the indirect jobs generated during reclamation stage will be held solely by Sri Lankans. This assumption has been applied to the revised ECBA. Some sources have stated that indirect jobs created post reclamation will also be held 100% by Sri Lankans and mainly in relation to quarry sites. This seems very optimistic and unrealistic as mostly foreign firms are expected to invest in and develop the land and/or set up commercial offices within the premises. Further, the report also allows for benefits accrued from the backward linkage of foreign firm which the SEIA notes as being calculated based on "12% of foreign employee wages". This information has been used to calculate the value of foreign employee wages, which has been attributed to the Project Company. However, it is noted that all of these foreign jobs may not be held by the Project Company.
Compensation Claims	CHEC has requested compensation of USD 125 million OR additional land for losses incurred during the period of 6th March 2015 to 10th March 2016. Currently, have allowed the nominated amount. This is still under negotiation, and can be updated once confirmed.
Economic Benefits: Omitted Items	Benefits from "Consumption effect of foreign employment", "Income from municipal service", "Value added contribution of firms in Port City", "Backward linkage effect of foreign firms", "Revenue from utilities" will not be benefits received by the Project Company. Therefore, they have been omitted.
Economic Costs: Cost of maintenance	It is assumed that the Project Company will be liable to pay for operating costs in proportion with the 110ha given to them of the total available area of 269 ha (CHEC + GOSL + Public Parks, all of which must be maintained)
Costs of withholding project for 1 year	A news article on Ceylon Today (Mohan, 2015) notes that according to the CHEC, losses incurred due to government imposed restrictions to the project were USD 7.2 million from 6th

	March to 31st March 2015, and estimated to be USD 15 million from March to April 2015. This figure was used to project loses incurred by CHEC.
Economic Costs: Omitted Items	Costs from items "Loss of income to government through royalty and taxes", "Costs of (establishing) utilities, waste disposal facilities, cost of fisherman compensation, and cost of road connection, Operating costs (municipal costs)" have been removed as these will be borne by the GOSL.
Environmental Costs: Possible Accident Costs	These were solely attributed to the Project Company.
Environmental Costs: Omitted	Costs from items "Aquaculture Resources, Archaeological and Cultural Aspects, Mitigation Costs, Monitoring Costs" as these will be incurred by the GOSL.

The CHEC ECBA discounted at 6.5% is shown in Figure 5.2. A summary of the CHEC ECBA at a discount rate of 6.5% is as below:

Table 5.5 Summary of CHEC ECBA

	NPV	**Benefit Cost ratio**	**IRR**
Financial	- USD 470 million	0.77	2.97%
Financial + Economic	- USD 276 million	0.87	4.55%
Financial + Economic + Environmental	- USD 279 million	0.87	4.53%

The negative NPV and extremely low IRR and Benefit Cost Ratios indicate that this project is not financially or economically beneficial to the Project Company/CHEC. Thus, the question is: why would the private entity partake in a project which is not financially or economically beneficial? The most likely answer is that CHEC with the Chinese government backing it, stands to gain some other form of benefits, i.e: social, political, and/or indirectly economical. This finding supports claims by some (interviews and news articles) that the Port City investment has more to do with establishing a strong Chinese presence in a strategic location along its "String of Pearls" (Marantidou, 2014; Marshall, 2012).

Year	TOTAL	2016	2017	2018	2019	2020
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	1099998.78	0.00	0.00	0.00	56000.00	56000.00
Land Price (USD/Square meter)		$ 2,160	$ 2,089	$ 2,020	$ 1,953	$ 1,890
Financial Benefits (Land Sale income)	**$ 1,540,554,409**	$ -	$ -	$ -	$ 109,391,124	$ 105,821,043
Financial costs (construction cost)	**$ 1,163,648,097**	**$ 320,187,793**	**$ 300,645,815**	**$ 282,296,540**	**$ -**	**$ -**
Equity	$ 349,095,814	$ 96,056,338	$ 90,193,745	$ 84,688,962	$ -	$ -
Loan	$ 814,552,283	$ 224,131,455	$ 210,452,071	$ 197,607,578	$ -	$ -
Equity as of total investment		30%	30%	30%		
Loan share of total investment		70%	70%	70%		
Financial Costs	**$ 847,113,749**	**$ -**	**$ -**	**$ -**	**$ 108,997,674**	**$ 102,438,425**
Sales and General Item Expense	$ 46,216,632	$ -	$ -	$ -	$ 3,281,734	$ 3,174,631
- at 3% of land sale value as per Chap6, page 5						
Investment Insurance	$ 4,139,830	$ -	$ -	$ -	$ 621,858	$ 583,905
Repayment of Loan	$ 796,757,286	$ -	$ -	$ -	$ 105,094,082	$ 98,679,889
Repayment of Loan (cumulative)					$ 105,094,082	$ 197,359,778
Net cash flow (Financial)	**-$ 470,207,437**	**-$ 320,187,793**	**-$ 300,645,815**	**-$ 282,296,540**	**$ 393,450**	**$ 3,382,618**
Economic Benefits						
Employment Creation - Direct @70% SL, 30% Foreign	$ 7,249,815	$ 2,591,549	$ 2,671,428	$ 1,986,838	$ -	$ -
Employment Creation - Indirect	$ 160,001,464	$ -	$ -	$ -	$ -	$ -
Compensation for work on hold (TBC)	$ 117,370,892	$ 117,370,892	$ -	$ -	$ -	$ -
TOTAL ECONOMIC BENEFITS	$ 284,622,171	$ 119,962,441	$ 2,671,428	$ 1,986,838	$ -	$ -
Economic Costs						
Cost of maintenance	$ 6,004,068	$ -	$ -	$ -	$ -	$ -
Loss due to halting the project from 6/3/15 to 10/3/16	$ 84,507,042	$ 84,507,042	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 90,511,110	$ 84,507,042	$ -	$ -	$ -	$ -
Net Cash Flow (Financial + Economic)	**-$ 276,096,377**	**-$ 284,732,394**	**-$ 297,974,388**	**-$ 280,309,702**	**$ 393,450**	**$ 3,382,618**
Environmental Costs						
Possible Accident costs	$ 3,360,233	$ 1,220,657	$ 1,146,157	$ 993,419	$ -	$ -
TOTAL ENVIRONMENTAL COSTS	$ 3,360,233	$ 1,220,657	$ 1,146,157	$ 993,419	$ -	$ -
Net Cash Flow (Financial + Economic + Environmental)	**-$ 279,456,610**	**-$ 285,953,052**	**-$ 299,120,545**	**-$ 281,303,121**	**$ 393,450**	**$ 3,382,618**

Figure 5.2 CHEC ECBA discounted at 6.5% (part 1 of 4)

Year	TOTAL	2021	2022	2023	2024	2025
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	1099998.78	32974.04	40126.97	40737.60	40737.60	40126.97
Land Price (USD/Square meter)		$ 1,827	$ 1,767	$ 1,709	$ 1,653	$ 1,599
Financial Benefits (Land Sale income)	**$ 1,540,554,409**	$ 60,246,897	$ 70,907,081	$ 69,635,627	$ 67,350,137	$ 64,151,416
Financial costs (construction cost)	**$ 1,163,648,097**	**$ -**	**$ -**	**$ -**	**$ 131,172,066**	**$ 129,345,881**
Equity	$ 349,095,814	$ -	$ -	$ -	$ 39,374,314	$ 38,782,455
Loan	$ 814,552,283	$ -	$ -	$ -	$ 91,797,752	$ 90,563,426
Equity as of total investment					30%	30%
Loan share of total investment					70%	70%
Financial Costs	**$ 847,113,749**	**$ 94,944,314**	**$ 89,515,356**	**$ 84,083,241**	**$ 79,010,337**	**$ 74,268,738**
Sales and General Item Expense	$ 46,216,632	$ 1,807,407	$ 2,127,212	$ 2,089,069	$ 2,020,504	$ 1,924,542
- at 3% of land sale value as per Chap6, page 5						
Investment Insurance	$ 4,139,830	$ 479,734	$ 386,104	$ 302,116	$ 283,677	$ 319,636
Repayment of Loan	$ 796,757,286	$ 92,657,173	$ 87,002,040	$ 81,692,057	$ 76,706,156	$ 72,024,560
Repayment of Loan (cumulative)		$ 277,971,519	$ 348,008,161	$ 408,460,283	$ 460,236,938	$ 504,171,920
Net cash flow (Financial)	**-$ 470,207,437**	**-$ 34,697,416**	**-$ 18,608,275**	**-$ 14,447,614**	**-$ 142,832,266**	**-$ 139,463,203**
Economic Benefits						
Employment Creation - Direct @70% SL, 30% Foreign	$ 7,249,815	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 160,001,464	$ -	$ -	$ 2,014,104	$ 3,782,355	$ 5,327,260
Compensation for work on hold (TBC)	$ 117,370,892	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC BENEFITS	$ 284,622,171	$ -	$ -	$ 2,014,104	$ 3,782,355	$ 5,327,260
Economic Costs						
Cost of maintenance	$ 6,004,068	$ -	$ -	$ -	$ -	$ 675,314
Loss due to halting the project from 6/3/15 to 10/3/16	$ 84,507,042	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 90,511,110	$ -	$ -	$ -	$ -	$ 675,314
Net Cash Flow (Financial + Economic)	**-$ 276,096,377**	**-$ 34,697,416**	**-$ 18,608,275**	**-$ 12,433,510**	**-$ 139,049,911**	**-$ 134,811,257**
Environmental Costs						
Possible Accident costs	$ 3,360,233	$ -	$ -	$ -	$ -	$ -
TOTAL ENVIRONMENTAL COSTS	$ 3,360,233	$ -	$ -	$ -	$ -	$ -
Net Cash Flow (Financial + Economic + Environmental)	**-$ 279,456,610**	**-$ 34,697,416**	**-$ 18,608,275**	**-$ 12,433,510**	**-$ 139,049,911**	**-$ 134,811,257**

Figure 5.2 CHEC ECBA discounted at 6.5% (part 2 of 4)

Year	TOTAL	2026	2027	2028	2029	2030
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	1099998.78	40126.97	40126.97	37684.44	67535.72	67535.72
Land Price (USD/Square meter)		$ 1,546	$ 1,495	$ 1,446	$ 1,399	$ 1,353
Financial Benefits (Land Sale income)	**$ 1,540,554,409**	$ 62,042,552	$ 60,008,683	$ 54,495,249	$ 94,471,039	$ 91,357,428
Financial costs (construction cost)	**$ 1,163,648,097**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ 349,095,814	$ -	$ -	$ -	$ -	$ -
Loan	$ 814,552,283	$ -	$ -	$ -	$ -	$ -
Equity as of total investment						
Loan share of total investment						
Financial Costs	**$ 847,113,749**	**$ 33,424,669**	**$ 31,390,280**	**$ 29,418,914**	**$ 28,881,037**	**$ 27,197,911**
Sales and General Item Expense	$ 46,216,632	$ 1,861,277	$ 1,800,260	$ 1,634,857	$ 2,834,131	$ 2,740,723
- at 3% of land sale value as per Chap6, page 5						
Investment Insurance	$ 4,139,830	$ 250,106	$ 187,873	$ 176,407	$ 124,230	$ 116,648
Repayment of Loan	$ 796,757,286	$ 31,313,286	$ 29,402,147	$ 27,607,649	$ 25,922,676	$ 24,340,540
Repayment of Loan (cumulative)		$ 504,714,150	$ 503,312,147	$ 500,201,215	$ 495,595,177	$ 489,688,125
Net cash flow (Financial)	**-$ 470,207,437**	**$ 28,617,883**	**$ 28,618,403**	**$ 25,076,335**	**$ 65,590,002**	**$ 64,159,517**
Economic Benefits						
Employment Creation - Direct @70% SL, 30% Foreign	$ 7,249,815	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 160,001,464	$ 6,669,497	$ 7,828,048	$ 9,187,849	$ 10,007,423	$ 10,368,707
Compensation for work on hold (TBC)	$ 117,370,892	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC BENEFITS	$ 284,622,171	$ 6,669,497	$ 7,828,048	$ 9,187,849	$ 10,007,423	$ 10,368,707
Economic Costs						
Cost of maintenance	$ 6,004,068	$ 634,098	$ 576,191	$ 541,024	$ 491,071	$ 461,099
Loss due to halting the project from 6/3/15 to 10/3/16	$ 84,507,042	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 90,511,110	$ 634,098	$ 576,191	$ 541,024	$ 491,071	$ 461,099
Net Cash Flow (Financial + Economic)	**-$ 276,096,377**	**$ 34,653,281**	**$ 35,870,260**	**$ 33,723,160**	**$ 75,106,354**	**$ 74,067,125**
Environmental Costs						
Possible Accident costs	$ 3,360,233	$ -	$ -	$ -	$ -	$ -
TOTAL ENVIRONMENTAL COSTS	$ 3,360,233	$ -	$ -	$ -	$ -	$ -
Net Cash Flow (Financial + Economic + Environmental)	**-$ 279,456,610**	**$ 34,653,281**	**$ 35,870,260**	**$ 33,723,160**	**$ 75,106,354**	**$ 74,067,125**

Figure 5.2 CHEC ECBA discounted at 6.5% (part 3 of 4)

Year	TOTAL	2031	2032	2033	2034	2035	2036	2037	2038
Financial Benefits: Yearly Sales (Square Meter)									
Total Land (Square Meter)	1099998.78	67535.72	67535.72	67535.72	67535.72	67535.72	67535.72	67535.72	67535.72
Land Price (USD/Square meter)		$ 1,308	$ 1,265	$ 1,224	$ 1,184	$ 1,145	$ 1,107	$ 1,071	$ 1,035
Financial Benefits (Land Sale income)	**$ 1,540,554,409**	$ 88,345,949	$ 85,454,368	$ 82,651,878	$ 79,934,395	$ 77,298,243	$ 74,758,105	$ 72,307,687	$ 69,925,507
Financial costs (construction cost)	**$ 1,163,648,097**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ 349,095,814	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Loan	$ 814,552,283	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equity as of total investment									
Loan share of total investment									
Financial Costs	**$ 847,113,749**	**$ 25,578,365**	**$ 24,092,257**	**$ 2,511,745**	**$ 2,428,256**	**$ 2,347,327**	**$ 2,269,391**	**$ 2,194,252**	**$ 2,121,259**
Sales and General Item Expense	$ 46,216,632	$ 2,650,378	$ 2,563,631	$ 2,479,556	$ 2,398,032	$ 2,318,947	$ 2,242,743	$ 2,169,231	$ 2,097,765
- at 3% of land sale value as per Chap6, page 5									
Investment Insurance	$ 4,139,830	$ 73,019	$ 68,563	$ 32,189	$ 30,224	$ 28,380	$ 26,648	$ 25,021	$ 23,494
Repayment of Loan	$ 796,757,286	$ 22,854,968	$ 21,460,063	$ -	$ -	$ -	$ -	$ -	$ -
Repayment of Loan (cumulative)		$ 482,656,024	$ 474,658,208	$ 445,688,458	$ 418,486,815	$ 392,945,366	$ 368,962,785	$ 346,544,015	$ 325,393,441
Net cash flow (Financial)	**-$ 470,207,437**	**$ 62,767,583**	**$ 61,362,111**	**$ 80,140,133**	**$ 77,506,138**	**$ 74,950,916**	**$ 72,488,714**	**$ 70,113,435**	**$ 67,804,248**
Economic Benefits									
Employment Creation - Direct @70% SL, 30% Foreign	$ 7,249,815	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 160,001,464	$ 10,952,860	$ 11,427,084	$ 12,339,105	$ 13,097,233	$ 13,716,856	$ 14,212,058	$ 14,387,206	$ 14,683,820
Compensation for work on hold (TBC)	$ 117,370,892	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC BENEFITS	$ 284,622,171	$ 10,952,860	$ 11,427,084	$ 12,339,105	$ 13,097,233	$ 13,716,856	$ 14,212,058	$ 14,387,206	$ 14,683,820
Economic Costs									
Cost of maintenance	$ 6,004,068	$ 418,027	$ 392,514	$ 368,558	$ 333,704	$ 313,337	$ 283,317	$ 266,025	$ 249,789
Loss due to halting the project from 6/3/15 to 10/3/16	$ 84,507,042	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 90,511,110	$ 418,027	$ 392,514	$ 368,558	$ 333,704	$ 313,337	$ 283,317	$ 266,025	$ 249,789
Net Cash Flow (Financial + Economic)	**-$ 276,096,377**	**$ 73,302,416**	**$ 72,396,681**	**$ 92,110,680**	**$ 90,269,667**	**$ 88,354,435**	**$ 86,417,455**	**$ 84,234,617**	**$ 82,238,279**
Environmental Costs									
Possible Accident costs	$ 3,360,233	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL ENVIRONMENTAL COSTS	$ 3,360,233	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Cash Flow (Financial + Economic + Environmental)	**-$ 279,456,610**	**$ 73,302,416**	**$ 72,396,681**	**$ 92,110,680**	**$ 90,269,667**	**$ 88,354,435**	**$ 86,417,455**	**$ 84,234,617**	**$ 82,238,279**

Figure 5.2 CHEC ECBA discounted at 6.5% (part 4 of 4)

5.4 Perspective: GOSL (GOSL ECBA)

This section attempts to adjust the Replicated ECBA to depict the costs and benefits from the CHEC's point of view only. The objective of this exercise is to estimate the returns gained by the Government of Sri Lanka.

Table 5.6 Rationale for Costs and Benefits included in the GOSL ECBA

Cost/ Benefit Item	Rationale
Land Revenue	Based on SEIA's note that the GOSL would be given 63ha of the total marketable area of 173ha (Chapter 1 – p.18). There are conflicting reports on when the GOSL can start selling the land. One is that the GOSL will be able to start selling 20-24 months after completion of reclamation, and the other is that the GOSL must wait until CHEC sells 6-7% of its own marketable land. Both these scenarios will take 2 years.
Economic Benefit: Direct Employment	SEIA notes Sri Lankan to Foreign employee ratio of 80:20, however suggestions by economists was 60:40. The researcher has allowed for a ratio of 70:30 as suitable middle-ground. Local Employment benefits have been allocated to the GOSL.
Economic Benefit: Indirect Employment	Similar to the reasoning in Table 5.4, the value of foreign employee wages has been attributed to the Project Company. The balance of the indirect job benefits have been allowed for the GOSL.
Economic Benefits: Solely allocated as benefits to the GOSL	"Consumption effect of foreign employment" and "Backward linkage effect of foreign firms" are all benefits to the national economy which is a major responsibility of the GOSL. "Income from municipal service" and "Revenue from utilities" are benefits received by Government owned departments and corporations.
Economic Benefits: Value added contribution of firms in Port City	See Table 5.1 for details on how the value was calculated. According to interviews, national income statistics indicate that 22% of the total value added is salaries/wages. This was then applied to the industry profile created for indirect job calculation in order to obtain a monetary figure for value added contributions. The researcher has manually calculated value added contributions based on this information. Please see details in Section 5.4.1.
Economic Costs: Solely allocated as costs for the GOSL	"Operating costs (municipal cost)", "Cost of utilities, waste disposal facilities (establishment), "Cost of fishermen compensation" and "Cost of road connection" were considered to be GOSL's responsibilities and allocated under costs incurred by GOSL.
Economic Cost: Cost of maintenance	It is assumed that the GOSL will be liable to pay for operating costs in proportion with the 63ha for development + 96ha for public spaces given to them of the total available area of 269 ha

	(CHEC + GOSL + Public Parks, all of which must be maintained)
Economic Cost: Loss of income to government on royalty and tax	There are reports that cost included for this item in the original ECBA has been significantly reduced from the proposed value calculated by experts. This item is discussed in greater detail in Section 5.4.2.
Economic Cost: Opportunity Cost of Sand	This is a new item. The GOSL did not charge anything for the natural resource of sea sand provided for the reclamation activities of the Port City. The original ECBA did not allow for the opportunity cost of sand. This was criticized in the media. Further details on the issue are provided in Section 5.4.3.
Economic Cost: Cost for compensation	Compensation costs demanded by the Project Company for putting the Port City project on hold for a period of 1 year. See further details in Section 5.4.5.
Environmental Costs	"Aquaculture Resources, Archaeological and Cultural Aspects, Mitigation Costs, Monitoring Costs" included as they will be incurred by the GOSL. "Possible accident costs" omitted as these will be borne by the Project Company.

5.4.1 Value Added Contribution of firms in the Port City

As mentioned in Table 5.4, the national income statistics indicate that 22% of the total value added is salaries/wages. Interviews revealed that this was then applied to the industry profile created for indirect job calculation in order to obtain a monetary figure for value added contributions.

Therefore, as the total value of benefits due to indirect employment creation is USD 841.6 million, the value added contribution may be calculated as below:

$$\text{USD } 841.6 \text{ million} \div 0.22 = \text{USD } 3{,}825.4 \text{ million}$$

This figure was used in creating the ECBA for GOSL's point of view (see Figure 5.3). However, the figure entered in the 'Summary CBA' of the SEIA shows USD 5,404.1 million. Therefore, further investigation is required to understand the reasons behind the difference.

5.4.2 Loss of income to government on royalty, NBT & VAT for sea sand

The rates required for the calculation of this item are noted in Table 5.7. It was noted that there were discrepancies between rates available through online sources and rates used in the calculations as confirmed by interviewees. It was stated that the rates for price of sea sand and royalty were provided by the Geological Survey and Mines Bu-

reau (GSMB). Fernando (2015 a) notes royalty at 4%. Rs.68 per m^3 and Rs. 190 per m^3 are both around 3% of the corresponding price of sand.

Table 5.7 Rates used for calculating loss of income to government

Item	Rates used in original ECBA	Rates obtained independently by the Researcher	
VAT	11%	11%	Inland Revenue Department
NBT	2%	2%	Inland Revenue Department
Royalty for sea sand	Rs. 68 per m^3	Rs. 190 per m^3	Sri Lanka Land Reclamation and Development Corporation
Average price of sand	Rs. 2450 per m^3	Rs. 5650 per m^3	Sri Lanka Land Reclamation and Development Corporation

The SEIA notes that 65 million m^3 of sand will be needed for the reclamation project. Their estimated loss of income on royalty, NBT and VAT for sea sand as per the Summary CBA is USD 37.3 million.

Interviews revealed that Sri Lankan Rupees were converted to USD using XDR rates. These rates could not be replicated as there was uncertainty about when these conversions were done. Therefore, the researcher has relied on other information revealed during the interview, namely the cost of sea sand. It was stated that 1 m^3 of sea sand cost Rs. 2450 or USD 17.50. This leads to **1 USD = Rs. 140**, which has been used in all calculations for the replicated and adjusted ECBAs.

The following is a manual calculation conducted using the rates used in the original ECBA/ Summary CBA.

Royalty = (65,000,000 m^3 × Rs. 68 per m^3) ÷ Rs. 140 per USD
= USD 31.6 million

VAT = (65,000,000 m^3 × Rs. 2450 per m^3 × 0.11) ÷ Rs. 140 per USD
= USD 125.1 million

NBT = (65,000,000 m^3 × Rs. 2450 per m^3 × 0.02) ÷ Rs. 140 per USD
= USD 22.7 million

Therefore, total loss of royalty, VAT and NBT is equal to around USD **179.4 million**. This value was used in the ECBA created in the GOSL's point of view (see Figure 5.3).

However, if the values obtained from the Sri Lanka Land Reclamation and Development Corporation website are used instead, the calculation will be as below.

Royalty = (65,000,000 m^3 × Rs. 190 per m^3) ÷ Rs. 140 per USD
= USD 88.2 million

VAT = (65,000,000 m^3 × Rs. 5650 per m^3 × 0.11) ÷ Rs. 140 per USD
= USD 288.5 million

NBT = (65,000,000 m^3 × Rs. 5650 per m^3 × 0.02) ÷ Rs. 140 per USD
= USD 52.5 million

In that case the total loss of royalty, VAT and NBT is around USD **429.2 million**.

It is evident that there is a great difference between the costs in the Summary CBA and manually calculated costs. The following may be reasonable explanations for the differences:

- The VAT and NBT may have been applied incorrectly in the manual calculations of this study due to unawareness of any tax free thresholds or any applicable tax rebates.
- The royalty fee suggested by GSMB may be much lower than what is stated in the Land Reclamation website due to the possible application of concessions.
- Interviews revealed that the price of Rs. 2450 per m^3 was for sea sand on-site. It is possible that the higher prices on the Land Reclamation website are due to additional dredging, transportation and holding costs.

5.4.3 Opportunity Cost of Sea Sand

Sea Sand used for the reclamation of the project is obtained from off-shore sand deposits within Sri Lanka's territory free of charge. In essence, it is a significant resource provided by the GOSL for the Port City project. The earliest critics of the Port City project highlighted the exclusion of the Opportunity Cost of sea sand from the EIA and cost benefit analysis, and the resulting inaccuracy of promoting the project as one where the GOSL receives large benefits for zero investments/contributions. Three economists interviewed during this study and review of literature confirm that this idea is based on the theory of Opportunity Cost in economics, where everything is deemed to have an opportunity cost. An Opportunity Cost is defined as "the value of the next-highest-valued alternative use of that resource" (Henderson, 2008). In this case, the next best option could have been the sale of the sand as these areas have been

gazetted for dredging. However, one economist noted that the value of sand is driven by scarcity, thus even though the sea sand could have an opportunity cost, it would be much lower than the market price for sand used in construction materials.

There is another group who believe that the sea sand used for the reclamation of the Port City does not have an Opportunity Cost. Various reasons have been put forward to support their argument, such as:

- If sea sand is dredged from one point in the sea, it will be replaced over time by sand brought in by currents. Therefore, there is no loss of resource/ there is an abundance of the resource.
- The sea sand used for reclamation of the Port City project is less than 10% of the sand required in the national construction industry. Therefore, it is insignificant and can be ignored as having an effect or opportunity cost.

However, some claim that there is a market for sea sand, and the quantities used for the Port City could have been sold in these markets as done by other countries such as Malaysia, Indonesia etc., and could have been used for that purpose at some point in time. Therefore, any sand dredged for this purpose would have an opportunity cost regardless of the reasons stated above. It is also noted that some of the sand will be dredged from a site for which dredging permits are held by the SLLRDC. The SLLRDC currently sells sea sand in the local market and has confirmed that the sand dredged from its site for the Port City project will have to be paid for by the Project Proponent (i.e: The Ministry of Megapolis).

The value of opportunity cost for sea sand included in the GOSL ECBA (see Figure 5.3) was calculated using the rates provided by GSMB as below.

$$\text{Opportunity Cost}_A = (65{,}000{,}000\ m^3 \times \text{Rs. } 2450 \text{ per } m^3) \div \text{Rs. } 140 \text{ per USD}$$
$$= \text{USD } 1{,}137.5 \text{ million}$$
$$= \mathbf{USD\ 1.14\ billion}$$

This value of USD 1.14 billion was used in the GOSL ECBA.

However, if the opportunity cost is calculated by the market price of sea sand as proposed in the Land Reclamation website, it will be:

$$\text{Opportunity Cost}_B = (65{,}000{,}000\ m^3 \times \text{Rs. } 5650 \text{ per } m^3) \div \text{Rs. } 140 \text{ per USD}$$
$$= \text{USD } 2{,}623.2 \text{ million}$$
$$= \text{USD } 2.62 \text{ billion}$$

The difference between the two manually calculated costs is very large. Therefore, it is extremely important to confirm the correct rates to be applied. The price of the cost of sand could change the outcome of the ECBA significantly; the higher cost results in an overall negative NPV at a discount rate of 6.5%.

5.4.4 Compensation Costs demanded by CHEC

CHEC has requested compensation of USD 125 million **or** additional reclaimed land for losses incurred during the period of 6th March 2015 to 10th March 2016. The GOSL ECBA includes the nominated amount.

At the time of writing this report (June 2016), compensation payments are still under negotiation, although some representatives of the GOSL have stated that the GOSL will not be paying any compensation money.

5.4.5 Summary of GOSL ECBA

The following table depicts the summary of the GOSL ECBA using conservative estimates discounted at 6.5%. The GOSL ECBA is shown in Figure 5.3.

Table 5.8 Summary of GOSL ECBA at 6.5% discount rate

	NPV	Benefit Cost ratio	IRR
Financial	USD 807 million	33.33	-
Financial + Economic	USD 845 million	1.57	9.22%
Financial + Economic + Environmental	USD 838 million	1.56	9.18%

The results of the Port City project suggest it is beneficial to the GOSL. However, it is important to note that conservative versions of some costs (eg: opportunity cost of sea sand, royalty and tax) were used, and higher/less conservative rates could lead to a very different overall result of the ECBA.

As the sections above explain, some of the costs appear to have been reduced or omitted in the original Summary CBA without a sufficient amount of explanation. Interviews indicate that this was done in order to make the Port City look beneficial and attractive to potential investors and decision makers (i.e: GOSL and government authorities). Therefore, it is not unreasonable to expect that some of the benefits may have been inflated to achieve the same objective, although it cannot be proven without extensive investigations.

Year	TOTAL	2016	2017	2018	2019	2020
Financial Benefits: Yearly Sales (Square Meter)					**20-24 month ban on GOSL**	
Total Land (Square Meter)	622823.9184	0	0	0	0	0
Land Price (USD/Square meter)		$ 2,160	$ 2,089	$ 2,020	$ 1,953	$ 1,890
Financial Benefits (Land Sale income)	**$ 832,547,016**	$ -	$ -	$ -	$ -	$ -
Financial costs (construction cost)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ -	$ -	$ -	$ -	$ -	$ -
Loan	$ -	$ -	$ -	$ -	$ -	$ -
Equity as of total investment		30%	30%	30%		
Loan share of total investment		70%	70%	70%		
Financial Costs	**$ 24,976,410**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Sales and General Item Expense	$ 24,976,410				$ -	$ -
- at 3% of land sale value as per Chap6, page 5						
Net cash flow (Financial)	**$ 807,570,606**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Economic Benefits						
Employment Creation - Direct	$ 16,916,234	$ 6,046,948	$ 6,233,331	$ 4,635,955	$ -	$ -
Employment Creation - Indirect	$ 157,632,022	$ 17,464,789	$ 18,779,343	$ 14,570,144	$ -	$ -
Consumption effect of foreign employment	$ 44,804,804	$ 563,380	$ 617,161	$ 496,709	$ -	$ -
Income from municipal service	$ 506,646	$ -	$ -	$ -	$ -	$ -
Value added contribution of firms in Port City	$ 1,212,814,591	Assumed this does not include jobs during reclamation			$ -	$ -
Backward linkage effect of foreign firms	$ 19,200,176	$ -	$ -	$ -	$ -	$ -
Revenue from utilities	$ 55,215,786	$ -	$ -	$ -	$ -	$ 510,917
TOTAL ECONOMIC BENEFITS	$ 1,507,090,259	$ 24,075,117	$ 25,629,835	$ 19,702,808	$ -	$ 510,917
Economic Costs						
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 77,732	$ -
Loss of income to government on royalty, NBT & VAT	$ 158,500,291	$ 56,917,645	$ 52,595,484	$ 48,987,161	$ -	$ -
Opportunity Cost of Sand	$ 1,004,723,707	$ 360,797,493	$ 333,399,576	$ 310,526,638	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 13,575,784
Cost of Fisherman compensation	$ 6,008,709	$ 2,159,624	$ 2,027,816	$ 1,821,268	$ -	$ -
Cost of maintenance	$ 8,678,607	$ -	$ -	$ -	$ -	$ -
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ 101,015,508
Cost of compensation	$ 117,370,892	$ 117,370,892	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 1,468,770,117	$ 537,245,654	$ 388,022,876	$ 361,335,068	$ 77,732	$ 114,591,291
Net Cash Flow (Financial + Economic)	**$ 845,890,747**	**-$ 513,170,537**	**-$ 362,393,041**	**-$ 341,632,259**	**-$ 77,732**	**-$ 114,080,375**
Environmental Costs						
Aquaculture Resources	$ 6,008,709	$ 2,159,624	$ 2,027,816	$ 1,821,268	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ 8,048	$ -	$ -	$ -	$ -
Mitigation Costs	$ 358,744	$ 187,793	$ 88,166	$ 82,785	$ -	$ -
Monitoring Costs	$ 869,967	$ 69,402	$ 65,166	$ 61,189	$ 57,454	$ 53,948
TOTAL ENVIRONMENTAL COSTS	$ 7,245,468	$ 2,424,868	$ 2,181,148	$ 1,965,242	$ 57,454	$ 53,948
Net Cash Flow (Financial + Economic + Environmental)	**$ 838,645,279**	**-$ 515,595,405**	**-$ 364,574,189**	**-$ 343,597,501**	**-$ 135,187**	**-$ 114,134,322**

Figure 5.3 GOSL ECBA discounted at 6.5% (part 1 of 4)

Year	TOTAL	2021	2022	2023	2024	2025
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	622823.9184	21804.69716	21804.69716	21025.95797	25587.03337	25976.40297
Land Price (USD/Square meter)		$ 1,827	$ 1,767	$ 1,709	$ 1,653	$ 1,599
Financial Benefits (Land Sale income)	**$ 832,547,016**	$ 39,839,379	$ 38,530,384	$ 35,941,142	$ 42,302,206	$ 41,528,757
Financial costs (construction cost)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ -	$ -	$ -	$ -	$ -	$ -
Loan	$ -	$ -	$ -	$ -	$ -	$ -
Equity as of total investment					30%	30%
Loan share of total investment					70%	70%
Financial Costs	**$ 24,976,410**	**$ 1,195,181**	**$ 1,155,912**	**$ 1,078,234**	**$ 1,269,066**	**$ 1,245,863**
Sales and General Item Expense	$ 24,976,410	$ 1,195,181	$ 1,155,912	$ 1,078,234	$ 1,269,066	$ 1,245,863
- at 3% of land sale value as per Chap6, page 5						
Net cash flow (Financial)	**$ 807,570,606**	**$ 38,644,197**	**$ 37,374,473**	**$ 34,862,908**	**$ 41,033,140**	**$ 40,282,894**
Economic Benefits						
Employment Creation - Direct	$ 16,916,234	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 157,632,022	$ -	$ -	$ 1,369,591	$ 2,515,266	$ 3,356,174
Consumption effect of foreign employment	$ 44,804,804	$ -	$ -	$ 543,808	$ 1,021,236	$ 1,385,088
Income from municipal service	$ 506,646	$ -	$ -	$ -	$ -	$ -
Value added contribution of firms in Port City	$ 1,212,814,591	$ -	$ -	$ 15,380,430	$ 28,625,549	$ 39,470,156
Backward linkage effect of foreign firms	$ 19,200,176	$ -	$ -	$ 241,692	$ 453,883	$ 639,271
Revenue from utilities	$ 55,215,786	$ 959,468	$ 1,544,415	$ 2,175,232	$ 2,723,295	$ 3,409,447
TOTAL ECONOMIC BENEFITS	$ 1,507,090,259	$ 959,468	$ 1,544,415	$ 19,710,754	$ 35,339,229	$ 48,260,136
Economic Costs						
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 56,735	$ -
Loss of income to government on royalty, NBT & VAT	$ 158,500,291	$ -	$ -	$ -	$ -	$ -
Opportunity Cost of Sand	$ 1,004,723,707	$ -	$ -	$ -	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 5,327,260
Cost of Fisherman compensation	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Cost of maintenance	$ 8,678,607	$ -	$ -	$ -	$ -	$ 976,136
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ 46,613,528
Cost of compensation	$ 117,370,892	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 1,468,770,117	$ -	$ -	$ -	$ 56,735	$ 52,916,925
Net Cash Flow (Financial + Economic)	**$ 845,890,747**	**$ 39,603,665**	**$ 38,918,887**	**$ 54,573,662**	**$ 76,315,633**	**$ 35,626,105**
Environmental Costs						
Aquaculture Resources	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ -	$ -	$ -	$ -	$ -
Mitigation Costs	$ 358,744	$ -	$ -	$ -	$ -	$ -
Monitoring Costs	$ 869,967	$ 50,655	$ 47,564	$ 44,661	$ 41,935	$ 39,375
TOTAL ENVIRONMENTAL COSTS	$ 7,245,468	$ 50,655	$ 47,564	$ 44,661	$ 41,935	$ 39,375
Net Cash Flow (Financial + Economic + Environmental)	**$ 838,645,279**	**$ 39,553,010**	**$ 38,871,324**	**$ 54,529,001**	**$ 76,273,699**	**$ 35,586,730**

Figure 5.3 GOSL ECBA discounted at 6.5% (part 2 of 4)

Year	TOTAL	2026	2027	2028	2029	2030
Financial Benefits: Yearly Sales (Square Meter)						
Total Land (Square Meter)	622823.9184	25976.40297	25976.40297	24029.55501	43064.27689	43064.27689
Land Price (USD/Square meter)		$ 1,546	$ 1,495	$ 1,446	$ 1,399	$ 1,353
Financial Benefits (Land Sale income)	**$ 832,547,016**	$ 40,163,572	$ 38,846,937	$ 34,748,995	$ 60,239,630	$ 58,254,231
Financial costs (construction cost)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ -	$ -	$ -	$ -	$ -	$ -
Loan	$ -	$ -	$ -	$ -	$ -	$ -
Equity as of total investment						
Loan share of total investment						
Financial Costs	**$ 24,976,410**	**$ 1,204,907**	**$ 1,165,408**	**$ 1,042,470**	**$ 1,807,189**	**$ 1,747,627**
Sales and General Item Expense	$ 24,976,410	$ 1,204,907	$ 1,165,408	$ 1,042,470	$ 1,807,189	$ 1,747,627
- at 3% of land sale value as per Chap6, page 5						
Net cash flow (Financial)	**$ 807,570,606**	**$ 38,958,665**	**$ 37,681,529**	**$ 33,706,525**	**$ 58,432,441**	**$ 56,506,604**
Economic Benefits						
Employment Creation - Direct	$ 16,916,234	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 157,632,022	$ 4,535,258	$ 5,510,945	$ 5,894,924	$ 6,473,767	$ 7,167,369
Consumption effect of foreign employment	$ 44,804,804	$ 1,800,764	$ 2,160,541	$ 2,425,592	$ 2,650,242	$ 2,838,434
Income from municipal service	$ 506,646	$ 50,021	$ 46,968	$ 44,102	$ 41,410	$ 38,883
Value added contribution of firms in Port City	$ 1,212,814,591	$ 50,930,701	$ 60,631,787	$ 68,558,061	$ 74,914,500	$ 79,709,438
Backward linkage effect of foreign firms	$ 19,200,176	$ 800,340	$ 939,366	$ 1,102,542	$ 1,200,891	$ 1,244,245
Revenue from utilities	$ 55,215,786	$ 3,701,571	$ 3,898,368	$ 3,969,151	$ 3,892,542	$ 3,810,500
TOTAL ECONOMIC BENEFITS	$ 1,507,090,259	$ 61,818,654	$ 73,187,975	$ 81,994,371	$ 89,173,351	$ 94,808,868
Economic Costs						
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 41,410	$ -
Loss of income to government on royalty, NBT & VAT	$ 158,500,291	$ -	$ -	$ -	$ -	$ -
Opportunity Cost of Sand	$ 1,004,723,707	$ -	$ -	$ -	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 3,888,265
Cost of Fisherman compensation	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Cost of maintenance	$ 8,678,607	$ 916,560	$ 832,858	$ 782,026	$ 709,820	$ 666,498
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ -
Cost of compensation	$ 117,370,892	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 1,468,770,117	$ 916,560	$ 832,858	$ 782,026	$ 751,230	$ 4,554,763
Net Cash Flow (Financial + Economic)	**$ 845,890,747**	**$ 99,860,759**	**$ 110,036,646**	**$ 114,918,870**	**$ 146,854,562**	**$ 146,760,708**
Environmental Costs						
Aquaculture Resources	$ 6,008,709	$ -	$ -	$ -	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ -	$ -	$ -	$ -	$ -
Mitigation Costs	$ 358,744	$ -	$ -	$ -	$ -	$ -
Monitoring Costs	$ 869,967	$ 36,972	$ 34,716	$ 32,597	$ 30,607	$ 28,739
TOTAL ENVIRONMENTAL COSTS	$ 7,245,468	$ 36,972	$ 34,716	$ 32,597	$ 30,607	$ 28,739
Net Cash Flow (Financial + Economic + Environmental)	**$ 838,645,279**	**$ 99,823,787**	**$ 110,001,930**	**$ 114,886,273**	**$ 146,823,955**	**$ 146,731,969**

Figure 5.3 GOSL ECBA discounted at 6.5% (part 3 of 4)

Year	TOTAL	2031	2032	2033	2034	2035	2036	2037	2038
Financial Benefits: Yearly Sales (Square Meter)									
Total Land (Square Meter)	622823.9184	43064.27689	43064.27689	43064.27689	43064.27689	43064.27689	43064.27689	43064.27689	43064.27689
Land Price (USD/Square meter)		$ 1,308	$ 1,265	$ 1,224	$ 1,184	$ 1,145	$ 1,107	$ 1,071	$ 1,035
Financial Benefits (Land Sale income)	**$ 832,547,016**	$ 56,333,955	$ 54,490,134	$ 52,703,121	$ 50,970,312	$ 49,289,365	$ 47,669,642	$ 46,107,128	$ 44,588,127
Financial costs (construction cost)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Equity	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Loan	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equity as of total investment									
Loan share of total investment									
Financial Costs	**$ 24,976,410**	**$ 1,690,019**	**$ 1,634,704**	**$ 1,581,094**	**$ 1,529,109**	**$ 1,478,681**	**$ 1,430,089**	**$ 1,383,214**	**$ 1,337,644**
Sales and General Item Expense	$ 24,976,410	$ 1,690,019	$ 1,634,704	$ 1,581,094	$ 1,529,109	$ 1,478,681	$ 1,430,089	$ 1,383,214	$ 1,337,644
- at 3% of land sale value as per Chap6, page 5									
Net cash flow (Financial)	**$ 807,570,606**	**$ 54,643,936**	**$ 52,855,430**	**$ 51,122,027**	**$ 49,441,203**	**$ 47,810,684**	**$ 46,239,552**	**$ 44,723,915**	**$ 43,250,483**
Economic Benefits									
Employment Creation - Direct	$ 16,916,234	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Employment Creation - Indirect	$ 157,632,022	$ 7,447,945	$ 7,461,886	$ 8,229,646	$ 8,785,221	$ 9,185,564	$ 9,424,371	$ 9,733,258	$ 9,726,562
Consumption effect of foreign employment	$ 44,804,804	$ 2,993,782	$ 3,051,031	$ 3,315,464	$ 3,536,253	$ 3,717,741	$ 3,837,256	$ 3,903,312	$ 3,947,011
Income from municipal service	$ 506,646	$ 36,510	$ 34,281	$ 32,189	$ 30,224	$ 28,380	$ 26,648	$ 50,042	$ 46,988
Value added contribution of firms in Port City	$ 1,212,814,591	$ 83,640,021	$ 85,858,953	$ 93,494,322	$ 99,465,699	$ 104,101,910	$ 107,438,312	$ 109,638,474	$ 110,956,280
Backward linkage effect of foreign firms	$ 19,200,176	$ 1,314,343	$ 1,371,250	$ 1,480,693	$ 1,571,668	$ 1,646,023	$ 1,705,447	$ 1,726,465	$ 1,762,058
Revenue from utilities	$ 55,215,786	$ 3,650,953	$ 3,496,688	$ 3,347,653	$ 3,173,560	$ 3,008,249	$ 2,824,646	$ 2,652,250	$ 2,466,882
TOTAL ECONOMIC BENEFITS	$ 1,507,090,259	$ 99,083,553	$ 101,274,089	$ 109,899,966	$ 116,562,625	$ 121,687,866	$ 125,256,679	$ 127,703,801	$ 128,905,781
Economic Costs									
Operating Cost: municipal cost (@35% of service)	$ 229,596	$ -	$ -	$ -	$ 30,224	$ -	$ -	$ -	$ 23,494
Loss of income to government on royalty, NBT & VAT	$ 158,500,291	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Opportunity Cost of Sand	$ 1,004,723,707	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cost of utilities, waste disposal facilities	$ 25,629,279	$ -	$ -	$ -	$ -	$ 2,837,970	$ -	$ -	$ -
Cost of Fisherman compensation	$ 6,008,709	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cost of maintenance	$ 8,678,607	$ 604,240	$ 567,361	$ 532,733	$ 482,354	$ 452,915	$ 409,521	$ 384,527	$ 361,058
Cost of road connection	$ 147,629,036	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cost of compensation	$ 117,370,892	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL ECONOMIC COST	$ 1,468,770,117	$ 604,240	$ 567,361	$ 532,733	$ 512,579	$ 3,290,885	$ 409,521	$ 384,527	$ 384,552
Net Cash Flow (Financial + Economic)	**$ 845,890,747**	**$ 153,123,250**	**$ 153,562,157**	**$ 160,489,260**	**$ 165,491,249**	**$ 166,207,665**	**$ 171,086,711**	**$ 172,043,188**	**$ 171,771,712**
Environmental Costs									
Aquaculture Resources	$ 6,008,709	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Archeological and Cultural Aspects	$ 8,048	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Mitigation Costs	$ 358,744	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring Costs	$ 869,967	$ 26,985	$ 25,338	$ 23,792	$ 22,340	$ 20,976	$ 19,696	$ 18,494	$ 17,365
TOTAL ENVIRONMENTAL COSTS	$ 7,245,468	$ 26,985	$ 25,338	$ 23,792	$ 22,340	$ 20,976	$ 19,696	$ 18,494	$ 17,365
Net Cash Flow (Financial + Economic + Environmental)	**$ 838,645,279**	**$ 153,096,265**	**$ 153,536,819**	**$ 160,465,468**	**$ 165,468,910**	**$ 166,186,689**	**$ 171,067,014**	**$ 172,024,695**	**$ 171,754,347**

Figure 5.3 GOSL ECBA discounted at 6.5% (part 4 of 4)

5.5 Non quantifiable costs

Among costs are some items that are non-quantifiable, but will have a considerable influence on the dynamics and overall impact of the project. This section explores some of these costs.

5.5.1 Transaction Costs

Ho and Tsui (2009) have written of several different types of Transaction Costs which occur in PPPs. This section examines those types and its possible applicability to the Port City project.

The first type of Transaction Cost occurs due to the promoter's profit structure of PPPs. The gist of this is that the source of the promoter's returns do not only come from returns on equity investments. They also gain returns from construction and operation contracts. As most construction firms rely heavily on short term debt, the long period-slow return nature of PPPs lead them to invest their capital in construction contracts instead of PPP equity.

In the Port City project, CHEC is the promoter. It is very possible that the CHEC does not rely solely on the revenue from land sales as their return on investment. CHEC conducts their own dredging and therefore is likely to make profits through their reclamation contract. This leads to the possibility of inflated construction costs to ensure a fast return to meet short-term debt needs.

Another type of Transaction Cost occurs due to Renegotiation and Hold-up Problems. The general understanding is that during negotiation, the party which can hold up the other party will dominate the renegotiations and obtain better payoffs. One could argue that the GOSL was in a better position to negotiate for better payoffs as they had the power to hold up the project for 1 year while they renegotiated terms and conditions for Environmental issues relating to the project and the allowance of freehold land. On the other hand, it could be argued that the Project Company was in a more dominant position as the government would have to face high opportunity costs if they were to cancel the project or replace CHEC as it is a company backed by China, one of the main investors and political allies of Sri Lanka in recent times.

Ho and Tsui (2009) also note soft budget constraints as a reason for Transaction Costs. The gist of this is that the governments are inclined to bail out projects on the brink of bankruptcy due to the greater social and economic welfare of the country.

The Port City project is solely financed by the Project Company and does not appear to be in financial trouble. However, the GOSL does not appear to be making very high returns on it (IRR of less than 10% with conservative estimates for opportunity cost of sea sand and losses due to forgone royalty and taxes). That, coupled with some questionable environmental and social effects, may make the overall impact of the project negative. Still, the GOSL is inclined to let the project continue, possibly due to the negative effects of a failed Port City project on the economic (eg: future reluctance of foreign investors to invest in Sri Lanka) and diplomatic (eg: soured relations with China, a main economic and political ally of Sri Lanka) welfare of the country.

5.5.2 Social and Political Costs

The transaction costs listed above are heavily influenced by the potential political costs of having a negative impact on the diplomatic relationship with China, the effects of which are too difficult to quantify.

Additionally, several members of the public have voiced their concerns over potential social costs such as:

- Effects on local culture due to the influx of tourists
- Effects on local culture due to the influx of migrant workers residing in or around the Port City
- Effect of a greater divide between the rich and poor of the country

Ranasinghe (1997) notes the importance of reconciling private profitability and social costs in a case study of clay mining in Sri Lanka and utilised market rates, economic benefits, social costs and the social discount rate to determine private and social profitability. A similar exercise may be undertaken for the CPCP and future projects of this nature.

5.6 Further Work

The following further work is suggested:

- Cross checking values allowed for revenue from utilities (electricity and water) by applying relevant rates to the graphs depicting power and water demand in Chapter 2 of the SEIA.
- Cross checking cost of electricity supply by applying supply rates from private power suppliers to the Port City's demand. Similar exercises may be conducted for costs associated with the supply of water.
- Clarify uncertainties in Tables 4.1, 4.6

5.7 Summary

This chapter highlights that although a project may seem viable as a whole, the net benefit obtained by each party of the project may be vastly different to IRR, NPV and Benefit Cost ratios calculated for the entire project.

The ECBAs created in the perspective of CHEC and GOSL are based on a replicated version of the Summary CBA in order to provide it with a solid and credible foundation. It is noted that the ECBAs are based on assumptions of logic and limited available information.

The results indicate that the GOSL receives a net benefit from the CPCP. Surprisingly, the CHEC appears to make a net loss on the Port City project, thus strengthening the theory that the benefits to the Chinese Government backed company is not limited to financial and economic, but includes potential long term political and strategic benefits.

It is also acknowledged that not all costs and benefits can be quantified. Transaction costs, especially relating to bargaining power, play a large role. It is also acknowledged that further work may be required to provide more accurate ECBAs from the perspective of the GOSL and CHEC.

6.0: Data Analysis, Results and Discussion

6.1 Introduction

This chapter describes the statistical analysis of the data gathered from the questionnaire survey and discusses the findings relating to the aims and objectives of the study based on the results.

A number of statistical techniques are used: Descriptive statistics such as minimum, maximum and average; Tests of hypothesis such as Binomial Tests; Tests for significant association such as Chi Square and Fisher's Exact tests; and finally, Significance Index and Agreement Factors for the analysis of Likert scale data.

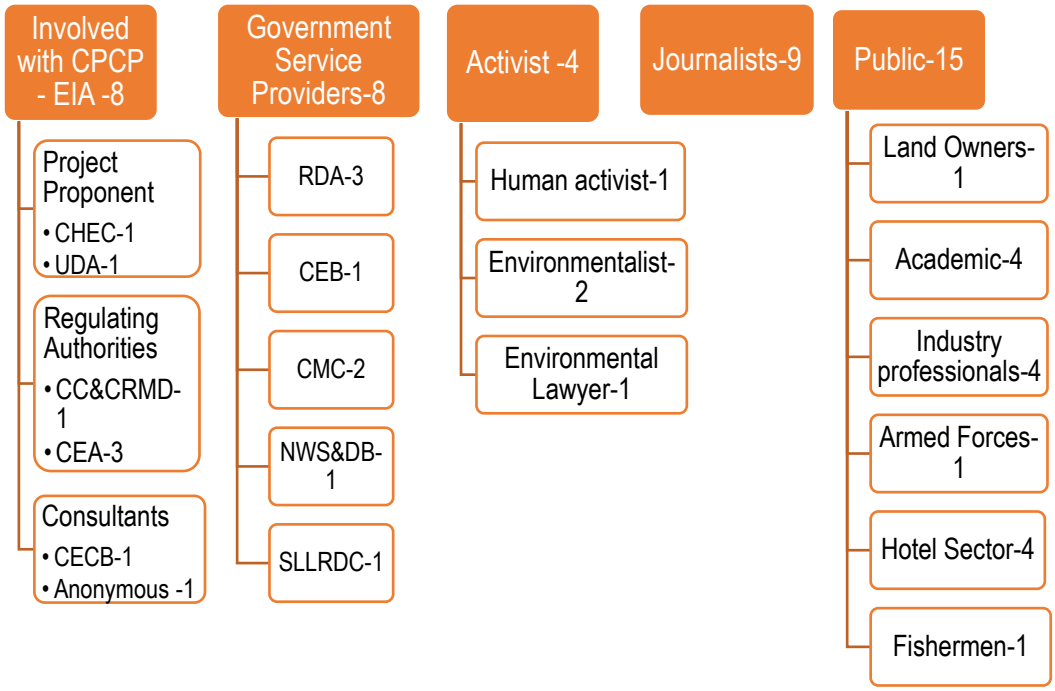
The chapter presents the results obtained for determining the support for the CPCP (Section 3), if the CPCP is a PPP (Section 4), Major issues of the CPCP (Section 5) and Critical Success Factors (Section 6).

It is noted that although the CPCP has certain unique characteristics, its findings may be generalised based on certain other characteristics. The CPCP is funded through a Foreign Direct Investment (FDI). Considering Sri Lanka's fiscal position, the GOSL is likely to want to attract more FDI or foreign loans for development projects. With FDI and foreign loans come the necessity to manage diplomatic relationships with foreign nations. This is an extremely important issue with regard to the CPCP which can be generalised for future foreign funded projects. The CPCP is also a large scale development, and its lessons may be implemented in other Sri Lankan development projects such as the Megapolis project.

6.2 Results of the Questionnaire Survey

As stated in Chapter 4.0 Research Methodology, the questionnaire was administered by a structured interview, thus enabling respondents to elaborate on their responses. The detailed responses are utilized in the discussion.

The respondents were selected across the various groups who are directly and/or indirectly involved in the project. These categories of respondents and their corresponding numbers are included in Figure 6.1. The total number of respondents was 44.



Key:		
	CHEC	China Harbour Engineering Corporation
	UDA	Urban Development Authority
	CC&CRMD	Coast Conservation and Coastal Resource Management Department
	CECB	Central Engineering Consultancy Bureau
	RDA	Road Development Authority
	CEB	Ceylon Electricity Board
	CMC	Colombo Municipal Council
	NWS&DB	National Water Supply and Drainage Board
	SLLRDC	Sri Lanka Land Reclamation and Development Corporation

Figure 6.1 Categories and corresponding number of respondents

The respondents' methods of obtaining information on the CPCP were also evaluated. Respondents were allowed to select multiple sources. Over 77% relied on the media, followed by 55% on the EIA documents. Primary research was the least relied upon method at 7.5%, while only 10% of respondents relied on officials of the private party for information. The results are shown in Figure 6.2.

The respondents were also asked to state the reliability of each method they use for obtaining information. It showed that although the Media is the most utilized method for obtaining information, respondents also saw it as the least reliable source. Contrastingly, although Primary Research was the least utilized source of information, respondents believed that it could be relied upon 100%. The percentage reliability of information sources is presented in Figure 6.3.

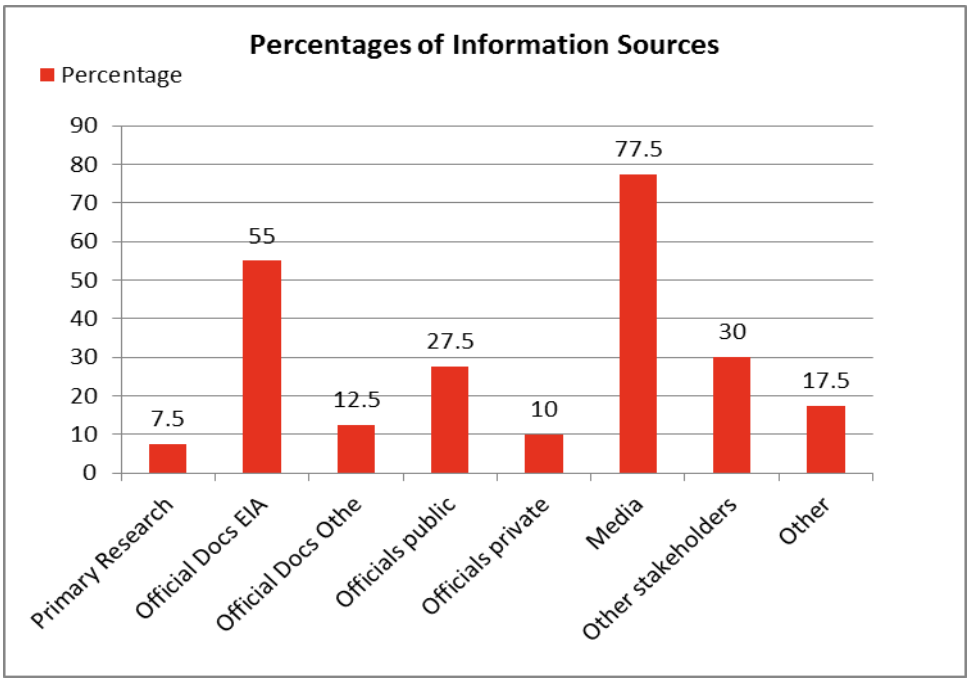


Figure 6.2 Information sources

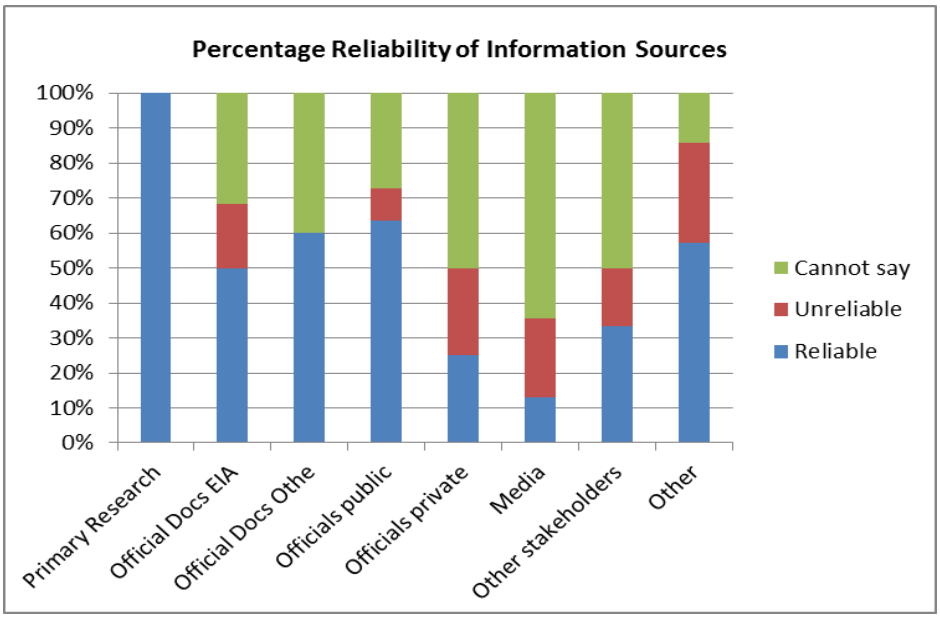


Figure 6.3 Percentage reliability of information sources

6.3 Support for the Port City

Part I-Q3 requests respondents to state if they support the CPCP to proceed with the current agreement and EIA (i.e: no further amendments or additional studies). This enables the respondent sample of 44 to be separated into two groups: (1) Those who support the CPCP (N_s=19 or 43.2%), (2) Those who do not support the CPCP (N_o=25 or 56.8%). The Binomial Test for significance testing was conducted as below.

The following hypothesis was framed, where H_{01} is the null hypothesis, and H_{11} is the alternative hypothesis.

H_{01}: 2/3 (66.7%) or more support the Colombo Port City to proceed with the current agreements and EIA only (without further studies) **($p \geqslant 0.667$)**

H_{11}: Fewer than 2/3 (66.7%) support the Colombo Port City project to proceed with the current agreements and EIA only (without further studies) **($p < 0.667$)**

Here, 'population' refers to the sum of the population of each respondent category with direct or indirect involvement in the CPCP (eg: population of top government officials + population of environmentalists + population of industry professionals etc.). The hypothesis value was set at 66.7% as the hypothesis was formulated to investigate the opinion of a considerable majority (2/3rd) of the population, instead of a simple majority (at 51%).

Distribution of $\hat{p}$

$$\hat{p} \sim N(p, \frac{pq}{n})$$

Assumptions: Population is at least 10 times as large as the sample size

Both np and n(1-p) are 10 or more

Here, $np_0 = (44)(0.667) = 29.348 > 10$ *and*

$$n(1 - p_0) = (44)(1 - 0.667) = 14.652 > 10$$

Test Statistic:

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}} \sim N(0,1)$$

Where p_0 - Hypothesized Value and $q_0 = (1 - p_0)$

Assuming H_0 is true,

$$z = \frac{0.409 - 0.667}{\sqrt{\frac{0.667 * (1 - 0.667)}{44}}} = -3.631$$

Since z (-3.631) < z_c (-1.645) H_0 is rejected at 5% level of significance. Hence, it can be concluded that there is enough evidence to support alternative hypothesis. i.e, fewer than 66.7% support the Colombo Port City project to proceed with the current agreements and EIA only (without further studies).

Approximately 41% of the respondents support the CPCP to proceed with the current agreements and EIA. When this sample is used to make inferences about the population, the conclusion is that fewer than 2/3 of the population (66.7%) support the CPCP to proceed with the current agreements and EIA.

The sample of respondents may also be divided into those who are directly involved in the project (i.e: project proponents, consultants, regulatory authorities, government services) and Members of the Public (i.e: activists, fishermen, hoteliers, journalists, academics, industry professionals). Of these two groups, those with Direct Involvement made up 36.4% (n=16), and members of the public made up 63.6% (n=28).

A Chi-square test was performed to analyse if there was any association with a respondent's decision to support the Port City and their level of involvement (Direct or Member of Public).

Table 6.1 2x2 table for Chi Square Test

	Support	Oppose	Total
Direct	6	10	**16**
MOP	12	16	**28**
Total	**18**	**26**	**44**

The test indicated a Chi square statistic of 0.1209 and a p-value of 0.728083 at a 5% significance level. Therefore, the result is not significant at $p<0.5$, and there is no association between the respondents' decision to support the Port City and their level of involvement.

The analysis of data resulted in the acceptance of the alternative hypothesis that fewer than 66.7% of the population support the Colombo Port City Project to proceed with the current agreement and EIA only (without further studies or amendments to the agreement).

Several reasons were cited by respondents who stated their opposition. Some of these reasons in no particular order are: (1) lack of transparency of the agreement, (2) general secretiveness surrounding the project/lack of transparency, (3) inadequate EIA and concerns about the environment, (4) threat to sovereignty of Sri Lanka, (5) unclear benefits, and (6) doubts about project feasibility.

Of those who opposed, around 75% stated that they will be willing to support the project if a proper EIA (with further studies) was carried out, environmental impacts were properly assessed and if the agreement is made public/renegotiated to be more beneficial to Sri Lanka. It was stated that a balance should be achieved between development and the environment, and that greater emphasis should be placed on sustainable development. Around 25% stated that they will not support the Port City under any circumstances, mainly due to concerns about a strong Chinese presence in Sri Lanka and the resulting political and social effects, although other reasons such as doubts about project motivation, the project being 'undemocratic' or against the laws of the country etc. were also cited.

A Military personnel who was interviewed, after viewing the land use master plan provided by Sweco to government organisations, voiced concerns over a sizeable plot of land on the western border of the Port City labelled "embassy housing". He stressed that when handed over to a foreign nation, the GOSL has no control over the space as it will be considered the foreign nation's soil. He questioned the motive for including embassy land in a location with very close access to the sea and unobstructed access to another emerging power in the region, India. It was stated that while this is more of a problem for India, Sri Lanka may also face indirect problems due to the geo-politics of China and India.

Most of those who supported the project believed that the CPCP would reap economic benefits for Sri Lanka while a few stated that they support the project as they feel they have no other choice (i.e: it will proceed regardless of opposition). Respondents from regulatory authorities stressed that they support the project to proceed only if the conditions stated in environmental permits are fulfilled. They highlighted the importance of proper monitoring systems (i.e: monitoring of dredging activities, transportation of quarry materials etc.). A representative of the fishermen community stated that they will be more inclined to believe in proposed mitigatory and monitoring measures for environmental impacts if they could be officially involved in the monitoring process.

6.4 Is the Colombo Port City project a Public Private Partnership?

Responses to Part II-Question 2 indicate whether the respondents believe that the CPCP takes the form of a PPP. Of 36 respondents, 19 (52.8%) said 'Yes', while 17 (47.2%) said 'No'. A Binomial Test for significance testing was conducted as below.

The following hypothesis was framed where H_{01} is the null hypothesis, and H_{11} is the alternative hypothesis. The hypothesis value was set at 66.7% in order to investigate the opinion of a considerable majority (2/3rd) of the population, instead of a simple majority (at 51%).

H_{01}: 66.7% or more believe that the CPCP takes the form of a PPP ***($p \geq 0.667$)***

H_{11}: Fewer than 66.7% believe that the CPCP takes the form of a PPP ***($p < 0.667$)***

Here, 'population' refers to the sum of the population of each respondent category with direct or indirect involvement in the CPCP (eg: population of top government officials + population of environmentalists + population of industry professionals etc.).

Distribution of $\hat{p}$

$$\hat{p} \sim N(p, \frac{pq}{n})$$

Assumptions: Population is at least 10 times as large as the sample size

Both np and n(1-p) are 10 or more

Here, $np_0 = (36)(0.667) = 24.01 > 10 \; and$

$$n(1 - p_0) = (36)(1 - 0.667) = 11.99 > 10$$

Test Statistic:

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}} \sim N(0,1)$$

Where p_0 - Hypothesized Value and $q_0 = (1 - p_0)$

Assuming H_0 is true,

$$z = \frac{0.528 - 0.667}{\sqrt{\frac{0.667 * (1 - 0.667)}{36}}} = -1.769$$

Since z (-1.769) < z_c (-1.645) H_0 is rejected at 5% level of significance. Thus, there is enough evidence to support alternative hypothesis that fewer than 66.7% believe that the CPCP takes the form of a PPP.

Around 53% of respondents believe that the CPCP takes the form of a PPP. When this sample is used to make inferences about the population, the conclusion is that fewer than 2/3 of the population (66.7%) support the CPCP to proceed with the current agreements and EIA.

Next, an analysis was conducted to determine if there is a significant association between a respondent's belief that the CPCP takes the form of a PPP, and their belief that one of each of the 7 PPP characteristics obtained from literature is present in the CPCP.

The seven characteristics are: (i) It is a partnership between a Public party and a Private entity; (ii) Each party is a Principal (may bargain on their own behalf without seeking other sources of authority); (iii) Outcome meets public needs/ achieves a desired outcome in public policy/ serves the public; (iv) Both parties (equally or unequally) share risks and responsibility for outcomes; (v) Both parties (equally or unequally) share benefits of the project; (vi) Both parties make tangible (eg: money, resources etc.) and/or intangible (eg: expertise, knowledge etc.) contributions to the project; (vii) The ownership of assets revert to the Public party at the completion of the contractual period.

Fisher's Exact tests were conducted for each of the seven characteristics. The details are summarised in Table 6.2.

Table 6.2 Summary of PPP characteristics in the CPCP

Characteristic	i	ii	iii	iv	v	vi	vii
Total	33	33	30	33	31	33	31
Yes	23	19	14	24	25	28	22
%	69.7	57.6	46.7	72.7	80.6	84.8	71.0
Rank	5	6	7	3	2	1	4
Fisher's exact test value at 0.05 significance level							
p value	0.000422	0.304109	0.002672	1	0.36967	0.152278	0.003837
significant	Yes	No	Yes	No	No	No	Yes

The characteristics were ranked based on the percentage agreement of its presence in the CPCP. Then, the Fisher's Exact Test was conducted for each characteristic with responses to Part II-Question 2 as one variable, and the presence of the characteristic as the other variable. Although characteristic vi, v, iv were ranked in the top 3, the test did not find a significant association between the two (i.e: the presence of those factors does not have a significant association with the respondent's belief that the CPCP is a PPP). However, characteristics i, iii and vii (ranked 5, 7 and 4 respectively) were found to have a statistically significant association (i.e: the presence of those factors have a significant association with the respondent's belief that the CPCP is a PPP).

Although the CPCP is advertised as a PPP, the data analysis resulted in the acceptance of the alternative hypothesis that fewer than 66.7% (or 2/3rd) of the population believe that the Colombo Port City project takes the form of a PPP. However, when individual characteristics of PPPs were considered, respondents generally agreed (percentage agreement range from 57.6% to 84.8%) that six of the seven characteristics were represented in the CPCP.

The first characteristic "It is a partnership between a Public party and a Private entity", was agreed to by 69.7% of respondents and shows a significant association with the overall agreement of the CPCP being a PPP. Those who responded negatively questioned if the CHEC could really be considered a private company considering that its parent company is listed as state owned. They also stated that it takes the form of a bilateral agreement between two governments, Sri Lanka and China, exemplified by the presence of the President of China at the commencement ceremony of the Port City project.

The second characteristic, “Each party is a Principal (may bargain on their own behalf without seeking other sources of authority” was agreed by 57.6% of the respondents but showed no significant association with the overall agreement of the CPCP being a PPP. Those who responded negatively questioned if the private company needed to seek authority from the government of China, and had reservations about the GOSL’s authority and bargaining power against a superpower such as China.

The third characteristic, “Outcome meets public needs/ achieves a desired outcome in public policy/ serves the public”, was agreed by only 46.7% of the respondents and showed a significant association with the overall agreement/disagreement of the CPCP being a PPP. Those who responded positively stated that the public areas to be built within the city such as parks, entertainment centres and public beaches would serve the public. Those who responded negatively stated that the CPCP is more of a business venture with the objective of achieving financial/economic benefits rather than meeting public needs or public policy. There were concerns that the CPCP meets the need of an elite few of the country and may be largely inaccessible to the majority of the country due to financial constraints.

The fourth characteristic, “Both parties (equally or unequally) share risks and responsibility for outcomes” and the fifth, “Both parties (equally or unequally) share benefits of the project” were agreed by 72.7% and 80.6% of the respondents respectively but showed no significant association with the overall agreement of the CPCP being a PPP. A large proportion of respondents believed that the risks and benefits were shared unequally and highlighted the necessity for better distribution of risks and benefits. Some specifically stated that they believed that though the CHEC was bearing all the financial risk, the GOSL was bearing a greater total risk when considering environmental risks, political risks and indirect economic risks. As for the benefits, the respondents were divided with some believing that the GOSL would receive considerable benefits while others being sceptical.

The sixth characteristic, “Both parties make tangible (eg: money, resources etc.) and/or intangible (eg: expertise, knowledge etc.) contributions to the project;” was agreed by 84.8% of the respondents but showed no significant association with the overall agreement of the CPCP being a PPP. Those who responded negatively believed that the GOSL was not making a contribution to the project, whereas those who

responded positively stated that the GOSL was contributing, at least in terms of natural resources.

The final characteristic, “The ownership of assets revert to the Public party at the completion of the contractual period” was agreed by 71% of the respondents and showed a significant association with the overall agreement of the CPCP being a PPP. Those who responded positively stated that a 99-year lease was one of the typical options for investment in Sri Lanka and cited the case of Hong Kong as an example for successful transfer of assets (land) after a long lease period. Those who responded negatively had concerns about the length of the lease, stating “no one alive today will be alive at the end of the lease period. Relative to the average life span, this seems like giving the land outright forever”. Some also believed that the length of time would be enough for China to solidify their presence in the region and feared being subject to greater influences of neo-colonialism.

In summary, most respondents appear to have concerns about the motivation of the project, risks and benefits associated with the GOSL and effects on the long term sovereignty of Sri Lanka.

6.5 Major issues of the Colombo Port City

The major issues of the CPCP as reported in the media and by key informant interviews were consolidated and included in Part III-Question 2 of the Final Questionnaire. Respondents were requested to state whether they agreed with 28 statements in relation to the issues of the CPCP. It was noted that not all 44 respondents responded to all 28 questions as those who believed they did not have adequate information to state an opinion declined to respond to some questions. Table 6.3 shows the statements and corresponding responses to it as a percentage of the total responses for each question.

According to these responses 97% of respondents believed that the CPCP has an impact on Sri Lanka’s diplomatic relationships with foreign nations, 92% believed that members of the public and public stakeholders were not sufficiently consulted in planning to CPCP, 91% believed that conflicts of interest were created in the CPCP, 90% believed that there were no suitable methods in place to sufficiently communicate project information to the members of the public. The results also noted that 87% believed that some opponents of the project made irresponsible statements

(which cannot be backed by facts or figures) exploiting loopholes of the project, while 85% of the respondents believed that the cost of natural resources (eg: sea sand, quarry material) provided by the GOSL for the project were not given due consideration in feasibility studies. Eighty three percent of the respondents believed that sufficient attention was not paid to addressing the demands placed by the CPCP on existing supporting infrastructure of the country, while the same percentage believed that government regulatory authorities were pressured by political forces to approve key processes and/or issue permits without meeting the necessary requirements. Eighty percent believed that the CPCP was not handled with adequate transparency by the GOSL and the Project Company.

The major issues of the CPCP are included in Chapter 3 where the case study is described. Opportunities to delve deeper into the issues were presented in the course of the study and information pertaining to the issues were gathered by reviewing official documents such as the EIAs and interviews with various personnel involved in the project. As the issues are vast in number, this section will discuss a few selected major issues of the CPCP in order to highlight the fact that although the issues were initially divided into various categories (eg: Political, Environmental, Legal, Social, Economic, Governance etc.), investigating the root causes resulted in the inability to contain most issues within one category and had a spill-over effect into other categories. Discussions also suggest possible solutions and recommendations combined with established CSFs. The important influencing points identified in the analysis are emphasised with the italic font.

Table 6.3 Percentage responses to statements made in relation to major issues of CPCP as reported in the media

Q. No	Major Issues as reported in the media	Yes	No
6	Do you believe that the CPCP has an effect (positive and/or negative) on the diplomatic relationships between Sri Lanka and other countries? (eg: China, India)	97%	3%
11	Do you believe that a conflict of interest was created due to some professionals allegedly working as consultants for the CHEC while also separately working as consultants for the	91%	9%
14	Do you believe that some opponents of the project made irresponsible statements (which cannot be backed by facts or figures) exploiting loopholes of the project?	87%	13%
25	Do you believe the CPCP provides an overall economic benefit to the Project Company (CHEC)?	84%	16%
12	Do you believe that government regulatory authorities were pressured by political forces to approve key processes and/or issue permits without meeting the necessary requirements?	83%	17%
13	Do you believe that politically motivated individuals/ groups capitalized on the anti-Port City sentiment?	76%	24%
28	Do you believe the CPCP could create a change in the social culture of its immediate vicinity and/or the nation?	74%	26%
7	Do you believe that foreign influences (external to the nation) had a negative impact on the continuation of the CPCP?	72%	28%
19	Do you believe that the Project Company has responsibly adhered to the terms and conditions of the CPCP?	67%	33%
2	Do you believe the GOSL and/or the private consortium and its consultants have the necessary technological knowledge and resources to assess, eliminate or mitigate environmental impacts?	65%	35%
15	Do you believe the opposition voiced by the members of the public has had a negative effect on the continuation of the CPCP?	64%	36%
24	Do you believe the CPCP provides an overall economic benefit to Sri Lanka?	58%	42%
10	Do you believe that the reported debarment of the CHEC's parent company, CCCC, by the World Bank due to alleged fraudulent practices has a negative effect on the CPCP?	57%	43%
27	Do you believe the CPCP could significantly change the population demographic (eg: nationality, household income, rich-poor divide) of Colombo and/or Sri Lanka?	55%	45%
18	Do you believe that the GOSL has responsibly adhered to the terms and conditions of the CPCP?	54%	46%
5	Do you believe the CPCP affects the sovereignty of Sri Lanka due to the long term lease of Sri Lankan land and/or territorial waters?	53%	47%
21	Do you believe that the CPCP project is a necessary step for the economic growth of Sri Lanka?	53%	47%
3	The CPCP is split into 2 stages: Phase I (Reclamation) and Phase II (Development/Construction). The SEIA is meant to be a comprehensive report on Phase I, while a separate EIA will be developed for Phase II. Do you agree with this process?	50%	50%
23	Do you believe that the CPCP possesses a sound business plan for its successful implementation? (i.e: strategies to attract foreign investors to develop the reclaimed land etc.)	39%	61%
17	Do you believe the GOSL acted in a professional manner when suspending the CPCP in March 2015 for review and renegotiation purposes?	38%	62%
22	Do you believe the impact on the various aspects of Sri Lanka's economy (eg: tourism industry, construction materials, rich-poor divide, future FDI etc) were considered when planning the project?	37%	63%
4	Do you believe the SEIA has sufficiently covered the Archaeological impacts of the CPCP and proposed adequate mitigatory/preventive measures?	32%	68%
1	Do you believe that the current EIA and related studies are sufficient for approving the commencement of the Port City project?	29%	71%
8	Do you believe that the CPCP was handled with adequate transparency by the GOSL and Project Company?	18%	82%
20	Do you believe that sufficient attention was paid to addressing the demands placed by the CPCP on the existing supporting infrastructure of the country (i.e: meeting water, electricity, waste management, traffic demands)	17%	83%
26	Do you believe that the cost of natural resources (eg: sea sand, quarry material) provided by the GOSL for the CPCP was given due consideration in feasibility assessments?	15%	85%
9	Do you believe that suitable methods were in place to sufficiently communicate project information to members of the public?	10%	90%
16	Do you believe that the members of the public and public stakeholders (eg: hoteliers, fishermen etc.) were sufficiently consulted in the planning of the CPCP?	8%	92%

6.5.1 General Environmental Issues

A great number of issues of the CPCP could be categorised under 'Environmental'. General environmental issues of CPCP were in relation to the procurement of natural resources, coastal erosion etc. These issues also have inadvertently contributed to social, legal and economic issues.

A. The environmental aspect

Most opposition for the CPCP was centred around alleged negative impacts on the environment. The general consensus of environmentalists, the new government and members of public was that the EIA (2011) and Addendum (2013) had not addressed some crucial aspects. Conversely, some environmentalists were accused of making irresponsible statements which could not be backed by facts, specifically because studies which could have confirmed or refuted those claims had not been conducted at that time. This resulted in the suspension of the project in early 2015 until a Supplementary EIA was produced.

This highlights the importance of *conducting and assessing a thorough Environmental Impact Assessment leaving no room for loopholes prior to approving* and signing agreements for projects of this scale.

Other criticism related to environmental issues were the allegations that (1) some members who were involved in the compilation of the EIA also served as members of the Review Committee appointed by GOSL to review the EIA, and that (2) some consultants for the GOSL also worked for the PC, thus creating a conflict of interest. This highlights the necessity of incorporating *good governance* and *ethical and professional conduct.*

B. The social aspect

As an environmental concern, the dredging of sea sand was criticised due to perceived negative impacts on marine biology, particularly fish breeding sites, in close proximity to the dredging site. Environmentalists have claimed that this would disrupt the livelihood of fishermen who depend on this area for fishing. They, along with a group of fishermen have banded together to protest against the CPCP.

Project proponents acknowledge that of the two sites identified for dredging of sea sand, one is likely to cause temporary turbidity in water, thus affecting fish breeding for a period of time. The SEIA suggests providing compensation to the fishermen.

However, fishermen and environmentalists continue to protest. Several reasons for this continuous opposition were proposed by various key informants. One was that the SEIA study was *not adequate*. Another was that the studies conducted for the impact assessment and compensation strategies were neither *transparent* nor *communicated effectively* to the fishermen. Others have claimed that the fishermen and environmentalists were *politically influenced either by local political ideologies or by foreign entities* who perceive the CPCP as a threat to their economic and political well-being. Fishermen have claimed that the compensation is inadequate as the *number of affected people within the community have been grossly underestimated* (eg: reliance on registered fishing boats/fishermen for numbers resulting in the exclusion of unregistered fishermen and others in the industry such as those who sell fish in markets etc.). They have also stated that they *believe the law is applied unequally*, where rich investors can gain approval for permanent development projects harming the environment, while poor fishermen are litigated and fined for constructing temporary structures on the beach on grounds of environmental damage. The fishermen community, based on their past experiences, have a lack of faith in the motives of *consulting bodies* and *project proponents.* They are vehemently against what they see *as a project which benefits an elite few at the cost of their livelihood*.

Environmental issues in general have played a significant role in making the public hostile towards the CPCP. Interviewed members of the public stated that they would have been more inclined to support the project if their views were not disregarded *(stakeholder consultation)*. The respondents also stated that they could potentially extend their support if the project was more *transparent* and *communicated effectively* to them. Thoradeniya et al. (2012) have developed a five step 'Educated Trade-off' framework which has been successful in capturing sectors that were otherwise ignored in the traditional analysis done by project consultants in a study of the Ma Oya River basin. The framework enables stakeholder education and informed decision-making. The same framework or a similar one could be used for better stakeholder consultation in projects similar to the CPCP, and in turn address critical issues and garner more support among public stakeholders.

C. The legal aspect

According to the project agreement, the responsibility for obtaining the necessary permits lies with the GOSL. For example, the SLPA was unable to obtain from CEA, the required permits to dredge in areas stipulated by consultants. The CEA refused to grant the permits as the information on impacts of dredging on the fishing community in the proposed areas was not made available to a sufficient level. As the GOSL wished to inaugurate the project at the time of the state visit by the President of China, the Project Company (PC) commenced sand extraction and reclamation works on 16th September 2014 in terms of Clause 4.1 in the Project Agreement which stated "on and from the date of this Agreement, the Project Company shall design and carry out the reclamation works in accordance with the Concession Agreement". The PC was granted written permission by the SLPA to dredge the Colombo Harbour navigation channel. This highlights several political and governance issues: (1) *the ad hoc nature of issuing approvals and permits*, (2) *the political influence* of China on Sri Lanka which in turn may have resulted in political influence by the GOSL's top officials on the SLPA.

When the new government came into power, the project was suspended so that allegations surrounding it, including that of the commencement of dredging without the proper permits, could be investigated. The GOSL then commissioned the SEIA which included a more detailed assessment of the dredging process. It is reported that conditional permits were granted as a result. This issue highlights the necessity of *a favourable and well established legal framework* for a project, along with the importance of *following proper procedure instead of making slapdash decisions with short-term results in mind*.

D. The economic aspect

The suspension of the project has resulted in the PC claiming compensation of USD 125 million or approval for additional reclamation. While this is an economic burden to the GOSL, the Central Bank of Sri Lanka has also reported that the sudden suspension (the PC was allegedly not consulted) of the CPCP has contributed to instigating *feelings of doubt in foreign investors*, resulting in a decline in FDIs in 2015 (Razak, 2016). Those with connections to the PC have expressed their disappointment in what they perceive to be *poor professionalism* on the part of the GOSL. While most respondents stated that the suspension and review of the project was a necessary step,

they believed that the GOSL should have handled the matter with better professionalism.

6.5.2 Demographic of CPCP and impact on socio-culture

Another concern stated in the media was about the demographic of the community within the CPCP. One concern is that the CPCP would create an extremely wealthy community within its boundaries, thus creating a considerably greater rich-poor divide between the residents of the Port City and the rest of Sri Lanka.

The other concern is that the CPCP will be overrun with foreign migrants/workers/ tourists, essentially creating an alien community within its boundaries, i.e: at the borders of Colombo. One reason behind this fear is that the commercial businesses (eg: international companies) setting up in the Port City may prefer to hire foreign employees who already have the necessary skills and experiences, thus creating a foreign employee dominated workforce within the Port City. The other reason is the likelihood of most Sri Lankans being priced out of the residential apartments in the Port City as they have a lower spending capacity due to low wages compared to their foreign counterparts. While this is a social issue at first glance, possible solutions indicate a legal solution. Proposed solutions may include concessions/subsidies for Sri Lankans buying/investing in the Port City, mandatory quotas for Sri Lankan employees within the Port City and other such methods. This highlights the necessity of having a *proper legal framework in place to safeguard the social aspects of the nation* in development projects. Currently, most laws applicable to the CPCP are with regard to the *natural environment only.*

6.6 Critical Success Factors for the Colombo Port City project

The Success Factors from Part III-Questions 1 & 2 were rated by respondents on a Likert Scale ranging from 1 to 5. The scale point responses for each CSF question grouped by category as per the questionnaire is available in Appendix 3. These SFs were then analysed using the Significance Index (SI) and then ranked from the most important SF to the least important SF. The distribution of the SI for the ranked SFs is depicted in Figure 6.4.

As shown in the figure, there appears to be very small variances between successively ranked SFs. For example, the SI of the first SF is 96.67, but the SI of the 21st ranked SF is only 90.23. Therefore, the SFs were grouped into clusters where the minimum

and maximum SI is generally within 2 points of the average SI. The ranked SFs and the corresponding SI are shown in Table 6.4.

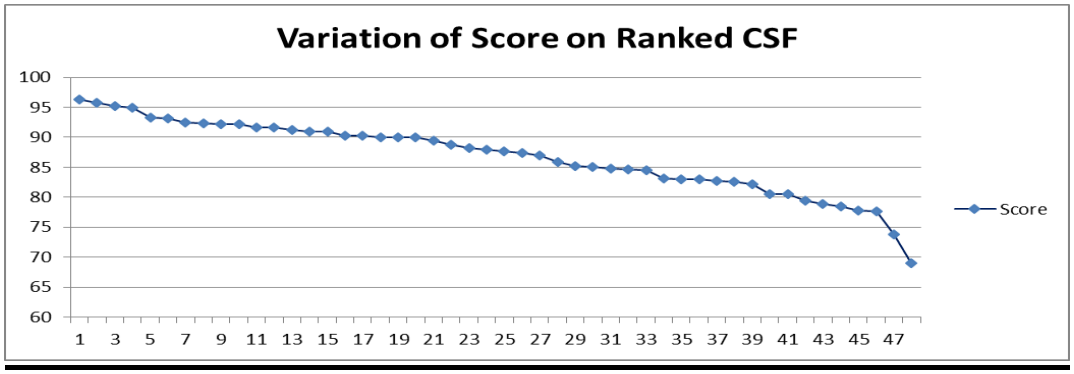


Figure 6.4 Distribution of the SI for ranked success factors

Next, the SFs were assigned SI and ranked based on the category of respondents namely, those who support the CPCP (supporters) and those who oppose the CPCP (opponents). The ranking of SFs from each perspective are shown in Tables 6.5 and 6.6.

An agreement analysis was conducted between the two perspectives and the following values were calculated. RAF = 11.54, RAF_{max} = 17.58, PD = 65.6%, PA = 34.4%. This indicates that the supporters and opponents have a percentage agreement of only 34.4%, highlighting vast differences in their perspectives.

The three least important SFs as per the supporters' perspective are: (1) Conducting Environmental Impact Assessments for the project as a whole, rather than for separate stages at separate times; (2) Considering the effects on the population demographic of the locality and/or the nation; (3) Thorough assessment of impacts on archaeological sites and undertaking the necessary steps for mitigation/ prevention of effects.

The three least important SFs as per the opponents' perspective are: (1) Conducting Environmental Impact Assessments for the project as a whole, rather than for separate stages at separate times; (2) Available Financial Market; (3) Managing opposition to the project by covering all bases.

The importance of the critical success factors varied depending on whether it was ranked from an overall, supporters or opponents perspective. However, there appears to be several similarly ranked factors. This section attempts to shed light on both the most and least important factors to be considered when implementing a successful PPP of this nature.

Table 6.4 Success Factors with overall ranks

Q.No	Success Factor	Significance Index	Overall Rank
min = 95.24, max = 96.67, avg = 95.89			
12	Ability of regulatory authorities to act independently without pressure and influences by political forces (i.e. the public party/ government)	96.67	1
20	Appropriate attention paid to upgrading the nation's facilities in order to support the demands placed by the project on the nation's existing infrastructure (eg: utility demand, waste management, traffic)	96.19	2
1	Conducting in-depth studies leading to a thorough and sufficient EIA report before the project is approved/ construction is commenced.	95.45	3
ii	Favourable legal framework	95.24	4
min = 90.23, max = 93.81, avg = 91.74			
i	Sound Economic Policy	93.81	5
22	Attention to the various aspects of a nation's economy which may be directly and/or indirectly be affected by the project	93.02	6
vii	Project Economic Viability	93.00	7
xiii	Transparent Procurement Process	93.00	7
17	Professional and responsible conduct of the Public and Private parties in all project matters	92.68	9
x	Project Technical Feasibility	92.56	10
23	Sound business strategies for the development and operation of the project	91.90	11
11	Engaging professionals for the service of each proponent (Public and Private) without creating conflicts of interest	91.63	12
ix	Commitment of the Public and Private parties	91.43	13
6	Managing diplomatic relationships between the nation represented by the Public Party and other nations	91.36	14
21	Appropriate project identification	91.36	14
8	Transparency in the handling of the project by the project proponents (Public and Private)	90.91	16
16	Sufficient consultation of the members of the public and important public stakeholders	90.91	16
19	The Private Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner	90.81	18
xi	Thorough and realistic assessment of the cost and benefit	90.48	19
2	Appropriate returns on the cost and quantity of natural resources provided for the project by the nation	90.45	20
5	Securing the sovereignty/ sovereign rights of the nation represented by the Public Party	90.23	21
min = 85.12, max = 88.84, avg = 86.89			
15	Public support for the project	88.84	22
9	Having suitable methods in place to sufficiently communicate project information to members of the public	88.57	23
xvii	Good governance	88.37	24
xv	Strong and good private consortium	88.10	25
26	Appropriate returns on the cost and quantity of natural resources provided for the project by the nation	87.91	26
24	Economic viability of the project in the perspective of the Public Party (i.e. government)	87.73	27
xx	Stable and transparent political/social situation	86.05	28
iv	Appropriate Risk Allocation and Sharing	85.85	29
10	Prior record of the Project Company in terms of integrity and ethical practice	85.50	30
18	The Public Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner	85.41	31
xviii	Good partners' relationship	85.24	32
xiv	Political support	85.12	33
min = 80.00, max = 84.21, avg = 82.30			
xii	Competitive Procurement Process	84.21	34
7	Managing pressures and influences of foreign nations/ geo-political impacts	84.19	35
xix	Consultation with end users	82.33	36
28	Considering the effects on the socio-cultural aspects of local communities and/or the nation as a whole	82.27	37
vi	Multi Benefit Objectives	82.00	38
iii	Stable Macro Economic Condition	81.90	39
25	Economic viability of the project in the perspective of the Private Party (i.e. the Project Company)	81.46	40
viii	Shared Authority between public and private sectors	80.00	41
min = 77.89, max = 79.02, avg = 78.52			
4	Thorough assessment of impacts on archaeological sites and undertaking the necessary steps for mitigation/prevention of effects	79.02	42
13	Managing pressures and influences of politically motivated individuals/ groups within the nation	79.02	42
27	Considering the effects on the population demographic of the locality and/or the nation	78.64	44
v	Available Financial Market	78.00	45
14	Managing opposition to the project by covering all bases	77.89	46
min = 70.48, max = 74.42, avg = 72.45			
xvi	Involvement of civil society	74.42	47
3	Conducting Environmental Impact Assessments for the project as a whole, rather than for separate stages at separate times.	70.48	48

Table 6.5 Success factors with rank (supporters' perspective)

Q.No	Success Factors	Significance Index	Rank
i	Sound Economic Policy	98.89	1
xv	Strong and good private consortium	94.12	2
ii	Favourable legal framework	93.33	3
1	Conducting in-depth studies leading to a thorough and sufficient EIA report before the project is approved/ construction is commenced	93.33	3
22	Attention to the various aspects of a nation's economy which may be directly and/or indirectly be affected by the project	92.94	5
23	Sound business strategies for the development	92.94	5
12	Ability of regulatory authorities to act independently without pressure and influences by political forces (i.e. the public party/ government)	92.50	7
iii	Stable Macro Economic Condition	92.22	8
xiv	Political support	92.22	8
6	Managing diplomatic relationships between the nation represented by the Public Party and other nations	92.22	8
21	Appropriate project identification	92.22	8
ix	Commitment of the Public and Private parties	91.76	12
15	Public support for the project	91.76	12
20	Appropriate attention paid to upgrading the nation's facilities in order to support the demands placed by the project on the nation's existing infrastructure (eg: utility demand, waste management, traffic)	91.76	12
xiii	Transparent Procurement Process	91.25	15
2	The Public Party and/or the Private Consortium and its consultants having the necessary technological knowledge and resources to assess, eliminate and mitigate environmental impacts	91.11	16
xi	Thorough and realistic assessment of the cost and benefit	90.59	17
vii	Project Economic Viability	89.41	18
xvii	Good governance	88.89	19
x	Project Technical Feasibility	87.78	20
16	Sufficient consultation of the members of the public and important public stakeholders	87.78	20
19	The Private Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner	87.50	22
xii	Competitive Procurement Process	87.14	23
vi	Multi Benefit Objectives	87.06	24
17	Professional and responsible conduct of the Public and Private parties in all project matters	86.25	25
5	Securing the sovereignty/ sovereign rights of the nation represented by the Public Party	85.88	26
11	Engaging professionals for the service of each proponent (Public and Private) without creating conflicts of interest	85.88	26
13	Managing pressures and influences of politically motivated individuals/ groups within the nation	85.88	26
xx	Stable and transparent political/social situation	85.56	29
18	The Public Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner	85.00	30
iv	Appropriate Risk Allocation and Sharing	84.71	31
v	Available Financial Market	84.71	31
viii	Shared Authority between public and private sectors	84.44	33
xviii	Good partners' relationship	84.44	33
24	Economic viability of the project in the perspective of the Public Party (i.e. government)	84.44	33
9	Having suitable methods in place to sufficiently communicate project information to members of the public	83.53	36
14	Managing opposition to the project by covering all bases	83.53	36
26	Appropriate returns on the cost and quantity of natural resources provided for the project by the nation	83.53	36
xix	Consultation with end users	83.33	39
25	Economic viability of the project in the perspective of the Private Party (i.e. the Project Company)	83.33	39
8	Transparency in the handling of the project by the project proponents (Public and Private)	82.22	41
10	Prior record of the Project Company in terms of integrity and ethical practice	81.25	42
28	Considering the effects on the socio-cultural aspects of local communities and/or the nation as a whole	78.89	43
7	Managing pressures and influences of foreign nations/ geo-political impacts	77.78	44
xvi	Involvement of civil society	75.56	45
4	Thorough assessment of impacts on archaeological sites and undertaking the necessary steps for mitigation/prevention of effects	75.29	46
27	Considering the effects on the population demographic of the locality and/or the nation	74.44	47
3	Conducting Environmental Impact Assessments for the project as a whole, rather than for separate stages at separate times.	68.75	48

Table 6.6 Success factors with rank (opponents' perspective)

Q.No	Success Factors	Significance Index	Rank
12	Ability of regulatory authorities to act independently without pressure and influences by political forces (i.e. the public party/ government)	99.23	1
20	Appropriate attention paid to upgrading the nation's facilities in order to support the demands placed by the project on the nation's existing infrastructure (eg: utility demand, waste management, traffic)	99.20	2
1	Conducting in-depth studies leading to a thorough and sufficient EIA report before the project is approved/ construction is commenced.	96.92	3
8	Transparency in the handling of the project by the project proponents (Public and Private)	96.92	3
17	Professional and responsible conduct of the Public and Private parties in all project matters	96.80	5
ii	Favourable legal framework	96.67	6
x	Project Technical Feasibility	96.00	7
vii	Project Economic Viability	95.65	8
11	Engaging professionals for the service of each proponent (Public and Private) without creating conflicts of interest	95.38	9
xiii	Transparent Procurement Process	94.17	10
19	The Private Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner	93.33	11
5	Securing the sovereignty/ sovereign rights of the nation represented by the Public Party	93.08	12
16	Sufficient consultation of the members of the public and important public stakeholders	93.08	12
22	Attention to the various aspects of a nation's economy which may be directly and/or indirectly be affected by the project	93.08	12
9	Having suitable methods in place to sufficiently communicate project information to members of the public	92.00	15
ix	Commitment of the Public and Private parties	91.20	16
23	Sound business strategies for the development and operation of the project	91.20	16
6	Managing diplomatic relationships between the nation represented by the Public Party and other nations	90.77	18
21	Appropriate project identification	90.77	18
26	Appropriate returns on the cost and quantity of natural resources provided for the project by the nation	90.77	18
xi	Thorough and realistic assessment of the cost and benefit	90.40	21
i	Sound Economic Policy	90.00	22
2	The Public Party and/or the Private Consortium and its consultants having the necessary technological knowledge and resources to assess, eliminate and mitigate environmental impacts	90.00	22
24	Economic viability of the project in the perspective of the Public Party (i.e. government)	90.00	22
7	Managing pressures and influences of foreign nations/ geo-political impacts	88.80	25
10	Prior record of the Project Company in terms of integrity and ethical practice.	88.33	26
xvii	Good governance	88.00	27
15	Public support for the project	86.92	28
iv	Appropriate Risk Allocation and Sharing	86.67	29
xx	Stable and transparent political/social situation	86.40	30
xviii	Good partners' relationship	85.83	31
18	The Public Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner	85.71	32
28	Considering the effects on the socio-cultural aspects of local communities and/or the nation as a whole	84.62	33
xv	Strong and good private consortium	84.00	34
xii	Competitive Procurement Process	82.50	35
4	Thorough assessment of impacts on archaeological sites and undertaking the necessary steps for mitigation/prevention of effects	81.67	36
xix	Consultation with end users	81.60	37
27	Considering the effects on the population demographic of the locality and/or the nation	81.54	38
xiv	Political support	80.00	39
25	Economic viability of the project in the perspective of the Private Party (i.e. the Project Company)	80.00	39
vi	Multi Benefit Objectives	78.26	41
viii	Shared Authority between public and private sectors	76.80	42
iii	Stable Macro Economic Condition	74.17	43
13	Managing pressures and influences of politically motivated individuals/ groups within the nation	74.17	43
xvi	Involvement of civil society	73.60	45
14	Managing opposition to the project by covering all bases	73.33	46
v	Available Financial Market	73.04	47
3	Conducting Environmental Impact Assessments for the project as a whole, rather than for separate stages at separate times.	71.54	48

It is interesting to note that although previous literature on CSFs pay little or no attention to environmental factors, "conducting in-depth studies leading to a thorough and sufficient EIA report before the project is approved/ construction is commenced" is ranked No 3 overall and by both supporters and opponents. This could largely be due to the alleged environmental impacts of the project which were given a lot of media attention, as well as due to the large scale nature of the project. In contrast, "Conducting Environmental Impact Assessments for the project as a whole, rather than for separate stages at separate times" was ranked No. 48 (last) overall and by both supporters and opponents of the project although this was highlighted an issue in the media. Interviewed respondents stated that the need for one EIA is dependent on the size of the project, and in a case such as this, the EIA for the first phase of works should be completed in advance and separately. However, they noted that while a comprehensive EIA for the township development is unnecessary at this stage, a more detailed review on the impacts of waste generated by the Port City, large scale construction in the location etc. was warranted in the SEIA. Industry professionals suggested that Sri Lanka makes it mandatory that EIAs are structured based on internationally standardised guidelines (eg: EIA guidelines used for ADB projects) in order to ensure that all relevant studies are conducted to a good standard.

Most respondents highlighted the need for a project to be planned within the nation's overall development plan in order to ensure that the project could receive the required supporting infrastructure without excessive strains on those government agencies providing those services. SF "Appropriate attention paid to upgrading the nation's facilities in order to support the demands placed by the project on the nation's existing infrastructure (eg: utility demand, waste management, traffic)" was ranked No.2 overall and by opponents and No.12 by supporters. In the case of the Port City, while most services aspects such as Water and Electricity supply, Waste Water Management were given due consideration (those demands have been incorporated into ongoing projects in the relevant organisations), other aspects such as road, traffic and solid waste management have not been given adequate attention. Professionals in those sectors have expressed concerns about being unable to meet the demands placed by the Port City on those services in a timely manner as on-going projects have been planned without addressing the demands of the Port City and because funding for projects to meet the demand of the Port City have not yet been secured.

"A favourable legal framework" was ranked No.4 overall, No.3 by supporters and No.6 by opponents. Most interviewee respondents stressed on the importance of having the necessary laws in place, and the importance of enforcing those laws. They were also against the practice of passing ad-hoc laws to suit particular projects. Also highlighted was the need for greater and more thorough perusal of legal documents such as agreements from the government. As mentioned in the literature review by Wijesinghe (n.d), the allocation of dedicated personnel from the Attorney General's office for this purpose, or the hiring of legal consultants when formulating agreements such as this is of utmost importance. Some respondents have also stated that Sri Lanka must work to achieve better arbitration terms in agreements, laying the foundation for efficient and beneficial arbitration at the formulation of the agreement.

"Ability of regulatory authorities to act independently without pressure and influences by political forces (i.e. the public party/ government)" was ranked No. 1 overall and by opponents while it was ranked No.7 by supporters. A large number of government respondents agreed that undue political influence takes place in the infrastructure development sector, and particularly in approving environmental permits for the Port City project. While a proponent dismissed the idea of political influence stating that if it occurred, the relevant professionals should have filed law suits against the politicians, many government respondents stated that the lack of faith in the (biased and politically influenced) judiciary system and possible ramifications discouraged them from doing so.

Many respondents complained that (1) politicians make decisions without considering the educated opinions provided by professionals, (2) very senior level management of government organisations disregard the professional opinions of lower level colleagues in order to make politically favourable decisions, and their apathy towards giving politicians proper information. Respondents from government organisations, academics and industry professionals highlighted the necessity of "letting professionals do their jobs", some suggested that professionals should be making decisions instead of politicians.

In the next cluster grouping of the overall ranking, 7 of the 15 SFs are economic factors (eg: Project Economic Viability etc.). These generally highlight the need for proper economic policy and planning with consideration given to impacts on the

various aspects of the nation's economy, realistic assessment of costs and benefits and appropriate project identification. The others are in relation to the political environment (eg: managing diplomatic relationships between nations, avoiding conflicts of interest etc.), project implementability (eg: project technical feasibility, conduct and commitment of public and private parties etc.) and governance (eg: transparency in handling the project, transparent procurement process, consultation with public stakeholders etc).

These are followed by the third tier of SFs which are dominated by political and social factors such as public support for the project, efficient communication or project information to the public, good governance etc. The third tier also includes economic factors which are important in the perspective of the GOSL such as consideration of cost of natural resources and gaining appropriate returns, economic viability in the perspective of the nation/government, appropriate allocation of risks etc. It also includes SFs which focus on the selection of the Project Company (eg: Strong and good private consortium, prior record of the PC in terms of integrity and ethical practice, good relationship between the parties etc.)

Interestingly, "Involvement of the civil society" was ranked at No. 47. Interviewed respondents stated that too much involvement of the civil society could unnecessarily deter development projects, mainly due to certain general characteristics of Sri Lanka's civil society such as (1) not thinking independently or critically, therefore can be easily manipulated by entities with political agendas, (2) being reluctant to face changes or change their attitudes/opinions, even in the face of new information. Some also stated that Sri Lankan civil society does not generally get involved in the planning and implementation of development projects and behaves apathetically unless it adversely impacts them.

Although most literature on previous studies assigned some importance to a competitive and transparent procurement process, the respondents in the Sri Lankan context rated 'transparent procurement' at high-to-mid level importance (No. 7 overall, No.15 supporters' perspective, No.10 opponent's perspective), but 'competitive procurement' at low level importance (No. 34 overall, No 23 in supporters' perspective and No.35 in the opponents' perspective). This is interesting as a considerable amount of interviewees generally had a negative perspective on

unsolicited proposals. However, the difference in ranking between 'transparent' and 'competitive' procurement can be explained by the prevalent situation in government procurement processes. Most government officials stated that the current method of selecting the lowest bid ('Least Bid') generally results in the procurement of poor quality products and stressed that a competitive procurement process should include more criteria than just the price of the bid.

When SFs are ranked based on supporter preferences, the top spots are generally occupied by economic factors, and some political aspects such ability of regulatory authorities to act independently, managing diplomatic relationships, political support etc. Contrastingly, when SFs are ranked based on opponent preferences, political, governance and implementability factors are ranked higher than most economic factors. Therefore, we may theorise that the supporters of the CPCP mainly do so on economic benefit grounds, while opponents of the CPCP mainly do so due to political, governance and implementability concerns.

6.7 Summary

The results indicate a number of characteristics of the respondents such as their support for the Port City, their level of involvement in the CPCP, the main methods of obtaining information on the CPCP and their perceived reliability. This provides a background of the respondents and their connection to the CPCP while also highlighting the need for a more reliable method of communicating project information to those who are not directly involved in the project.

Hypothesis tests also indicate that in a population, fewer than 66.7% support the CPCP, while fewer than 66.7% believe that the CPCP is a PPP. It also establishes that respondents believe that certain characteristics such as partnership, meeting public needs and transferring ownership of the asset to the public sector are important to PPPs, while many in the sample also believe that those characteristics are not present in the CPCP.

The Significant Index enabled the ranking of success factors (SFs) based on their importance as perceived by the respondents. It was noted that the ranking considerably differs based on the perspective of those who support the CPCP vs. those who oppose the CPCP. The Agreement Analysis indicates a very low agreement of only 34.4% between the supporters and opponents.

The CPCP represents a very common trend in development projects; Economic and Environment aspects of the project are often paid considerable attention in the form of ECBAs and EIAs, whereas Social and Legal aspects are often given a cursory glance at best, while Political aspects are often ignored. Section 6.5 on major issues of the CPCP suggests that although an issue may be environmental or economic at first glance, the root cause or subsequent issues/solutions are likely to be Social, Legal or Political. Therefore, it is evident that more emphasis should be placed on evaluating the Social, Legal and Political environment aspects of a project, in order for it to be successfully implemented.

When considering the opinions of the survey respondents, the most agreed issues appear to be in relation to the political environment of the CPCP as well as issues in relation to the process and governance frameworks of the project. In interviews, great emphasis was placed on the importance of proper policy, institutional and legal frameworks and transparency. Respondents discouraged ad-hoc and/or unsolicited proposals in favour of projects which fit into a national development plan in order to ensure the necessity of the project (via a Needs Assessment) and availability of supporting services.

7.0: Conclusions

7.1 Summary of the Study

The overall aim of the study is to establish the most significant factors and aspects to be addressed in contracting and implementing a successful PPP for construction projects in Sri Lanka. The following objectives were set to achieve this aim:

1. Explore common issues and critical success factors for PPP projects identified in previous research.

Extensive review of previous literature and studies, PPP guidelines and handbooks issued by various international organisations and governments identified the common issues and critical success factors for PPP projects. These are presented in Chapter 2: Literature Review.

2. Analyze the representation of such factors in Colombo Port City and identify any new factors arising from the project.

The review of literature on the CPCP, official project documentation such as the EIA (2011), Addendum (2013) and SEIA (2015) and interviews with key informants highlighted the representation of such factors of PPP in the Colombo Port City project. CSFs on Environment and Political issues were identified as new factors arising from the CPCP. This was supplemented by the review of the Summary CBA and the creation of separate ECBAs in the perspectives of the GOSL and CHEC.

3. Develop a list of critical success factors (CSFs) and areas to be addressed for the successful implementation of similar PPP in Sri Lanka by consolidating results of objectives 1 and 2.

Analysing the responses to the questionnaire survey supplemented by elaborated answers provided by respondents through interviews helped to draw out the list of CSFs and the areas to be addressed. Further analysis was undertaken, after which results of objectives 1, 2 and 3 were consolidated and presented in Chapter 6 as an extensive discussion. While previous studies generally assigned great importance to Economic CSFs, this study indicated that only some Economic CSFs are of great importance while many factors in relation to the political environment and governance, and a few factors relating to environmental concerns outrank a considerable number of economic CSFs. This highlights the importance of giving due

consideration to the political, governance, legal and environmental aspects of projects as they prove to be very important for the successful implementation of PPPs of this nature in Sri Lanka.

The research study may also be used as a source of information for several academic papers. The following topics are proposed:

- The Colombo Port City, its major issues and the road to successful implementation.
- The Colombo Port City: A review of the Extended Cost Benefit Analysis from multiple perspectives.
- Critical Success Factors for the planning and implementation of PPP in Sri Lanka
- Politics and its impacts on large scale PPPs: The case study of the Colombo Port City.
- Colombo Port City – Is it truly a PPP? The stakeholder perspective.

7.2 Main Findings

The major findings of the research are as below:

- Fewer than 66.7% (2/3rd) of the population believe that the CPCP takes the form of a PPP. However, statistics show that the CPCP incorporates some characters of a traditional PPP.
- Fewer than 66.7% (2/3rd) of the population support the CPCP to proceed with the current EIA and agreement. Of the respondents who opposed the CPCP, around 75% are willing to support the project if further Environmental studies are conducted to a satisfactory level and if the agreement is renegotiated to be more favourable for Sri Lanka. Lack of transparency, environmental concerns, doubts about the motive of the project and its feasibility and concerns regarding Sri Lanka's sovereignty were highlighted. Around 25% of the opposing respondents stated that they will not support the Port City project under any circumstances as they believed it was largely motivated by China's geo-political strategies (i.e: String of Pearls) to establish a strong presence in the region, and feared possible neo-colonialism.

- Although the media focused mainly on Environmental issues relating to the CPCP, investigation of the issues, especially in relation to the root causes, identified a spill-over effect into other categories. For example, sand dredging (an environmental issue) also contributes to/is exacerbated by economic, social and governance issues in relation to it.
- The review and replication of the Summary CBA included in the SEIA and the creation of separate ECBAs based on the GOSL's and CHEC's perspectives revealed several facts. One is that although the combined benefits and costs of both GOSL and CHEC provide a NPV of USD 2,347 million and an IRR of 15.57% for the project at a 6.5% discount rate, the actual IRRs in the separate perspectives of the project proponents show a considerable variation. The ECBA in the perspective of the GOSL provides a NPV of USD 838 million and an IRR of 9.96%, suggesting that the CPCP is not as beneficial to the GOSL as stated in feasibility reports. The ECBA in the perspective of the CHEC indicates that a negative NPV of USD 279 million and IRR of only 4.67%. The indication that the Project Company is making a financial and economic loss based on the available information suggests that the project is a strategic move for the long term economic and political benefits of the government backing the company, China. This ties in well with the geopolitical theory 'String of Pearls' which centres on potential strategic naval and commercial Chinese presence stretching from Southern China to Pakistan and beyond.
- The impacts of non-quantifiable costs such as Transaction Costs, specifically those in relation to the GOSL's low bargaining power relative to the Chinese Government backed Project Company was analysed. As changes and renegotiations are inevitable in PPPs due to their long-term nature, it is important that the public entity considers their bargaining power prior to entering into agreements with foreign private entities backed by powerful foreign governments.
- Respondents' perception on the importance of various Success Factors was analysed and ranked. There appears to be very low agreement (approx. 35%) of the important success factors between supporters and opponents of the CPCP. Supporters of the CPCP tended to assign greater importance to Economic factors, possibly because their support for the CPCP is geared by

perceived economic benefits. Opponents of the CPCP tended to assign greater importance to political, governance and implementability issues, possibly because of their concerns regarding those aspects. Both groups assigned similar importance to a thorough and complete EIA and a favourable legal framework. Overall, the top success factor was the ability of regulatory authorities act independently, without political influence.

- When considering the opinions of the survey respondents, the most agreed issues appear to be in relation to the political environment of the CPCP as well as issues in relation to the process and governance frameworks of the CPCP.
- In interviews, the respondents highlighted the need for strong policy, institutional and legal frameworks, transparency and the implementation of projects under a national development plan after the completion of a 'needs assessment'. Respondents also stated the importance of building trust between the government and members of the public and suggested that some affected stakeholders be involved in monitoring processes in an official capacity. Some respondents stated that a balance should be achieved between the environment and economic/infrastructure development, while most stressed that development should not be at the cost of adverse long term environmental impacts.
- In summary, the findings indicate that although Economic factors are important, at least in the Sri Lankan context and in an environment where the government relies on foreign funding, environmental, political and governance factors may trump some economic factors which are generally highly ranked in other studies. Further, more focus was on internal political and governance factors such as ability of regulatory authorities to act independently, appropriate stakeholder consultation, suitable communication of project information to the public, planning for demands placed on supporting infrastructure, consideration of natural resources in feasibility studies, avoiding conflicts of interest, transparency in handling projects and favourable legal framework. The main macro scale political factors were concerns regarding Sri Lanka's diplomatic relationship with foreign nations (eg: China and India) and securing the sovereign rights of Sri Lanka.

7.3 Limitations:

Several limitations of the study were identified. They are listed below:

- The CPCP is an on-going project. Therefore, information changes and becomes redundant quite fast.
- Short time period (1 year) allocated to study a project which will take many years to complete and reach operational phase.
- The study is only in relation to the planning and implementation phase of a PPP. The operational phase cannot be commented on at the moment.
- Lack of information on the project in the public domain. Some officials were bound by confidentiality issues, could not divulge certain information.
- Most people interviewed/participants of the questionnaire are top level officials. Therefore, it was difficult to get appointments with them, and they had a limited amount of time to devote to the interview/discussion.
- Unwillingness of some to participate due to various reasons.

7.4 Recommendations

This research has contributed to the subject area of successfully implementing large scale PPPs in Sri Lanka with foreign involvement, which previously lacked a dedicated study. This case study may be validated or used for future research. The following are recommended for future research work based on the findings of this study:

- A study on the applicability of the findings (i.e: critical success factors and other aspects to be addressed) in general PPPs in Sri Lanka.
- A study to establish if the findings of this project are specific to the country's geographical location, fiscal position etc.
- Future research could be conducted specific to the governance structures of PPPs and/or large scale projects funded by FDIs in Sri Lanka. This is bound to be useful if Sri Lanka continues to rely on foreign funds for development projects.
- In-depth studies investigating the processes of establishing PPPs (i.e: the legal process including formulation of agreements, the EIA and approval processes etc.).

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APPENDIX 1: Colombo Port City Issues as per Interviews Conducted Before Formulation of the Pilot Questionnaire

Environmental Issues

Interviewee	Issue
I-01 I-02	The first EIA assessed the impact of the environment on the port city, not vice versa
I-01	The Agreement has not specified the quantities of the sand required. Therefore, there is no limit to how much the CCCC can expand the CPCP footprint.
I-01	Opportunity cost of the sand is more than the $1.35 billion investment -Argument is that the SLG should have a greater share of the land.
I-01	Dredging in the Colombo South Port access channel: Capital Dredging instead of Maintenance Dredging. Capital dredging was not to take place until 2025 (a plan to make two lanes), but was fast tracked.
I-02	Sand study to be conducted by NARA" did not mention quantity of sand or locations for extraction
I-03	Destroyed a number of breeding sites for fish. Fisherman have observed a decline in fish population.
I-03	Due to massive sand excavation rocky reefs coral reefs and sand dunes are at risk of becoming smothered or unstable.
I-01 I-02	The Agreement has not specified the quantities of the sand required.
I-02	No assessment of environmental, economic and social impacts of quarrying
I-03	Overexploitation of granite and quarrying of large quantities of rock could destabilize the terrain and cause landslides etc
I-02	The assessment should be done along the entire coastal belt but there is no indication that the CPCP will have adverse effects on the coast of SL. Irresponsible statements have been made by some environmentalists, however these claims cannot be refuted due to the absence of necessary studies/investigations.
I-01	CPCP unlikely to cause erosion of existing beaches. However, CPCP has already caused the clock at the Beira Lake.
I-03	Sand flowing patterns have changed. Has effects on the Colombo Port, Dikowita. Opinion of coastal dwellers is that the CPCP has exacerbated coastal erosion.
I-02	No waste management plan for the operational phase of the CPCP
I-01	Issues arising from the operational phase were not considered. No land use plan was submitted.
I-01	Project Impact Zone for proposed 233 ha not defined
I-01	Detailed construction methodology and impacts during construction are not covered in the EIA (eg: how filling above minus 7m depth would be done, the impact on sea transportation route etc)
I-01	Lack of detail on how and quantity of natural resources to be sourced and the impact on the environment, construction industry etc. CHEC reason was that a master plan was not available, but then went onto include figures/percentages relating to stone requirements.

I-01	Disregards possible wave diffraction effects on South Port due to increased size of footprint
I-01	Effects on the Beira Lake discharge not complete. Attention paid to only flushing time of the lagoon and canal, and not the retention time of such contaminants in the Galle Face front. More examples are available.
I-01	Linkage between sand extraction and reclamation not covered. NARA study not available.
I-03	No analysis of alternative sites. This is a "universally accepted" standard.
I-03	No marine biologist was included in the EIA team to assess impact on marine life.
I-03	Fisherman operating in areas where sand was excavated and transported report losses of over Rs. 4 million in fishing equipment due to damages. Estimated effect on 30,000 coastal fisherman.
I-03	Fisherman not allowed to operate within 10 km of "Thamba Gala" (sand extraction location) despite it being a high yielding fishing area

Legal Issues

Interviewee	Issue
I-01	Arbitration: The CCCC can go for arbitration due to real estate/law issue. However, the current agreement does not specify the grounds on which the SLG can go for arbitration.
I-01	Agreement states that the SLPA is to obtain environmental approvals. (But have Chinese seen the permits? What about the conditions attached?)
I-01	Terms of Reference for the Addendum was developed by the developer's feasibility. This is illegal, as the TOR should be developed and issued by the SLG.
I-02	No mention of what is to be built on the land or who has authority/regulatory powers
I-02	Sand extraction: CCD has given approval to extract sand (possibly in the CSP access channel). However, the CEA has to approce sand extraction beyond 7 miles
I-02	Approvals not in place as the law states that the entire project must be approved by the CEA. Currently the CEA has approved only parts of the project
I-02	Sovereignty: The constitution states that no one can "absolutely" own land in Sri Lanka. Therefore the agreement should be null and void due to the "freehold" allowance. The AG should have been consulted.
I-03	The CCD gave conditional approval to the SLPA to proceed with CPC, however the CHEC is the entity that is doing work on it. That is illegal.
I-03	The Geological Survey and Mines Bureau issued a permit to SLPA to excavate sand before the CCD gave conditional approval for the project based on the EIA. Sequence of events indicate that proper processes weren't followed and was implemented due to political pressure. Have ignored environmental laws and EIA procedures of SL.

Political Issues

Interviewee	Issue
I-01	Alleged political pressure on regulatory bodies. However, these regulatory bodies issued permits/approvals with multiple conditions (not a straightforward approval)
I-01	Alleged conflict of interest of some consultants
I-02	Allegations of corruption and bribery
I-02, I-03	Sovereignty: China gains unrestricted access to SL's territorial waters
I-03	Diplomatic Relations with India could weaken

Economic and Social Issues

Interviewee	Issue
?	SL to provide basic services such as hydraulics, irrigation, waste water lines, electricity etc to the entire CPC at SL's own cost.
I-03	The location is an important marine archeology site as Colombo has been a port for a millennia. Sri Lanka's Antiquities Ordinance and international standards require an assessment on impacts on archeological items, but this has not been conducted for the CPCP. Department of Archeology states that a number of artifacts were found at this location, but the EIA makes no mention of this.
I-03	Destruction of fishermen's livelihood.
I-03	Effects of quarrying on people living close to those locations.
I-03	Coastal erosion could hinder tourism and cause adverse economic impacts

Issues relating to classifying the project as a PPP

Interviewee	Issue
I-01	The CPCP was not considered a PPP until classified as such by the CHEC's lawyer during negotiations post Sri Lanka's change of government.
I-01	Benefits and Risks are not shared equally by the Chinese and the SL government. Risks are mainly shared by the SL government and Benefits are largely for the Chinese Company.
I-01	Lack of Transparency: The commercial viability of the project was not shared by the CCCC with the SL government (SLG). Business proposition was not shared with the SLG. CCCC cited confidentiality as the reason.
I-01	No feasibility study was conducted on the proposed project after the increase of its size

Current Status – As at November 2015

Interviewee	Issue
I-01	The Agreement is being renegotiated based on invalid permits/approvals: - New agreement to take the form of a PPP - No freehold land - No military activity - Government will dictate certain development activities
I-01	SLG to undertake a comprehensive feasibility study for the 269 ha

APPENDIX 2: Final Questionnaire

Questionnaire on 'Public Private Partnerships: A case study of the Colombo Port City'

Abbreviations

CHEC : China Harbour Engineering Corporation
CPCP : Colombo Port City Project
GOSL : Government of Sri Lanka
PPP : Public Private Partnerships
SEIA : Supplementary Environment Impact Assessment

Notes and Instructions

1. Responses to the questionnaire will be treated with utmost confidentiality.
2. The respondent will not be named in any document pertaining to the research (i.e. thesis, publications), even if the name is provided in the questionnaire.
3. Tick or cross the boxes (☐) as applicable.
4. Please specify details where requested.

Part I: Participant Information and Background

1. Name: _____ OR

   ☐ I wish to remain anonymous

2. Have you actively and publicly (eg: media, public gatherings, official documents, CPCP meetings etc.) expressed your **opinion** on the Colombo Port City?

   ☐ Yes, I have publicly opposed it

   ☐ Yes, I have publicly supported it

   ☐ No, I have not publicly expressed an opinion on the Port City

   ☐ Yes, I have publicly expressed an opinion, but I have neither supported nor opposed it

3. Do you support the Colombo Port City project to proceed with the current agreements and EIA (i.e. with no further studies or amendments to the agreement)?

   ☐ Yes (Please proceed to Question 5)

   ☐ No. Please explain why?

   _____

   _____

   _____

4. Would you support the Port City project under the circumstances below? (Please tick all that apply).

☐ Yes, if further studies in relation to the environmental impact of the project are conducted to a satisfactory level.

☐ Yes, if the agreement is renegotiated and amended.

☐ No, I will not support the Port City project under any circumstances.

5. Which category of stakeholder/actor do you belong to?

a. ☐ Project Proponent (Private Party)

☐ CHEC ☐ Sub-contractor ☐ Other (please specify) _____

b. ☐ Project Proponent (Public Party)

☐ SLPA ☐ UDA ☐ Minister/MP of GOSL

☐ Other (please specify) _____

c. ☐ Consultant (please specify details below)

☐ To the Public party ☐ To the Private party

☐ To both (Public and Private) parties

d. ☐ Government Organisation or Regulatory Authority (please specify details below)

☐ Central Environment Authority

☐ Member of review committee appointed by GOSL

☐ Other (please specify) _____

e. ☐ Environmental Activist

f. ☐ Journalist or Media Professional (please proceed to Question 5)

g. ☐ Member of public (no other affiliation)

☐ Owner/Manager of property within 2km of the CPCP

☐ Fishermen Community

☐ Resides close to quarry sites

☐ Other _____

6. What is your occupation? _____

7. Which method(s) do you use to obtain information on the CPCP? (please tick all that apply)
   In your opinion, how reliable are those methods?

☐ **Primary Research/Studies** (eg: sand extraction studies, studies on impact on fisherman, cost analysis etc. conducted with your involvement)	☐ Reliable ☐ Unreliable ☐ Cannot say
☐ **Official Documents** (i.e: EIA of 2011, Addendum of 2013, SEIA of 2015, reports of official studies conducted by relevant professionals/ researchers)	☐ Reliable ☐ Unreliable ☐ Cannot say
☐ **Official Documents**: Other (Terms of Agreement, Permits, MOU etc.)	☐ Reliable ☐ Unreliable ☐ Cannot say
☐ **Officials of the public party** (government officials, EIA consultants etc.)	☐ Reliable ☐ Unreliable ☐ Cannot say
☐ **Officials of the private party** (CHEC, associated companies, consultants)	☐ Reliable ☐ Unreliable ☐ Cannot say
☐ **Media** (eg: news reports and articles)	☐ Reliable ☐ Unreliable ☐ Cannot say
☐ **Other stakeholders** (eg: Environmentalists, Fishermen etc.)	☐ Reliable ☐ Unreliable ☐ Cannot say
☐ **Other** (please specify) _____	☐ Reliable ☐ Unreliable ☐ Cannot say

Part II: Public Private Partnerships

1. Are you aware of what Public Private Partnerships (PPP) are?

   ☐ Yes (proceed to Question 2)

   ☐ No (skip Question 2, proceed to Question 3)

2. In your opinion, does the CPCP take the form of a PPP

   ☐ Yes

   ☐ No (please state why)

   _____

   _____

   _____

   _____

   _____

3. Does the CPCP display the following characteristics? Please tick yes/no.

No.	Characteristic	Yes	No
(i)	It is a partnership between a Public party and a Private entity		
(ii)	Each party is a Principal (may bargain on their own behalf without seeking other sources of authority)		
(iii)	Outcome meets public needs/ achieves a desired outcome in public policy/ serves the public		
(iv)	Both parties (equally or unequally) share risks and responsibility for outcomes		
(v)	Both parties (equally or unequally) share benefits of the project		
(vi)	Both parties make tangible (eg: money, resources etc.) and/or intangible (eg: expertise, knowledge etc.) contributions to the project		
(vii)	The ownership of assets revert to the Public party at the completion of the contractual period		

Part III: Success Factors

1. The following success factors are from previous research work conducted around the world. How important are they for ensuring the successful implementation and completion of large scale development projects similar to the Colombo Port City project? (Rate from 1 to 5, where 1 = Least Important, and 5 = Most Important)

Q.No.	Success Factor	1	2	3	4	5
	Favourable Economic Condition					
i.	Sound Economic Policy					
ii.	Favourable legal framework					
iii.	Stable Macro Economic Condition					
iv.	Appropriate Risk Allocation and Sharing					
v.	Available Financial Market					
vi.	Multi Benefit Objectives					
vii.	Project Economic Viability					
	Project Implementability					
viii.	Shared Authority between public and private sectors					
ix.	Commitment of the Public and Private parties					
x.	Project Technical Feasibility					
xi.	Thorough and realistic assessment of the cost and benefit					
	Effective Procurement					
xii.	Competitive Procurement Process					
xiii.	Transparent Procurement Process					
	Stable political and social environment					
xiv.	Political support					
xv.	Strong and good private consortium					
xvi.	Involvement of civil society					
xvii.	Good governance					
xviii.	Good partners' relationship					
xix.	Consultation with end users					
xx.	Stable and transparent political/social situation					

2. The following table includes major issues relating to the CPCP. Please indicate your agreement/disagreement (Yes/No) in the relevant space next to each issue.

Then, rate the importance of the corresponding success factor for the successful implementation of large-scale development projects similar to the CPCP. The scale is from 1 to 5, where 1 = Least important, and 5 = Most important.

	Issue in relation to the Colombo Port City			**Corresponding factor for successful implementation**	**1**	**2**	**3**	**4**	**5**
Eg:	***Do you believe the CPCP will help boost the tourism industry of Sri Lanka?***	X	***Yes***	***Ability to transfer benefits to other sectors/industries***					X
			No						
Environmental (the following alleged issues are based on views expressed in news reports and interviews)									
1.	Do you believe that the current EIA and related studies are sufficient for approving the commencement of the Port City project?		Yes	Conducting in-depth studies leading to a thorough and sufficient EIA report **before** the project is approved/ construction is commenced.					
			No						
2.	Do you believe the GOSL and/or the private consortium and its consultants have the necessary technological knowledge and resources to assess, eliminate or mitigate environmental impacts?		Yes	The Public Party and/or the Private Consortium and its consultants having the necessary technological knowledge and resources to assess, eliminate and mitigate environmental impacts					
			No						
3.	The CPCP is split into 2 stages: Phase I (Reclamation) and Phase II (Development/Construction). The SEIA is meant to be a comprehensive report on Phase I, while a separate EIA will be developed for Phase II. Do you agree with this process?		Yes	Conducting Environmental Impact Assessments for the project as a whole, rather than for separate stages at separate times.					
			No						
4.	Do you believe the SEIA has sufficiently covered the Archaeological impacts of the CPCP and proposed adequate mitigatory/preventive measures?		Yes	Thorough assessment of impacts on archaeological sites and undertaking the necessary steps for mitigation/prevention of effects					
			No						

Political, Legal, Governance, Implementability (the following alleged issues are based on views expressed in news reports and interviews)									
5.	Do you believe the CPCP affects the sovereignty of Sri Lanka due to the long term lease of Sri Lankan land and/or territorial waters?		Yes	Securing the sovereignty/ sovereign rights of the nation represented by the Public Party					
			No						
6.	Do you believe that the CPCP has an effect (positive and/or negative) on the diplomatic relationships between Sri Lanka and other countries? (eg: China, India)		Yes	Managing diplomatic relationships between the nation represented by the Public Party and other nations					
			No						
7.	Do you believe that foreign influences (external to the nation) had a negative impact on the continuation of the CPCP?		Yes	Managing pressures and influences of foreign nations/ geo-political impacts					
			No						
8.	Do you believe that the CPCP was handled with adequate transparency by the GOSL and Project Company?		Yes	Transparency in the handling of the project by the project proponents (Public and Private)					
			No						
9.	Do you believe that suitable methods were in place to sufficiently communicate project information to members of the public?		Yes	Having suitable methods in place to sufficiently communicate project information to members of the public					
			No						
10.	Do you believe that the reported debarment of the CHEC's parent company, CCCC, by the World Bank due to alleged fraudulent practices has a negative effect on the CPCP?		Yes	Prior record of the Project Company in terms of integrity and ethical practice					
			No						
11.	Do you believe that a conflict of interest was created due to some professionals allegedly working as consultants for the CHEC while also separately working as consultants for the government?		Yes	Engaging professionals for the service of each proponent (Public and Private) without creating conflicts of interest					
			No						
12.	Do you believe that government regulatory authorities were pressured by political forces to approve key processes and/or issue permits without meeting the necessary requirements?		Yes	Ability of regulatory authorities to act independently without pressure and influences by political forces (i.e. the public party/ government)					
			No						

13.	Do you believe that politically motivated individuals/ groups capitalised on the anti-Port City sentiment to further their own agendas?		Yes	Managing pressures and influences of politically motivated individuals/ groups within the nation					
			No						
14.	Do you believe that some opponents of the project made irresponsible statements (which cannot be backed by facts or figures) exploiting loopholes of the project?		Yes	Managing opposition to the project by covering all bases					
			No						
15.	Do you believe the opposition voiced by the members of the public has had a negative effect on the continuation of the CPCP?		Yes	Public support for the project					
			No						
16.	Do you believe that the members of the public and public stakeholders (eg: hoteliers, fishermen etc.) were sufficiently consulted in the planning of the CPCP?		Yes	Sufficient consultation of the members of the public and important public stakeholders (Involvement of civil society)					
			No						
17.	Do you believe the GOSL acted in a professional manner when suspending the CPCP in March 2015 for review and renegotiation purposes?		Yes	Professional and responsible conduct of the Public and Private parties in all project matters					
			No						
18.	Do you believe that the GOSL has responsibly adhered to the terms and conditions of the CPCP?		Yes	The Public Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner					
			No						
19.	Do you believe that the Project Company has responsibly adhered to the terms and conditions of the CPCP?		Yes	The Private Party's ability to deliver responsibilities stipulated in the project agreement in a timely manner					
			No						
20.	Do you believe that sufficient attention was paid to addressing the demands placed by the CPCP on the existing supporting infrastructure of the country (i.e: meeting water, electricity, waste management, traffic demands)		Yes	Appropriate attention paid to upgrading the nation's facilities in order to support the demands placed by the project on the nation's existing infrastructure (eg: utility demand, waste management, traffic)					
			No						

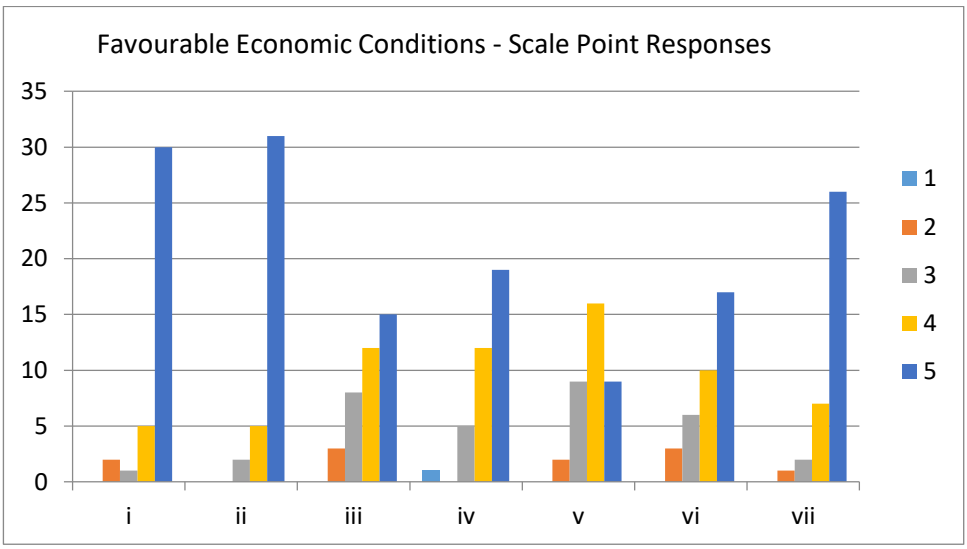
Economic and Social (the following alleged issues are based on views expressed in news reports and interviews)									
21.	Do you believe that the CPCP project is a necessary step for the economic growth of Sri Lanka?		Yes	Appropriate project identification					
			No						
22.	Do you believe the impact on the various aspects of Sri Lanka's economy (eg: tourism industry, construction materials, rich-poor divide, future FDI etc) were considered when planning the project?		Yes	Attention to the various aspects of a nation's economy which may be directly and/or indirectly be affected by the project					
			No						
23.	Do you believe that the CPCP possesses a sound business plan for its successful implementation? (i.e: strategies to attract foreign investors to develop the reclaimed land etc.)		Yes	Sound business strategies for the development and operation of the project					
			No						
24.	Do you believe the CPCP provides an overall economic benefit to Sri Lanka?		Yes	Economic viability of the project in the perspective of the Public Party (i.e. government)					
			No						
25.	Do you believe the CPCP provides an overall economic benefit to the Project Company (CHEC)?		Yes	Economic viability of the project in the perspective of the Private Party (i.e. the Project Company)					
			No						
26.	Do you believe that the cost of natural resources (eg: sea sand, quarry material) provided by the GOSL for the CPCP was given due consideration in feasibility assessments?		Yes	Appropriate returns on the cost and quantity of natural resources provided for the project by the nation					
			No						
27.	Do you believe the CPCP could significantly change the population demographic (eg: nationality, household income, rich-poor divide) of Colombo and/or Sri Lanka?		Yes	Considering the effects on the population demographic of the locality and/or the nation					
			No						
28.	Do you believe the CPCP could create a change in		Yes	Considering the effects on the socio-cultural					

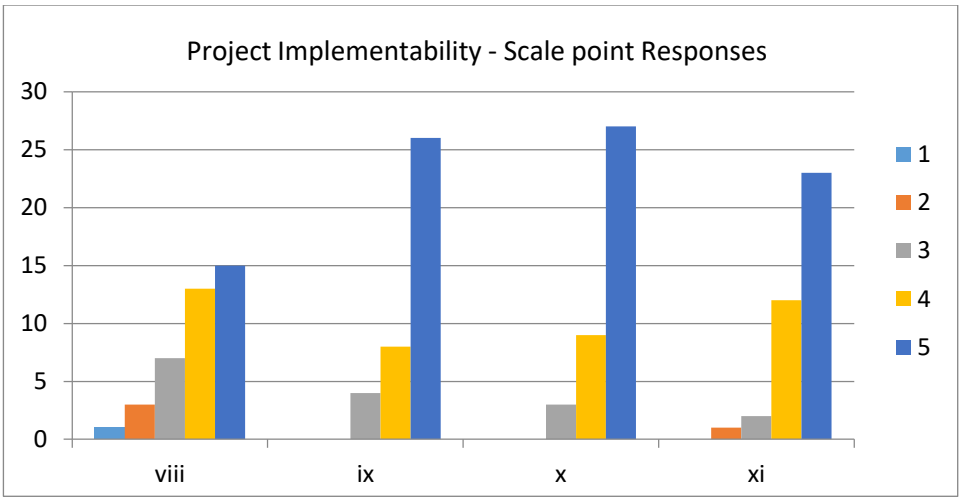
	the social culture of its immediate vicinity and/or the nation?		No	aspects of local communities and/or the nation as a whole	

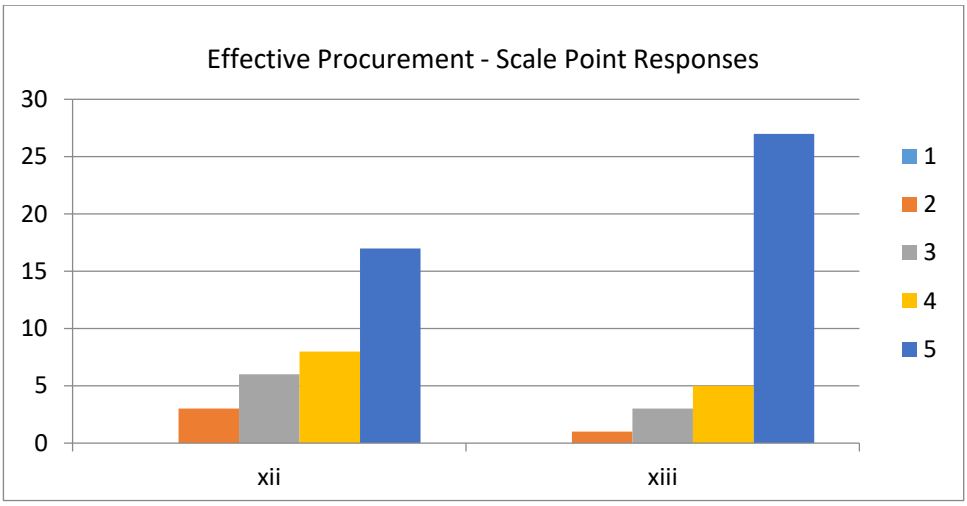
---------- The End of Questionnaire ----------

APPENDIX 3: Scale Point Responses for Success Factors in the Final Questionnaire

Part III – Question 1






Effective Procurement - Scale Point Responses
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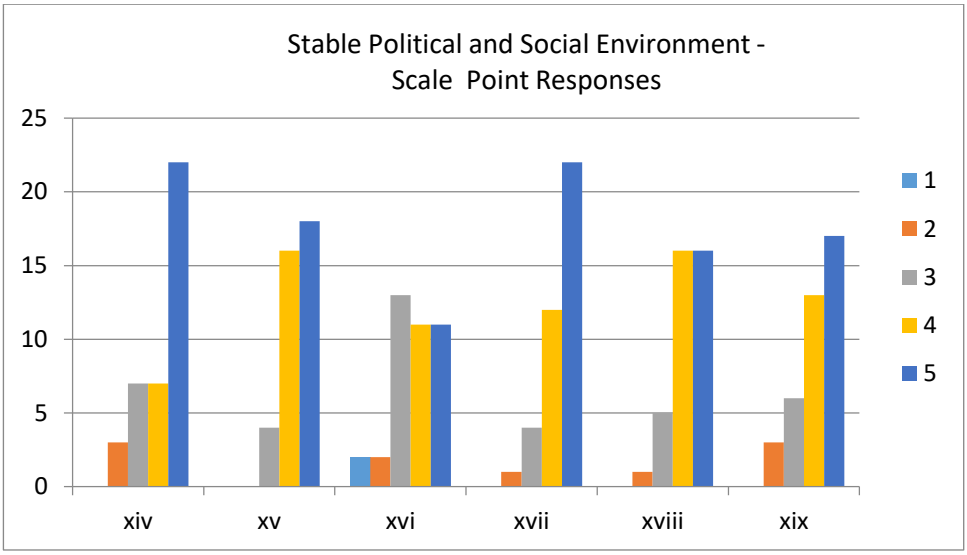
Stable Political and Social Environment -
Scale Point Responses
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Part III – Question 2