Impact of the institutional environment on the development of Public Private Partnerships in the road sector

Comparison of two settings: the Netherlands and Tamil Nadu.

தனியார் பொது கூட்டு

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Note: **தனியார் பொது கூட்டு** is *Public Private Partnerships* in Tamil.

Colophon

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Abstract

Due to the complex current financial situation, many governments in developing and developed countries are procuring road projects through Public Private Partnerships (PPPs). The institutional environment where PPPs take place influences project performance and program continuity. In a propitious environment, PPPs entail advantages for public and private parties in the form of Value for Money (VfM). Nonetheless, institutional deficiencies can lead the partnership to failure, predominantly when conflicts emerge between public and private parties. To understand how the institutional setting influences project performance there is a need for a context specific approach. As stated by Jooste, Levitt and Scott (2011), understanding the particular dynamics of PPP development in different environments expands on the knowledge about the link between the institutional environment and project performance to ensure project success.

Given that different contexts present different institutional environments, we analyze two different settings with similar project volume and age implementing PPPs in the road sector: the Netherlands and Tamil Nadu. In this research, we examine the institutional environment in both contexts, the evolution of these two institutional settings from the implementation of the first PPP projects in the road sector, and the impact of the institutional environment on project outcomes at different points of time. Our goal is to study the influence exerted by the institutional environments in PPP program's progress.

Firstly, we evaluate the policy interventions in both environments since the implementation of the first PPP projects in the road sector through secondary data analysis. Secondly, we analyze the influence of these policy interventions on the institutional environment for PPP development by applying the framework proposed by Mahalingam (2011) which categorizes the institutional environment in specific institutional capabilities necessary for PPP success. Thirdly, we follow a case study approach to collect data about four projects developed in different points of time for each location.

Our results show that the institutional environment has an influence in project development, extending the framework proposed by Mahalingam (2011). We find support for Jooste, Levitt and Scott's (2011) statement which recognizes that PPPs are implemented differently in different regions, progressing beyond a "one size fits all" view of PPP programs. Starting from a similar degree of maturity, we observe a completely different evolution in Tamil Nadu and the Netherlands as a result of the different institutional settings present. Interestingly, we find that, once applied in the project, the institutional capabilities react affecting other institutional capabilities in return, confirming Jooste, Levitt and Scott's (2011) proposed link between *structuration theory* and PPP development. We find support to state that later developments depend upon earlier developments directly influenced by political willingness. We conclude that how the institutional capabilities have been built plays a key role for project performance and political willingness is a key factor to determine the evolution of the institutional environment towards PPPs.

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PART I. Introduction

1. Introduction

Given the key role of infrastructure in promoting economic growth (Hammami, Ruhashyankiko, & Yehoue, 2006), governments have traditionally been responsible for infrastructure development. However, over the last years, the infrastructure (both its capacity and its quality) is insufficient in most developing and developed countries while demand increases all over the world. Worldwide governments now face the challenge of developing the required assets and supporting sustainable long term economic growth. These circumstances create an excellent opportunity for governments to draw on private sector's capacities. This collaboration among public and private parties promotes the continuity of development using Public Private Partnership (PPP) schemes.

1.1. Problem description

Academic literature presents PPPs as cooperation between public and private actors in which parties develop services and share risks, costs and benefits (Klijn & Teisman, 2003). The collaboration continues through the process and it is geared towards the joint realization of goals. As such, the actors expect the benefits of the collaboration to pay off the costs (Edelenbos & Klijn, 2009). This chapter aims at providing an overview about PPPs to understand their rationale and context. We introduce the concept of PPP by providing some definitions by different organizations. We also describe different types of PPP contracts, the incentives of public and private actors to participate and the institutional environment where PPP projects take place.

1.1.1. Definitions of PPP projects

Generally speaking PPPs are arrangements typified by joint working between public and private parties in the long run (HM Treasury, 2005). However, discussions about the definition of PPPs are widespread and versatile. Governments and organizations employ definitions which emphasize their interests and goals:

- The Organization for Economic Cooperation and Development (OECD) defines PPP as *an arrangement between the government and one or more private partners according to which the private partners deliver the service in such a manner that the service delivery objectives of the government are aligned with the profit objectives of the private partners and where the effectiveness of the alignment depends on a sufficient transfer of risk to the private partners* (OECD, 2008). The OECD emphasizes the alignment of objectives of public and private parties where the effectiveness of this alignment depends on an adequate risk transfer.
- The European Investment Bank defines PPPs as *a generic term for the relationships formed between the private sector and public bodies often with the aim of introducing sector resources and/or expertise in order to help provide and deliver public sector assets and services* (European Investment Bank, 2003). This definition stresses the role of PPPs introducing private sector resources and expertise to deliver public services.
- The International Monetary Fund (IMF) defines PPPs *as arrangements where the private sector supplies infrastructure assets and services that traditionally have been provided by the government (…) there is an emphasis on service provision as well as investment by the private sector, and significant risk transfer from the government to the private sector* (International Monetary Fund, 2009). The IMF highlights the importance of risk transfer, service provision and private funding which PPPs afford.

Although there is not a unified definition for PPP, there are common elements in definitions of PPPs:

- Long term contractual agreements.

PPPs are long term contracts (sometimes more than 30 years) between a public agency (client) and a private partner (contractor) where the private sector is responsible for providing public services.

- Focus on shared objectives for service delivery to meet infrastructure needs.

PPPs represent cooperation between public and private parties to establish fruitful and enduring associations to provide infrastructure services. PPPs are mutual agreements built around the know-how and competence of project partners which entail full support and dedication from public and private parties to deliver the infrastructure asset (Research Republic LLP, 2008). Parties should share their own expertise and resources for the enhancement of the project. Private parties bring innovation and technology while the public sector brings public values to get the best out of taxpayers' money (Akintoye, Beck, & Hardcastle, 2003).

- Shared risks and responsibilities.

PPPs involve shared risks and responsibilities which are allocated according to the roles that the parties play in the partnerships. Although the particular responsibilities for delivery will differ depending on the project and contract structure, a key attribute of PPPs is that responsibilities are shared between public and private parties. When establishing the partnership, prospective risks are recognized and, in theory, shared in the belief that they are borne by the partner who can best handle them (Research Republic LLP, 2008). The implication is that there is a supportive investment of resources, shared power and benefits for all partners (Lewis, 2001).

In the appropriate environment, PPPs may entail several advantages for public and private parties, including higher quality service at lower cost, and more and better projects without budget pressure. Government's decisions to provide infrastructure delivery through PPP are often based on criteria to evaluate if the project will deliver value to the public through lower costs, higher levels of service or reduced risk (UNECE, 2007). The United Nations Economic Commission for Europe (UNECE) compiles some of the benefits to develop projects through PPPs (UNECE, 2007):

- Value for Money (VfM)

Governments embark on transport projects through PPP in order to provide VfM. They expect that private parties work more efficiently than the public sector, bringing efficiency gains and quality for the same or less cost (Koppenjan J. , 2008).

- Access to capital

In situations where public funds are scarce, alternative private sources of capital may allow governments to launch urgent projects that would not be possible to develop otherwise (UNECE, 2007).

- Certainty of outcomes

Since private parties need to fulfill strict financial requirements, governments and financiers strongly encouraged them to finish the project on time and on budget to avoid penalties. This way, governments increase certainty of project outcomes (UNECE, 2007).

- Innovation

Public and private parties cooperate in the project, bringing their expertise for project success. In PPPs, there is high potential for innovative approaches (OECD , 2000) (UNECE, 2007).

- Alleviating fiscal pressures

Through PPPs, governments have a way of financing projects without breaching the government's self imposed borrowing limit. Many PPP transactions are classified as off the public sector's balance sheet thus the government will only account for the yearly payments it makes to the private partner and not for the resources and liabilities of the project, including its debt (PriceWaterhouse Coopers, 2005). The off-sheet treatment is attractive since long-term obligations under PPPs do not appear under governments' overall budgets.

However, such relationships should not be seen as the only possible course of action for governments since they are complex to design, implement and govern. PPPs also entail disadvantages such as:

- Complicated contracts

PPPs contracts are usually much more difficult than traditional infrastructure arrangements. Due to the long term nature of the relationships, involving shared risks and responsibilities, PPP contracts need to anticipate as many contingencies as possible. Aspects such as project planning, procurement and contract renegotiations require considerable resources by both public and private parties (Katz, 2006)

- Reduced flexibility

Due to the long term nature of PPP contracts and the uncertainties derived from this situation, PPP contracts usually contain rigid output specifications (Iossa, Spagnolo, & Vellez, 2007).

- Higher capital costs

Governments are theoretically the safest borrower when additional funds are needed to finance a complex project. The private sector's weighted cost of finance (both equity and debt) is usually between 1% and 3% higher than the public sector's cost of debt (PriceWaterhouse Coopers, 2005). Therefore, the cost of finance increases the total cost of PPPs compared to projects fully developed by the government, unless the specific project brings the expected VfM for PPPs.

Before implementing PPPs, governments should carefully evaluate the type of contract adequate for the specific project context. There are different types of PPPs which differ in terms of how risks and responsibilities are allocated, in their complexity and the degree of expertise required to successfully implement the project. The next sub-section introduces different types of PPPs and their main characteristics.

1.1.2. Types of PPPs

PPPs are the contractual relationships between public and private parties, their rights and obligations, the way the project is to be conducted and how risks are allocated and managed (UNESCAP, 2007) (OECD , 2000) (World Bank, 2011). There are different types of PPP contracts governing these relationships which vary depending on aspects such as the payment mechanism, risk allocation, and the extent of public and private sector involvement. These options range from direct provision by the public sector to privatization

where the government transfers all responsibilities and risks for service delivery to the market (United Nations, 2008). Different types of PPPs allocate responsibilities and risks between the public and private partners in different ways. Some of the most common PPP models are described below (Deloitte, 2008):

Design-Build (DB) – Design Build Maintain (DBM)

The private firm designs and builds the asset in accordance with the requirements specified by the public agency for a fixed price. Once completed, ownership and responsibility for operation are transferred back to the government. The government is also responsible for financing all the functions throughout the process through equity and debt (Deloitte, 2008). Under the DBM model, the private party also maintains the facility. The public sector retains the responsibility for operations.

Design-Build-Operate (DBO) or Build-Transfer-Operate (BTO)

The private contractor is responsible for the design and construction of the facility. Once it is completed, ownership of the new facility is transferred to the public sector, while the private party operates the facility for a specified period. The government is responsible for project financing, therefore the government needs to provide enough financing for the private contractor either though cash payments or through collecting user charges. This model is also referred to as Build-Transfer-Operate (BTO) (Deloitte, 2008).

Design-Build-Operate-Maintain (DBOM) or Build-Operate-Transfer (BOT)

Under this model, the private party takes the responsibility for designing, building and operating the project for a specific period. At the end of that period, the operation of the facility is transferred back to the public sector. The government owns and finances through national or local government equity or debt. This model is also referred to as Build-Operate-Transfer (BOT).

Design-Build-Finance-Maintain-Operate DBFM(O)

The most integrated contract is the DBFM contract. The contractor bears the responsibility for the design, building, financing and maintenance of the building. Sometimes, the operation of the asset is also included in the contract. At the end of the contract, the facility is transferred to the public sector. Another variant of this type of PPP is the Design- Build- Finance-Operate (DBFO) where the private party designs, builds and finances the new asset under a long term arrangement, and operates it at the end of the lease term (UNECE, 2007).

PPPs can also be used for existing services and facilities in addition to new ones. Some of these models are:

Service contract

The government contracts with a private entity to provide services that the government previously performed. Private operators and maintainers are responsible for short term responsibilities of operation and/or maintenance. The government maintains the responsibility of financing (equity and debt) and ownership.

Lease

A leasing arrangement involves a situation where the private sector uses public facilities, and pays a rental fee to provide a service. The private partner operates and maintains the asset in accordance with the terms of the lease.

Concessions

In a concession, the government grants a private entity exclusive rights to operate and maintain an asset over a long period of time in accordance with performance requirements

set forth by the government. The public sector retains ownership of the original asset, while the private operator retains ownership of any improvements made during the concession period (Deloitte, 2008).

Figure 1 below provides an overview of the described types of PPP contracts and the degree of responsibility transfer from public to private sector.

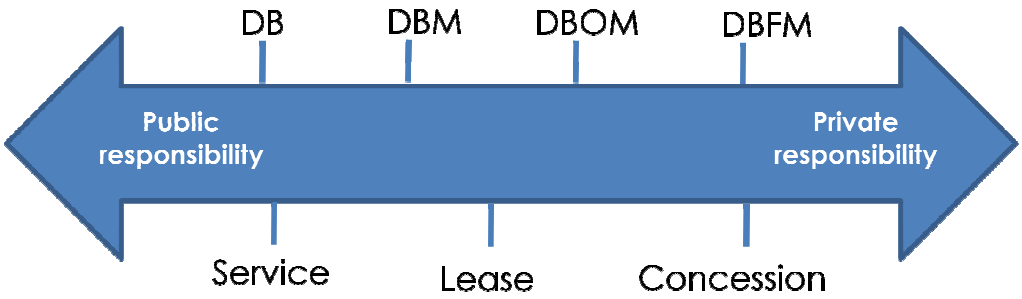


Figure 1 Types of contracts and degree of transfer of responsibility (Deloitte, 2008)

Joint Ventures (JVs)

To finish with the summary of different types of PPPs, we introduce the JVs. Some authors also include JVs as a possible PPP scheme. JVs are contractual arrangements where the government and private companies work together to develop, maintain and/or operate the project (Bult-Spiering & Dewulf, 2006). Under a JV, the government and private consortia can either create a new company or take on joint ownership for the development of an asset (Asian Development Bank, 2008). Both parties invest in the company and have strong interest in the success of the JV, emphasizing "togetherness" (Bult-Spiering & Dewulf, 2006)

With the purpose of understanding the context of PPPs the next sub-section describes parties' goals and incentives to participate in PPPs as well as the importance of the institutional environment for project development, offering the perspective of different authors that have already researched about the matter.

1.1.3. Public and private sectors´ goals and incentives

PPP development takes place in a multi-actor environment where the government and private companies are the central parties involved in the process. These actors belong to different networks, possessing diverse backgrounds. This creates strategic complexity in PPPs resulting from the interactions between independently chosen strategies (Klijn & Teisman, 2003).

In the public ssector, the management of expectations is very important when participating in PPPs. Klijn and Teisman (2003) state that public parties aim at controlling project outcomes and minimizing financial risks. They assume that the management of expectations is highly important when public parties engage in PPPs. Hence, governments want to minimize financial risks and uncertainties about project outcomes, and want to be sure of having a political influence on the project.

According to Bult-Spiering and Dewulf (2006), the course of the public sector is theoretically towards regulating, realizing social goals, ensuring democratic decision making processes, minimizing risks and assessing political opinion and influence.

Private parties participating in PPPs aim at getting market share and profit (Klijn & Teisman, 2003). According to Bult-Spiering and Dewulf (2006), their orientation is towards achieving

returns on the invested funds, taking business risks, anticipating market and competitive developments and the realization of corporate goals.

The public sector is responsible for ensuring that public services are improved, projects are finished on time and there is value for money for the tax-payers, which means that projects are profitable for the private parties as well. Due to this reason, some authors (Asian Development Bank Institute, 2011) state that there a number of areas where public and private sector interests may meet.

1.1.4. PPPs and the institutional environment

PPP projects take place as a part of PPP programs under a dominant institutional environment. Jooste, Levitt and Scott (2011) emphasize the importance of an enabling environment for the successful development of PPP programs. *PPPs are implemented different in different regions* (Jooste, Levitt & Scott, 2011) which means that programs will evolve differently, invariably affecting project development. They state that PPP programs are shaped by the institutional and political frameworks where PPP development takes place.

Scott (2008) affirms that institutions are *the symbolic frameworks that create shared meanings and controls that provide order to social action (both enabling and constraining)*. Some authors (Scott, 2008) (Henisz & Levitt, 2009) suggest that project outcomes will not only depend on the regulative supports (legal and regulatory frameworks) abut also normative (i.e. socially shared expectations of appropriate behavior) and cognitive (i.e. shared identities and values or interests). The institutional supports an environment where the project is set in contribute towards the manifestation of governance issues (Delhi, Palukuri, & Mahalingam, 2010).

Various authors have looked at the institutional environment to determine their influence in PPP project development. Mahalingam and Kapur (2009) state that a well-developed institutional environment fosters confidence for public and private parties to enter into PPPs by rules of engagement. Several authors have analyzed the importance of the institutional setting for project development. Rui, De Jong and Ten Heuvelhof (2010) build a multilayer conceptual framework where the cultural context, formal institutions and parties' behavior are related in a top-down-bottom-up approach during project development. They conclude that a strong and enabling institutional setting ensures an efficient project development in all stages. Equally, the occurrence of undesirable parties' performance gives an indication of institutional deficiencies and captures the need to improve the institutional setting where projects take place.

Delhi, Palukuri and Mahalingam (2010) present a framework which provides an understanding of the kinds of governance issues arising on projects which includes the influence of the institutional setting and environmental context. A propitious institutional environment where governments understand roles and responsibilities of PPPs leads to parties entering into a sustainable PPP arrangement where institutional structures serve as a guideline to achieve a coherent PPP policy, supportive risk sharing, reciprocal support, transparency, sustainable development *putting people first* and a clear legal framework that is *fewer, better, simpler* (Delhi, Palukuri, & Mahalingam, 2010) (Mahalingam, 2011) However, when institutions are weak, project conflicts arise more often and are more difficult to resolve.

According to UNECE (2007), the challenge of PPPs is *not just to create new institutions but also to develop the public expertise to administer projects. PPPs demand a strong public sector, which is able to adopt a new role with new abilities (…) All in all, the experience and key*

learning of PPPs to date, underscore the importance of institutions, capacity building in PPPs, and the critical goals of improving governance in PPPs.

Jooste, Levitt and Scott (2011) introduce the concept of a *PPP-enabling environment*. An enabling environment will deal with essential principles to ensure the successful implementation of a PPP program including: understanding the objectives of financing through PPP and allocating risks efficiently (Aziz, 2007), ensuring political commitment and maximizing transparency (Durchslag, Puri, & Rao, 1994), developing a set of guidelines, tools and standard contracts (Koch & Buser, 2006), establishing adequate legal and regulatory frameworks and actively assessing project progress and performance (Kumaraswamy & Zhang, 2001). Dewulf, Mahalingam and Jooste (2011) observe that the cultural, political and economic circumstances at a given environment affect how governments implement PPPs, stressing the importance of aligning structures with a particular setting.

Mahalingam (2011) compiles the main institutional capabilities necessary to ensure successful PPP programs and project development. He categorizes them in: legitimization, trust and capacity. Mahalingam (2011) suggests that governments legitimate PPPs by having a sound rationale, adequate advocacy among the involved stakeholders, and political willingness to undertake beneficial actions for PPPs. In order to strengthen the trust factor, governments should ensure public and private sectors commitment and public sector decision making predictability. Lastly, governments build a programmatic capacity towards PPPs by strengthening and enhancing public and private capacities, and providing effective risk management and financing mechanisms. These studies highlight the importance of the institutional environment for PPP success.

In addition to the importance of the institutional environment to create a propitious setting for PPP development, Jooste, Levitt and Scott (2011) find a relationship between the *structuration theory* elaborated by Giddens (Giddens, 1979) (Giddens, 1984) and PPP development. The *structuration theory* supports that human actions take place within the circumstances of pre-existing structures governed by rules and norms. This means that human actions are partially determined by the context where they occur. Nevertheless, Giddens (Giddens, 1979) (Giddens, 1984) states that these structures and rules are not permanent, but modified by human actions in return.

For PPP development, Jooste, Levitt and Scott (2011) consider that the so-called pre-existing structures are the institutional elements where PPPs take place. The actors participating in PPP development are situated in these specific contexts bounded by time and space. Like Giddens; Jooste, Levitt and Scott (2011) believe that *although institutions are sources of stability, they undergo change*, thus they are not permanent and actors' actions will depend on this evolution. They state that these changes in the institutional environment are *path dependent, incremental processes* (David, 2000) by which later developments depend upon earlier developments.

Now that we have introduced the theoretical underpinnings to illustrate the academic situation of this research, we describe the problem statement and purpose of this research.

1.2. Problem statement

Given the challenging current financial situation, governments in developed and developing countries are increasingly implementing PPPs to create infrastructure assets. The institutional environment influence PPP project performance and program continuity. In a propitious environment, PPPs entail advantages for public and private parties, including higher quality service at the same or lower cost (Value for Money). However, institutional deficiencies can

lead the partnership to failure, predominantly when conflicts emerge between public and private parties.

Given that different contexts present different institutional realities characterized by their backgrounds we analyze two different settings with similar project volume and age of PPP implementation in the road sector, the Netherlands and Tamil Nadu, to evaluate how the institutional context influences project performance.

Space scarcity and high demands for infrastructure heavily influence PPP development in the Netherlands. This situation entails complex stakeholder involvement whose interests may conflict. Due to these reasons, there is a strong hierarchical approach in the Netherlands where the main actor is the Ministry of Transport, Public Works and Water Management (Lenferink & Arts, 2009). Its decision–making agency is *Rijkswaterstaat* (RWS). Besides, the Dutch environment is increasingly influenced by European legislation, reflected in procurement and planning laws, as well as a changing role in the government towards a more business-oriented approach.

Tamil Nadu is one of the most prosperous Indian states and it is very open to private participation. The main motives to develop PPPs in the road sector are the required investments for increasing infrastructure demand. To achieve this goal, the Government of Tamil Nadu (GoTN) has aimed at attracting private investment and developing various PPP projects applying temporary measures to make projects possible when needed but lacking a programmatic approach (Mahalingam, 2011).

We agree with Jooste, Levitt and Scott (2011) about the need for a context-specific approach to explain PPP development. Understanding the specific dynamics of PPP development in two different environments allows us to extend the knowledge about the link between the institutional environment and project performance to ensure project success.

1.3. Research rationale

This section presents the research goals, questions and design developed along with the conceptual framework and research methods adopted.

1.3.1. Research goals

The main goal of this research is to analyze the influence of the institutional environment in project outcomes in PPP development in the road sector. This goal is defined at two different levels:

- At the theoretical level, we want to contribute to expand the existing literature about the *PPP enabling environment* proposed by Jooste, Levitt and Scott (2011) by analyzing the institutional environment in two different contexts, the Netherlands and Tamil Nadu, and its influence on project outcomes hence, how enabling these environments are. We also study the evolution in these two settings from their creation to evaluate the different influence exerted by these institutional environments in PPP programs' progress.
- At the practical level, we want to propose recommendations for policy makers for the implementation of PPP programs at the institutional level. We aim at defining best practices at the institutional level to provide a propitious environment for PPP development.

1.3.2. Research question

We present the results of our empirical case study by answering the following question:

How does the evolution of the institutional environment affect project outcomes in PPP development for the road sector?

We answer this question by analyzing the institutional context for PPP in Tamil Nadu and the Netherlands. Due to the differences among Indian states in PPP development, we focus on the road sector in Tamil Nadu. However, PPP development in Tamil Nadu does not correspond to the situation in the rest of Indian States. The rationale behind selecting Tamil Nadu for this research is the fact that Tamil Nadu and the Netherlands have similar age implementing PPPs in the road sector and are more comparable in terms of stakeholder complexity than comparing the Netherlands to the whole nation of India.

Following previous works (Jooste, Levitt, & Richa, 2010) (Mahalingam, 2011) (Dewulf, Mahalingam, & Jooste, 2011) we employ the concept of a *PPP-enabling environment*. In the next section, we present our research methodology. Following this, we present our results about the institutional environment in Tamil Nadu and the Netherlands, both its evolution and current capabilities, and the description of a series of PPP projects and the issues they faced. Then we discuss our findings and come up with conclusions in order to draw some recommendations for policy makers.

1.3.3. Methodology

This project follows an inductive research strategy consistent with grounded theory. Based on empirical observations about the institutional setting over the years and project development in Tamil Nadu and the Netherlands, we identify patterns in certain project issues that arise in both contexts under their institutional setting and the evolution of these patterns. Our findings describe the influence of the institutional capabilities on project development in both contexts. The research findings result in recommendations for policymakers in Tamil Nadu and the Netherlands. Our observations are twofold:

- Observations about the institutional environment in Tamil Nadu and the Netherlands.
- Observations about how project development takes place in these different settings.

The first step is to collect data about the policy interventions that took place in the Netherlands and Tamil Nadu since the first PPP project that took place in the road sector in both environments. We use multiple sources such as documentation, reports and journals related to the PPP environment for road projects in both contexts. While collecting the data we aim at understanding the current configuration for PPP development in the Netherlands and Tamil Nadu, as well as the path taken to reach it.

Secondly, we evaluate the influence of these policy interventions in the institutional environment for an enabling institutional PPP environment. Since there are several ways of delimiting the institutional setting for PPPs (Henisz and Levitt, 2010) (United Nations, 2004), our starting point to observe the institutional environment is Mahalingam's (2011) research which elaborates a framework to display the core functions that institutions must perform within a PPP enabling environment.

The third step is to collect data about specific projects developed in different points of time under dynamic institutional settings. We follow a case study approach to observe how project development takes place. We select eight projects which entail a comparable degree of complexity where uncertainties and risks are an essential part of the project. It is important to highlight that the selected projects for our case studies take place at different moments in time thus institutional capabilities will vary from one point in time to another. Analyzing the milestones and evolution of the PPP environment in the Netherlands and Tamil

Nadu, we also provide an evaluation about how the capabilities have evolved over the years. We evaluate how project outcomes differ depending on the institutional context evolution.

Figure 2 Research steps

To learn about these projects our research plan was as follows:

- First round of interviews in the Netherlands where we got information about 3 projects from 8 experts: 3 project managers, 2 consultants and 3 public officers.
- Second round of interviews in Tamil Nadu where we got information about 4 projects from 7 experts: 2 project managers, 3 consultants and 2 public officers.
- While gathering the information, we decided to include the Wijkertunnel project and got the data through secondary data analysis since we consider that its project's outcomes would allow us to make observations consistent with our research approach.

Given our observations, we identify how the Netherlands and Tamil Nadu's institutional environments evolved differently hence their project outcomes differ over time. These research findings result in recommendations for policymakers in Tamil Nadu and the Netherlands.

1.3.4. Research scope

The research scope is the road sector in the Netherlands and Tamil Nadu. Concretely, we focus on the situation involving the Dutch central government and the government of Tamil Nadu for projects.

Nevertheless, PPP development in Tamil Nadu does not correspond to the situation in the rest of Indian states. This research does not attempt to give a complete depiction of PPP development in India.

There are two different types of projects in the state of Tamil Nadu: projects at the national level developed by the Government of India and projects at the state level launched by the Government of Tamil Nadu. The actors, context and conditions under which projects are developed differ and we focus on projects developed under the authority of the Government of Tamil Nadu to understand better the dynamics in this environment.

The rationale behind selecting Tamil Nadu for this research is the fact that Tamil Nadu and the Netherlands have relatively similar project volume and age implementing PPPs in the road sector.

1.3.5. Research framework

Figure 3 displays the research strategy following the methodology presented in sub-section 1.3.3. This research is divided in four blocks. The first block includes the definitions and theoretical framework employed to examine the institutional environment for PPP development in road projects. This block provides a framework to operationalize our empirical results included in the next block.

The second block includes the outcome of our empirical research through secondary and primary data analysis. both at the institutional and project level, following the categorization of Figure 2. These outcomes are the input for the research analysis included in the third block.

The third block contains the analysis of the research results and depicts our findings about the influence of the institutional setting in project development in two different environments. The last block contains recommendations and conclusions for policy makers to create an enabling environment for PPP development.

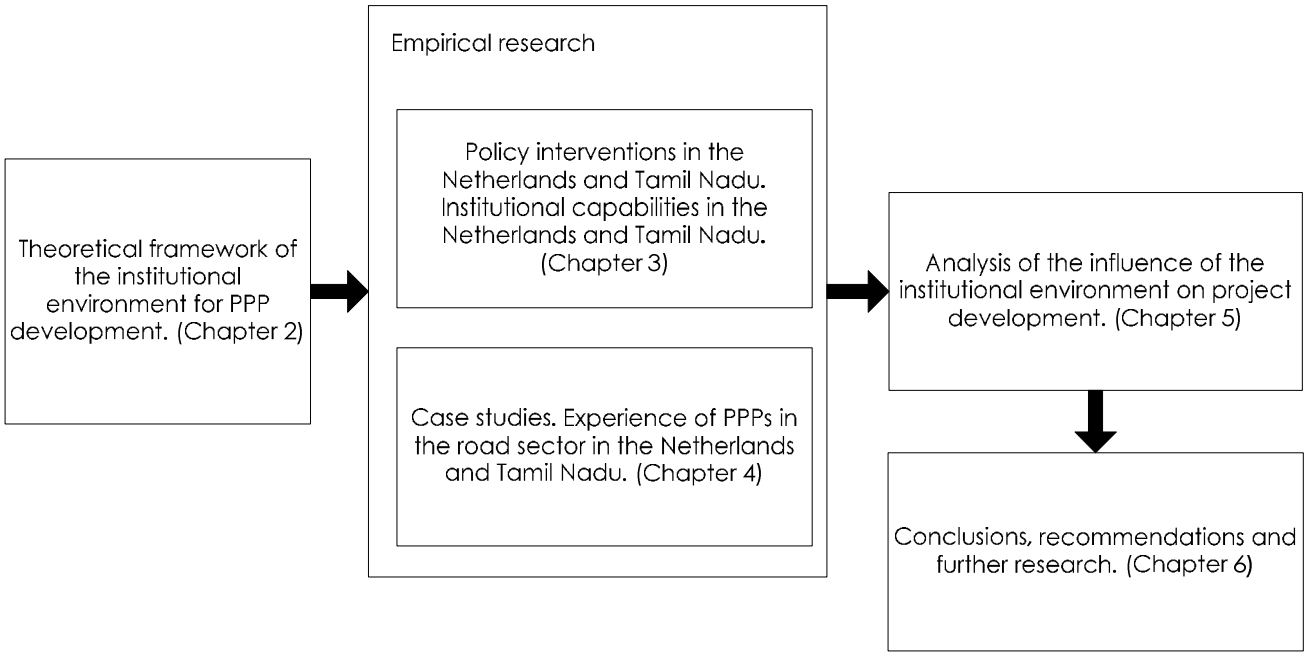


Figure 3 Project scheme

1.4. Reader's guide

The present chapter introduces the background and motivation for this research. Chapter 2 presents the theoretical underpinnings to describe and categorize the institutional capabilities. Chapter 3 presents the results obtained through secondary data analysis about policy interventions in the Netherlands and Tamil Nadu affecting the institutional environment for PPP development. It also includes a description of the existing institutional capabilities in both contexts. Chapter 4 shows the results of our case studies, depicting the experience of PPPs in the road sector in the Netherlands and Tamil Nadu. Chapter 5 presents the analysis of our results with the purpose of discuss the influence of the institutional environment in project development. Chapter 6 presents conclusions based on the discussion of our results. We

elaborate recommendations for policymakers in the Netherlands and Tamil Nadu in chapter 7. Chapter 8 presents this research's limitations and proposes further research.

PART II. Theoretical framework

2. PPPs and the institutional environment

PPPs are long term contractual agreements which entail technical and managerial complexity. These contractual arrangements normally involve a multitude of stakeholders with different interests that are essential to control. Delhi (2011) states that the institutional contexts where these projects take place have an impact on the sustainability and the success of these projects. At the same time, different institutional contexts influence how governments implement PPPs and their outcome. In this research we examine the institutional environment where projects take place in the Netherlands and Tamil Nadu hence we need a framework to provide an analysis of these contexts. We employ the framework proposed by Mahalingam (2011) as it allows us to categorize different institutional capabilities. Through this classification, it is possible to operationalize our findings.

This chapter presents the proposed categorization of the institutional capabilities by Mahalingam (2011) which serves as a framework for our research.

2.1. Institutional capabilities for PPP development

According to Mahalingam (2011), institutional capabilities are the guidelines to achieve a coherent PPP policy, strong enabling institutions, cooperative risk sharing and mutual support, transparency in partner selection, achieving sustainable development "putting people first" and providing a clear legal framework that is "fewer, better, simpler" (Stancic, 2009).

PPPs introduce technical expertise to the development and management of infrastructure assets. Recent work has confirmed that rather than overcoming institutional capacity constraints, PPPs require a variety of new types of institutional capacity (Jooste, Levitt, & Scott, 2009). Mahalingam (2011) develops a framework drawing attention to the key capabilities needed for a PPP enabling environment, categorizing the institutional capabilities in: legitimization, trust, and capacity. In his perspective, these capabilities are interrelated in a way that they are necessary to set the stage for other capabilities to evolve. Mahalingam (2011) affirms that a legitimated programmatic approach will increase confidence within public and private sectors and promote willingness to undertake PPPs. This way, the trust factor will be strengthened, leading to the maturity of a transparent and competitive environment for PPPs. Once the programmatic approach is established, capacity building in the government is essential to manage a high-volume of PPP projects. Capacity building, in the presence of the previous factors will lead to a propitious environment to identify, structure and govern PPP projects (Mahalingam, 2011).

Figure 4 displays the framework proposed by Mahalingam (2011), introducing the institutional enabling categories and their respective institutional capabilities which we will describe in detail in the coming sub-chapters.

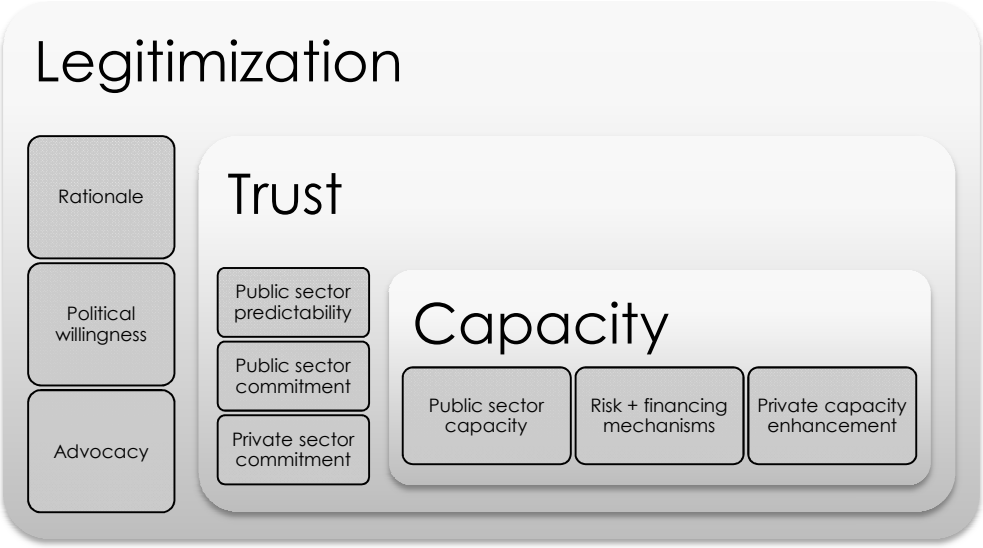


Figure 4 Institutional capabilities for PPP development (Mahalingam, 2011)

Following Mahalingam's (2011) work, we group institutional capabilities in: legitimization, trust, and capacity. However, we do not consider a hierarchical relationship between the categories; we present a framework where legitimization, trust and capacity represent three dimensions for PPP development as shown in figure 5.

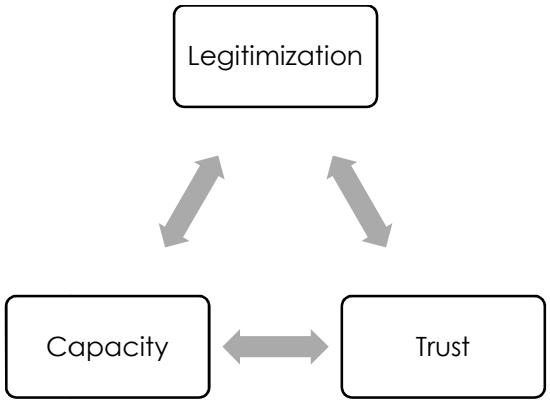


Figure 5 Institutional categories and proposed relationship

In the next sub-chapter, we describe these capabilities and their respective categorizations.

2.2. Legitimization

According to the Oxford Dictionary, legitimization is *the route of making something acceptable and normative to an audience, usually by making it conforming to the law or existing rules*. For PPP implementation, legitimization embraces the acceptance of public and private actors towards PPPs in a specific environment. Legitimating PPPs clarifies expectations among stakeholders. It creates belief and recognition of the potential VfM from PPPs and prevents misunderstandings and unrealistic expectations about PPPs (Mahalingam, 2011). According to Mahalingam (2011), having a clear rationale, political willingness and advocacy are the key capabilities to legitimate PPPs in a specific context.

2.2.1. Clear rationale

Mahalingam (2011) states that the first action to legitimate PPPs is to have a clear rationale for PPPs, including the expected benefits and in which conditions they are preferred to traditional infrastructure provision. The rationale that a government pursues from PPPs captures its degree of understanding about PPPs. This type of projects are not a magic tool to

solve funding and inefficiency problems in project development. PPPs need even more understanding about infrastructure development and the context where projects take place than traditional contracts. The rationale behind PPPs has to fit in the project's setting to promote public sector capacity and create a propitious environment where both the public and private sectors have enough confidence to invest and cooperate together. Mahalingam (2011) affirms that this can be achieved by the existence of policy guidelines, PPP indicators to identify potential projects for PPP and standard operating procedures. If the rationale behind PPPs is adequate for the environment, projects will be more likely to succeed.

2.2.2. Political willingness

Political willingness will promote a pro-active attitude to start PPPs ensuring program solidity. Investors need the certainty that the next government will not discontinue PPP support in case of elections. Political willingness will support predictability of decision making to create trustworthy boundaries on the decisions (Mahalingam, 2011). Especially at the beginning, the government has to move forward the process despite opposition from political or social sectors. Governments must decide what use they wish to make of PPPs, to identify projects and ensure they have the capabilities to procure them in an efficient manner. A project will have a greater chance of being realized as a PPP if it is supported and promoted by a strong "political champion". A "political champion" is someone at a high political level who is committed to make the PPP take place (Government of India, 2011).

The existence of a PPP Unit is important for PPP legitimization since it will create a belief and credit of the potential benefits and VfM from private sector involvement (World Bank, 2011). Governments establish PPP Units as a new agency or within a ministry such as the Ministry of Finance as a point of coordination, quality control, accountability and information related to PPPs. For private proponents, the units provide transparency and consistency. For public stakeholders, the unit is able to disseminate information and provide specialized management of a specialized process (Asian Development Bank, 2008). PPP units will largely depend in the overall legal and administrative framework. There will be environments in which PPP Units play an active role in the preparation and execution of projects, while in another environment; a PPP Unit will merely be an advisor.

We measure political willingness in our specific contexts by evaluating the existence of a political champion, the environment's project portfolio and the existence of PPP related policies.

2.2.3. Advocacy

According to Mahalingam (2011), an enabling environment is a setting where all important stakeholders are convinced and well-informed and governments make effective communication strategies available to accomplish this purpose (Mahalingam, 2011). Early incorporation of important stakeholders provide valuable information about points of concern, performance expectations, and potential risks when implementing PPPs. It also helps to prevent stakeholders from oversights of financial consequences derived from contractual changes. Constant consultation with stakeholders is important at every stage (Asian Development Bank, 2008).

Henisz and Levitt (2009) consider that despite the fact that "fair processes" for decision making are lengthier and tend to require more frequent iteration and revision of initial plans, the benefits of early incorporation exceeds the delay it might cause. Besides, late incorporation takes up much time because parties have to learn how to work with the contract during the process. According to the World Bank (2011), failing to achieve the buy-in

of stakeholders until late in the process and then trying to convince them of the merits of previous decisions is *a recipe for delay*.

Consultation with potential bidders and partners is also important to launch a realistic project. Otherwise, there is a risk that the PPP design includes an unrealistic combination of politically desirable features (in terms of availability, prices, time, etc.) that will make the project unattractive to bidders or unsustainable. It also may generate opposition leading to delays or even cancellation. Therefore, collecting informal feedback from the market during the preparation stage is convenient (Asian Development Bank, 2008).

2.3. Trust

Trust is *a disposition and attitude relating to the willingness to rely on the actions of other actors, under the condition of contractual and social obligations with a prospective for collaboration* (Smyth & Pryke, 2008). Trust includes the expectations that a party can be relied on to carry out its obligations, to perform in a predictable way and to proceed and negotiate even when there is room for opportunism (Zaheer, McEvily, & Perrone, 1998). According to some authors (Weston & Gibson, 1993) (Dewulf & Kadefors, 2010) (Wilson., Songer, & Diekmann, 1995), working on a partnership encourages actors to change their adversarial associations to a more team-based approach by developing a team attitude that generate competence for the project. Therefore, trust represents normative and cognitive orientations towards PPPs in an environment (Dewulf, Mahalingam & Jooste, 2011). In this research, we analyze the formal mechanisms that foster trust between public and private actors by means of standards and mechanisms implemented by the government. According to Mahalingam (2011), public sector predictability and ensuring public and private sectors commitment during project development are the key capabilities to foster collaboration.

2.3.1. Public sector predictability

When relevant procedures consist of too much paperwork and are too bureaucratic, it leads to misunderstandings and waste of time and energy. Unclear contract clauses have a negative influence on the degree of cooperation within the project. Typical problems are operators that fail to comply with contractual obligations and high incidences of contract renegotiation, poorly drafted contracts, bidding processes that encourage very aggressive tendering, under-resourced regulatory bodies (often a disadvantage to the private operators with respect to the necessary information), and difficulties of enforcement (World Bank, 2011) (Iossa, Spagnolo, & Vellez, 2007).

PPP projects require sound policies that lay down clear objectives and principles. PPP policies allow governments to identify projects, set realistic targets, and the means of achieving them with the plan of getting the support of the population for the PPP project (United Nations, 2008). Besides, governments have to encourage transparency and fairness during project procurement and selection. Governments can carry out diverse actions to foster predictability among parties involved in a PPP project. They can increase predictability in decision making by developing transparent, well documented and consistent policymaking processes for the project's lifecycle. Carrying out the project in a transparent manner also means a competitive bidding process, making the information readily available for everyone interested, and involving the public in the consultation processes (Government of India, 2011). According to Mahalingam (2011), these actions generate credibility for the PPP program and give confidence to all parties involved.

We measure public sector predictability in decision making processes by evaluating the existence of guidance documents for project development (standard documents, model contract and project preparation guidelines) and clarity about the decision making departments and project development responsibility.

2.3.2. Public sector commitment

Investors are concerned that the contract provisions can be enforced as written (ACAP, 2007) hence they require predictability and protection in legal frameworks, preferably through *fewer, simpler and better rules* (UNECE, 2007). In addition, the legal framework needs to take account of the beneficiaries (tax-payers) and empower them to participate in legal processes, protecting their rights and guaranteeing them admittance in decision-making (United Nations, 2008). How regulations are applied and enforced is as important as the content of these regulations. Governments have to ensure contract enforcement and implement business friendly clauses which put emphasis on helping business to comply with rules and become real partners (United Nations, 2008).

2.3.3. Private sector commitment

Monitoring and public capacity to manage projects plays a key function to ensure private sector commitment. According to Mahalingam (2011), project contracts and structures should be planned to enforce private sector commitment to provide service quality at a cost. A contract has to be enforceable and based on clear laws to ensure private and public commitment. This way, public and private parties will be bound to the decisions made.

2.4. Capacity

According to the Oxford dictionary, capacity is *the ability or power to do or understand something.* Capacity to undertake PPPs will strengthen the ability to structure and govern PPP projects, being essential for PPP development (Mahalingam, 2011). Launching a PPP project requires public agencies to adopt a new role and acquire specific expertise at several levels. Mahalingam (2011) affirms that governments have to build the necessary capacities in order to increase public and private sector capacity and identify appropriate risk and financing mechanisms to effectively award and govern PPP projects.

2.4.1. Public sector capacity

Governments can develop PPP capacity by developing national PPP training programs to foster in-house knowledge, offer national PPP training programs and guidelines (Stancic, 2009). For countries getting started in PPPs, it is essential to ensure the necessary skills by hiring external advisers with relevant experience to contribute to the PPP pool (United Nations, 2008). Once the environment is more mature, it is important that governments invest in in-house knowledge and the acquired expertise remains in the organization. Capacity comes in several forms (Iossa, Spagnolo, & Vellez, 2007) (Mahalingam, 2011):

- Standardized, legitimate processes and procedures which reduce the possibility for political interference.
- Norms and procedures for project identification and approval.
- Standard contracts, with flexible conditions that allow for renegotiation in case of changing project circumstances.
- Standard bidding and award procedures and transparent mechanisms to govern projects such as procedures for equitable risk allocation, effective and efficient dispute resolution mechanisms, etc.

- Constitution of a board of officials to monitor the concession.

2.4.2. Risk and financing

According to State of Victoria (2001), *risk is the chance of an event occurring which would cause actual project circumstances to differ from those assumed when forecasting project benefit and costs* (Department of Treasury and Finance, State of Victoria, 2001). In theory, the party best able to manage a risk should bear it (Iossa, Spagnolo, & Vellez, Contract Design in Public-Private Partnerships, 2007) allowing PPPs to reduce project related costs and enhance VfM. In practice, risks are usually allocated through legal instruments, partially through statutes and partially through the negotiation of legal arrangements that represent the project (ACAP, 2007). Parties can discuss risk allocation and influence negotiations by the level of information they have about present and future events affecting the project (Government of India, 2011). It is, therefore, necessary that governments possess the expertise and mechanisms to fairly allocate risks.

Besides, governments should have a consistent source of funds to ensure that projects are economically viable; the skill to recognize financial risks falls under structuring PPP know-how (Mahalingam, 2011). On financing PPPs and avoiding excessive debts, information on the size of financial transfers made into the project by the state should be open and accounted for. Funding initiatives such as "project development funds", "viability gap funds" or "infrastructure funds" can boost private investment and financing. These funds usually need to be coordinated via the PPP Unit (Government of India, 2011).

2.4.3. Private sector capacity enhancement

Successful PPPs have a good level of competition with a number of prospective private parties actively participating in the PPP market, possessing the technical and financial skills to embark on the project (Government of India, 2011).

Nevertheless, the existence of private sector proficiency is not enough to guarantee that competent companies will participate in PPPs. There are cases where fragile institutions catch the attention of private enterprises who are better at political cover than service provision (Mahalingam, 2011). Therefore, it is the responsibility of the government to provide an environment where private companies can perform effectively, bringing the expected efficiency gains through PPP development.

It is important that the government engages with the business community in establishing partnerships (United Nations, 2008) given that limitations in the private sector capacity also cause bottlenecks for PPP development. In times of financial instability, the market might be incapable to mobilize finances and the government has to create confidence and support to solve the difficulties in a joint effort.

2.5. Operationalization of the institutional capabilities

Throughout this section, we have defined the institutional capabilities that we employ to analyze the institutional environment in the Netherlands and Tamil Nadu. Table 1 displays a summary of the variables we evaluate to categorize and analyze the policy interventions that directly affect our proposed institutional capabilities.

Table 1 Variables related to the institutional capabilities

LEGITIMIZATION	
Rationale	
Political willingness	
	Political champion
	Project portfolio
	PPP policies
Advocacy	
	Public consultation
TRUST	
Public sector predictability	
	Decision making departments
Guidance documents:	• Project preparation and identification guidelines • Standard documents • Model contract
	Project development responsibility
Public sector commitment	
	Established regulatory agency
	Standard dispute resolution mechanisms
	Cooperation platforms
Private sector commitment	
	Project monitoring
	Cooperation platforms
CAPACITY	
Public sector capacity	
	In house PPP knowledge
	Training programs-workshops
	Cross project knowledge
	Guidance notes
Risk and financing mechanisms	
	Standard risk allocation mechanisms
	Type of contract
	State support funding
Private sector capacity enhancement	
	Competitive bidding
	Cooperation

Part III. Research results

3. Research results

To characterize the institutional environment for PPP development in the Netherlands and Tamil Nadu, we first describe the PPP policy interventions that took place in both environments, emphasizing milestones and events which modified the environment for PPP implementation at a certain point of time. With the purpose of evaluating the evolution of the institutional environment and facilitating the subsequent analysis of its influence on project development, we divide the analysis of the policy interventions in three different stages or points in time where the selected case studies took place. We employ the categorization of the main institutional capabilities suggested by Mahalingam (2011) to determine the influence of the policy interventions on the institutional environment specific for PPP.

3.1. Evolution of policy interventions in the Netherlands

Through secondary data analysis, we analyze the evolution of policy interventions in the Netherlands and its influence in the institutional context for PPP development during three different stages, coinciding with the time where our selected case studies took place, as displayed in Figure 6. We obtained the data from government reports, previous academic papers analyzing the Dutch context for PPP development, and articles in the media.

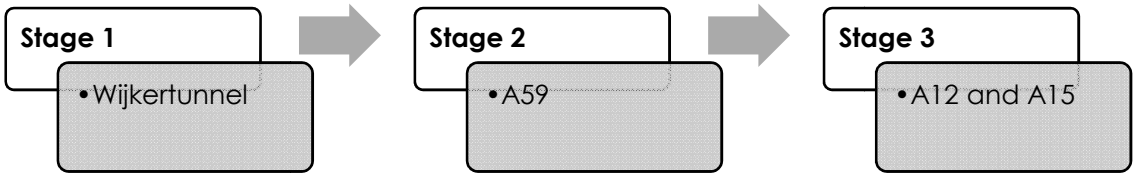


Figure 6 Stages for PPP development and Dutch case studies for each stage.

3.1.1. Stage 1. Introduction of PPP in the Netherlands

In 1980's, the Dutch government mentioned PPPs for the first time as a concept imported from the UK: "*a new form of public private cooperation at different levels of government which will aim to increase the volume of investment*" (Klijn E.-H. , 2009). The main rationale at that time was to bring funds from the private sector. Despite initial high expectations, PPP implementation was stagnant during the first implementation stages (Koppenjan J. F., 2005).

After these political statements, the Dutch government launched two PPPs in the early 90's: the Wijkertunnel and Noordtunnel. Public funding was scarce and the government aimed to bring private capital to improve the national infrastructure and make the projects possible (van Ham & Koppenjan, 2001). However, the government did not possess enough capacity to launch PPPs at that time and the projects' structure and demand forecasts were not appropriate (European Commission, 2004) (Klijn E.-H. , 2009). Consequently, when the Dutch National Court of Audit evaluated the projects' outcomes, they claimed that they were more expensive than developed through public finance: 21% more expensive for the Noordtunnel and 41% for the Wijkertunnel (van Ham & Koppenjan, 2001). On its part, the Ministry of Transport estimated that the additional costs for the Wijkertunnel were about 8.5% (Korving & Veld, 1998).

After these experiences, the government's interest in PPP went considerably down and they did not mention PPPs until 1998. In those years, the government was confronted with insufficient public funds to meet the infrastructure investment thus private participation was put on the political agenda (Bult-Spiering & Dewulf, 2006) (Koppenjan J. F., 2005). The government identified a number of projects where the private sector could be involved: the

A4 Delft-Schiedam, the A59 Geffen-Oss, the N31 Leeuwarden-Drachten and the N31 Hilversum-Haarlem), the second Maasvlakte (expansion of the Rotterdam dockland area through land reclamation), the Betuwe Lijn (a new railway for the transport of goods between the Port of Rotterdam and Germany), and high-speed railways between Amsterdam and the Belgian and German borders including the development of various high-speed railway stations (Koppenjan J. F., 2005).

3.1.2. Stage 2. PPS Kenniscentrum and VfM

In 1998 the government wrote the report "*More value through cooperation*" (Dutch Ministry of Finance, 1998) where the central government evaluated international experiences with PPPs and, based on this information, formulated conditions for a successful partnership (Klijn E.-H. , 2009). As a result of these political statements and the increasing political willingness to implement PPPs in the Netherlands, the Ministry of Finance created the PPP Unit (*PPP Kenniscentrum)* and elaborated a PPP policy in 1999. The Dutch government established the *PPP Kenniscentrum* to start and encourage PPPs, advising government agencies and providing private companies with general information regarding PPPs (Bult-Spiering & Dewulf, 2006).

The first PPP policy in the Netherlands included conditions for PPP success, emphasizing political support, guidelines and standards for contract and procedures, actions for market consultation, and instruments to compare PPP to the traditional approach to justify the use of them. The main goal of the government at that time was to improve the incentive structures for the use of PPP in the country (van Marken, 2001). Moreover, the government stressed the importance of VfM to improve infrastructure efficiency (Bult-Spiering & Dewulf, 2006). Right after its creation, the *PPS Kenniscentrum* had been committed to assess the evolution for PPP development in the country, evaluating the main problems and their potential causes.

In 2001, the *PPS Kenniscentrum* emphasized the need to align objectives in public agencies and to create public capacity to structure and formulate clear and functionally specific outputs (Kenniscentrum PPS, 2001). These actions contributed to build public support for PPPs through better knowledge dissemination, hence strengthening advocacy and changing the government's rationale towards achieving VfM through PPPs. In 2001, RWS launched the tender for the N31 (Rijkwaterstaat, 2011) and the Province of Noord Brabant launched the A59 through a DBFM contract with RWS's collaboration (Deloitte, 2003). These pilot projects were very important for PPP development since the government aimed at evaluating projects' outcomes to put in practice their PPP policy and reaffirm the image of PPP in the Netherlands. During interviews, our respondents stated that the forecast was that, if these projects were successful, PPP support would grow in the Netherlands.

Aiming at getting VfM and adopting a more integrated approach for infrastructure development, the government decided to start using DBFM contracts (Horchner & Ham, 2003). The A59 was launched by the Province of Noord Brabant but the Dutch central government participated during the contract preparation. Being the first DBFM in the country, the government hired advisors from the UK to help the Dutch government to draft the contract and learn from experiences in the UK (Deloitte, 2003). This was expensive and time consuming since the documents needed to be translated to Dutch (Koster, 2005). Besides, bringing the English schemes was not efficient since UK contracts are based on common law whereas Dutch contracts are based on civil law, so the first contracts were structured along English contractual clauses although the Dutch law was applied (Koster, 2005). Nevertheless, our interviewees working for the Dutch government affirmed that the contract for the A59 served as the first step to develop the standard DBFM contract, based on Dutch civil law culture, more open and simple.

Right after the A59, the government understood the importance of goal alignment and cooperation for PPP development (Deloitte, 2003) (Provincie Noord-Brabant, 2006). Besides, they identified that project inefficiencies during the A59 captured the need to improve public capacity to successfully launch more PPPs in the country. The government analyzed A59's inefficiencies in the "evaluation report" of the project (Deloitte, 2003). These initiatives contributed to increase public capacity based on project experiences, so that the government could implement a PPP program adapted to the Dutch necessities.

The *PPS Kenniscentrum*, considering that the Dutch government was not taking advantage of the full potential of PPPs, emphasized the importance of providing a project portfolio to learn based on experience (Kenniscentrum, 2002). After 2002, the PPP Unit's message was to encourage the use of PPPs and to provide an appropriate project portfolio to generate knowledge and improve capacity in both public and private sides. The *PPS Kenniscentrum* affirmed that the number of projects was scarce; a fact that increased transaction costs and made learning complex (Kenniscentrum, 2002).

In 2002, the government published guidelines for the use of the Public Private Comparator (PPC)[1] and Public Sector Comparator (PSC)[2] to ensure VfM and project suitability for PPPs (Kenniscentrum PPS, 2002). This way, the government aimed at providing confidence to private investors and different levels of government.

In 2004, the European Commission published the Green Paper (European Commission, 2004) addressing various topics associated to the public procurement of PPPs, particularly the framework for the procedures of selection of private partners and the advantages of the *competitive dialogue procedure*[3]. Since that year, the competitive dialogue is part of the procurement instruments available to the contracting authority as far as member states have opted for implementation of that scheme (Nagelkerke, van Rijn, & van Valkenburg, 2008). The Dutch government adopted the competitive dialogue procedure since the DBFM structure is complex enough to justify its use and nowadays its use is much more extended in the Netherlands. Before the competitive dialogue, the Dutch government used the negotiated procedure with prior notification to tender PFI/PPP contracts (Nagelkerke M. , van Rijn, Huith, & van Valkenburg, 2008)

[1]Prior to procurement, the Dutch government calculates the PPC. It is a typical Dutch financial assessment tool to determine whether there is an added value for an infrastructure project in the form of PPPs on a DBFM contract compared to traditional procurement (Eversdijk, van Beek, & Smits, 2008).

[2] During the tender phase and once the Dutch government makes sure there is enough budget available for the project, the PSC is calculated to ensure VfM for the project (Eversdijk, van Beek, & Smits, 2008). The government aims at achieving two goals (Rijksoverheid, 2009): to provide an overview of the total costs during the project lifecycle and be a reference for a comparison with the final tenders. The PSC outcomes reveal whether the tenders are financially more profitable than the public sector developing the asset.

[3] The competitive dialogue is a procurement procedure which aims at preserving competition and allowing the contracting authorities to discuss aspect of the contract with the bidders (Rijksoverheid, 2009). The competitive dialogue procedure allows for pre-bid individual negotiation with selected bidders, which makes it different from the common open or restricted procedure. The government and the bidder appoint in a dialogue over the public requests and the proposed private solution (Lenferink, Arts, & Tillema, 2010). Involving bidders at early stages of the project promotes cooperation about essential contract aspects like risk allocation (European Commission, 2004).

Since 2004, the Dutch government has procured large infrastructure projects in the road sector through competitive dialogue[4]. Developing norms and procedures for project identification and approval, as well as standardizing procurement, the Dutch government contributed to increase public sector predictability for PPP decision making, a fact that would positively increase private sector confidence to embark on a PPP project with RWS.

Up to 2005, the only projects that proved to be successfully implemented through PPP were the high-speed rail between Amsterdam and the Belgian border, the Sijtwende project (road and real estate development), the A59 and the N31 (Koppenjan J. F., 2005). This project scarcity encouraged the government to analyze the causes and prospective remedies for this slow development. There was little understanding about the problems and the manner to solve them. The *PPS Kenniscentrum* expressed the need of moving from an *incidental to a structural* application of PPPs in the PPP progress report in 2004 (Kenniscentrum, 2004).

In 2005, the Dutch government published the report *Nota Mobiliteit* (Ministerie van Verkeer en Waterstaat, 2005) where the government stressed the strong relationship between transportation and spatial planning policies given that environment, spatial quality, and social needs are interlinked in infrastructure development. This report reaffirmed the so called *Tracéwet* (Dutch Infrastructure Planning Act) which is in effect since 1994 (Hobma & Koning, 2010). This Act includes significant aspects of environmental and planning law to make planning tools available for decision making. It also gives the government power to make decisions on plans and projects over other actors at other levels and sectors like land use and environmental planning (Hobma & Koning, 2010). The *Nota Mobiliteit* report not only focused on the role of planning in infrastructure but also emphasized the importance of a clear procurement strategy for PPPs and a definition of core government, the benefits of early market involvement and capacity in the government to ensure lifecycle knowledge, the necessity to ensure social accountability by procedures like the *Route Determination,* and the urgency to avoid high transaction costs (Ministerie van Verkeer en Waterstaat, 2005). Again, this political statement contributed to reaffirm political willingness and create confidence for PPP development in the Netherlands. Besides, combining PPPs with mechanisms like the *Route Determination* improves advocacy since it combines project planning with public consultation.

In 2005, the Dutch government put in practice initiatives to systematize and standardize mechanisms to manage PPPs. Now, the government prescribed to calculate the PPC for all projects above 112.5 million euro (Kenniscentrum, 2005). In case of positive results, the Dutch government would use the DBFM contract (Kenniscentrum, 2005). The main efforts aimed at increasing government's efficiency by standardizing procedures and documents based on the experience of pilot projects like the A59. These first projects served as the first step towards a more programmatic approach for PPP development. This way, the government attempted to reduce transaction costs and times of completion (Kenniscentrum, 2005) by increasing public sector capacity and predictability. Besides, in 2005, the Dutch government introduced the concept of *listed risks*[5] (Bos, 2009) to provide a fair mechanism to discuss about the potential risks during procurement. This helped both private and public parties obtain appropriate insight into the risks, their magnitude, and the probability that they will emerge

[4] For instance the 2nd Coen Tunnel, the A12 and A15 (Rijkwaterstaat, 2011).

[5] Listed risks are risks that have a direct impact on the project. They are distributed during the dialogue between the government and private parties. If the private party decides not to bear the risk, the value of the bid will increase whereas if the risk is taken by the private company, the government compensates the PSC (Rijkswaterstaat, 2010)

before construction. This way, RWS established a transparent method for risk allocation where both private and public parties can negotiate risk allocation for the project's benefit.

In December 2005, RWS launched the 2nd Coen Tunnel project. This project introduced several innovative procedures, not only because of its size and complexity but because it was the first DBFM project in the Netherlands procured through competitive dialogue (Lenferink, Arts, & Tillema, 2010). This project showed that with increasing interaction, private parties gain a better understanding of public needs and the government can receive better "grounded" and realizable bids (Van den Brink, 2009). Besides, given the government's priority to promote early market involvement included in the *Nota Mobiliteit*, the 2nd Coen Tunnel was one of the first projects where the *Route Determination* and procurement were developed in parallel (Lenferink & Arts, 2009). Therefore, this project captured the government's goal to increase public capacity to enhance private sector capacity and advocacy for project development.

3.1.3. Stage 3. The Dutch policy interventions and a new generation of PPPs.

In 2006, the government decided to alter the role of the *PPS Kenniscentrum* by making it a part of the Ministry of Finance. Its name changed to *PPS Asset Management* and its function changed to elaborate regulations and guidelines for PPP development in the Netherlands (Ministerie van Financiën, 2006). As a consequence, it no longer performed its promotional role. For this purpose, RWS, in its eagerness to increase public capacity, created the *PPS Kennispool* (PPP Knowledge Pool). The *PPS Kennispool* has extensive knowledge about PPP projects, and ensures that knowledge is not lost. The advisors ensure that the knowledge about PPP is utilized in new projects and, in particular, is passed on to all parties involved. The PPP Knowledge pool also develops tools to help implement PPP properly, such as added value assessments and standard contracts, and it reports the results to the House of Representatives. Advisors from the *PPS Kennispool* cooperate with other ministries, businesses and foreign authorities in order to share knowledge (Rijkwaterstaat, 2011).

In 2008, the Dutch government published a report analyzing private financing of infrastructure in the country (Ruding, 2008). In this report, the Dutch government stated that the existent Dutch policy at that time was not sufficiently transparent for the choice of PPPs. The government highlighted that the major barriers at that time were high transaction costs, a lack of experience and continuity in the public side and lack of political commitment at different levels of government. At that time, the government urged all departments to implement measures to overcome these barriers. In this year, the government published the DBFM handbook (Ministerie van Financiën , 2008) to help all governmental departments to be familiar with the contract. Due to the model's novelty in the country and its complexity, the handbook aimed at providing a picture of the main components of a DBFM and how the government handles contractual issues in practice.

In 2009, the government published the standard DBFM contract (Rijkswaterstaat, 2009)based on the knowledge and experience gained in previous projects that is currently used for PPP projects in the road sector. The same year, the government also published the guide for competitive dialogue (Rijksoverheid, 2009), to be used for public agencies in order to understand the different steps, procedures and decisions to be made during procurement.

At the end of 2009, the government launched the tender for the projects A12 and A15, also procured though competitive dialogue and learning from the 2nd Coen Tunnel experience. RWS is nowadays moving from a dominant, closed and inward-oriented organization towards a more transparent, customer-oriented facilitator (Van den Brink, 2009). This business attitude is evident in their motto: "market unless" (Rijkswaterstaat, 2008). For RWS, infrastructure assets

are not anymore a product but a service which is the main rationale for them to use the DBFM contract. Nowadays, increasing the number of projects and keeping a good project portfolio is the government's main priority. They also consider lowering the threshold above a comparison of public and private funding which implies that local governments will also consider PPPs.

In this section we have explored the policy interventions related to PPP during the last two decades in the Netherlands. Table 2 displays a summary of our findings.

Table 2 Summary of policy interventions in the Netherlands

	POLICY INTERVENTIONS IN THE NETHERLANDS	PROJECT EVENTS	
1990	First time mentioning PPP imported from the UK.		1ST STAGE
1995			
1996		Start operations of Wijkertunnel.	
1998	Government report "More value through cooperation".		
1999-2000	Creation of PPP Knowledge Center to promote PPPs. Establishment of policy framework for PPPs.		
2001	Creation of first DBFM contract based on the UK model. PPP Unit emphasizes the need for goal alignment in the public sector and to be output oriented.	Launch Tender A59.	2ND STAGE
2002	Publication of guidelines for PPC and PSC.		
2003		Start construction of A59.	
2004	Publication of Green Paper European Union for PPs. Competitive dialogue for large infrastructure projects.		
2005	Publication of the Nota Mobiliteit for infrastructure planning. PPC mandatory for all projects above 112.5 million euro to use DBFM. Introduction listed risks.	December: Launch tender for 2nd Coen Tunnel. First Competitive dialogue project. Finalization of A59	
2006	Change in the PPP Unit. Emphasis on keeping knowledge in house.		3RD STAGE
2007			
2008	Ruding report for private finance. Publication Handbook for DBFM contract.	Award 2nd Coen Tunnel. Launch A15.	
2009	Publication standard DBFM. Publication procedure for competitive dialogue.	Start construction 2nd Coen Tunnel. Launch tenders A12 and A15.	
2010	Publication of updated guideline for PPC "Better and Easier".	Award A12 and A15.	

3.2. Capabilities Netherlands

In the previous chapter we have analyzed the policy interventions during the last two decades that have affected PPP development in the Netherlands. We divided this timeline in three different stages, corresponding with points of time where our case studies took place. In table 3 we summarize the influence of the policy interventions in the institutional capabilities. Since stage 2 includes a decade of interventions and the Dutch institutional environment evolved considerably, table 3 displays the situation at the point of time when the project A59 (included in our case studies) took place.

In this section, we describe in detail the institutional capabilities following the categorization established by Mahalingam (2011). The information provided and the capabilities' evaluation is based on the description provided in the previous section obtained through secondary data analysis.

Table 3 Evolution of the institutional capabilities through in the Dutch environment

LEGITIMIZATION		1st stage 1990-2000	2nd stage 2001-2005	3rd stage 2006-2011
Rationale				
		Project urgency	Project urgency and VfM	VfM
Political willingness				
	Political champion	No mechanisms	PPS Kenniscentrum	PPS Kennispool
	Project portfolio	No mechanisms	First DBFM in the Netherlands N31	Improved project portfolio: 2nd Coen Tunnel, A12, A15, N33, Schiphol-Amsterdam-Almere Projects included in the *Urgency Approach*.
	PPP policies	No mechanisms	First PPP Policy. Nota Mobilitieit. Ruding Report. Active PPP Unit.	Active PPP Unit. Publication guidelines, procedures, standard documents.
Advocacy				
	Public consultation	No data	*Route Determination*. Public consultation.	*Route Determination*. Public consultation. Early market involvement.
TRUST				
Public sector predictability				
	Decision making departments	Ministry of Finance, Ministry of Transport and RWS	Ministry of Finance, Ministry of Transport and RWS	Ministry of Finance, Ministry of Transport and RWS
	Project development responsibility	RWS	RWS	RWS
Guidance documents	Project preparation and identification guidelines	No mechanisms	Project basis	Guidelines PSC and PPC. Market scan.
	Model contract	No mechanisms	First DBFM	Standard DBFM.
	Standard documents	No mechanisms	No mechanisms	Procurement through competitive dialogue
Public sector commitment				
	Established regulatory agency	Dutch civil law Clause "reasonableness and fairness"	Dutch civil law Clause "reasonableness and fairness"	Dutch civil law Clause "reasonableness and fairness"
	Standard dispute	No data	Contract: International dispute	Contract: International dispute

	resolution mechanisms		resolution mechanisms.	resolution mechanisms.
	Cooperation platforms	No data	Alignment meetings. Open debate.	Open debate. Cooperation platforms. Open debate.
Private sector commitment				
	Project monitoring	Contract	DBFM availability based. Strict requirements.	DBFM availability based. Strict requirements.
	Cooperation platforms	No data	Alignment meetings. Open debate.	Open debate. Cooperation platforms. Open debate.
CAPACITY				
Public sector capacity				
	In house PPP knowledge	Consultants hired from the UK	Consultants hired from the UK.	In-house knowledge. Active PPP Unit.
	Training programs-workshops	No mechanisms	No mechanisms	Organized by the PPP Unit.
	Cross project knowledge	No mechanisms	First evaluation report.	Evaluation reports.
	Guidance notes	No mechanisms	No mechanisms	DBFM Handbook. Guidelines for competitive dialogue. Guidelines for PSC and PPC.
Risk and financing mechanisms				
	Standard risk allocation mechanisms	Risks negotiated.	Risks negotiated.	Listed risks.
	Type of contract	BOT Shadow toll.	Availability based DBFM.	Availability based DBFM.
	State support funding	No mechanisms	No mechanisms	No mechanisms
Private sector capacity enhancement				
	Competitive bidding	Competitive procurement	Competitive procurement.	Competitive dialogue. Early market involvement.
	Cooperation	No data	Alignment meetings. Open debate.	Open debate. Cooperation platforms. Open debate.

3.2.1. Legitimization

During the last two decades, the Dutch government has made an effort to legitimate PPPs in the country. Project urgency and the need for private funds were the main motives to introduce PPPs in the Netherlands. However, it is noteworthy that PPP development was rapidly marked by the creation of the PPP Unit, contributing to a more legitimated PPP implementation. As stated by a public officer during our interview with the Dutch PPP Unit in the Netherlands: "*The enthusiasm of the PPP Unit from the very beginning generated confidence among the parties in PPP development*". VfM, an active PPP Unit and public consultation procedures have contributed to a positive PPP legitimization. The next sections provide a brief description of the rationale, political willingness, and advocacy existing in the Dutch environment.

Rationale

In the 1980's, the Dutch government mentioned PPPs for the very first time as a concept imported from the UK: "*a new form of public private cooperation at different levels of government which will aim to increase the volume of investment*" (Klijn E.-H. , 2009). The main rationale at this time was to bring funds from the private sector. After these political statements, PPPs were used for two tunnel projects in the early 90's: Wijkertunnel and Noordtunnel. The goal of the government was to bring private funds to the projects to improve the national infrastructure at a time when public finance was scarce. However, these experiences were not successful and the concept did not foster as expected.

Right after its creation in 1999, the PPP Unit started playing a key role defining the rationale behind PPP. These efforts have improved understanding about PPP development within the public sector. The rationale behind PPPs in the road sector in the Netherlands has been clear up to date: VfM. The government considers that private parties cannot finance a project cheaper than the government, but the involvement of the private sector in projects provides VfM. On their website[6], RWS states that *the purpose of PPP is to obtain added value, i.e. higher quality finished products at the same price or the same quality for less money*. Since the government also pursues efficiency gains through a lifecycle approach, RWS aims to achieve it through DBFM contracts. In recent years, the Dutch government has faced more pressure for financing projects because of the credit crunch (Blanken & Dewulf, 2009); therefore, the Dutch government is promoting PPPs to find alternative financial schemes for the country's infrastructure demands.

Political willingness

In 1999, the Ministry of Finance founded the PPP Unit (*PPS Kenniscentrum*) to promote PPPs, bring PPP knowledge, and elaborate innovative contractual forms and ideas from international experiences imported mainly from the UK. During the first years, the PPP Unit promoted PPP in the country and participated actively in the projects, providing expertise for legal and financial aspects of the contract. In 2006, the PPP Unit changed its role and started being the *PPS Kennispool*, whose main task is to ensure that knowledge is not lost, seeking to use PPP knowledge in new projects and passed on to all parties involved. The *PPS Kennispool* actively collaborates with the private sector, other public authorities and international bodies (such as United Nations Economic Commission for Europe). The PPP Unit in all its forms is committed since its creation to promote and train public officers to understand PPP benefits and the reasons to use them. As a result of this political willingness, the Dutch government has

[6] http://www.ppsbijhetrijk.nl/

published several policy documents which include PPP development as one of their main priorities.

There have been several policy papers and reports elaborated by the government where RWS emphasizes the advantages of *working together* with the private sector to achieve added value in terms of efficiency and higher quality (Tweede Kamer der Staten-Generaal, 2001-2002). In the policy plans "Nota Mobiliteit" (Ministerie van Verkeer en Waterstaat, 2005) the government emphasizes the importance of intensifying the use of PPP in order to improve quality and innovation, as well as providing market continuity and support.

In May 2008, the government published an advisory report for the *Private Financing of Infrastructure* (Ruding, 2008) which again stresses the benefits that PPPs bring for infrastructure development. This advisory report also highlights the significance of combining infrastructure and real estate development to improve the spatial quality of the whole area, given the limited space in the country. This report stresses the potential role of PPPs to achieve this goal. Besides, the government recognized that there were significant barriers to overcome at the time such as high transaction costs, lack of experience and continuity on the public side, as well as a need of political commitment. The government's intentions aimed to increase the number of new PPP projects, aiming to encourage local governments to use the PPP option.

Over recent years, the government has encouraged the knowledge sharing from various pilot projects intended to generate further schemes and providing a reasonable portfolio of PPP projects. Keeping an active portfolio is one of the Dutch government's priorities since RWS considers that knowledge is gained through experience. The government has recently launched a portfolio of new projects for the corridor Schiphol-Amsterdam-Almere as well as another contract for the road N33 for a value of 3231 million and 152 million euro respectively.

Advocacy

Road infrastructure is complex by nature, especially in a country like the Netherlands where population density is very high. There is much to stake in every project. For to this reason, the government takes a key position to manage the external effects linked to road infrastructure. But roads also have local implications which cause the "not in my backyard"[7] effect. However, the Netherlands is very centralized and project development always entails long discussions because the national government has to discuss several aspects with local government who posses more knowledge about specific local issues (Tillema & Arts, 2009).

The *PPS Kennispool* plays a key role disseminating information about ongoing projects and providing data regarding past experiences in PPP which prove VfM was acquired under DBFM contracts. The government has created a website "PPS bij het Rijk"[8] (PPPs and the government) where RWS publishes the last news, publications and projects taking place in the Dutch PPP arena. This proactive distribution of information about PPPs encourages public participation.

Public awareness efforts are one of the pillars of Dutch institutions. There is usually a public consultation before launching a project to understand specific project characteristics based on the Dutch "polder model"[9]. The Netherlands is a small country where most of the

[7] According to the Oxford Dictionary, "not in my backyard effect" refers to *the person or community who objects to the development of something perceived as unpleasant or hazardous in their own neighborhood, especially while raising no such objections to similar developments elsewhere.*

[8] http://www.ppsbijhetrijk.nl/

[9] The polder model is adopted for cases of consensus decision making which are supposedly typically Dutch. It is also known as "cooperation despite differences" (Altamirano, 2010).

construction works that take place directly or indirectly affect other assets where there is much at stake and it is essential to keep stakeholders informed to get the necessary permits and approvals. The Dutch regulatory environment supports advocacy in various ways. During project planning the government always develops the so-called *Route Determination* which gives the authority to make decisions regarding permits and approvals under the Dutch Infrastructure Act. This *Route Determination* includes all potential requirements for the project and attempts to safeguard the interests of residents, the environment, and important stakeholders. Its main key values are openness to the public, public consultation, and advice.

Besides, RWS procures all DBFM projects through competitive dialogue since the launch of the 2nd Coen Tunnel in 2005. Competitive dialogue involves the bidders at early stages of the project, which promotes cooperation and negotiation about essential contract aspects like risk allocation. Increasing interaction, private parties gain a better understanding of public needs and the government can receive better "grounded" and realizable bids (Van den Brink, 2009).

3.2.2. Trust

From the beginning of PPP implementation, the Dutch government has invested time and money in preparing standard documents and guidelines to create a propitious environment during project development in the Netherlands. Standard guidelines for project identification, the creation of a standard contract, as well as a standard procurement schemes are formal mechanisms which increase trust between public and private parties. Besides, Dutch contracts are ruled by Civil Law and include dispute resolution mechanisms and monitoring activities to ensure public and private sector commitment. The next sections provide a brief description of the public sector predictability, public and private sector commitment for PPP development in the Dutch context.

Public sector predictability

Project identification

In order to identify potential PPPs, RWS carries out a market scan to determine how and when the market can best be involved in the development of a project. The Netherlands has instruments to assess PPPs' financial attractiveness, and stimulates thinking about the economic and financial advantages and disadvantages of PPP. The government has developed many indicators to identify projects where the PPP scheme is possible to apply.

In 2002, the Dutch government published guidelines for the use of indicators to ensure VfM. The decision to put a DBFM agreement to tender is based on the Public Private Comparator (PPC). If it reveals that the market's performance of the project will provide added value, then the PPP will be adopted. Following the PPC, the government will calculate the Public Sector Comparator (PSC) to ensure that the project brings VfM.

Project procurement

Competitive dialogue is the procedure followed for procurement, following the European directives. In 2004, the government published a report including the different stages and actions in this procedure. The "Public Procurement Decree" (BAO) does not specify the details of the procurement procedure. The government follows competitive dialogue for procurement and published a guide in 2009 (Rijksoverheid, 2009) to understand the procedure, steps and rationale behind that.

Project development

Large road projects in the Netherlands are developed by the central government. So far, all of them, except one, the first DBFM in the country in which the provincial government of Noord Brabant was the awarding authority. RWS is the agency responsible for policy execution, responsible for the long term existence of the organization, giving orders about what policy needs to be executed and how. The government has a fixed range of contracts to be used for PPP development in the road sector. PPP road projects follow the DBFM scheme in the Netherlands and RWS published in 2009 a standard contract integrating the experience of previous project. It includes experiences of new projects. The contract is availability based which means that the public authority makes payments to the private party (and not the end users). This contract reflects RWS's attitude towards infrastructure development which they consider a service and not a product.

There is no specific law for PPPs. The main rules governing PPP arrangements fall within the scope of the EC Procurement Directives. PPPs also lie at the heart of the European economic maturity and competitiveness principles because they facilitate innovation, bring various interests together and enable public authorities to cohere around common objectives.

The government implements PPPs through the so-called "Besluit aanbestedingsregels voor overheidsopdrachten" (BAO) for public works, supply and services in general (Global Legal Group, 2008). Besides, the government acts as a private party in the contract following Dutch civil law. It includes the concept of "reasonableness and fairness" which allows the parties to solve potential issues that are not explicitly provided in the contract, being open to discussion and negotiation prior to going to court.

Public sector commitment

The standard contract includes dispute resolution mechanisms with the international standard procedure to resolve disputes. This consists on encouraging the parties to solve the conflicts in an amicable way. If it does not work, there will be an "expert determination" in which the parties will have the opportunity to further explain their position to the committee and the committee of experts will issue a determination within four weeks. If they do not agree upon this, they will go to the court in The Hague.

Under the Dutch system, there are two types of contract adjustments: by request of one of the parties or changes by law. The Dutch contract is written under the possibility of negotiation and mutual agreement. There is no specific protocol for contract changes in the Netherlands, leading to less structured negotiations and possibly higher transaction costs when potential changes arise.

Private sector commitment

The Dutch government ensures private sector commitment by using availability fee payments subject to availability and performance. Due to the strict availability requirements, there is stringent checking from banks. The financiers share the interest with the government on keeping project risks under control and guaranteeing fast completion. Besides, the Dutch government follows a monitoring procedure to ensure that construction and operation fulfill the standard requirements of the government.

3.2.3. Capacity

Since the first experiences in PPP development in the road sector, the Dutch government has invested in public capacity in order to improve in-house knowledge. The creation of the PPP Unit was a turning point for PPP development in the Netherlands

Public sector capacity

During the first projects, the government hired consultants to support the teams in legal and contractual terms. The government rapidly noticed that hiring external consultants for every project incurred costs that would be avoided by keeping PPP knowledge in-house. For several years, the PPP Unit has been responsible for training public servants in different departments to increase public capacity.

The government is commitment to continuous knowledge transfer and project evaluation. RWS carries out an "inventory of knowledge" through which the lessons learnt after the projects remain in the organization. For every project, the PPP Knowledge pool elaborates an evaluation report which focuses on aspects such as process management, conflicts and cooperation between the involved parties.

Besides, the government has increased its capacity over the years by publishing manuals and guidelines for the use of their schemes and available tools. For instance, there are online manuals for the use of the financial indicators to assess VfM (PPC and PSC) as well as clear guidelines for procurement and the standard contract, defining all the steps and activities to follow. RWS has a strong engineering orientation and reputation that translated in an operational focus on technical quality and on procedures (Altamirano, 2010).

However, there is still the perception that the government has not adopted the hands-off attitude in all departments. RWS has a long tradition in infrastructure projects so it requires time to understand the concept of arms length. The government stresses the importance to have a good project portfolio to gain knowledge based on experience. However, after the first DBFMs in the road sector (A59 and N31 both with financial close in 2003) there was a lack of projects in the country to keep improving the public capacity. It was not until 2005 when the government procured the 2nd Coen Tunnel through competitive dialogue. Nowadays, RWS is actively promoting PPPs and in recent years RWS is keeping a project portfolio according to the size of the country with the A12 and A15 (opening in 2013 and 2015 respectively) and more recently, RWS has announced large projects like the A6 for 3231 million euro or smaller ones like the N33 for 152 million euro.

Table 4 Project portfolio for DBFM contracts in the Netherlands (PPS Netwerk Nederland BV, 2011)

Project	Type of contract	Start of construction	Contract cost
A59	DBFM	2003	218 million euro
N31	DBFM	2003	135 million euro
2nd Coen Tunnel	DBFM	2009	600 million euro
A12	DBFM	2010	373 million euro
A15	DBFM	2010	1095 million euro
N33	DBFM	2014	152 million euro
Schiphol-Amsterdam-Almere	DBFM	2011	3231 million euro

Risk and financing

There is a standard contract published by RWS' available for everyone interested in it. This standard contract does not contain a specific list of risks that the government considers will arise. However, the government follows a standard risk allocation procedure by which all the risks that are not listed have to be borne and priced by the private parties. Costs are determinant of the optimal allocation of risks. To some extent, this allows the devotion of more

space to the protection of the private party. During the tendering phase, RWS applies a ceiling price based on the PSC for financial bids, being a guiding element for the selection and the reference mark for proceeding in the tender. The bidders need to remain below this ceiling price in order to stay in the race during the consultation and dialogue phases. This allows both parties to understand project necessities and get a realistic picture of each others' expectations and capacities.

PPP projects follow the structure using a DBFM agreement that involves the use of private finance. The typical sources of finance are equity and subordinated loans by the shareholders of the Special Purpose Vehicle[10] (SPV) or secured loans from third party lenders (commercial banks or EIB). The payment mechanisms in the Dutch DBFM/O contracts focus on availability as being the foundation for payment with separate performance-related deductions. After the Wijkertunnel, no deals have been closed where the public sector has been asked to take the demand risk.

Up to now, there has been trust in the Dutch government for long term investments. The Netherlands has as AAA[11] rating according to Standard and Poor's (Standard&Poor's, 2011) which gives confidence to investors and financiers. The government follows a standard procedure to allocate the budgets for the different line ministries which allows for keeping a constant project portfolio, convenient to attract investors and generate stability in the country to encourage private participation in the country.

Private capacity enhancement

As stated earlier, PPPs are a learning process for both public and private parties and it is necessary to keep an active project portfolio to change from a traditional approach in construction to a lifecycle approach required for DBFM contracts. There is still room for improvement in the private sector, especially within the EPC. The government is aware that PPPs require a different way of working for both government and the private sector. Over recent years, the Dutch government is committed to bring contractors in early stages of infrastructure planning. The main goals behind it are innovation by giving conceptual freedom, gaining project control by decision making based on more committed bids from contractors and time gaining by carrying out the activities in parallel rather than a succession of procedures (Lenferink, Tillema, & Arts, 2008).

The PPP Knowledge Pool actively participates with the private sector to bring knowledge and create a shared understanding about PPP. This has encouraged some initiatives like the *PPS Netwerk*[12] (PPP Network) where private companies and public institutions share their experiences to inform and support public parties in the field on operational decisions about infrastructure development. PPS Netwerk's ultimate goal is to provide practical advice and assists in the assessment of investment decisions.

The Dutch government is nowadays investing in cooperation to have a business attitude in order to create a working relationship with the private sector. They are moving from a dominant, closed and inward-oriented organization towards a more customer oriented approach, evident in their motto "market unless".

[10] The Business Dictionary defines a Special Purpose Vehicle as *a legal entity created solely to serve a particular function, such as the facilitation of a financial arrangement or creation of a financial instrument.*

[11] AAA: the best quality borrowers, reliable and stable (Standard&Poor's, 2011).

[12] http://www.ppsnetwerk.nl/

3.3. Evolution of policy interventions in Tamil Nadu

Similar to the analysis developed for the Netherlands, we examine the evolution of policy interventions in Tamil Nadu and its influence in the institutional context for PPP development during three different stages, coinciding with the time where our selected case studies took place, displayed in figure 7. We obtained the data from government reports, previous academic papers analyzing the context for PPP development in Tamil Nadu and articles in the media.

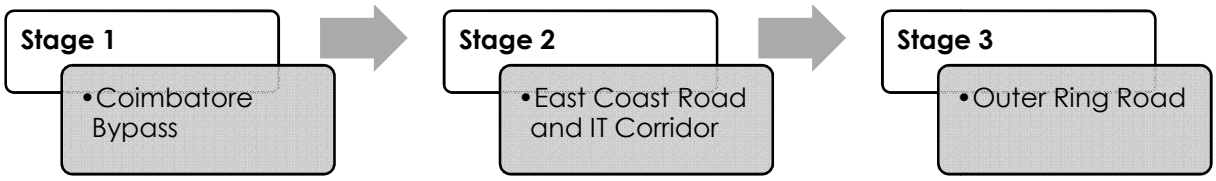


Figure 7 Stages for PPP development and case studies in Tamil Nadu for each stage.

3.3.1. Stage 1. Introduction of PPP in Tamil Nadu

Since the 1990's, the Government of India (GoI) has looked at PPPs to address roadway development (Cherian, 2009). The first PPP project implemented in India was a toll road in the state of Madhya Pradesh in 1992 (Rajan A., Siddharth, & Mukund, 2010). Over the last two decades, the momentum for PPP implementation has significantly increased and diverse types of road projects have been implemented through PPPs at the national and state level. Among all the infrastructure sectors, most of the PPPs in India are in the road sector[13]. The history of PPPs in Tamil Nadu started in 1995, when the Ministry of Surface Transport of the GoI launched a global tender for the Coimbatore Bypass project. Together with the Government of Tamil Nadu (GoTN), they procured the project through PPPs in order to make the project possible by bringing private funds (Raghuram & Kheskani, 2002).

In the 90's, the GoTN took several actions to attract private investors to the state, aiming at developing projects with public money that would not be possible otherwise (Mahalingam, 2011). In 1996, the GoTN and the World Bank created the Tamil Nadu Urban Development Fund (TNUDF)[14] to provide long term debt for infrastructure development on a non-guarantee mode (Mahalingam, 2011). There have been some initiatives under the TNUDF like the Karur Toll Bridge (Pradhan, 2004). The TNUDF originally acted exclusively focused on providing project funding, but their role evolved over the years and they are currently offering technical support to the government of Tamil Nadu. This initiative gave credibility to projects launched under this program, successfully providing effective financing mechanisms and attracting private investors (Mahalingam, 2011).

In 1998, the GoTN opened the Coimbatore Bypass phase I to traffic. Right after the start of operations, the private concessionaire faced severe problems to collect tolls because of public opposition (Mahalingam & Kapur, 2009). Lack of goal alignment between public and

[13] http://www.pppinindia.com/database.php

[14] The TNUDF is an initiative from the World Bank. It was the first PPP scheme to provide long term debt for infrastructure development on a non-guarantee mode in Tamil Nadu. It aims at improving the living standards of the urban population, encouraging private sector investments through JVs and PPPs, addressing problems of the low-income citizens and improving the financial management of local bodies, facilitating debt finance access from the markets. The TNUDF has participated in projects such as the Karur Toll Bridge (BOT- Rs. 152 million) (Mahalingam, 2011).

private parties worsened the situation since they did not reach an agreement in subsequent meetings to negotiate potential solutions to solve this issue (Raghuram & Kheskani, 2002).

3.3.2. Stage 2. Attracting private funds and second generation of PPPs

After the Coimbatore Bypass, the GoTN took new initiatives in order to attract private investment to make projects possible. Another scheme to attract private investment was the creation of the Tamil Nadu Road Road Development Company[15] (TNRDC) in 1998. It is a JV between the GoTN, the private partner Infrastructure Leasing & Financial Services Limited (IL&FS) and other partners to develop road projects. The TNRDC is the formal institution for managing all aspects of road projects from preparation of feasibility and engineering studies, procurement, financial modeling, and supervision of works (Mahalingam, 2011). This initiative increased public capacity to manage projects and facilitate private investment, since the GoTN, being one of the main shareholders gave credibility to the TNRDC. Right after its creation, TNRDC started negotiations to undertake the major renovation and upgrade of the East Coast Road through a PPP. This agreement was signed in 2000 (Rajan A., Siddharth, & Mukund, 2010).

As a result of the generation of PPP projects in the 90's, the GoTN introduced the "Tamil Nadu Transparency in Tender Act 1998" in the same year to improve transparency and competition. This act covers public procurement and the bidding process for public works and services and acts as a strong mechanism to mitigate corruption (Mahalingam, 2011). This initiative increased predictability for procurement, but the next large PPP projects in Tamil Nadu (East Coast Road and IT Corridor) were awarded through negotiated contracts with the TNRDC. In 1998, the first phase of the Coimbatore Bypass opened to traffic and since the first day there was severe reluctance to pay by the road's users which led to GoI, GoTN and private consortia holding a meeting 1999 to unsuccessfully attempt to solve the situation (Raghuram & Kheskani, 2002).

Given the infrastructure needs in the region for economic development, the GoTN drafted a road policy[16] in 2000 which emphasizes the need to influence private capacities and stresses incentives that will be provided to the private player participating in infrastructure development. Although this draft road policy does not address issues related to PPPs, it mentions the need for PPPs and under which conditions these can be settled. Although published in the early 2000's and expected to be finalized shortly, this road policy still appears as a draft in the Tamil Nadu Highways department website.

In 2000, the GoTN signed a concession agreement with TNRDC as one of the early PPP initiatives in the state for the East Coast Road. This was the first PPP in India to use PPP for road renovation and maintenance, getting much public attention. For the East Coast Road project, the TNRDC took action to make the project possible and amended the existing toll policy to levy two-lane roads (Rajan A., Siddharth, & Mukund, 2010).

In 2001, the GoTN launched the Highways Act 2001, which facilitates PPP by empowering GoTN to enter into agreements with the private sector for the construction, development, and maintenance of an asset after consulting with the State Highways Authority[17] (Economic

[15] http://tnrdc.com/
[16] http://www.tnhighways.org/road%20policy.htm

[17] The State Highways Department of Tamil Nadu is headed by the Minister of Highways and Minor Ports Department and it is in charge of the State Highways and District Roads. The Highways Department is the main institution responsible for the improvement and maintenance of State roads and National roads that fall under the GoTN jurisdiction (Mahalingam, 2011).

Consulting Associates, IL&FS, J Sagar Associates, CA Legal, CEPA, 2005). Besides, this act addresses issues arising due to land acquisition or other issues having a social and economic impact that are the responsibility of the GoTN. For the East Coast Road, the Highways Act ensured that land acquisition litigations were in favor of the TNRDC and the GoTN, a fact that facilitated the process (Mahalingam, 2011).

In 2002, operations for the East Coast Road started. The GoTN again faced reluctance to pay. Although the GoTN and TNRDC agreed on increasing the toll tariff by 8% every year, once public opposition started, the GoTN was unwilling to implement the tariff's increase, causing financial problems for the project in the long run (Rajan A., Siddharth, & Mukund, 2010). This weak public commitment generated some tensions among public and private parties to provide a propitious environment for PPP development.

In 2003, the Tamil Nadu Road Sector Project[18] (TNRSP) was implemented with the World Bank Loan Assistance aiming at improving the quality and sustainability of the state's road network. Like the TNRDC, the TNRSP was created with a directive to promote infrastructure investment in the state and to tender technical assistance for project development. The TNRDC along with the TNRSP have stated mandates for identifying and developing opportunities for private investors to further legitimate PPPs in the road sector (Mahalingam, 2011).

In the early 2000's, the GoTN planned to improve the Old Mahabalipuram Road (also known as IT Corridor or Rajiv Gandhi Salai), together with the development of an important industrial center in the area (Mahalingam & Kapur, 2009). Due to the project's size, they decided to bring private funds by launching a PPP.

In 2004, the GoTN published the public statement for the IT Corridor which was developed by the TNRDC. Learning from the experience of the East Coast Road, the GoTN and the private company negotiated to automatically increase the toll tariff by 8% per year, without government's approval (Delhi, Palukuri, & Mahalingam, 2010). The expected year of operations was 2005; however, phase I did not open until 2008 because of significant delays.

In 2005, the GoI designed the Viability Gap Funding (VGF) (Government of India, 2005) to provide capital support for PPP projects which could not be financially viable otherwise. If a project is suitable to apply the VGF, the state government will have to use the model documents that the GoI has developed in an attempt to facilitate decision making by the authorities in a fair, transparent and competitive manner. In 2006, the GoI published guidelines to support PPPs under the VGF. This year, the state government hired consultants to prepare a draft policy for PPPs (Economic Consulting Associates, IL&FS, J Sagar Associates, CA Legal, CEPA, 2005). However, it was never implemented (Mahalingam, 2011).

Given the large infrastructure needs in the country, the GoI is committed to encourage the use of PPPs as means to bring private resources and meet the resource deficit over the last years. Therefore, the GoI is encouraging PPPs not only at the national level, but also at the state level (Government of India, 2007) (Government of India, 2008). While encouraging PPPs, the GoI also identifies constraints at the state level such as: *the absence of PPP friendly policies and regulations, lack of capacity at the public sector to manage the PPP process and fully meet the challenge of launch a large number of projects, lack of credible-bankable infrastructure projects, lack of market instruments to meet the long-term equity and debt*

[18] http://tnrsp.com/

financing needed by infrastructure projects, and inadequate advocacy to create acceptance of PPPs by the stakeholders.

In 2008, the GoTN partially opened the IT corridor to traffic; to date several components, including lanes, footpaths and works for water supply, sewerage, and electricity are yet to be completed. Despite the fact that the GoTN learnt from the East Coast Road and for this project toll tariffs were automatically reviewed (Mahalingam, 2010); delays and cost escalation negatively influenced the already spoiled perception about PPPs in both the public and private sectors.

3.3.3. Stage 3. Recent developments

In 2009, the GoTN took over private party's equity for the IT Corridor and restructured the JV. The GoTN announced that phase II will be developed through an annuity contract. In 2009, the GoI published the Model Concession Agreement (MCA) (Government of India, 2009) for PPPs in State Highways to provide a standard document for projects under the DBFOT model. This model concession agreement is used for projects included in the VGF but also for other PPPs in order to help state governments increase public capacity. This initiative reflects best practices and can sustain investor interest. It sets out a precise policy and regulatory framework addressing the essential issues for PPPs, such as risk allocation, incentives, roles and responsibilities, transaction costs, force majeure, monitoring, dispute resolution, and financial support from the government.

Besides, in the attempt to encourage PPPs, the GoI elaborated a PPP toolkit which covers State Highways amongst other sectors[19] (Government of India, 2010-2011). This toolkit provides explanatory and reference material about PPPs through phases, from identification to operation, offering a set of decision-making tools to help public officers at different stages of the PPP process.

Given the fast growth in the city of Chennai over recent years, the GoTN is expecting the existing roads to be congested in the upcoming years; thus, in 2009 the GoTN launched the tender for the Outer Ring Road through competitive tendering. This project is developed under a DBFOT on annuity basis following the Model Concession Agreement elaborated by the GoI. It is not a toll road since the GoTN's intention is to reduce traffic congestion in the city and, based on previous experiences, the GoTN fears that charging tolls would negatively influence traffic demand for the road.

In 2010, the GoTN published a road policy note (Highways and Minor Ports Department, 2009-2010), where the government very briefly encourages developing roads with heavy traffic through PPPs.

[19] http://toolkit.pppinindia.com/

Table 5 Summary of policy interventions in Tamil Nadu

	PROJECT EVENTS	POLICY INTERVENTIONS IN TAMIL NADU	
1ST STAGE		PPPs mentioned because of need for infrastructure and willingness to attract private capital.	**1990**
	Launch Coimbatore Bypass		**1995**
		Creation of the TNUDF.	**1996**
	Coimbatore Bypass opening to traffic. Negotiations for the Eas Coast Road.	Creation of the TNRDC. Introduction of "Tamil Nadu Transparency Act 1998"	**1998**
2ND STAGE	Signature concession agreement for ERC. First idea for IT Corridor	Draft for road policy emphasizing the importance of bringing private capital.	**1999- 2000**
		Highways Act 2001 empowering GoTN to enter into agreements with the private sector.	**2001**
	Start operations East Coast Road		**2002**
		Creation TNRSP.	**2003**
	Signature agreement - Start construction works for IT Corridor.		**2004**
	Expected opening IT Corridor.	GoI designed the VGF. Draft PPP policy that was never implemented.	**2005**
		Publication of guidelines for VGF.	**2006**
		Public statements GoI to encourage PPPs at the state level.	**2007**
	Actual opening IT Corridor.	Public statements GoI to encourage PPPs at the state level.	**2008**
3RD STAGE	Launch tender Outer Ring Road.	Development of the Model Concession Agreement.	**2009**
	Start construction Outer Ring Road.	Publication GoI's toolkit for state projects.	**2010**

3.4. Capabilities Tamil Nadu

In the previous chapter we have analyzed the policy interventions during the last two decades that have affected PPP development in Tamil Nadu. We divided this timeline in three different stages, corresponding with points of time where our case studies took place. In table 6 we summarize the influence of the policy interventions in the institutional capabilities. In this section, we describe in detail the institutional capabilities following the categorization established by Mahalingam (2011). The information provided and the capabilities' evaluation is based on the description provided in the previous section obtained through secondary data analysis and Mahaligam's (2011) work.

In this sub-chapter we include all initiatives both at the national and state level to strengthen the institutional environment and support stage governments to execute PPPs. In this sub-chapter we include all the actions that potentially influence PPP development in Tamil Nadu in the road sector, without considering whether they affected our case studies or not.

Table 6 Evolution of the institutional capabilities through in the Tamil environment

LEGITIMIZATION		1st stage 1990-1998	2nd stage 1999-2008	3rd stage 2009-2011
Rationale				
		Urgency	Need for private funds	Need for private funds Efficiency gains
Political willingness				
	Political champion	No mechanisms	No mechanisms	No mechanisms
	Project portfolio	Coimbatore Bypass	Karur Toll Bridge, East Coast Road and IT Corridor	Outer Ring Road
	PPP policies	Policies to attract private investment	Initiatives by GoI at the State level Policies to attract private investment	Initiatives by GoI at the State level Policies to attract private investment
Advocacy				
	Public consultation	No mechanisms	No mechanisms	No mechanisms
TRUST				
Public sector predictability				
	Decision making departments	State Highways Department of Tamil Nadu	Project identification and approval: State Highways Department of Tamil Nadu and TNRSP	Project identification and approval: State Highways Department of Tamil Nadu and TNRSP
	Project development responsibility	State Highways Department of Tamil Nadu	TNRDC	TNRDC
Guidance documents	Project preparation and identification guidelines	State Highways Department of Tamil Nadu	TNRDC, TNRSP Transparency Act 1998. Highways Act 2001	TNRDC, TNRSP
	Model contract	Case to case basis	Case to case basis	Model Concession Agreement by GoI
	Standard documents	No mechanisms	No mechanisms	Procedures and documents by GoI
Public sector commitment				
	Established regulatory agency	No mechanisms	No mechanisms	No mechanisms
	Standard dispute resolution mechanisms	Included in the contract	Included in the contract	Included in the contract
	Cooperation platforms	No mechanisms	No mechanisms	No mechanisms
Private sector commitment				

	Project monitoring	Included in the contract	Included in the contract	Included in the contract
	Cooperation platforms	No mechanisms	No mechanisms	No mechanisms
CAPACITY				
Public sector capacity				
	In house PPP knowledge	Hired consultants	Hired consultants Creation TNRDC Creation TNRSP	Hired consultants Support from TNDUF
	Training programs-workshops	No mechanisms	Workshop in 2008.	No mechanisms
	Cross project knowledge	No mechanisms	No mechanisms	No mechanisms
	Guidance notes	No mechanisms	No mechanisms	Toolkits and guidance by GoI
Risk and financing mechanisms				
	Standard risk allocation mechanisms	Case to case basis	Case to case basis	Case to case basis
	Type of contract	BOT Toll based	BOT Toll based	Annuity model (Model Concession Agreement by GoI)
	State support funding	Creation TNDUF	VGF by GoI TNRSP	VGF by GoI
Private sector capacity enhancement				
	Competitive bidding	Competitive bidding	Negotiated contracts Transparency Act 1998.	Competitive bidding
	Cooperation	No mechanisms	No mechanisms	No mechanisms

3.4.1. Legitimization

Rationale

In the late 90's-2000, the main motives behind launching PPPS were fundamentally financial. The government wanted to develop projects that were not possible without private funding. Nowadays, the Indian economy is booming and Tamil Nadu is one of the States with a larger number of private investors. The rationale is spinning towards efficiency gains that the private sector brings for infrastructure development. There has not been a programmatic approach towards PPPs in Tamil Nadu. The GoTN has launched projects in the road sector as individual initiatives to solve specific necessities that could be addressed by developing a single project. The GoTN does not use any procedure to justify the use of PPPs like a PSC or similar to calculate the potential VfM gains for projects.

Political willingness

A lack of political willingness is one of the major issues for PPP development in Tamil Nadu. During our interviews, public and private parties affirmed that project continuity might be threatened by change of government or elections. Besides, lacking the understanding about PPPs and their benefits, public officers might not see benefits on a project that will take over 20 years. PPPs need a change of mindset. As stated by Rajan, Siddarth and Mukund (2010): *Typically governments around the world are fantastic in creating assets. They take a lot of glory and pride in it. There is no glory and pride in maintenance. There are often only brickbats in maintenance, and very rarely bouquets.*

There is no lifecycle mentality at the state level, necessary for a propitious PPP environment. Despite initiatives at the state level like the creation of the TNDUF, the TNRDC or TNSRSP, there is still a lack of enthusiasm towards PPPs. During our interviews, our respondents stated that past experiences, such as the East Coast Road or the IT Corridor, have been a mixed success and some departments of the government blame the PPP scheme for project failures. These experiences have been a drawback for PPP implementation in the state and they have created misconceptions about PPP. The lack of political willingness results in the absence of a specific PPP policy in the state.

Advocacy

The GoTN does not promote awareness and understanding about PPPs among departments in the GoTN or other stakeholders which are involved for PPP development. There are no actions to inform involved stakeholders such as public consultations, knowledge transfer or the creation of a communication strategy. This creates public apprehension about PPPs being a façade for privatization. The severe reluctance to pay the toll by the roads' is evidence of this.

There is a PPP Cell in Tamil Nadu. However, it does not have a website and its activity is limited. Apart from a training program for senior officers that took place in 2008 and some presentations for the GoI where they showed the mainstreaming of PPPs at the state level, we observe that there is not much activity or promotion for PPP development.

3.4.2. Trust

Public sector predictability

There are diverse public agencies involved for PPP development at the state level: the TNRDC[20], the TNRSP[21] and the State Highways Department[22]. Their websites do not provide

[20] www.tnrdc.com/
[21] http://www.tnrsp.com/

clear information about their tasks and we observe that their roles are overlapped and vague.

The TNRSP is responsible for project identification and approval, although we observe that they do not use any standard procedure or indicator for that. Besides, the TNRSP is currently constructing roads conforming to international standards, carries out maintenance and executes institutional strengthening and policy development works. Some state highways and district roads belong to this project sponsored by the World Bank.

TNRDC is a JV formed by the GoTN and IL&F. It is the formal institution created to manage all aspects for road development: feasibility studies, procurement, financial management, and supervision. Projects such as the East Coast Road, the IT Corridor, and the Outer Ring Road are managed by TNRDC.

The State Highways Departments of Tamil Nadu seems to have overlapping responsibilities with the TNRSP and the TNRDC. Therefore, it is not clear which agency is responsible for what and under which jurisdiction a specific PPP project will take place.

There are several acts, laws and road related policies applicable to PPP development. Nevertheless, they are spread and there is not a specific PPP policy that puts all the applicable documents together to provide transparency and clarity about the actions required for PPPs. Some of these acts are:

The GoTN uses the Transparency Act 1998 for procurement which forces public agencies to procure projects through tenders. However, this act does not detail how tenders are regulated. It lacks a description of the range of implicated activities in the opening of tenders, their evaluation and acceptance procedures, and the functions of invitation to tender, and the decision making authority.

Up to date, the Indian Tolls Act 1851, the national toll policy, has been applied to BOT toll based projects in the state. It permits to build, operate and levy tolls in bypasses around towns and on bridges costing 10 million Rs and above. When needed, the state has taken initiatives to amend existing policies in order to make projects possible. For instance, the GoTN amended the Indian Tolls Act 1851 for the East Coast Road project because it was not allowed to toll two-lane roads. On the one hand, these initiatives capture the GoTN willingness at a point of time to develop projects through the PPP scheme. On the other hand, it provides instability and confusion about the regulatory and legislative environment at the state level.

The Highways Act empowers the GoTN to enter into agreements with the private sector for the construction, development, and maintenance of an asset after consulting with the State Highways Authority. This Highways Act facilitates PPPs but the terms and the bidding processes are unclear.

The Highways Departments published in its website a draft road policy which mentions the need for PPPs and the conditions by which these will be settled. Although this draft road policy does not address issues related to PPPs, it emphasizes the need to influence private capacities and stresses the incentives that will be provided to the private players that participate in infrastructure development. In the Highways Department's website, it is not clear in which year the draft policy was published and whether the draft policy has already been approved or not. In 2010, the GoTN published a road policy note, where the

[22] http://www.tnhighways.org/

government very briefly encourages developing roads with heavy traffic through PPPs. Besides, there is no a specific policy for land acquisition. The responsible public agency must acquire the land on a project to project basis.

Recently, the GoTN has used the model concession agreement provided by the GoI, adapting the contract to specific project characteristics. This has been the case for the Outer Ring Road. Given the efforts and promotional initiatives towards PPP at the national level, it seems the state is adopting some of these initiatives to reduce transaction costs and make use of the acquired knowledge at a national level.

Public sector commitment

During our interviews, we observed a lack of effective contract management and appropriate dispute resolution mechanisms. The case of the East Coast Road reflects the lack of public commitment when political pressure is implicated. Due to the severe public reluctance to pay, the GoTN refused to increase the toll tariffs as agreed in the contract.

Contracts used in the road sector in Tamil Nadu include dispute resolution mechanisms that follow the international scheme: amicable resolution, arbitration, and court in the last instance. However, the perception is that dispute resolution mechanisms are slow and tend to favor the public side. Tensions usually arise regarding the penalty system, by which the government should compensate the private consortia in case they do not manage to acquire the land on time. Both public and private parties show discomfort about disputes and outcomes of any conflict where these mechanisms need to be used.

When the TNRDC is involved in the project, the GoTN is part of the SPV, since the TNRDC is a JV. The JV approach creates conflicts of interest for project development. This situation directly conflicts with the necessity of public support to develop PPP projects, since the government should be the regulator and policy maker, not a partner in the SPV.

Private sector commitment

Private parties participate in projects where the public agencies are their client and the financiers their sponsors. The presence of banks and financial institutions during project development fixes strict requirements that private parties need to fulfill.

There is a procedure for project monitoring in the contract, which includes the reports and activities that need to be supervised during construction, maintenance, and operation. However, the lack of clarity about the roles and responsibilities of the different public agencies involved for project development might obstruct monitoring since the private consortia might not know who to address for specific project activities.

3.4.3. Capacity

Public sector capacity

The GoTN has much experience in Tamil Nadu for project development with good administrative and technical capacity. However, the government still does not adopt the hands off attitude necessary for PPP development. The fact that GoTN participates in some projects through the TNRDC makes difficult to delegate.

There is no programmatic approach in Tamil Nadu, which leads to project development as isolated initiatives. Therefore, knowledge transfer is not present and many negotiations take place every time a new project starts. Theoretically, the PPP Unit's goal is to develop model documents and policies to assist line department but it seems this is not happening. Due to the lack of policy, government officials need to adapt to the existing framework, dealing with

several obstacles to develop PPPs. This limits the public sector capacity, since government officers have to renegotiate terms every time a new project starts.

Ambiguities in roles and responsibilities of the various involved agencies for project development obstruct public sector capacity since different agencies perform overlapped activities. Rework and renegotiations are time consuming.

Risk and financing

In recent years, attracting private investment has been one of the major priorities of the GoI and the GoTN. In line with the GoI's guidelines, the GoTN promotes infrastructure enabling policies to facilitate private investments and the creation of infrastructure funds.

At the state level, the GoTN created the TNUDF and the TNRSP for upgrading and creating infrastructure in Tamil Nadu with the assistance of the World Bank. Created in 1996, the TNUDF is the first PPP providing long term debt for infrastructure development. It aims at improving the living standards of the urban population, encouraging private investments through JVs and PPPs, addressing problems of low income citizens and improving the financial management of local bodies, facilitating debt finance access from markets. These initiatives, together with the VGF provide financial support for PPP development. In 2005, the GoI designed the VGF to provide capital support for PPP projects which could not be financially viable otherwise. VGF has the effect of reducing the revenue required to recover costs and provide a financially attractive return for the private sector. The total VGF shall not exceed 20% of the total project cost and is provided in the form of a capital grant at the stage of project construction. Projects developed under the VGF have to make use of the standard contract, procedures, and guidelines established by the GoI for PPP development at the national level.

There is either no mechanism for risk allocation or negotiations with the private parties to discuss the potential risks and the best party to manage them. There is no consultation document when it is possible to evaluate the government's rationale behind risk allocation in contracts.

Private capacity enhancement

As stated above, the GoTN has successfully attracted private investors which have wide experience in the construction industry in India and abroad. The strong GoTN's administrative capacity, together with the prosperous financial condition of the state of Tamil Nadu has attracted competitive private parties that could bring expertise for PPP development.

However, the lack of understanding about PPP development entails that the GoTN is not promoting the *working together* where public and private parties aim at achieving the best for project development. The emphasis on cooperation seems to be absent in the Tamil setting.

Part IV. Case studies

4. Case studies

Project development has had a very different pace in the Netherlands and Tamil Nadu since the first projects were implemented in both contexts back in the late 90's. This evolution in the institutional environment is reflected in the type of issues that emerge during project development. During the case study we selected 8 projects which entail a comparable degree of complexity where uncertainties and risks are an essential part of the project. These cases provide an attractive case comparison because of the similar age in PPP implementation and volume of project portfolio in Tamil Nadu and the Netherlands. These projects took place at different moments in time thus institutional capabilities will vary from one point in time to another. Analyzing the milestones and evolution of the PPP environment in the Netherlands and Tamil Nadu, we also provide an evaluation about how the capabilities have evolved over the years. We evaluate how project outcomes differ depending on the institutional context evolution.

We distinguish three project stages: early development in the late 90's, a second generation a few years after the first project took place and recent developments. We place these project generations in their specific context to analyze how changes in project development were affected by changes in the institutional environment. Table 7 displays a summary of the main policy interventions in Tamil Nadu and the Netherlands over the last two decades and the main events related to the projects included in this research.

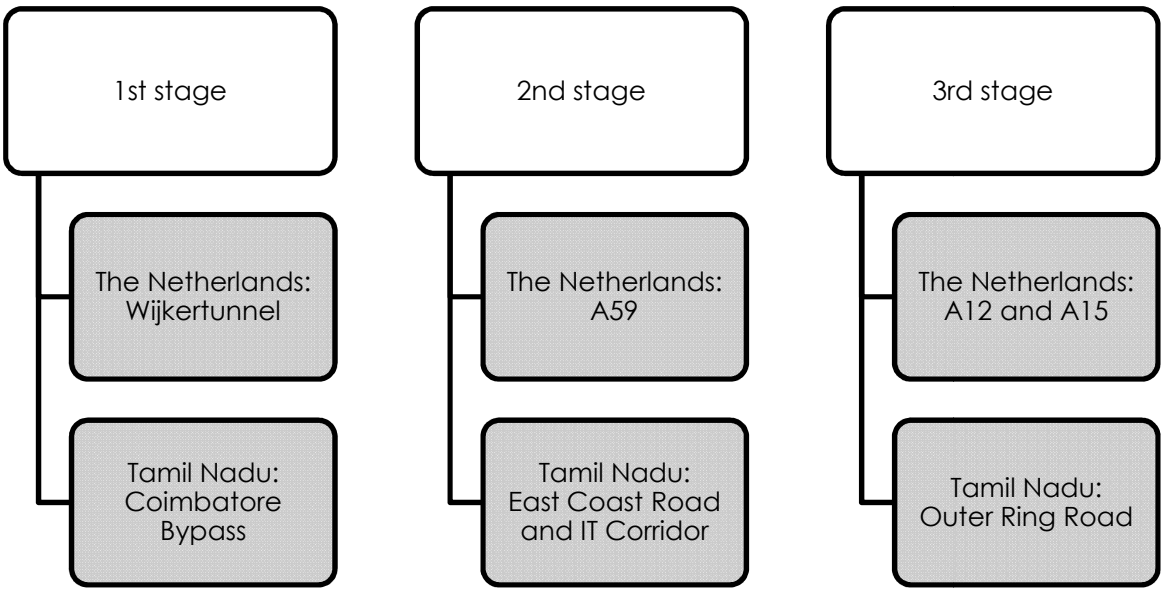


Figure 8 Project stages included in the research

In order to evaluate the selected projects, we follow a case study approach. The interviews were structured and the questions asked during the interviews were both exploratory and descriptive in nature. They aimed at seeking trends and patterns on the following issues:

- Description of the institutional environment according to their experience in PPPs.
- Description and structure of the project.
- Issues arising during project development.
- Influence of the institutional environment on the mentioned issues.

Appendix 3 includes the questionnaire used in our interviews. We interviewed experts who worked in the selected projects. The interviews took place as follows:

- First round of interviews in the Netherlands where we obtained information about 3 projects from 8 experts: 3 project managers, 2 consultants, and 3 public officers.
- Second round of interviews in Tamil Nadu where we got information about 4 projects from 7 experts: 2 project managers, 3 consultants, and 2 public officers.
- While gathering the information, we decided to include the Wijkertunnel project and got the data through secondary data analysis since we consider that these project's outcomes would allow us to make observations consistent with our research approach.

Due to the qualitative nature of our case study, we analyzed the data from the interviews in a way that extracts major themes, trends and patterns on the questions that we posed the interviewees. Given our observations, we identify how the Netherlands and Tamil Nadu's institutional environments evolved differently hence their project outcomes differ over time. These research findings result in recommendations for policymakers in Tamil Nadu and the Netherlands. We validated the information provided by them through secondary data about the projects included in journal articles, governmental reports, and articles in the media referenced for each project where needed.

During the analysis of our case studies, we have found some project related issues, out of the scope of our research. These events might have affected project outcomes, beyond the institutional environment where projects took place. We have tried to prevent this situation by selecting cases with the minimum interference in that regard, as well as selecting the issues directly related to the institutional environment.

Table 7 Overview of Tamil and Dutch policy interventions and case studies 'milestones

	TAMIL NADU			THE NETHERLANDS		
	PROJECT EVENTS	**POLICY INTERVENTIONS**		**POLICY INTERVENTIONS**	**PROJECT EVENTS**	
1ST STAGE		PPPs mentioned because of need for infrastructure and willingness to attract private capital.	**1990**	First time mentioning PPP imported from the UK.		1ST STAGE
	Launch Coimbatore Bypass		**1995**			
		Creation of the TNUDF.	**1996**		Start operations of Wijkertunnel.	
	Coimbatore Bypass opening to traffic. Negotiations for the Eas Coast Road.	Creation of the TNRDC. Introduction of "Tamil Nadu Transparency Act 1998"	**1998**	Government report "More value through cooperation".		
2ND STAGE	Signature concession agreement for East Coast Road First idea for IT Corridor	Draft for road policy emphasizing the importance of bringing private capital.	**1999-2000**	Creation of PPP Knowledge Center to promote PPPs. Establishment of policy framework for PPPs.		
		Highways Act 2001 empowering GoTN to enter into agreements with the private sector.	**2001**	Creation of first DBFM contract based on the UK model. PPP Unit emphasizes the need for goal alignment in the public sector and to be output oriented.	Launch Tender A59.	2ND STAGE
	Start operations East Coast Road		**2002**	Publication of guidelines for PPC and PSC.		
		Creation TNRSP.	**2003**		Start construction of A59.	
	Signature agreement - Start construction works for IT Corridor.		**2004**	Publication of Green Paper European Union for PPs. Competitive dialogue for large infrastructure projects.		
	Expected opening IT Corridor.	GoI designed the VGF. Draft PPP policy that was never implemented.	**2005**	Publication of the Nota Mobiliteit for infrastructure planning. PPC mandatory for all projects above 112.5 million euro. Introduction listed risks.	December: Launch tender for 2nd Coen Tunnel. First Competitive dialogue project. Finalization of A59	
		Publication of guidelines for VGF.	**2006**	Change in the PPP Unit. Emphasis on keeping knowledge in house.		3RD STAGE
		Public statements GoI to encourage PPPs at the state level.	**2007**			
	Actual opening IT Corridor.	Public statements GoI to encourage PPPs at the state level.	**2008**	Ruding report for private finance. Publication Handbook for DBFM contract.	Award 2nd Coen Tunnel. Launch A15.	
3RD STAGE	Launch tender Outer Ring Road.	Development of the Model Concession Agreement.	**2009**	Publication standard DBFM. Publication procedure for competitive dialogue.	Start construction 2nd Coen Tunnel. Launch tenders A12 and A15.	
	Start construction Outer Ring Road.	Publication GoI's toolkit for state projects.	**2010**	Publication of updated guideline for PPC "Better and Easier".	Award A12 and A15.	

4.1. Case studies in the Netherlands

In the Netherlands, we select projects with a similar degree of complexity that took place in different points of time. With the purpose of providing an analysis of the selected cases, we present three sets of information about the projects:

- Project input related to: i) rationale behind the project, ii) contract structure, and iii) procurement.
- External and internal project events which directly affected project development.
- Project outcomes at the current state of the project.
- Lessons learnt from the presented projects.

4.1.1. The Wijkertunnel

WIJKERTUNNEL

Project input	Project events	Project outcomes
PPPs to bring private funds. BOT Shadow toll. Schemes imported from the UK and elaborated for the project. • Project lifecycle costs not included in the contract. • Maximum revenue not capped. Competitive tendering.	Invitation to tender delayed one year because of change in the government. One bidder responding to the tender. Higher traffic demand than forecasted.	Project 41% more expensive than developed by the public sector (Korving & Veld, 1998) (van Ham & Koppenjan, 2001).

Lessons learnt

Importance of planning and procurement for project success.

Importance of developing public capacity before embarking on a complex PPP project.

Figure 9 Overview of the Wijkertunnel project

In the 90's, the Dutch government launched the Wijkertunnel as a PPP as a means to bring private capital and make the project possible at a time the government was facing financial constraints. RWS launched this project as a BOT shadow toll where the demand risk was responsibility of the government and maximum revenues were not capped (European Commission, 2004) (Van den Brink, 2009). With increasing intensity in the road, the private consortia got the project returns before the end of the contract. Project evaluations (Korving & Veld, 1998) (van Ham & Koppenjan, 2001) showed that the project was 41% more expensive than if it were been developed by the public sector.

Lessons

The Wijkertunnel highlighted the importance of planning and procurement for project success as well as the need for public capacity development before embarking on a complex PPP project (European Commission, 2004).

4.1.2. A59

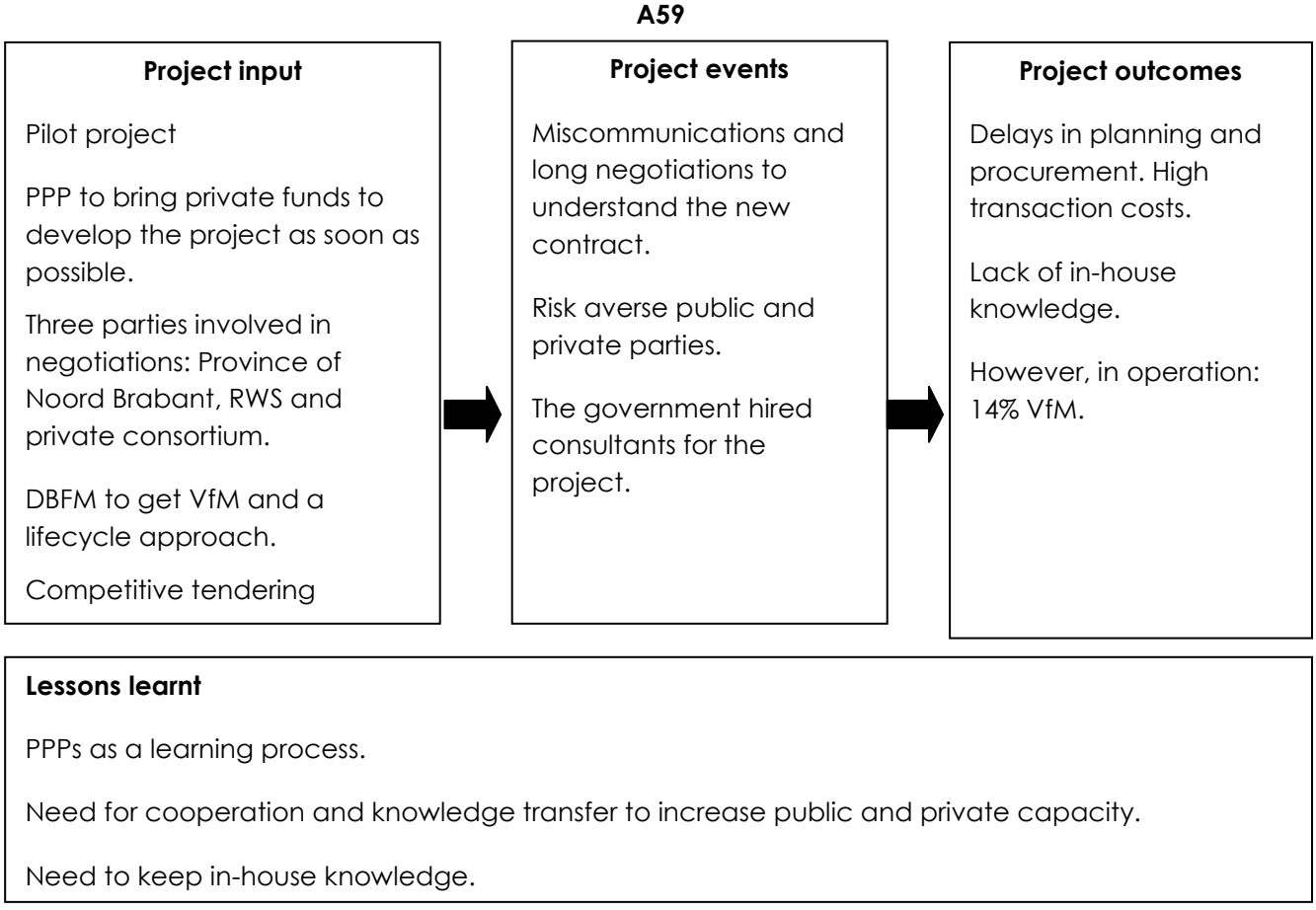


Figure 10 Overview of A59

In 2001, the Province of Noord Brabant launched the A59 through a PPP scheme. The Province of Noord Brabant and the central government cooperated to create the first DBFM contract in the country that served as the first step towards the standard DBFM. The government launched the project as an availability based contract: the government paid for delivering a service rather than a product, so the contractor received the payment once the asset was available as a whole. This type of contract increased the pressure on the contractor during construction to finish as soon as possible (Deloitte, 2003).

Both public and private parties were aware of the uncertainty they faced which resulted in a risk averse attitude from both sides. Due to this reason, planning and procurement were delayed because of long negotiations to understand contractual terms and allocate risks (Deloitte, 2003) (Provincie Noord-Brabant, 2006), a fact that increased transaction costs for both parties. To understand each others interests and goals in the project, parties held alignment sessions to understand each other's positions and foster a cooperative attitude between the parties (Deloitte, 2003).

Besides, the government hired experts from the UK in order to write the contract and bring expertise to the project. Once they finished the contract, the team of advisors left the project, losing the acquired knowledge (Deloitte, 2003).

Already operating since 2005, this project has generated 14% more VfM than developed by the public sector (PPS Kennispool, 2008). These satisfactory results have positively influenced PPP continuity in the Dutch sector through DBFM contracts.

Lessons

This project showed that PPPs are a learning process for both public and private parties. To understand PPPs, parties need a change in roles and responsibilities: the government must adopt a hands-off attitude (control distance) whereas private parties need to adopt a hands-on position (more responsibility). Besides, both parties learnt the significance of cooperation for project success. The following statement of a consultant involved during the A59's tendering phase provides an overview of the lessons learnt in the project's preparation: "*Parties learnt that it is important not to idealize collaboration but to take into account the natural differences in attitude and behavior between public and private parties. Alignment sessions have proven to be a useful tool for implementing the PPP thought and understand each other´s positions*".

Besides, both parties learnt the significance of knowledge transfer for project success. One of our interviewees illustrated the learning experience from this project: "*In the A59, the government recognized the need to execute knowledge explicitly and regularly, articulated in different forms to different audiences. (…) They also learnt that knowledge has to be taken into account not only after, but during the project as an "inventory of knowledge*".

This project also showed the importance of keeping in-house knowledge, instead of hiring consultants for each project. During our interview in the *PPS Kennispool*, a senior advisor pointed out this lesson: "*During the first projects like the A59, the government invested a lot of money in advisors. Soon, they noticed that it was necessary to have in-house knowledge to avoid unnecessary expenses*".

4.1.3. Projects A12 and A15

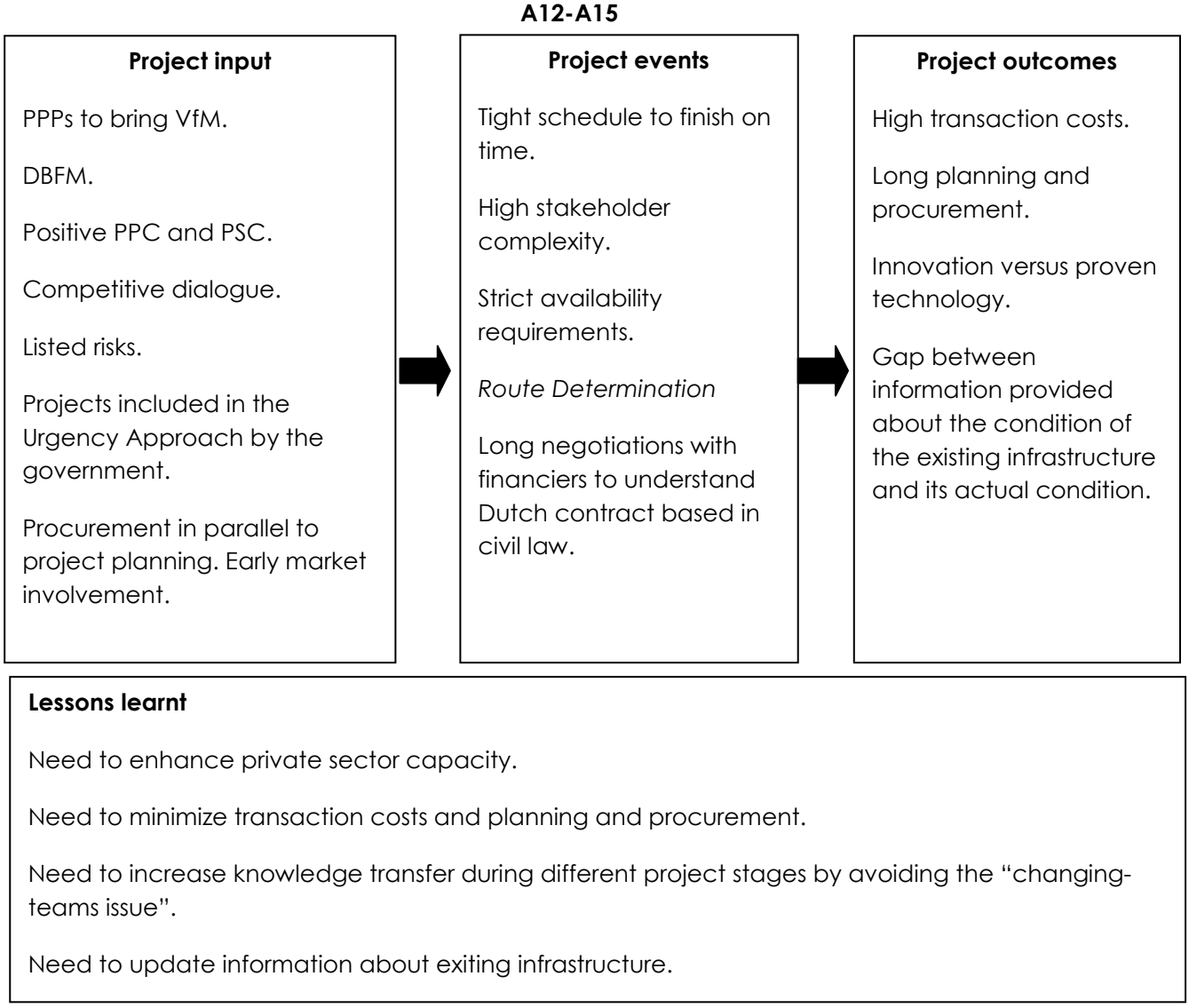


Figure 11 Overview of projects A12 and A15

At the end of 2008 and beginning of 2009, RWS launched the A12 and A15 applying the standard DBFM contract after obtaining positive results from the PPC and the PSC. RWS procured these projects through competitive dialogue, according to European legislation. During the competitive dialogue, important aspects like risk allocation were well defined and negotiated (Lenferink & Arts, 2009) (Lenferink, Arts, & Tillema, 2010) (Lenferink, Tillema, & Arts, 2008).

Despite the efforts by the Dutch government to shorten planning and procurement by early market involvement, planning and decision making are criticized in the Netherlands for taking too long and entailing high transaction costs (Lenferink & Arts, 2009). Included in the *Urgency Approach* (the so-called "spoedaanpak"), the A12 and A15 received much political pressure to finish in time. By early market involvement, RWS and private parties worked together to deal with the various spatial developments and conflicting interests in infrastructure development (Arts & Nijsten, 2011). However, as stated by our interviewees from RWS: "*Transaction costs are still too high for private companies in the Netherlands*".

During the interviews, our respondents pointed out that there is little room for technical creativity during competitive dialogue, caused by several limiting public decisions like the *Route Determination*. The *Route Determination* is a very useful mechanism to facilitate infrastructure development in the Netherlands. Projects like the A12 and A15 are surrounded by existing assets; therefore they affect a range of stakeholders which are usually empowered. By means of the *Route Determination*, RWS takes away potential oppositions by stakeholders because, once approved, it is an irrevocable document. This way, the government avoids future problems with small municipalities creating resistance by not providing the permits and approvals for the project (Van Valkenburg, Lenferink, Nijsten, & Arts, 2008). However, our respondents highlighted the fact that it obstructs private capacity by restricting innovation. A project manager presented a specific example of how innovation is restricted in recent projects in the Netherlands: "*Design freedom does not exist. The Route Determination gives little room for innovation since the project is defined XYZ. It is understandable given the situation in the Netherlands. However, the project is also pre-defined in terms of materials and this could change since there is much innovation to apply in that regard. For instance, for our project we could not use the LED lights we proposed because it was not determined this way in the Route Determination*".

Moreover, DBFM contracts, as applied in the A12 and A15 entail very strict requirements in terms of availability. This leads to severe demands from the financiers that keep the contractors sharp to finish construction works in time. Despite the benefits of this practice that encourages private parties to be committed, this kind of DBFM contract does not offer many possibilities for contract changes or innovation because of time pressure and availability demands. Strict availability requirements, as included in the Dutch DBFM successfully capture RWS's pursuit to keep private parties committed during project development. However, once applied in the project, our interviewees affirmed that it obstructs private sector capacity that can be brought in terms of innovation, conflicting with the main rationale behind PPP for the Dutch government, which is VfM.

In both the A12 and A15, we observe that once the project is awarded, private parties find it difficult to obtain all the relevant information about the existing infrastructure. This information usually comes from other public organizations such as the road districts and it is sometimes outdated or lost. This issue not only affects the private companies during construction, but it also affects project planning and procurement. RWS applies the system of listed risks and in the case of Brownfield projects, uncertainties regarding the existing infrastructure (especially tunnels) lead to long negotiations. A project manager illustrates this situation: "*The information provided about the existing infrastructure is not realistic. When the government includes an existing infrastructure in the listed risks, they do not perceive the magnitude of it. RWS does not consider lenders' concerns and when a risk is price too high, the SPV will have many difficulties to get finance for the project*".

In projects like the A12 and A15, there is still the "changing teams" issue. Our respondents pointed out that teams involved during the tendering process are not the same after awarding the contract, which creates redundant discussions and explanations about the contract because implicit knowledge obtained during competitive dialogue is lost in the process as well as any personal trust relations that were created. As stated by a project manager during our interviews: "*There is still the problem of the "changing teams" (…). Staff involved in the tendering phase does not belong anymore to the team in the construction phase so that it is necessary to make an investment in order to facilitate knowledge to remain for the project. There are inevitable changes that might be good, since teams get new*

competences and refresh the relationships, but it is also expensive and teams should never change completely".

Lessons

As stated earlier, our respondents from private and public sides called attention to the need to encourage innovation from the private sector, currently obstructed by planning and availability requirements.

Planning and procurement still take too long according to our respondents, and it still entails high transaction costs. RWS should look for solutions in order to improve this.

The coordination between different levels of government regarding existing information is an unresolved issue. As stated by a project manager during our interviews: "*It is difficult for the government to get the information about the existing infrastructure. There are several levels of government involved and some data is lost or not updated.*"

Staff continuity and knowledge transfer within the project should be preserved to optimize procurement processes like competitive dialogue.

4.2. Case studies in Tamil Nadu

In Tamil Nadu, we select projects with similar degree of complexity that took place in different points of time. With the purpose of providing an analysis of the selected cases, we present three sets of information about the projects:

- Project input related to: i) rationale behind the project, ii) contract structure and iii) procurement.
- External and internal project events which directly affected project development.
- Project outcomes at the current state of the project.
- Lessons learnt from the presented projects.

4.2.1. Coimbatore Bypass

COIMBATORE BYPASS

Project input	Project events	Project outcomes
PPPs to bring private funds. BOT Toll based. Schemes imported from the UK and elaborated for the project. Tripartite concession agreement: Ministry of Surface Transport (MoST), Government of Tamil Nadu (GoTN) and private SPV. Competitive tendering.	One bidder responding to the tender. Changes in the scope: one additional road over the bridge. Public opposition to pay the toll. Misalignment of public and private objectives.	Cost overruns. Lack of VfM.

Lessons learnt

Need for goal alignment between public and private parties and effective dispute resolution mechanism.

Importance for planning and procurement for project success.

Need for public consultation processes.

Figure 12 Overview of the Coimbatore Bypass project

In 1997 the GoTN together with the GoI launched the Coimbatore Bypass project as a BOT toll project in order to bring private capital and develop the infrastructure faster than through public funding. The Coimbatore Bypass faced problems during construction and operation phases: since the first day of operation of phase I, transport operators (including the state transport corporations) and particulars refused to pay tolls. In 2000, the concessionaire informed about losses of more than 850 million rupees because of the public opposition. The situation was not solved diligently, incurring in more expenses for the project. Moreover, during construction of phase II, a change in the project scope resulted in the construction of

an additional road over the bridge, which additionally cost 200 million rupees (Raghuram & Kheskani, 2002).

Lessons

This project showed the importance of goal alignment between the involved parties as well as an effective dispute resolution mechanism to face delays and cost escalation. One of our interviewees experienced in the public sector in Tamil Nadu affirmed that: "*There are not enough provisions in the contract to face unforeseen events. (…). There is an absence of post-governance mechanisms which causes problems and obstructs transparency*".

The lack of proper planning led to expensive changes in scope. This project showed the importance of proper project planning to avoid unexpected changes of scope which increase project cost and might cause conflicts between public and private parties.

The government should have used public consultation processes to analyze the suitability of the contract structure for the project. This way, they would have avoided reluctance to pay by users.

4.2.2. East Coast Road

EAST COAST ROAD

Project input	Project events	Project outcomes
PPPs to bring private funds. Joint Venture (TNRDC) operating the road through a RIMOT Toll based. Contract elaborated for the project. Negotiated contract.	Reluctance to pay. GoTN reluctant to review the roll tariff. Misalignment of objectives. High traffic demand.	Cost overruns. Lack of VfM. Increasing accidents. Small villages in the surroundings do not receive expected benefits. Need for road widening eight years after road opening.

Lessons learnt

Need for goal alignment between public and private parties and effective dispute resolution mechanism.

Need to reduce political interference and need for public sector commitment.

Importance of planning and procurement for project success.

Need for public consultation processes.

Figure 13 Overview of the East Coast Road project

In 2000, the GoTN launched the East Coast Road project. The GoTN wanted to improve the existing road's condition in order to increase traffic growth which would boost the economic

development in the area in return, attracting more users and increasing the traffic in a virtuous circle. In order to achieve this goal, the GoTN launched the project by means of a RIMOT contract (Rehabilitate- Improve-Maintain-Operate-Transfer) where the operator charged tolls to users. The project was constructed and operated by the TNRDC.

This road was a two-lane road that was not possible to toll according to the Indian Law. However, the GoTN amended this law and allowed tolling for this project. In the concession agreement, both public and private parties agreed on annually increasing the toll tariff by 8%, needing the GoTN's approval every year (Rajan A., Siddharth, & Mukund, 2010). However, the project suffered from strong public opposition by users to pay. In order to avoid getting more opposition and saving its political image, the GoTN refused to increase the tariff. This had a positive influence on traffic growth in the short term since the steady price increased the number of users, but from a strategic perspective it drove the project to a critical financial situation.

The project eventually needed GoTN's financial assistance worth 50 million rupees in order to overcome the financial difficulties (Rajan A., Siddharth, & Mukund, 2010). Besides, there is a lack of access roads connecting local villages to the highway and several small municipalities do not receive the expected economic benefits of connectivity that the East Coast Road offers (United Nations Development Program). In 2008, six years after the start of operations, the average growth in traffic has been around 11% and the government is evaluating the possibility to widen the road to a four lanes one which will entail long negotiations in terms of land acquisition.

Lessons

Like for the Coimbatore Bypass, this project showed the importance of goal alignment between public and private parties and effective resolution mechanisms. Again, the government did not apply any public consultation mechanism to analyze the suitability of the project structure and the users' willingness to pay.

The East Coast Road project was a negotiated contract. As stated by one of our interviewees: "*The fact that the East Coast Road was a JV was convenient to get approvals and permits faster. However, there was a conflict of interests (…). Since the government was part of the JV, the government had much to stake and the hands-off attitude did not exist. Public sector commitment was absent because the government sought its own interest*". Shortening the time to get permits and approvals would facilitate planning and procurement. Besides, competitive bidding is important to get VfM and avoid goals misalignments and conflicts of interest.

This project shows the importance of proper project planning to avoid further expansions which require high investments and time. A consultant involved in PPPs in Tamil Nadu stated the following: "*The government projected the East Coast Road as a two-lane highway. A four-lane road would have been more appropriate but the government was not transparent regarding the motives behind a two-lane road. (…)The lesson is that if a government plans a road for 30 years, the traffic forecast should be well calculated and the road planned accordingly in order to avoid further expansions which entail more problems regarding land acquisition*". The lack of proper planning has also led to criticism by surrounding villages that claim that they do not receive the expected benefits from the road.

4.2.3. IT Corridor

IT CORRIDOR

Project input	Project events	Project outcomes
PPPs to bring private funds. Joint Venture (TNRDC) operating the road through a BOT toll based. Contract elaborated for the project. Negotiated contract.	Automatic toll review. Reluctance to pay. Political interference. Misalignment of objectives. Changes in scope.	Lack of VfM. Cost overruns. First estimation: 1300 million Rs. Actual cost: 4000 million Rs. Delays: expected opening 2005- Actual opening 2008- still under construction. Increasing accidents. Dissolution JV for Phase II. GoTN took over private partner's equity. Phase II. Annuity.

Lessons learnt

Need for goal alignment between public and private parties and effective dispute resolution mechanism.

Need to reduce political interference and need for public sector commitment.

Need to shorten time for permits and approvals.

Importance for planning and procurement for project success.

Need for public consultation processes.

Figure 14 Overview of IT Corridor

In the early 2000s, the GoTN planned the development of an important industrial center in Chennai to attract IT companies and boost the economic activity of the state of Tamil Nadu. The existing road in the area, the Old Mahabalipuram Road, was not appropriate to provide accessibility to the industrial center so the GoTN planned to improve the existing road and build a new six-lane corridor connecting the center of Chennai to the neighborhood. This way, the main IT companies could settle in the district and attract investors to the city.

The GoTN planned the construction of the road in two phases, sold plots to the IT companies and promoted the construction of residential complexes in the district (Mahalingam, 2010). In 2004, TNRDC launched the project through a BOT user based scheme. Due to the political

interest to attract investors and fulfill companies' expectations, the planning and procurement were very quick (Mahalingam, 2010). The GoTN wanted to finish the project as soon as possible and there was a lack of time to prepare the project which eventually led to several changes in design (Mahalingam, 2010).

Phase I faced several delays during construction. Initially, the GoTN planned the start of operations in 2005 but the road was only partially available in 2008 (The Hindu Newspaper, 2008). In December 2008, operations started despite the construction works that were still taking place. To date, several components including lanes, footpaths and works for water supply, sewerage and electricity are yet to be completed (Lakshmi, 2009). A public officer involved for PPP projects in the GoTN highlighted the issues which this entails: "*The fact that the road is under construction and operative at the same time increases users' reluctance to pay. Users are less prone to pay if they feel that the quality of the asset is not impeccable*".

After the experience with the East Coast Road, the concessionaire proposed a change in the structure regarding toll revision. For the IT Corridor, the GoTN and the concessionaire agreed on increasing the toll rate every year by 8% without the GoTN's approval. This alleviated the concerns of the consortium and the financiers but the annual tariff increase in the toll price worsened public perception about the project (Delhi, Palukuri, & Mahalingam, 2010).

Moreover, constant delays and cost escalation have severely threatened the profitability of phase I. The initial cost estimation was 1300 million Rs (Balaji, 2010). In 2006, the expected cost for phase I was 2900 million Rs (The Times of India, 2008). To date, the total project cost has escalated to over 4000 million Rs (The Times of India, 2009). This situation made the concessionaire incapable of recovering the project cost from toll collections (Mahalingam, 2010). Besides, there is much pressure because phases I and II of the development projects in the IT district have already been completed. The IT companies are already settled in the area but the road is still under construction. For phase II, the JV has been restructured and the GoTN took private party's equity. In January 2010, the GoTN announced that phase II will be developed through an annuity based contract (Balaji, 2010). This way, TNRDC expects to get the returns that have been thwarted for phase I.

Lessons

The IT Corridor highlights the same lessons provided by the experience in the East Coast Road. Proper planning and procurement are needed for project success.

Our respondents emphasize that the government should minimize political interference and their own interests in the project hence, the contract offers reliable dispute resolution mechanisms to solve unforeseen events during project development. A quote from a project manager involved in PPPs in Tamil Nadu confirms the lack of post-governance mechanisms to solve unforeseen events in PPP projects captured in the examples above: "*Many contract renegotiations are not based on rational behavior. There is absence of post award governance. It is not transparent and there is a lack of mechanisms to balance unforeseen issues. Governance should be rule based and it does not exist in Tamil Nadu.*"

Again, lack of public consultation led to a project where citizens are reluctant to pay. As stated by a project manager during our interviews: "*It is necessary to make sure that users are going to pay and they perceive that they receive an added value so that the quality is better and they are willing to pay*". This could be achieved by implementing appropriate public consultation procedures.

4.2.4. Outer Ring Road

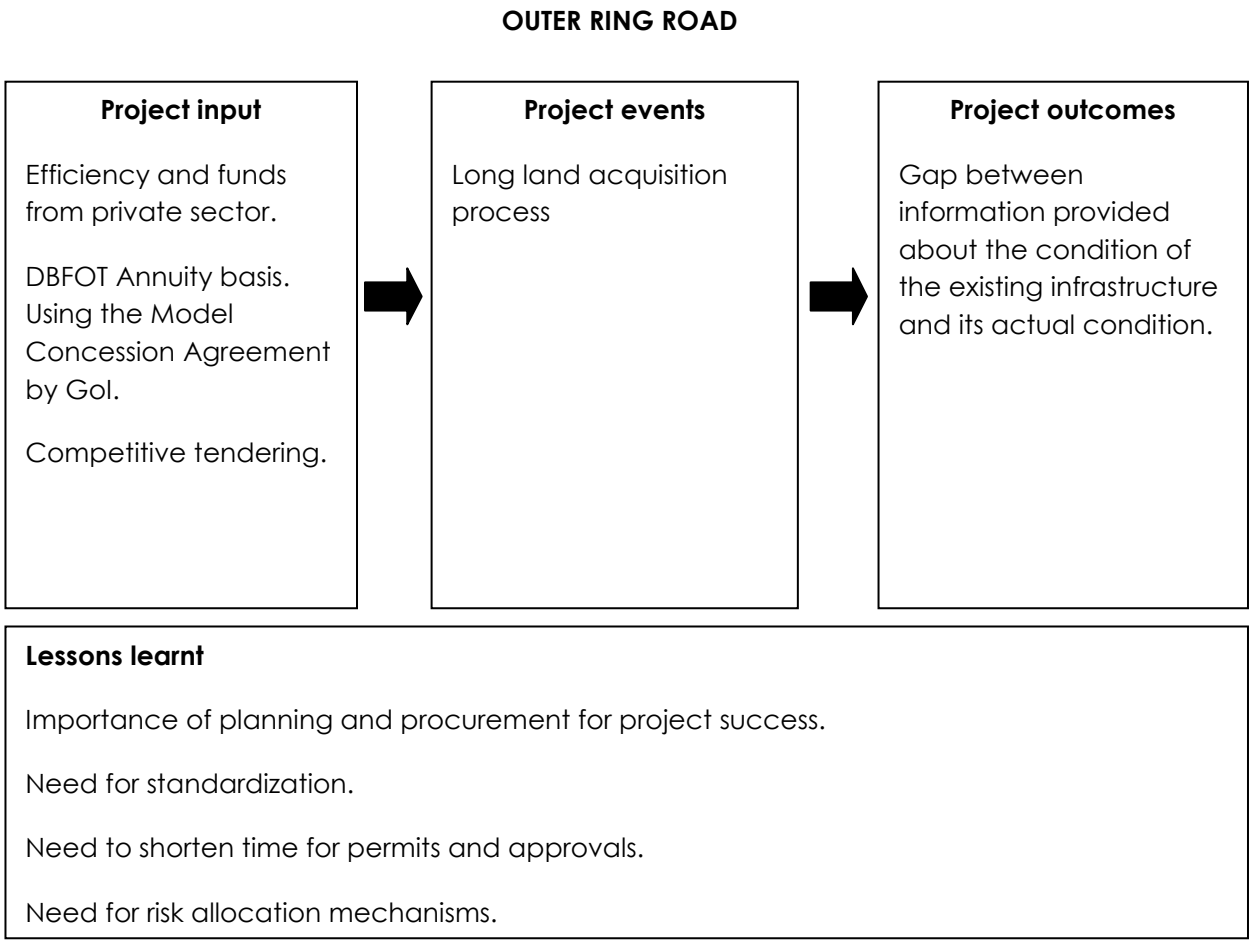


Figure 15 Overview of Outer Ring Road

After these experiences, the GoTN has gained more flexibility regarding the contractual choice. The Outer Ring Road has been awarded through an annuity contract. According to a project manager involved in this project: "*The state government was not comfortable about the tolling and an annuity model was implemented, it worked good and had good competition and participation*". Besides, the GoTN improved planning and procurement for this project. During our interviews, a project advisor working for the GoTN affirmed that: "*The government understood the importance of project planning for PPP. The Outer Ring Road is a "road for the future", built to host the growing traffic in Chennai. The road will be operative after construction and there will not be enough traffic volume. So that, it is better to plan the project as an annuity contract*".

The GoTN is using the model concession agreement and procedures provided by the central government. Although it is too early to judge the project outcomes, we consider that there is an evolution from the past experiences to this project.

However, there are still many issues to improve. Our interviewees pointed out the importance of risk allocation for project success. According to a project manager involved for the Outer Ring Road: "*Private parties bear most of the risks. These risks are not published during the tendering phase and there is not dialogue with private parties to discuss them. Whatever is changed in the contract will be responsibility of the concessionaire*". This situation might be detrimental for cooperation for PPPs. An advisor involved in several PPP projects in Tamil

Nadu affirmed that: "*Surprisingly, there is some amount of commitment to cooperate in the public sector. However, there is very little in the private sector. Risks are too heavy for the private sector so they find them abusive*".

Besides, getting permits takes long time in Tamil Nadu. For this project, a project manager stated that: "*Getting permits entail delays because there are several departments to coordinate that might not support PPPs. Administrative burden is a disadvantage in Tamil Nadu*". This administrative burden also affects the information provision related to the project. For the Outer Ring Road there is also a gap between the information provided by the government about the project. According to our interviewees, these studies are not always *accurate enough*.

Lessons

There is a need for standardization and the use of the documents provided by the GoI is the step towards facilitating PPPs in the state of Tamil Nadu. However, these standard documents should be adapted to the specific project characteristics. According to a project advisor during our interviews: "*The standard documents elaborated by the central government help at the state level. Nevertheless, governments need to realize that PPPs are a dynamic entity that evolves, so they should adapt this document to the specific stakeholders and project needs*". The government should provide risk allocation mechanisms, guidelines and procedures in order to foster an appropriate environment for PPP development in Tamil Nadu.

This project shows the importance of planning and procurement to choose the appropriate contract structure hence, future problems are avoided.

Shortening the time to get permits and approvals is still an unresolved issue in Tamil Nadu. Coordinating agencies and increasing public capacity could contribute to improve the existing administrative burden.

Part V. Discussion

5. Discussion

The main goal of this research is to evaluate how the institutional environment influences project development in PPPs in the road sector. With this purpose, we have analyzed the institutional reality in two different contexts with a similar age and project portfolio volume in PPP implementation: the Netherlands and Tamil Nadu. We have also studied four different projects in each location which took place at different points of time; noting that the institutional environment is variable and it evolves as a result of policy implementations over time. Therefore, to answer how the institutional environment influences project development for PPPs in the road sector, it is important to study why these environments evolved in a different way and how this evolution is perceptible in project development.

In this chapter we discuss our results about the influence of the institutional environment in project performance. We start analyzing this influence in the Netherlands and Tamil Nadu, stage by stage. Throughout this evolution, we also observe that the institutional environment has a different impact in project development, captured in the different nature of project issues that we identify, confirming the importance of an enabling institutional environment for PPP success. To support this statement, we elaborate the model proposed in Figure 16 which we use during the discussion in this chapter.

This model allows us to represent the evolution of the institutional environment and its influence on project performance. Projects' performance results in lessons learnt. Through our model, we evaluate to what extent these lessons change the institutional environment for the next stage or project generation so there is a direct correlation between project and institutional levels through the stages.

There are also external factors affecting both project development and the institutional environment. During the analysis of our case studies, we avoided events not in our research scope like specific project characteristics that influenced project outcomes. We also obviate external factors influencing the institutional environment that we will present in the limitations of our research in chapter 8.

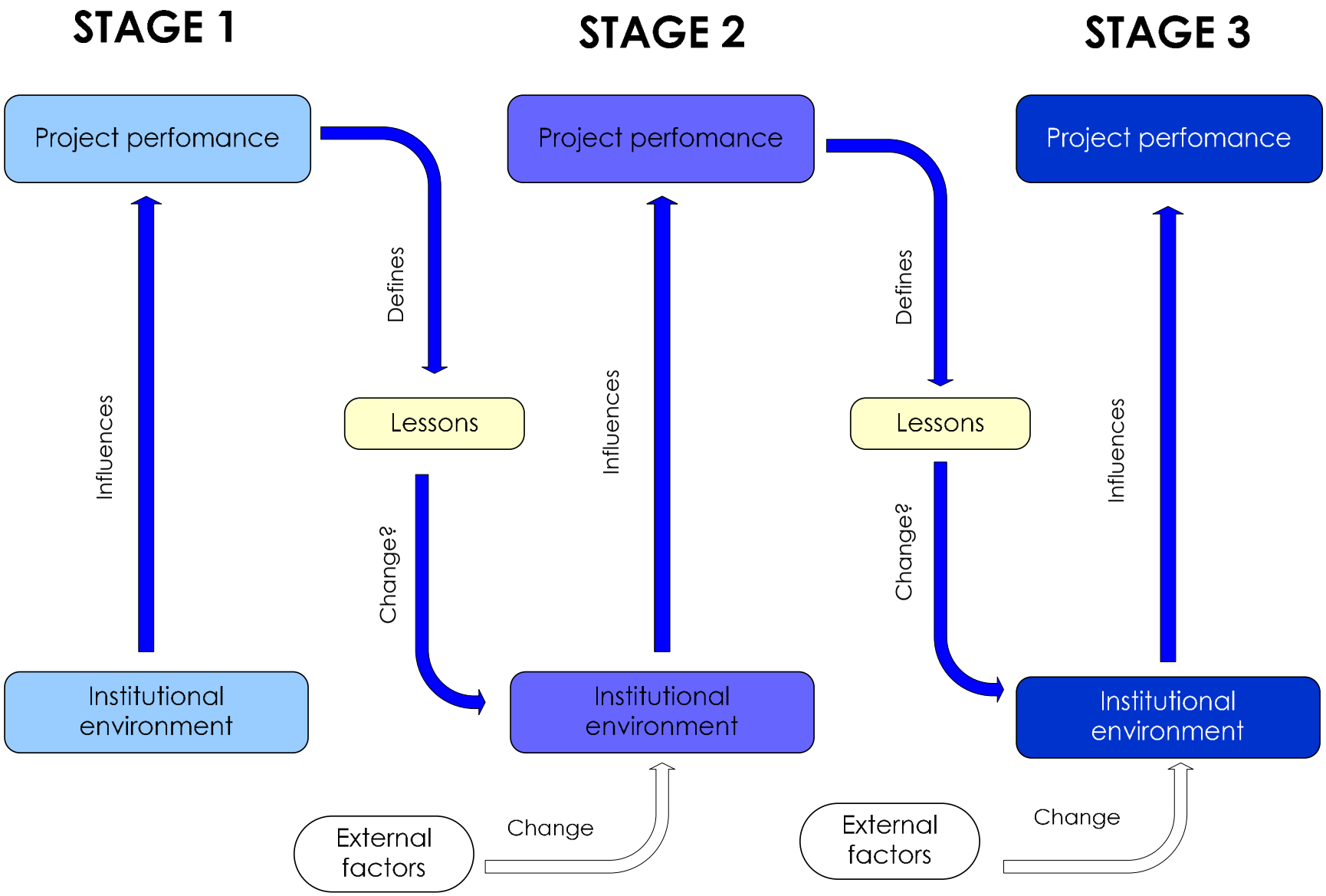


Figure 16 Conceptual framework

5.1. Influence of the institutional environment in project development

In chapter 3, we described the policy interventions and institutional capabilities in Tamil Nadu and the Netherlands. Based on the acquired data, we analyze the relationship between the institutional environment and the project outcomes obtained in our case study analysis.

As stated earlier, the institutional environment evolves hence we study the evolution of the institutional capabilities from one stage to another. For this, we employed the scheme proposed in figure 16. We present the relationship between the institutional capabilities presented in chapter 3 and the project outcomes evaluated in our case studies. Throughout this sub-chapter, we display the institutional capabilities that affected each specific project and the project outcomes related to that institutional capability. It is important to note that we present the existing institutional capabilities applied for each stage. Some improvements were made, but never applied: these are not included in the diagrams and tables presented in this chapter.

5.1.1. The Netherlands

We observe a clear evolution in the Dutch institutional environment for PPP development in the road sector. The institutional context changed from one stage to another as a result of several policy interventions for PPP development. In this subchapter, we discuss the results obtained about the Dutch institutional environment in different stages, its evolution and its influence in project development.

Stage 1. Wijkertunnel

During the first years of PPP implementation, the Dutch government's rationale towards PPPs was oriented to bring private finance to make projects possible in times of scarce public funds. Before developing public capacity to identify and govern PPPs, the Dutch government imported the PPP model from the UK and put it in practice in the Wijkertunnel.

Table 8 shows our results for stage 1 in the Netherlands. In the Wijkertunnel, we observe that the main drawback was the lack of public capacity to select the appropriate structure for the project and to understand the importance of planning and procurement for project success.

The Dutch government poorly structured and planned the project leading to significant losses for RWS. The government could have avoided this situation through a better demand forecast and competitive procurement but they lacked capacity and understanding to do so. In this project, we did not obtain any data related to trust and parties commitment.

Right after the negative outcome of the Wijkertunnel, political willingness to implement PPPs decreased for two years in the Netherlands. This decreasing political willingness also stopped the Dutch government to implement measures to increase public capacity. However, external macroeconomic factors[23] motivated the Dutch government to bring back the PPP model and establish the PPP Unit to go on to Stage 2.

Conclusions

- This project shows the strong link between public capacity and a clear rationale behind PPPs to properly plan and procure the project with the purpose of obtaining VfM.
- Political willingness is decisive to provide mechanisms which promote public capacity.

[23]Public deficit (Bult-Spiering & Dewulf, 2006)

Table 8 Institutional capabilities and project outcomes during stage 1 in the Netherlands.

STAGE 1. THE NETHERLANDS		
Institutional capabilities		**Wijkertunnel. Project outcomes.**
LEGITIMIZATION		
Rationale	Need for private funds. Project urgency.	Launch of the project
Political willingness	Unstable. Invitation to tender delayed one year because of change in the government.	One respondent to the tender. Lack of competition.
Advocacy	No data.	No data.
TRUST		
Public sector predictability	No action	No data.
Public sector commitment	No data.	No data.
Private sector commitment	No data.	No data.
CAPACITY		
Public sector capacity	Schemes brought from the UK.	Lack of proper project planning. Higher demand than expected and maximum.
Risk + Financing mechanisms	Project to project basis. BOT Shadow toll.	Maximum revenue not capped. Lack of VfM.
Private sector capacity enhancement	No action	Lack of competitive bidding. One respondent to the tender.

Stage 2. A59

Influenced by international experiences and the need for infrastructure, the trend changed in 1998 and the Dutch government looked again at the PPP model. After the Wijkertunnel, the policy interventions in the Netherlands aimed at increasing political willingness to successfully implement PPPs in the country. As a result of an increased political willingness, the Dutch government formed the *PPS Kenniscentrum,* which was a turning point in the Dutch institutional environment: the PPP Unit changed the government's rationale towards VfM and favorably affected public capacity.

Table 9 shows our results for stage 2 in the Netherlands. The A59 took place after the creation of the *PPS Kenniscentrum*. The experiences in the Wijkertunnel encouraged the Dutch government to invest in public capacity before embarking on a complex PPP project. At this point in time, the rationale had changed towards VfM, hence, the government chose a

DBFM contract for this project. This type of contract favorably influenced private sector commitment because of the lifecycle approach and the strict banking requirements.

The A59 was a pilot project in the country and its success was fundamental for the future of PPPs in the country. Its outcomes were expected to have a direct impact on the political willingness to carry out more PPPs. Being the first DBFM elaborated and imported to the Netherlands from English schemes, there was a lack of public sector predictability. Planning and procurement were delayed because of long negotiations to understand contractual terms. Due to the project's novelty, both public and private parties were aware of the uncertainty they faced, which resulted in a risk averse attitude from both sides worsened by the lack of standard risk allocation mechanisms.

Despite the improved public capacity due to the establishment of the PPP Unit, the Dutch government hired consultants for this project who left the organization when the project was finished, losing the acquired knowledge.

Since operation began in 2005, this project has generated 14% more VfM than developed by the public sector. A fact that positively influenced PPP continuity in the Dutch road sector through DBFM contracts. Since the A59 was a pilot project in the Netherlands and PPPs were still at an early stage in the country, project development strongly influenced political willingness towards a programmatic approach.

Conclusions

- This project is evidence of the strong link between public sector predictability in decision making and potential delays during project development. In this case, the lack of guidelines, standard documents, and procedures led to long discussions and negotiations that delayed project planning and procurement. Besides, this project shows the significance of public sector predictability to promote a propitious environment towards cooperation.
- Appropriate risk allocation mechanisms favor transparency and shorten negotiations during project and procurement.
- Mechanisms to provide public and private sector commitment in order to understand each others' interests and goals for PPPs positively encouraged cooperation between parties, beneficial for project success. These alignment meetings also improved private sector capacity
- The A59 also captured the need of political willingness to continuously increase public capacity to avoid knowledge loss.

Table 9 Institutional capabilities and project outcomes during stage 2 in the Netherlands.

STAGE 2. THE NETHERLANDS		
Institutional capabilities		**A59. Project outcomes.**
LEGITIMIZATION		
Rationale	VfM	DBFM contract
Political willingness	Pilot project. Willingness to make this project a success.	PPP as a learning process.
Advocacy	No data.	No data.
TRUST		
Public sector predictability	Project basis	Long negotiations and discussions. Delayed planning and procurement. Risk averse parties.
Public sector commitment	Alignment meetings.	Improved cooperation.
Private sector commitment	DBFM Alignment meetings.	Lifecycle approach. Improved cooperation.
CAPACITY		
Public sector capacity	Consultants hired to bring knowledge.	At the end of the project: knowledge is lost.
Risk + Financing mechanisms	Negotiated risks.	Long negotiations. Risk averse parties.
Private sector capacity enhancement	Alignment meetings. Open debates.	Improved cooperation.

Stage 3. A12 and A15.

The experience of the A59 showed the importance of learning based on experience, although it took several years for the Dutch government to provide an active project portfolio after the A59 and N31 experiences.

The strengthened political willingness has recently provided an active project portfolio to gain more capacity for PPP development through experience. The improved capacity and predictability developed after the A59 has resulted in positive measures such as the standard DBFM contract or the standard risk allocation through listed risks. Table 10 shows our results for stage 3 in the Netherlands.

After the A59 project, the Dutch government increased public predictability by elaborating standards and procedures for project identification, procurement, award, and development. The continuous political willingness contributed to an active PPP Unit which promoted open debates, workshops, and trainings to increase public capacity. This increased capacity contributed to the creation of risk allocation and financing mechanisms specialized for the Dutch context.

As a result of an increasing public capacity and advocacy, the Dutch government developed mechanisms in order to reduce delays result of the complex stakeholder management involved in Dutch project. Since large complex PPP projects involve getting permits from different local bodies that might not be familiar with PPPs, the Dutch government applies the *Route Determination* as a planning tool to manage all involved stakeholders. The *Route Determination* gives the authority to make decisions regarding permits and approvals under the Dutch Infrastructure Act. This *Route Determination* includes all potential requirements for the project and attempts to safeguard the interests of residents, the environment and, important stakeholders. Its main key values are openness to the public, public consultation, and advice. However, a strict use of the *Route Determination* conflicts with the core drivers for VfM in the Netherlands, which are innovation and flexibility. Private parties are very limited and they cannot deviate from predetermined aspects for projects in terms of zoning and permitting rules. The *Route Determination* hinders innovation brought by the private sector; hence, it does not enhance private sector capacity.

DBFM contracts, as applied in the A12 and A15, entail very strict requirements in terms of availability. This leads to severe demands from the financiers that keep the contractors sharp to finish construction works in time. Despite the benefits of this practice that encourages private parties to be committed, this kind of DBFM contract does not offer many possibilities for contract changes or innovation because of time pressure and availability demands. We observe that strict availability requirements, as included in the Dutch DBFM successfully capture RWS's pursuit to keep private parties committed during project development. However, once applied in the project, we note that it obstructs private sector capacity in terms of innovation, conflicting with the main rationale behind PPP for the Dutch government, which is VfM from the private efficiency and innovation.

Conclusions

- In a more complex institutional environment, the influence of the institutional capabilities on project development has a reflex on other institutional capabilities. There are remarkable cause-effect relationships between the institutional capabilities once applied in the project.
- A more complex institutional environment provides more mechanisms and procedures to ensure advocacy, predictability and commitment. However, it extends the time for planning and procurement, increasing transaction costs.
- We observe that private capacity enhancement remains one of the capabilities to develop in depth. This capability is mainly influenced by the evolution of other capabilities and the result of their application in the project.
- Again, permanent political willingness and the promotion of public capacity is very important at this stage, as we see in projects A12 and A15.

Table 10 Institutional capabilities and project outcomes during stage 3 in the Netherlands.

STAGE 3. THE NETHERLANDS		
Institutional capabilities		**A12-A15. Project outcomes.**
LEGITIMIZATION		
Rationale	VfM	DBFM contract. Lifecycle approach.
Political willingness	Increasing project portfolio. Projects in the Urgency Approach.	Experience learnt from previous projects (2nd Coen Tunnel) Much pressure to finish in time.
Advocacy	Mechanisms like *Route Determination*. Public consultation. Early market involvement.	Minimization of public opposition. Cooperative solutions. Long planning and procurement. High transaction costs.
TRUST		
Public sector predictability	PSC, PPC. Market scan. Standard contract and procedures.	Promotion of cooperation. Gap between the information provided about the condition of the existing infrastructure and its actual condition.
Public sector commitment	Cooperation platforms.	Alignment of objectives-improved cooperation.
Private sector commitment	DBFM availability based Cooperation platforms.	Lifecycle approach. Alignment of objectives-improved cooperation. Innovation obstructed.
CAPACITY		
Public sector capacity	Acquired in-house knowledge. Evaluation reports.	Transfer knowledge from project to project. "Changing teams" issue.
Risk + Financing mechanisms	Listed risks. Availability based DBFM.	Transparent process. Innovation obstructed.
Private sector capacity enhancement	Competitive dialogue. Early market involvement. Cooperation platforms.	Joint solutions. High transaction costs

Influence of the institutional environment in project development in the Netherlands

In this subchapter, we compile our findings of our discussion, categorized by institutional capabilities. The institutional capabilities influence project development in a different way from one stage to another.

Figure 17 displays the most influential institutional capabilities for each stage in the Netherlands, based on the previous discussion. It allows us to identify the capabilities that create issues during project development in different stages. This figure allows us to compare the situation in Tamil Nadu and the Netherlands, and to draw conclusions and recommendations in the next chapters.

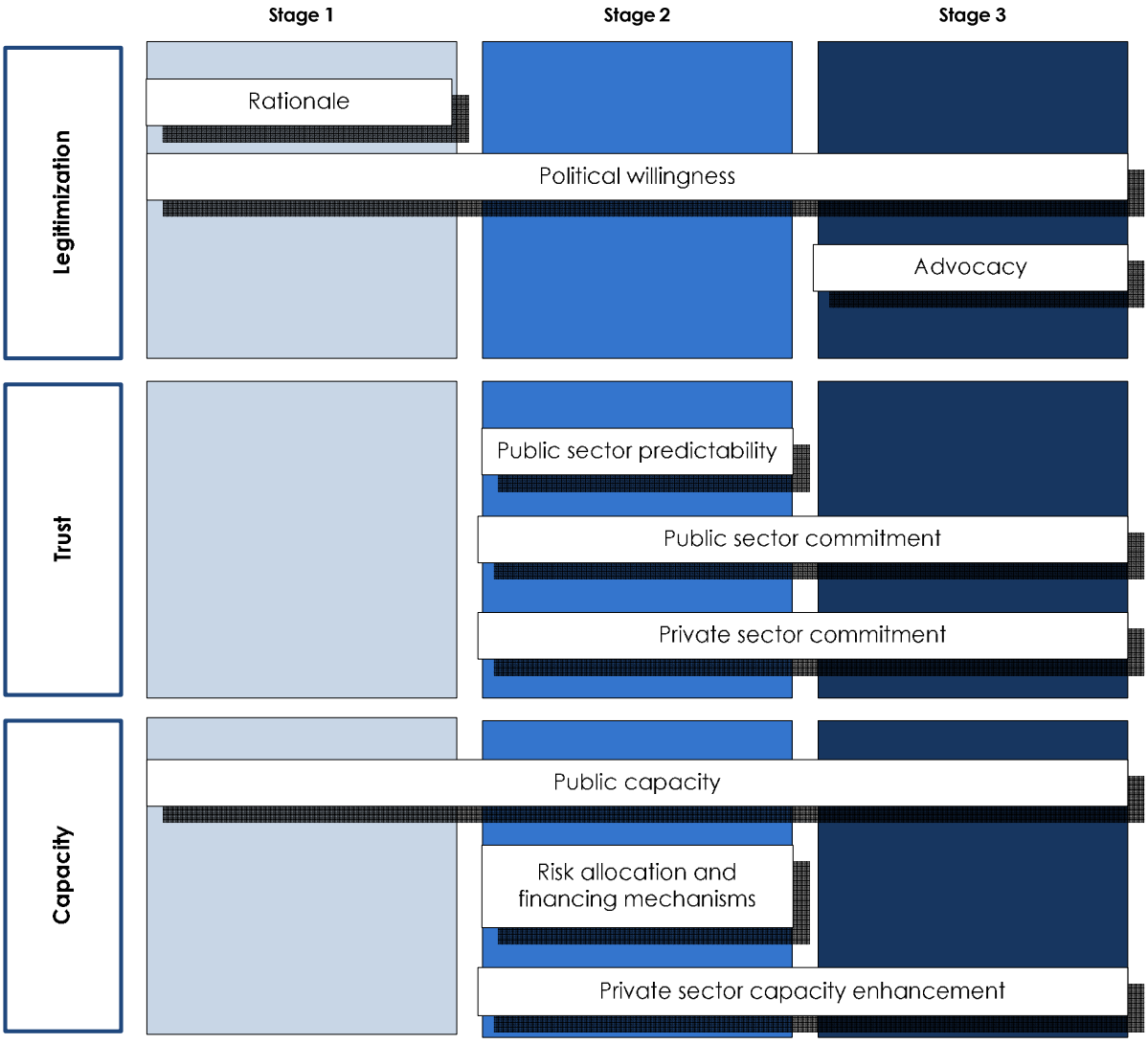


Figure 17 Most influential capabilities by stage in the Netherlands

In weak institutional environments where the government does not possess a clear rationale and political willingness is still uncertain, governments do not have knowledge and mechanisms to select the appropriate contract structure, resulting in a lack of VfM. A more complex institutional environment provides more mechanisms and procedures to ensure advocacy, predictability and commitment. However, it extends the time for planning and procurement, affecting transaction costs. Moreover, in a more developed institutional environment, the influence of the institutional capabilities on project development has a

reflex on other institutional capabilities in return. There are remarkable cause-effect relationships between the institutional capabilities once applied in the project as described for private sector capacity enhancement in the subsection below.

Legitimization

Our results show that once the government has applied the necessary measures to legitimate PPPs in a certain context, project issues tend to be less severe. Issues arise regarding planning and procurement but the government is capable of ensure VfM.

- Rationale

The experience in the Netherlands shows the importance of having a clear rationale to implement PPPs. From stage 1 to stage 2 we perceive that the change of rationale affected the choice of contract structure, hence the government managed PPP projects with the purpose of acquiring VfM. A government committed to get VfM aims at bringing the efficiency gains through applying a PPP contract.

- Political willingness

There is a permanent link between political willingness, public capacity and project success. On the one hand, continuous political willingness positively influences public capacity by implementing measures which improve government's capacity to identify, award, and govern projects. On the other hand, permanent political willingness ensures an active project portfolio, necessary to increase public capacity since PPPs are a learning process.

- Advocacy

We observe that public consultation is one of the pillars of Dutch institutions. Already before the launch of the Wijkertunnel project, the Dutch government implemented mechanisms to facilitate public consultation and decision making like the *Route Determination* to ensure consensus (see sub-chapter 3.2.2.). Advocacy mechanisms like public consultation minimize public opposition during project development. Although positive, these mechanisms complicate the environment where projects take place generating more interdependencies between capabilities. In stage 3, we observe that advocacy mechanisms facilitate public acceptance for the project but obstruct private innovation hence, private capacity is not fully enhanced.

Trust

Public sector predictability for decision making is the most visible and influential capability in our results. Our results show that formal mechanisms to foster trust have a strong influence in parties' expectations about PPP development.

- Public sector predictability

Mechanisms to ensure public sector predictability promote a propitious environment towards cooperation once applied in the project. It shortens planning and procurement, generating confidence for the private sector to embark in PPP with the government.

- Public sector commitment

Our results show that the standard DBFM contract includes dispute resolution mechanisms and our respondents pointed out that these mechanisms were reliable and trustworthy. Our case studies do not show any incidence regarding public sector commitment during project

development. Public and private sector commitment mainly appear in the Netherlands through the creation of cooperation platforms to understand each others 'interests and foster a propitious environment towards *working together* for PPP development.

However, our research results do not show any conflict arising because of the lack of these two capabilities. The Dutch contracts are enforced and public and private sectors are willing to cooperate during project development.

- Private sector commitment

Mechanisms to provide public and private sector commitment in order to understand each others' interests and goals for PPPs positively encourage cooperation between parties, which is beneficial for project success. Besides, availability based DBFM contracts keep private companies committed because of the strict availability requirements. As stated for public sector commitment, Dutch contracts are enforced and the public and private sectors are willing to cooperate during project development.

Capacity

Our results in the Netherlands show the importance of developing public sector capacity over the years in order to ensure successful project development.

- Public sector capacity

Our case studies show the strong link between public capacity to properly plan and procure projects with the purpose of obtaining VfM. They also reflect the need to continuously increase public capacity to avoid knowledge loss.

- Risk and financing mechanisms

An environment which provides risk allocation mechanisms favors transparency to support trust between private and public parties. Availability based DBFM contracts increase private sector commitment

- Private sector capacity enhancement

Once the environment becomes more mature, we observe that the environment's complexity affects private sector capacity enhancement. Sets of regulations, support, and private sector capacity enhancement is one of the main aspects to be improved.

Evolution of the institutional environment in the Netherlands

We observe that the institutional environment has an influence in project development, evolving through the different proposed stages for PPP development. In this subsection, we analyze to what extent the lessons learnt from the different projects have influenced the institutional environment.

Table 11 visualizes the evolution of the institutional capabilities in the Netherlands. We look at changes in the institutional environment and the first stage is the origin of our analysis. In stage 2 and 3, we represent the policy actions that affected the institutional capabilities and the projects presented in our case studies by adding a "+" when this capability evolved from one stage to another.

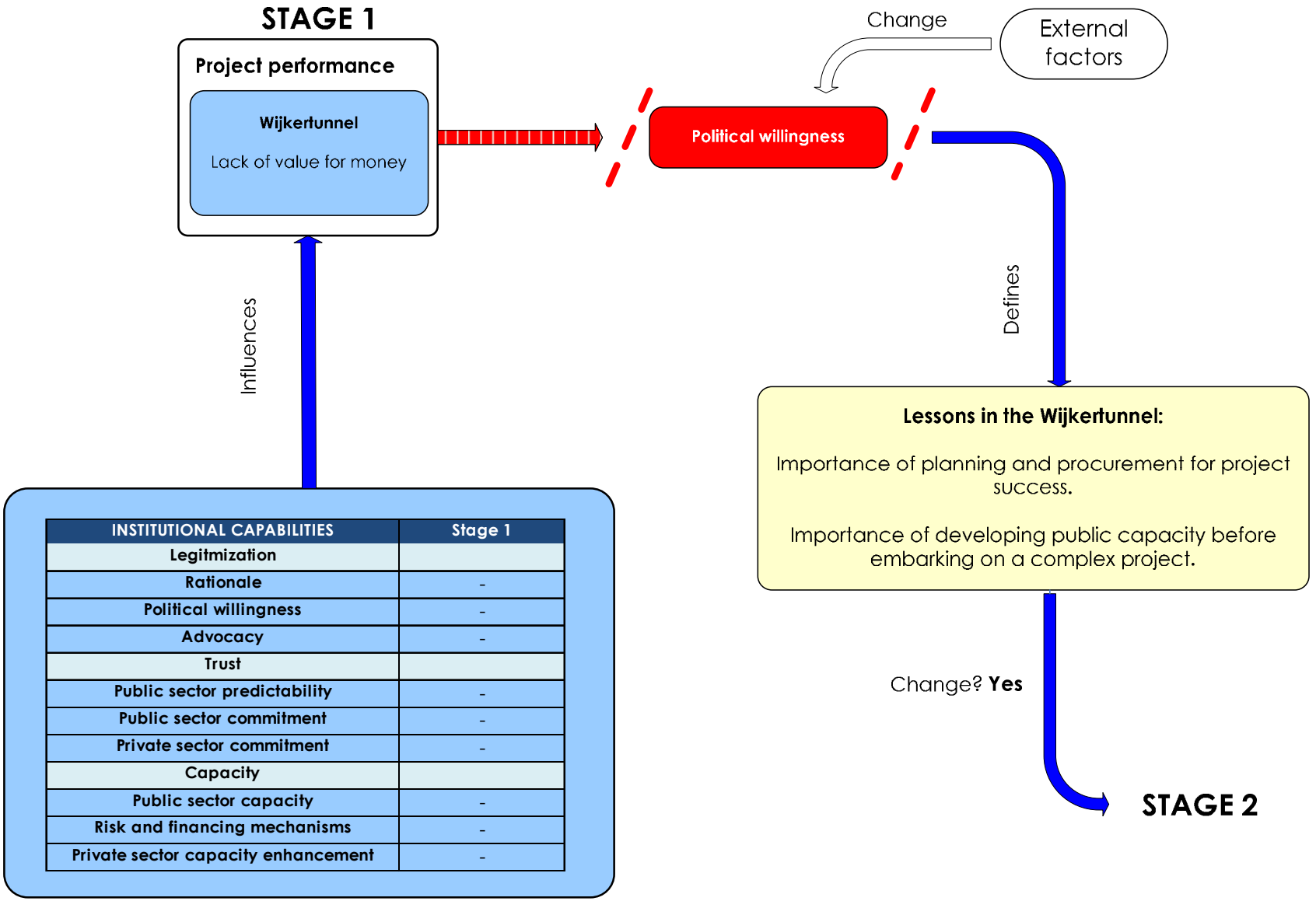
Table 11 Visualization of the evolution of the institutional capabilities in the Netherlands

INSTITUTIONAL CAPABILITIES IN THE NETHERLANDS				
	Stage 1	**Stage 2**	**Stage 3**	**End situation**
Legitmization				
Rationale	-	+	+	++
Political willingness	-	+	+	++
Advocacy*	-	-	+	+
Trust				
Public sector predictability	-	-	+	+
Public sector commitment	-	+	+	++
Private sector commitment	-	+	+	++
Capacity				
Public sector capacity	-	+	+	++
Risk and financing mechanisms	-	-/+	+/+	+/++
Private sector capacity enhancement	-	+	+	+

Visualizing the evolution of the institutional capabilities allows us analyzing if the interventions at the institutional level were related to lessons from implemented projects.

Figures 18, 19 and 20 display the relationship between the institutional environment and project development for stages 1, 2 and 3 in the Netherlands. We note that political willingness to implement PPPs decreased in stage 1 as a result of the lack of VfM for the Wijkertunnel. External factors (public deficit) changed this negative political willingness and encouraged the government to look at PPP schemes again. In the next stage, we evaluate if the Dutch government applied lessons from the Wijkertunnel to the next stage.

In the Netherlands, we observe a link between the lessons obtained from project performance and the policy interventions at the institutional level. We observe a balanced evolution of the institutional capabilities, especially putting an emphasis on legitimization and capacity. Nevertheless, although the A59 shows that PPPs are a learning process and there is a need for an active project portfolio to increase public expertise, it took six years for the Dutch government to launch the next complex DBFM project in the road sector (see table 4).



INSTITUTIONAL CAPABILITIES	Stage 1
Legitmization	
Rationale	-
Political willingness	-
Advocacy	-
Trust	
Public sector predictability	-
Public sector commitment	-
Private sector commitment	-
Capacity	
Public sector capacity	-
Risk and financing mechanisms	-
Private sector capacity enhancement	-

Figure 18 Relationship between the institutional environment and project performance for stage 1 in the Netherlands.

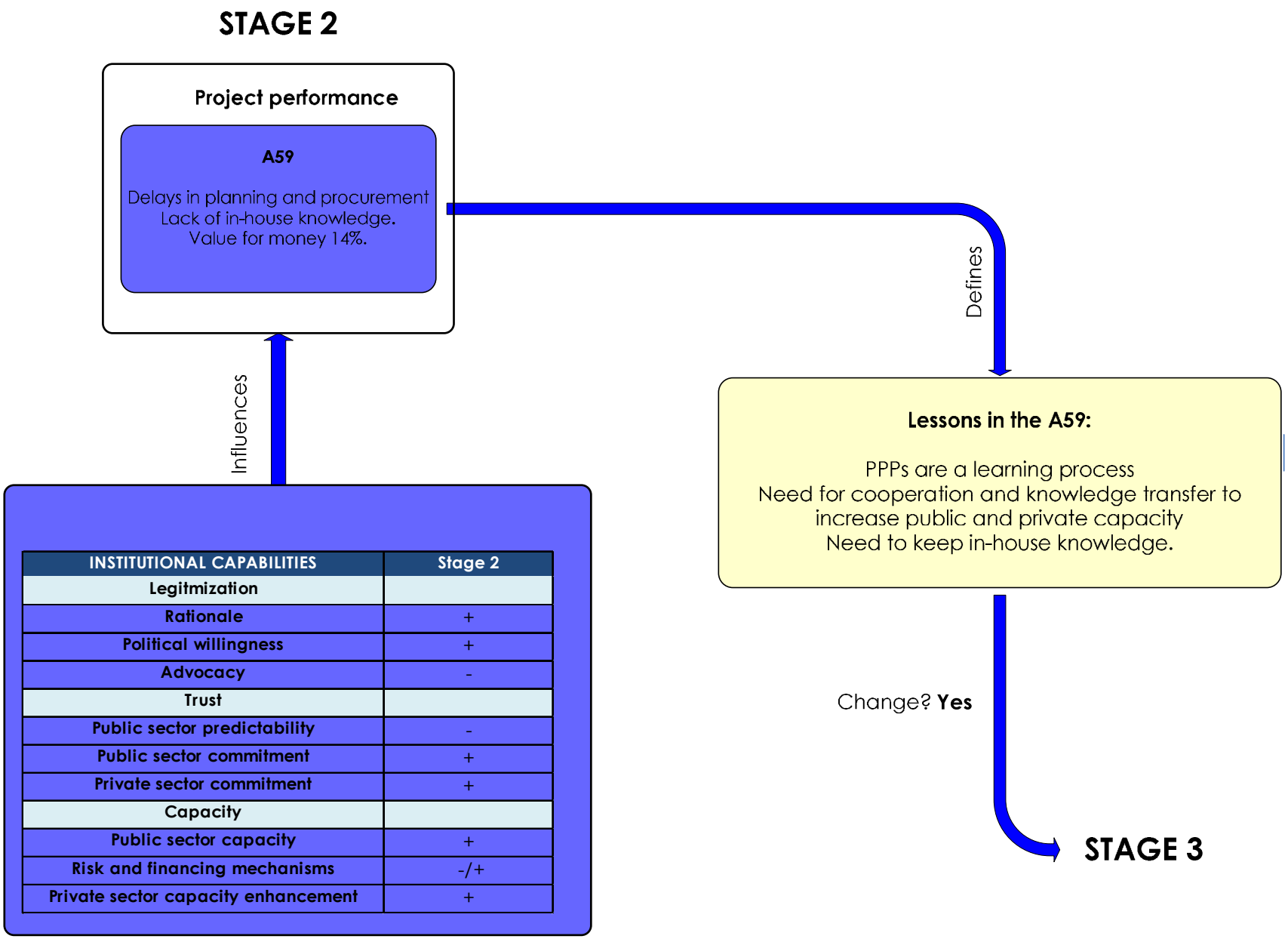


Figure 19 Relationship between the institutional environment and project performance for stage 2 in the Netherlands.

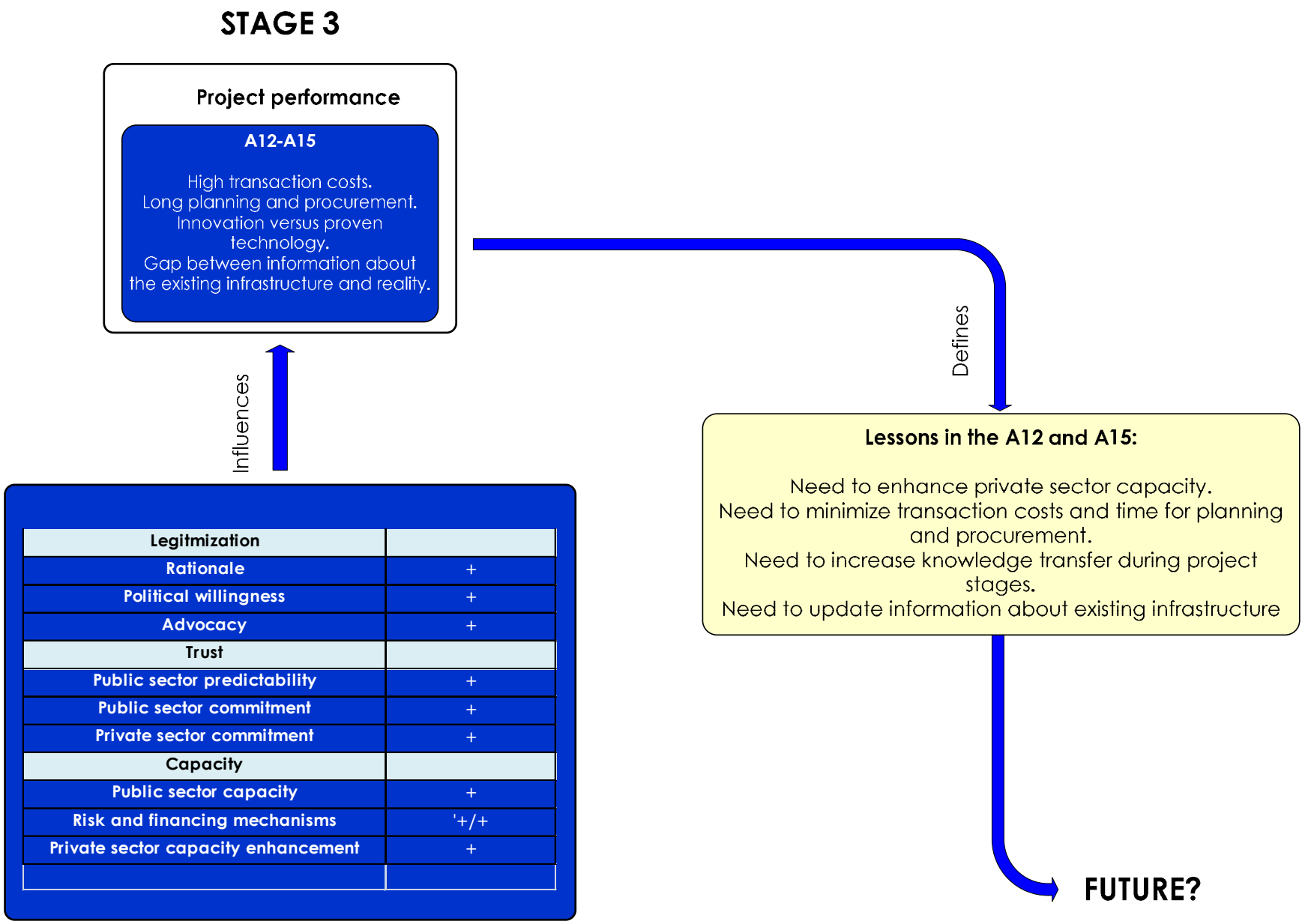


Figure 20 Relationship between the institutional environment and project performance for stage 2 in the Netherlands

5.1.2. Tamil Nadu

PPP development in Tamil Nadu is a mixed success. While the GoTN has been promoting private investment and the government has attracted private companies by the booming economy in the region, experiences such as the Coimbatore Bypass, the East Coast Road, and the IT Corridor have created rejection and distrust among private and public parties. Throughout the three different stages we observe measures at the state and national level to facilitate project financing and give credibility to projects.

Although the Coimbatore Bypass, East Coast Road, and IT Corridor projects were launched at different moments in time, the institutional setting in Tamil Nadu stayed stagnant for PPP development. The GoTN did not understand PPPs at the time they launched the projects facing issues similar to the ones we find in the Wijkertunnel. We observe that these three cases suffer from cost escalation and delays. The government did not provide appropriate structures and provisions to overcome these situations and we note that the rationale behind PPPs is not clear in Tamil Nadu. For this reason, the GoTN did not choose the right project structures according to projects' needs.

As stated in sub-chapter 3.5, the GoI has taken several initiatives over the last years to strengthen the institutional environment and facilitate project implementation, not only at the national level but supporting state governments willing to realize PPPs. Some initiatives such as the VFG, the Model Concession Agreement, etc. come from the national government and not from the GoTN. Nevertheless, these actions have positively influenced project development in Tamil Nadu when the GoTN has made use of them. In this sub-chapter it is important to note that we *only* include these national initiatives when they have directly influenced project development (particularly, our case studies) in Tamil Nadu.

Stage 1. Coimbatore Bypass

In the Coimbatore Bypass, the lack of understanding and public capacity for PPPs led to weak project structure. The government did not possess the expertise to promote competitive tendering and evaluate the suitability of the contract structure. During project planning, the government did not carry out any consultation to evaluate stakeholders' positions towards the project which resulted in an unexpected public opposition to pay the toll. Moreover, once problems emerged, the government was reluctant to provide the required support and action; these deficiencies put the project at risk, led to large losses for the concessionaire, and resulted in a lack of VfM for the project.

Conclusions

- Weak political willingness led to the absence of governance mechanisms to solve negative unforeseen project events.
- Lack of mechanisms to ensure advocacy resulted in public opposition to pay which led to severe cost overruns for the concessionaire.
- Insufficient mechanisms to ensure public and private sector commitment led to a lack of goal alignment between public and private parties.
- Deficient public sector capacity affected project planning which entailed costly changes of scope.
- The lack of a clear rationale towards PPPs negatively affected project structure, leading to an absence of value for money.

Table 12 Institutional capabilities and project outcomes during stage 1 in Tamil Nadu.

STAGE 1. TAMIL NADU		
Institutional capabilities		**Coimbatore Bypass. Project outcomes.**
LEGITIMIZATION		
Rationale	Project urgency. Need for private funds.	Launch of the project.
Political willingness	No action	Lack of project provisions or support to solve unforeseen events.
Advocacy	No action	Public opposition to pay.
TRUST		
Public sector predictability	No action	Lack of transparency during the process.
Public sector commitment	No action	Lack of goal alignment between public and private parties.
Private sector commitment	No action	Lack of goal alignment between public and private parties.
CAPACITY		
Public sector capacity	No action	Lack of proper planning: Changes in scope and lack of public consultation.
Risk + Financing mechanisms	No action	No data
Private sector capacity enhancement	Lack of competition.	One bidder responding to the tender.

Stage 2. East Coast Road and IT Corridor

The East Coast Road and the IT Corridor belong to the same stage for PPP development in Tamil Nadu and present similar project issues hence, it is possible to discuss them jointly.

In the East Coast Road, we observe again that a lack of public capacity and clear rationale towards PPPs led to deficiencies in private and public parties' goal alignment. The GoTN, in its eagerness to improve the road, amended the existing toll policy in order to toll the road, reflecting a strong commitment for project implementation. However, the government implemented PPPs as a means of bringing private funds instead of a scheme where *working together* is essential for project success. When problems arose because of public opposition

to pay, this wrong rationale led to a lack of public commitment. The government did not increase the toll tariff because of political interference, trying to maximize their own interest despite being a partner in the JV.

Despite the creation of the TNRDC, a lack of public capacity resulted in planning deficiencies in terms of demand forecast and economic integration of the infrastructure. This caused increasing investments during the following years, such as widening the road or building access to neighboring areas that could have been avoided with a more lifecycle approach.

In the IT Corridor we perceive that a lack of understanding, together with political pressure and public capacity negatively influenced the project's planning and procurement. Despite the fact that the GoTN learnt from the East Coast Road that some structures should be changed in order to avoid problems, the government did not improve its capacity which led to poor planning and a lack of VfM.

Besides, we perceive a lack of public commitment to provide governance mechanisms for the private partner when cost overruns are insurmountable. This lack of public commitment led to adversarial relationships during PPP development which resulted in the JV's annulment for this project.

Despite the GoTN's actions to attract private investment and increase capacity (i.e. creation of the TNRDC), and predictability (i.e. publication Transparency Act 1998), the government has not properly applied them in practice. As a result of the absence of a clear rationale towards PPPs, the GoTN's actions merely aimed at attracting private capital.

Conclusions

- A weak rationale leads to poor public capacity development to select the appropriate structure to fulfill projects' needs, to plan and procure projects, and to understand the importance of cooperation for project success. These deficiencies inevitably result in a lack of VfM.
- Weak project results lead to fragile political willingness which leads to fewer measures to increase public capacity.
- Weak political willingness led to the absence of governance mechanisms to solve negative unforeseen project events.
- Lack of mechanisms to ensure advocacy resulted in public opposition to pay which led to severe cost overruns for the concessionaire.
- Insufficient mechanisms to ensure public and private sector commitment led to a lack of goals alignment between public and private parties.
- Deficient public sector capacity affected project planning which entailed costly changes of scope.
- Public initiatives to strengthen institutional capabilities can be obstructed by lack of political willingness.

Table 13 Institutional capabilities and project outcomes during stage 2 in Tamil Nadu.

STAGE 2. TAMIL NADU		
Institutional capabilities		**East Coast Road and IT Corridor. Project outcomes.**
LEGITIMIZATION		
Rationale	Need for private funds.	
Political willingness	Lack of policies, political champion.	Lack of support to face cost escalation and delays.
Advocacy	Absence of public consultation mechanisms.	Project structure: BOT Toll based. Public opposition to pay.
TRUST		
Public sector predictability	Lack of standard contract, guidelines, procedures.	Lack of transparency.
Public sector commitment	No action	Lack of goal alignment between public and private parties. Political interference.
Private sector commitment	No action	No data
CAPACITY		
Public sector capacity	Hired consultants. Participation of TNRDC.	JV where TNRDC is a partner. Facilitate permits and approvals. Lack of in-house knowledge. Lack of proper planning and procurement: cost escalation, delays, more accidents.
Risk + Financing mechanisms	No action	Lack of support to face cost escalation and delays. Public opposition to pay.
Private sector capacity enhancement	No action	Negotiated contract. Lack of competitive tender.

Stage 3. Outer Ring Road

The institutional environment has not evolved considerably at the state level. The GoTN has implemented measures to attract private investment, but there is still a lack of political willingness to implement PPPs in the state.

However, there has been progress at the national level and the GoTN has used the national schemes for this project. This step has had a positive effect for public sector predictability for decision making. After the previous negative experiences, the GoTN decided to implement a new type of contract for the Outer Ring Road project. This project is annuity based hence, the GoTN expects to avoid public opposition. We note a step forward in planning and procurement in this regard. Besides, the GoTN used the standard schemes provided by the GoI to facilitate project implementation.

Although it is early to judge the project outcomes, we consider that there is an evolution from the past experiences to this project.

Conclusions

- Political willingness ensures project continuity.
- Improving public sector capacity facilitates planning and procurement. However, there is a need for adaptation to the specific environment to avoid confusion.
- Increasing public capacity reduces the administrative burden. Besides, public sector capacity must aim at coordinating different departments.
- The use of standard documents and procedures for decision making increases public sector predictability and private sector confidence towards PPPs.
- The lack of standard risk allocation mechanisms makes cooperation between private and public parties difficult. It also reduces private sector commitment since companies find risk allocation abusive.

Table 14 Institutional capabilities and project outcomes during stage 3 in Tamil Nadu.

STAGE 3. TAMIL NADU		
Institutional capabilities		**Outer Ring Road. Project outcomes.**
LEGITIMIZATION		
Rationale	Need for private funds. Efficiency gains.	Project for the future. Avoid up-front investment.
Political willingness	Initiatives by the GoI.	No influence
Advocacy	No action	No data
TRUST		
Public sector predictability	Schemes from the GoI.	Model concession agreement by GoI.
Public sector commitment	No action	No influence
Private sector commitment	No action	No influence
CAPACITY		
Public sector capacity	Applicability of schemes by GoI.	Change in the contract. Annuity based. Long land acquisition process. Gap of information about existing assets.
Risk + Financing mechanisms	Schemes by GoI. Lack of procedure for risk allocation.	Annuity based contract. Cooperation obstructed.
Private sector capacity enhancement	Competitive procurement.	Competitive bidding.

Influence of the institutional environment in project development in Tamil Nadu

In this subchapter, we compile an interpretation of our findings during our discussion about PPP development in Tamil Nadu, categorized by institutional capabilities. We witness that the institutional capabilities influence project development in a different way from one stage to another.

Figure 21 displays the most influential institutional capabilities for each stage in Tamil Nadu, based on the previous discussion. It allows us to identify the capabilities that create issues during project development in different stages. This figure allows us to compare the situation in Tamil Nadu and the Netherlands and to draw conclusions and recommendations in the next chapters.

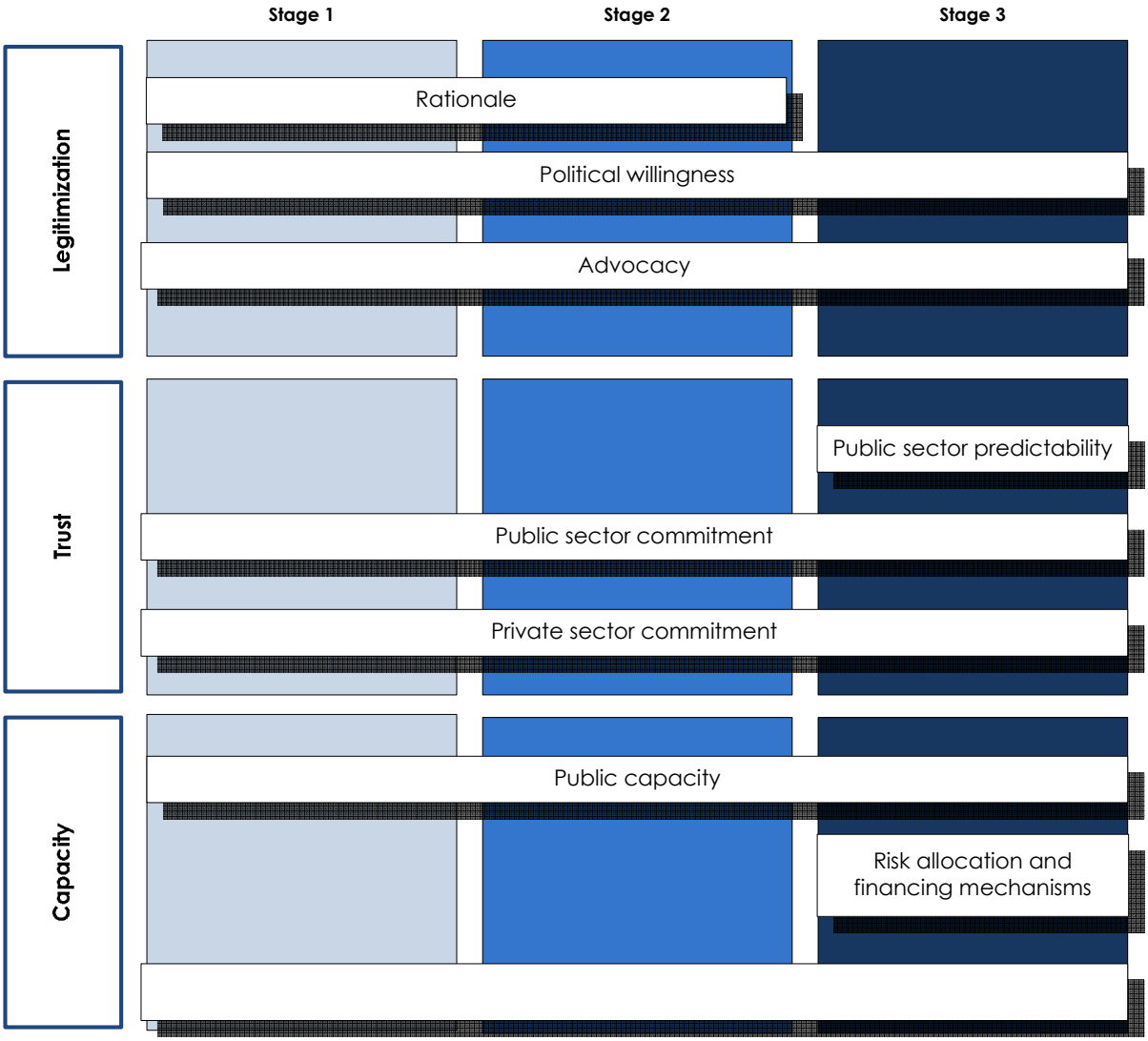


Figure 21 Most influential capabilities by stage in Tamil Nadu

In Tamil Nadu, the institutional environment is still undeveloped and the government does not possess a clear rationale and political willingness to provide mechanisms to support public capacity. This lack of capacity leads to the wrong contract structure which results in a lack of VfM for the project. Based on the analysis of the situation on Tamil Nadu, we conclude that the institutional capabilities and their circumstances in this specific context have influenced project development as follows:

Legitimization

Our results support the importance of legitimating PPPs for project success. The GoTN has implemented few measures to legitimate PPPs, and we observe that this has been a drawback for project success in this environment.

- Rationale

Our results in Tamil Nadu show that stagnant rationale negatively affects the choice for contract structure. We witness that seeing PPP as a means for bringing private funds instead of VfM results in efficiency losses.

- Political willingness

Weak political willingness threatens project continuity and leads to the appearance of conflicts. The lack of political eagerness to implement measures to support PPP development obstructs cooperation and parties' confidence about PPPs.

- Advocacy

Absence of mechanisms for public consultation has resulted in public opposition during project development.

Trust

In Tamil Nadu, trust has a strong influence in project development. The lack of strong commitment from public and private parties obstructs project success.

- Public sector predictability

The experience in Tamil Nadu shows that a lack of public sector predictability entails long processes which might delay project development. Besides, it increases uncertainty regarding parties' actions

- Public sector commitment

The lack of appropriate dispute resolution mechanisms generates distrust and adversarial relationships during project development. Parties need solid contract provisions to rely on for when unforeseen events arise.

- Private sector commitment

There are no mechanisms to increase cooperation in Tamil Nadu. Our results show that the lack of governance support for PPP development cause adversarial relationships between public and private parties. Private parties not fully committed will not maximize their resources for the project therefore; private sector capacity will not be enhanced.

Capacity

Our results in Tamil Nadu prove the significance of capacity to guarantee project success. We note the close link between public capacity and political willingness. To be effective, measures to improve capacity need to come from a convinced government in a legitimated environment.

- Public sector capacity

The government of Tamil Nadu has public capacity to develop infrastructure projects but government's efforts have not been oriented towards applying this capacity in PPPs. The government has implemented few measures (i.e. the creation of the TNRDC) to increase public capacity which have not resulted in the expected success because of the interference caused by the lack of other capabilities (political willingness).

- Risk and financing mechanisms

Appropriate financing mechanisms provide credibility to projects and attract private investors which could positively influence competition in the appropriate environment. Risk allocation mechanisms strongly influence parties' perception about the project. We observe

in Tamil Nadu that the lack of standard risk allocation mechanisms do not favor private sector commitment since private companies find risk allocation abusive.

- Private sector capacity enhancement

In Tamil Nadu, we observe the importance of private sector capacity enhancement by ensuring competitive procurement. Compared to negotiated contracts, this type of procurement minimizes potential conflicts of interests observed in projects like the East Coast Road.

Evolution of the institutional environment in Tamil Nadu

In Tamil Nadu, we note that the institutional environment has an influence in project development, evolving through the different proposed stages for PPP development. In this subsection, we analyze to what extent the lessons learnt from the different projects have influenced the institutional environment in return.

Table 15 visualizes the evolution of the institutional capabilities in Tamil Nadu based on the research results presented in sub-chapter 3.4. We look at changes in the institutional environment and the first stage is the origin of our analysis. In stage 2 and 3, we represent the policy actions that affected the institutional capabilities and the projects presented in our case studies by adding a "+" when this capability evolved from one stage to another.

Table 15 Visualization of the evolution of the institutional capabilities in Tamil Nadu

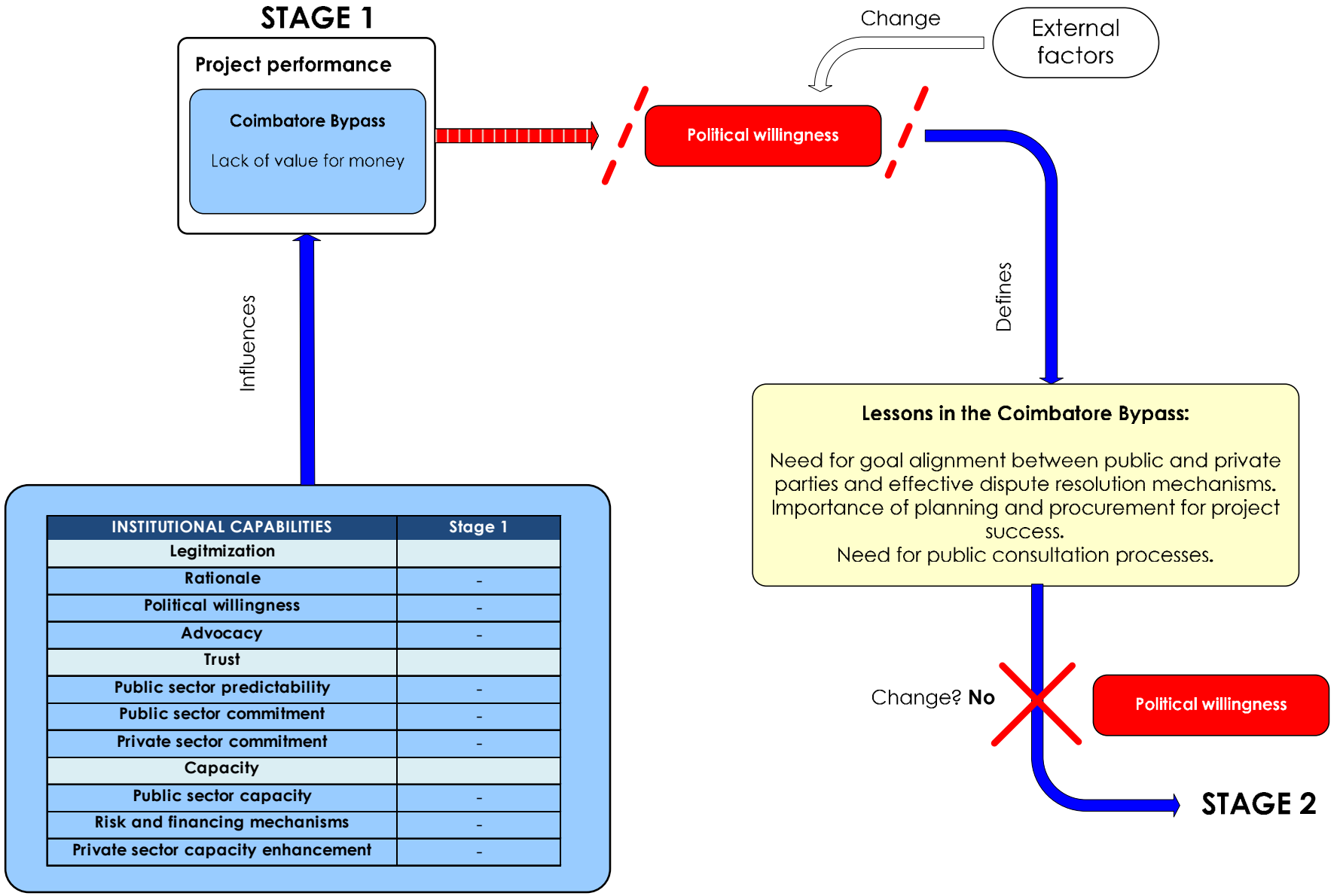
INSTITUTIONAL CAPABILITIES IN TAMIL NADU				
	Stage 1	**Stage 2**	**Stage 3**	**End situation**
Legitimization				
Rationale	-	-	-	-
Political willingness	-	+	-	+
Advocacy	-	-	-	-
Trust				
Public sector predictability	-	-	+	+
Public sector commitment	-	-	-	-
Private sector commitment	-	-	-	-
Capacity				
Public sector capacity	-	+	+	++
Risk and financing mechanisms	-	-/+	-/+	--/++
Private sector capacity enhancement	-	-	-	+

Visualizing the evolution of the institutional capabilities allows us analyzing if the interventions at the institutional level were related to lessons from implemented projects.

Figures 22, 23 and 24 display the relationship between the institutional environment and project development for stages 1, 2 and 3. After the Coimbatore Bypass, political willingness decreased in Tamil Nadu. Due to external circumstances (need of private funds), the government brought the scheme again. Through the evolution of the stages, we observe a stagnant institutional environment where the government implemented few measures at the

institutional level, most of them related to capacity. We note that most of the measures have been an initiative by the GoI or multilateral lenders like the World Bank.

However, we observe that there is not a link between the lessons obtained from project experience and the institutional level because of a lack of political willingness to implement PPPs in the state.



INSTITUTIONAL CAPABILITIES	Stage 1
Legitmization	
Rationale	-
Political willingness	-
Advocacy	-
Trust	
Public sector predictability	-
Public sector commitment	-
Private sector commitment	-
Capacity	
Public sector capacity	-
Risk and financing mechanisms	-
Private sector capacity enhancement	-

Figure 22 Relationship between the institutional environment and project performance for stage 1 in Tamil Nadu

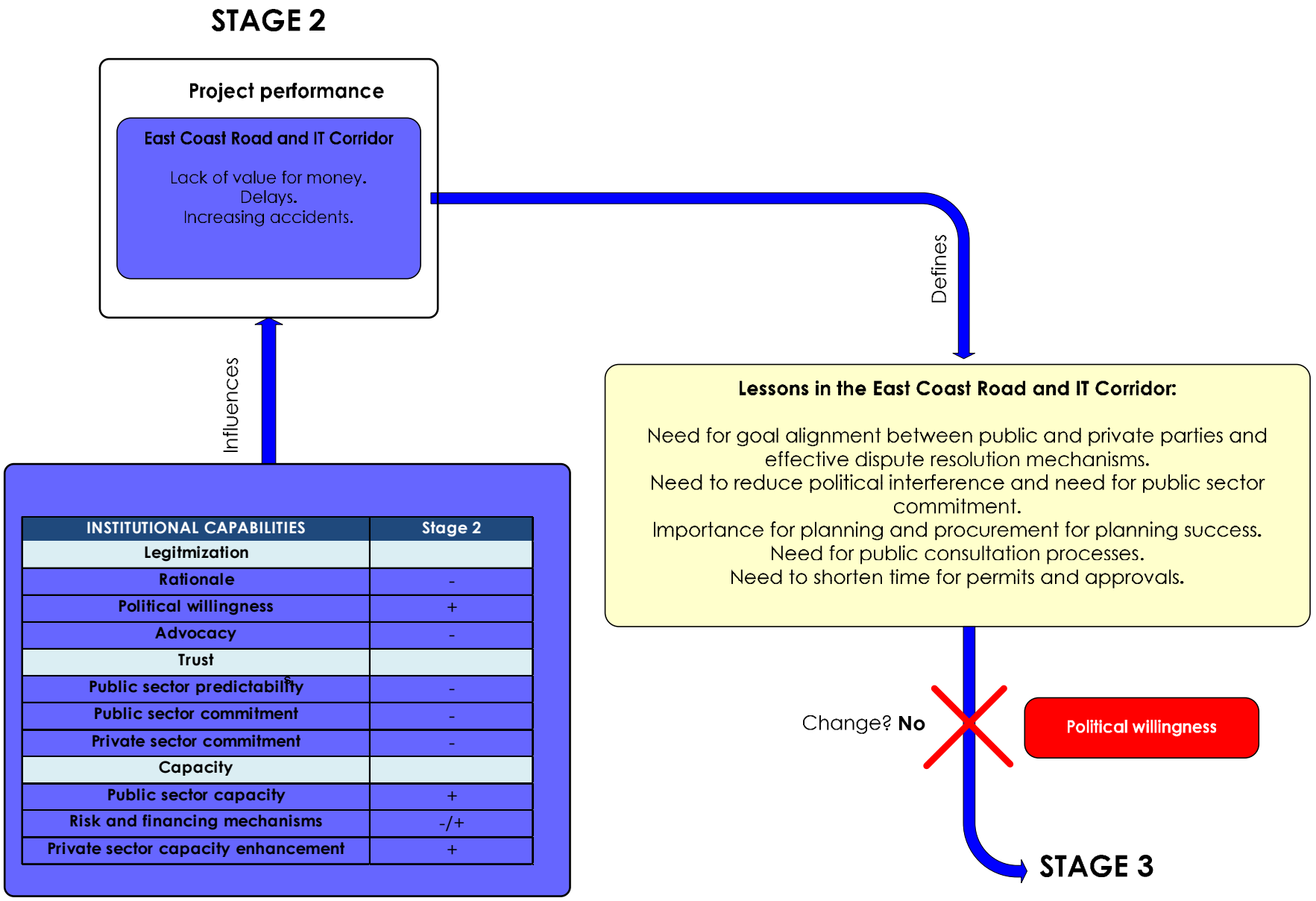
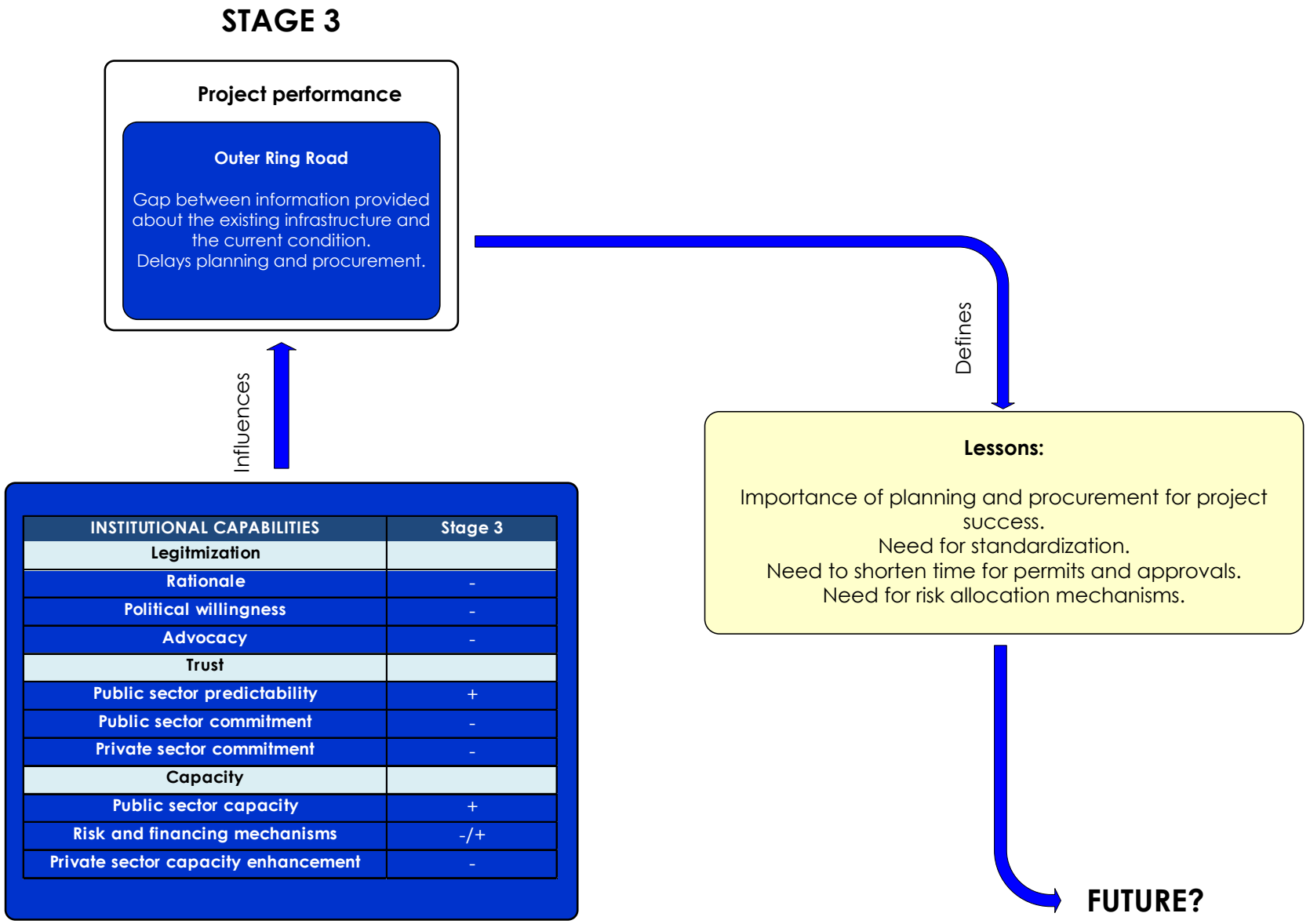


Figure 23 Relationship between the institutional environment and project performance for stage 2 in Tamil Nadu



INSTITUTIONAL CAPABILITIES	Stage 3
Legitmization	
Rationale	-
Political willingness	-
Advocacy	-
Trust	
Public sector predictability	+
Public sector commitment	-
Private sector commitment	-
Capacity	
Public sector capacity	+
Risk and financing mechanisms	-/+
Private sector capacity enhancement	-

Figure 24 Relationship between the institutional environment and project performance for stage 3 in Tamil Nadu

5.1.3. Comparison between the Netherlands and Tamil Nadu

Now that we have separately analyzed the influence of the institutional capabilities in the Netherlands and Tamil Nadu, we evaluate the differences between both environments based on our previous discussion. First of all, we display a comparison between the influence of the institutional capabilities in project development in both environments in table 16.

Table 16 Comparison of the influence of the institutional capabilities during project development between the Netherlands and Tamil Nadu.

	THE NETHERLANDS	TAMIL NADU
LEGITIMIZATION		
Rationale	It affects contract structure and philosophy towards PPPs.	It affects contract structure.
Political willingness	It influences public capacity and the development of other institutional capabilities.	Weak political willingness threatens project and program continuity.
Advocacy	It minimizes public opposition during project development. It entails long processes and negotiations.	Lack of public consultation may result in public opposition during project development.
TRUST		
Public sector predictability	It shortens planning and procurement.	Absence of predictability manifests in lack of transparency and clarity about parties' actions.
Public sector commitment	It encourages cooperation.	Lack of dispute resolution mechanisms generates distrust and adversarial relationships.
Private sector commitment	It encourages cooperation; hence project success to understand project needs. Strict requirements for private sector commitment may interfere with private sector capacity.	Lack of contract provision for unforeseen events result in a lack of private sector commitment. It creates adversarial relationships and does not enhance private sector capacity.
CAPACITY		
Public sector capacity	It influences project plan and procurement to properly structure projects to get VfM. There is a need for knowledge transfer and learn based on experience.	It affects implementation of measures to strengthen other capabilities.
Risk and financing mechanisms	Risk and financing mechanisms favor transparency to support trust between public and private parties.	Proper financing mechanisms give credibility to projects. Lack of risk allocation procedures obstructs parties' commitment.
Private sector capacity enhancement	In more mature environments, it becomes more important. It brings innovation and VfM. However, the more complex the environment it, it is directly affected by other institutional capabilities.	A lack of private sector capacity enhancement does not optimize VfM.

Due to the different degrees of maturity of the institutional capabilities in the Netherlands and Tamil Nadu we notice that the results from the influence of the institutional capabilities in both

environments differ. However, we observe that despite the different results, their influence is very similar in essence. Figure 25 shows the most influential institutional capabilities by stage in the Netherlands and Tamil Nadu. In this case, the main differences come from the different evolution of the institutional environment in both contexts. While the Dutch government has adopted policy interventions through the years towards a programmatic approach, the environment has remained dormant in Tamil Nadu.

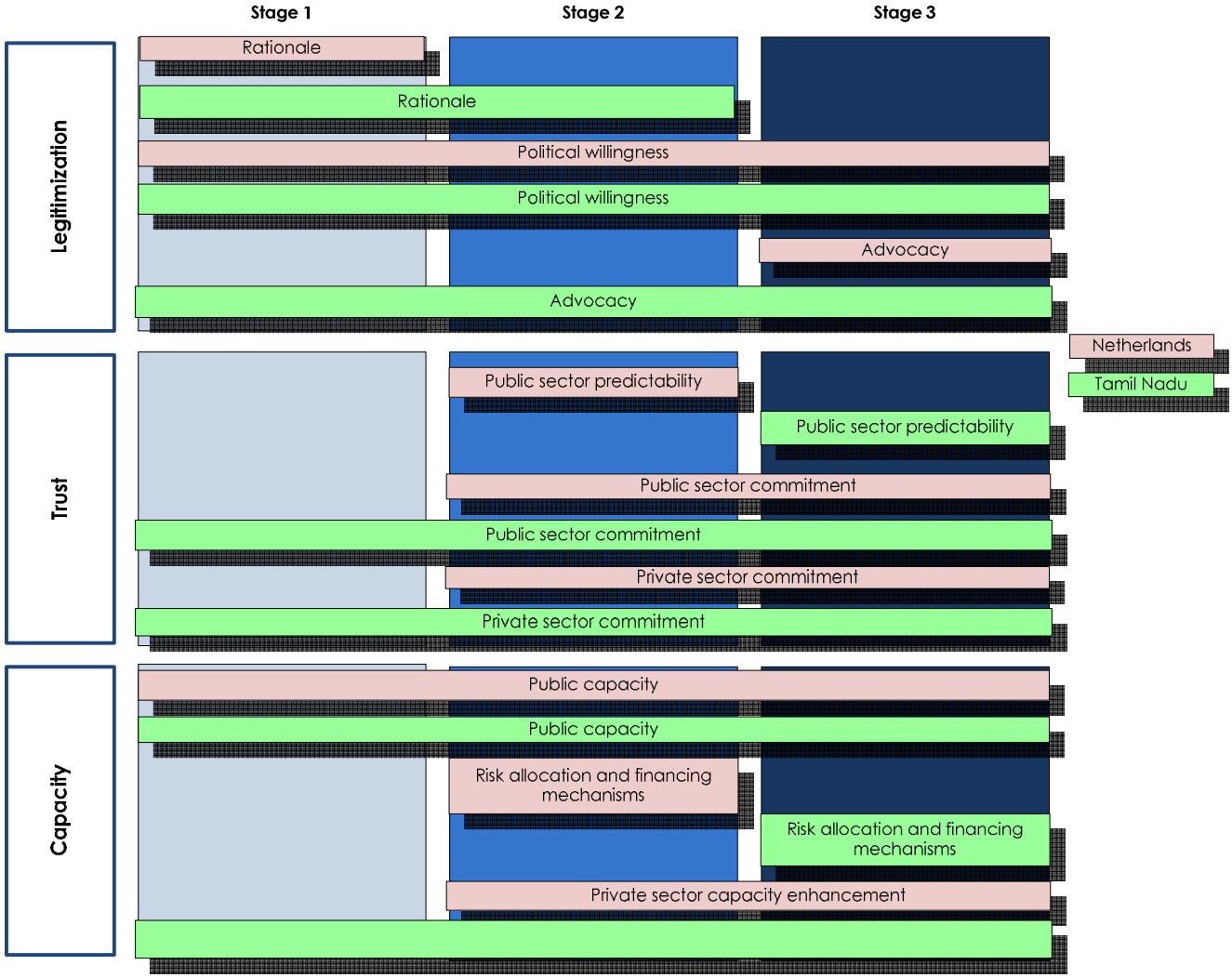


Figure 25 Most influential institutional capabilities stage by stage in the Netherlands and Tamil Nadu

Stage 1

In the Dutch environment, our research results show that a clear rationale, political willingness and public capacity are the most important capabilities for stage 1. In Tamil Nadu, the first stage also manifested issues regarding advocacy, and public and private sector commitment. We find support in our research results to state that advocacy, public and private sector commitment are essential for successful project performance in all the environments through different stages of maturity. Nonetheless, our empirical results do not show significant incidences of this because of these aspects in the Netherlands, contrary to Tamil Nadu, where most of project issues arise for public opposition for project development and a lack of goal alignment between public and private parties. We consider that these different results are a result of the different inherent nature of the institutional settings and that factors beyond the scope of this research are the main causes for these differences (i.e. rule

of law, stakeholder empowerment). We discuss these aspects in chapter 8, *Limitations and further research.*

Stage 2

In stage 2, the Dutch environment evolved towards a transition period where the government changed its rationale towards VfM and launched pilot projects hence, investing in public capacity. At this stage, the institutional capabilities evolved. The most essential are:

- Political willingness to provide a programmatic approach and learn based on experience.
- Public sector predictability to provide confidence to the market.
- Public and private sector commitment through increased cooperation.
- Public capacity to keep improving the environment.
- Risk allocation and financing mechanisms to promote confidence (especially for the private sector).

Already, the creation of cooperation platforms was the first step towards enhancing private sector capacity. The situation remained stable in Tamil Nadu and the same issues emerged during project development. The GoTN and other third parties (i.e. World Bank) took initiatives to improve the institutional environment. However, these efforts only aimed at providing credibility to project financing in the state. They did not focus on applying measures based on previous project outcomes.

Stage 3

Once the Dutch government has improved most of the institutional capabilities, we observe that private sector capacity enhancement gains importance in this more mature institutional setting. Our research results highlight a direct link between factors like advocacy, public and private sector commitment and the enhancement of private sector capacity during project development. In Tamil Nadu, there is little progress in the institutional capabilities, only coming from the adoption of national measures at the state level. This fact has positively affected the new project generation by providing more predictability and public capacity, but we still observe that the institutional environment at the state level remains stagnant and reluctant to change. Moreover, private sector capacity enhancement does not emerge at this stage either. We detect that it becomes more important in more developed institutional environments.

Based on this, we provide conclusions about the influence of the institutional environment and project development supported by our empirical results in chapter 6.

Part VI. Conclusions and recommendations

6. Conclusions

This research shows how PPP programs evolve differently in different settings. Having a similar situation at the beginning of PPP implementation, Tamil Nadu and the Netherlands, have evolved completely different. Our research results allow us to formulate two sets of conclusions:

- Our results prove that the institutional environment has an influence in project development, extending the framework proposed by Mahalingam (2011).
- We find support for Jooste, Levitt and Scott's (2011) statement which recognizes that PPPs are implemented differently in different regions, progressing beyond a "one size fits all" view of PPP programs. Starting from a similar degree of maturity, we observe a completely different evolution in Tamil Nadu and the Netherlands as a result of the different institutional settings present. Interestingly, we find that, once applied in the project, the institutional capabilities react, affecting other institutional capabilities in return, confirming Jooste, Levitt and Scott's (2011) proposed link between *structuration theory* and PPP development. We find support to state that *later developments depend upon earlier developments* directly influenced by political willingness. We conclude that how the institutional capabilities have been built plays a key role for project performance and political willingness is a key factor to determine the evolution of the institutional environment towards PPPs.

6.1. Influence of the institutional environment in project development

We find support for Rui, de Jong and Ten Heuvelhof (2010) to state that a strong and enabling institutional setting ensures efficient project development in all phases. Our research results show that a supportive institutional environment minimize issues arising during project performance, observed in the different nature of issues arising through the three stages we have evaluated in the Netherlands.

Equally, our observations show that *the occurrence of undesirable parties' performance gives an indication of institutional deficiencies and captures the need to improve the institutional setting where projects take place* (Rui, de Jong, & ten Heuvelhof, 2010). Our observations in the Netherlands and Tamil Nadu support that lack of VfM during project development is a sign of institutional deficiencies.

During our discussion we have also observed that the result of the influence institutional capabilities on project development depends on the degree of maturity of the institutional environment. However, the influence is similar during project development. In table 17 we present a summary of the influence of the institutional capabilities in project performance based on our empirical results.

Table 17 Influence of the institutional capabilities in project performance

LEGITIMIZATION	
Rationale	Government's rationale towards PPP influences project identification and contract structure. It reveals the degree of understanding a government possesses to evaluate the appropriateness of contract structures for a given environment.
Political willingness	Our results reveal that political willingness influences project development during the whole lifecycle. It is also directly linked to the effectiveness of the other institutional capabilities. We extend these observations in sub-chapter 6.3.
Advocacy	Mechanisms to support public consultation influence the appearance of public opposition during project development. Governments exert advocacy during project planning but its effects are shown during construction and operation.
TRUST	
Public sector predictability	The existence of guidelines and standard documents shortens planning and procurement. Besides, our results support that public sector predictability is not only a mechanism of trust but also defines legitimization. A predictable institutional environment facilitates acceptance towards PPPs.
Public sector commitment	It encourages cooperation. Our observations support that public sector commitment is dependent on context specific issues. Two environments possessing similar formal mechanisms to provide public sector commitment (i.e. dispute resolution mechanisms) will not obtain the same level of public sector commitment. Nevertheless, we find support to state that lack of public commitment results in lack of VfM and adversarial relationships between public and private parties.
Private sector commitment	Like public sector commitment, it encourages cooperation. It is affected by the degree of public sector predictability and the confidence of the market on the PPP program at a given environment. Besides, it is a context dependent factor. Our results show that private sector commitment is difficult to observe and dependent on informal values belonging to cognitive and normative supports.
CAPACITY	
Public sector capacity	Public sector capacity has an influence during the whole lifecycle of project development. From project identification to operation, a capable government will support the project by developing capabilities to support project performance
Risk and financing mechanisms	Our results support that trustworthy risk and financing mechanisms shorten negotiations for planning and procurement and foster private sector commitment during project development. However, we observe that strict financial requirements might obstruct private sector capacity enhancement.
Private sector capacity enhancement	This capability appears in mature environments and it is affected by other capabilities such as the provision of financing mechanisms and advocacy. Formal platforms to enhance private capacity foster cooperation and joint solutions.

6.1.1. Interaction between the institutional capabilities

Mahalingam (2011) states that the three categories of institutional capabilities: legitimization, trust, and capacity, are interrelated in a hierarchical way as displayed in figure 4 (chapter 2). He explains that each category is necessary for the next group to evolve: legitimization is necessary to set the stage for trust to evolve, and trust to develop capacity.

Nonetheless, our research results show that there is not a hierarchical relationship between the institutional capabilities. They symbolize three interrelated dimensions affecting PPP implementation. Legitimization represents the interaction between the public and private sector and a given environment and it contextualizes PPPs. Capacity is the dimension which serves as the basis to bring the efficiencies from the public and private sector for PPP implementation. Trust belongs to the "relational arena" and governs the formal and informal mechanisms by which public and private parties interact. The institutional capabilities need to support the institutional structure to foster an enabling environment, being dependent on each other. Moreover, we have also noted that the interaction between the institutional capabilities has an influence in project development, affecting differently through diverse degrees of maturity.

Early stages of maturity

In immature environments, there is a link between political willingness, public capacity, and project success. Political willingness to implement PPPs results in more policy interventions aiming at increasing public capacity to properly structure projects. The right project structure increases the chance of project success, hence the probability of getting VfM. VfM leads to strengthened political willingness to launch more PPP projects and learn based on experience resulting in a virtuous circle which positively influences PPP development. In case political willingness is not strong enough, governments will implement fewer measures to improve public capacity so chances of project success and VfM diminish.

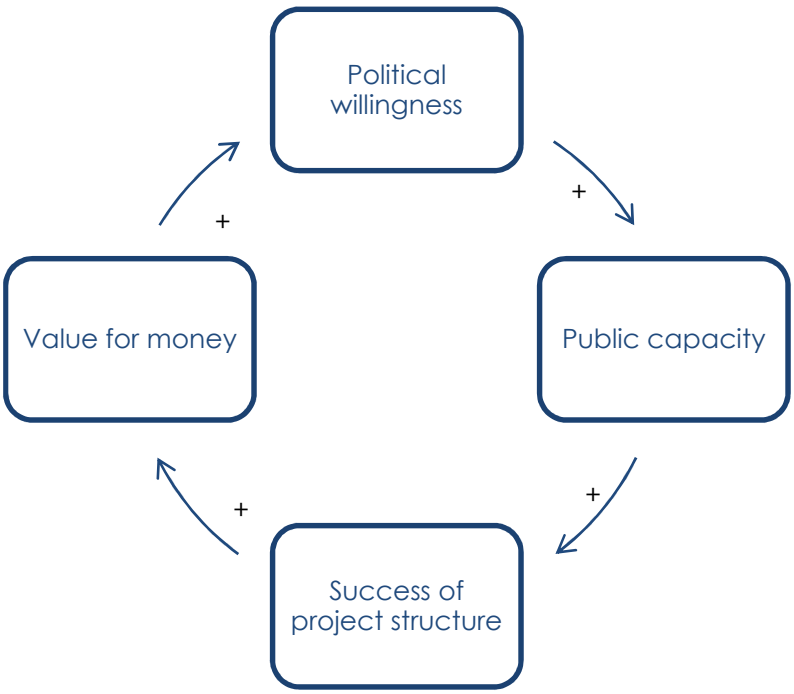


Figure 26 Virtuous circle at early stages of PPP implementation.

We conclude that continuous political willingness positively influences public capacity by implementing measures which improve government's capacity to identify, award and

govern projects. Permanent political willingness ensures an active project portfolio, necessary to increase public capacity since PPPs are a learning process. We extend these conclusions in sub-chapter 6.3.

More mature institutional environments

In mature environments, the institutional capabilities become more interlinked, reacting during project development as if in a complex *spider web*. An institutional environment becomes more mature under the influence of positive political willingness and a clear rationale which pushes towards increased public capacity to identify, award and govern projects. This increased public capacity allows governments to develop complex mechanisms to favor other institutional capabilities such as advocacy, predictability, public and private sector commitment, and risk allocation mechanisms. Our results show that the increased complexity of the institutional capabilities results in several procedures and rules that interfere in private sector capacity enhancement. In mature environments, the challenge is to facilitate an enabling setting without obstructing private sector capacity.

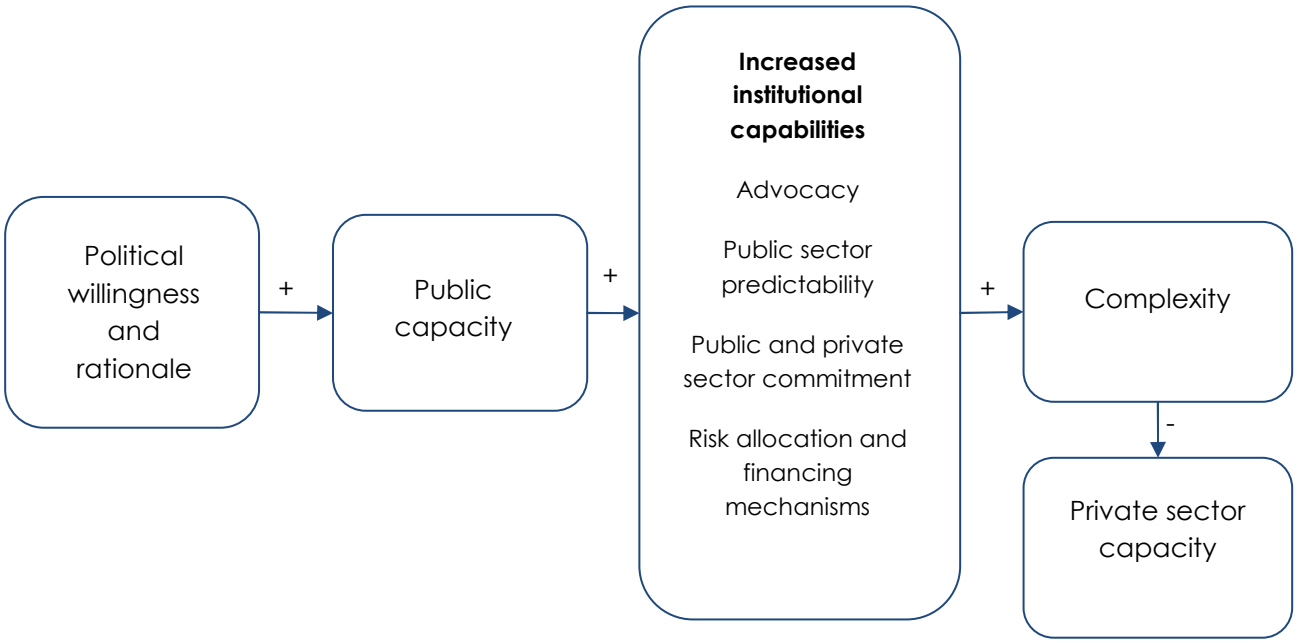


Figure 27 Interrelation of institutional capabilities in mature environments.

Moreover; in mature environments, governments understand the importance of planning and procurement for project success and therefore they maximize efforts in these two stages of project development. For this reason, problems tend to be less severe. Issues emerge regarding planning and procurement but governments are able to ensure VfM. This is contrary to the Wijkertunnel and the Tamil Nadu projects which occurred in undeveloped environments.

Evolution of the institutional capabilities

We conclude that the institutional capabilities are interrelated in a way that changes in a specific capability can influence other capabilities in return. This means that changes in legitimization are the result of actions aiming directly at strengthening political willingness, rationale, and advocacy (*a*, in the formula) and a function of changes in trust and capacity.

$$dLegitimiz\ ation = a + \delta(dTrust\ , dCapacity\ )$$

Changes in trust are the result of actions aiming directly at improving public sector predictability in decision making, public sector commitment, and private sector commitment (*b*, in the formula) and a function of changes in legitimization and capacity.

$$dTrust = b + \delta(dLegitimiz\ ation, dCapacity)$$

Changes in capacity are the result of actions aiming directly at improving public sector capacity, risk and financing mechanisms, and private sector capacity enhancement (*c*, in the formula and a function of changes in legitimization and trust.

$$dCapacity = c + \delta(dTrust, dLegitimiz\ ation)$$

However, these formulas are merely guiding and it is not possible to quantify this influence. Our research results support Jooste, Levitt and Scott's (2011) statement which recognizes that PPPs are implemented differently in different regions, progressing beyond a "one size fits all" view of PPP programs. We conclude that how the institutional capabilities affect other capabilities in return strongly depends on the setting's maturity and specific context factors. We propose further research about this aspect in chapter 8.

6.2. Political willingness as a key factor

We find support for Jooste, Levitt and Scott (2011) which recognize that PPPs are implemented differently in different regions, progressing beyond a "one size fits all" view of PPP programs. We conclude that how the institutional capabilities have been built plays a key role for project performance, and political willingness is a key factor to determine the evolution of the institutional environment towards PPPs.

Project outcomes themselves influence the evolution of the institutional environment by generating reluctance or willingness as a result of the perceptions about PPPs in the government. We conclude that the different evolution in institutional environments towards PPPs is a result of the program evolution itself, directly linked to the involved political willingness. When political willingness is positive, governments are receptive to learn lessons obtained from previous projects and implement measures accordingly. However, in an environment where political willingness is not favorable towards PPPs, the institutional capabilities will remain stagnant and not applied for project development. We present a framework in figure 29 to visualize the connection between different project stages.

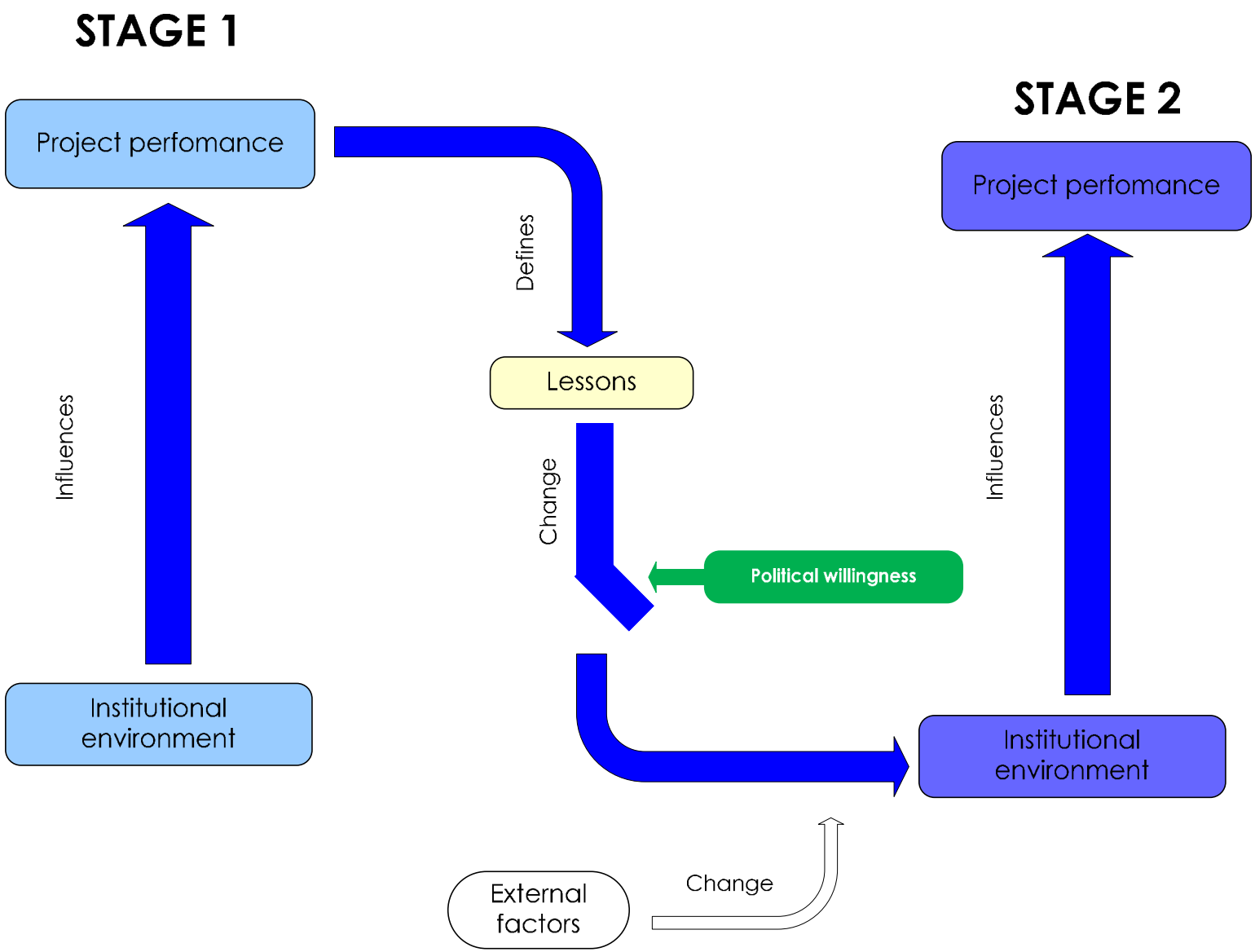


Figure 28 Evolution of the institutional environment through different stages

Our observations support that political willingness is a key factor to ensure the flourishing implementation of institutional capabilities, hence successful project performance. Our research results support that political willingness is influenced by: political stability, self-criticism, and understanding about PPPs.

1. Political stability

Our respondents pointed out the importance of political stability in order to develop public capacity for PPP projects. In the Netherlands, a high degree of political stability and commitment from the government has resulted in constant efforts by RWS to ensure program continuity captured in several policy interventions over the years. As stated by our respondents in the Netherlands: "*There has been political willingness to make the project successful so that a PPP program could follow. Political pressure has not been an obstacle but more a tool to create an appropriate environment*". Despite changes in the government, we witness an active political willingness to implement measures over the time and provide a good project portfolio, especially during recent years, once the public capacity has been improved. This fact is in line with Mahalingam and Kapur's (2009) work, which states that political willingness proves to be a key environment factor to determine whether or not PPPs will survive in the long term.

However, in Tamil Nadu, uncertainties regarding changes in the government have created a more unstable environment where the GoTN does not ensure program continuity. For this reason, the government has not invested in public capacity and has mainly focused on attracting private investment without understanding the rationale behind PPPs. There has not been consistency between the policy interventions and project outcomes, mainly because of political interference. PPPs are not well perceived by citizens in Tamil Nadu and political interference to avoid more public opposition has obstructed project success in the road sector. A public servant illustrated this reluctance to implement PPPs: "*Citizens in Tamil Nadu believe that service provision by the government is the best option therefore there is certain suspicion towards the private participation. People tend to think that the private sector is deceiving the tax payer. In provisions such as roads and infrastructures, people are very sensitive to the private sector that seems to be socially unfriendly in their perception*".

2. Self criticism

PPPs are a learning process. Due to the high political willingness to implement PPPs in the Netherlands, we perceive more self-criticism to evaluate PPP's evolution, their problems and potential causes. This attitude is captured in the existence of projects' evaluation reports, an active PPP Unit evaluating PPP implementation and the government's investment to build public capacity during the last years. GoTN's attitude towards PPP has been completely different.

In Tamil Nadu, negative experiences have negatively affected project development. The GoTN has faced a lack of public capacity and extensive mistrust among public officers and tax-payers of the profit making aspect of PPPs. Besides, we perceive different goals and expectations for PPP development between public and private parties. As illustrated by a public officer working in PPP development for the GoTN: "*In Tamil Nadu, negative experiences have negatively affected project development. Government officers blame PPP itself rather than the wrong structure they chose for certain projects*".

3. Right rationale

Understanding PPPs is a key factor for a successful PPP program implementation. The Dutch government changed its rationale towards VfM in the early 2000's and they started taking actions consistent with this new rationale applying the DBFM contract, investing in public capacity and understanding the need for cooperation for project success. As stated by a public officer in the PPP Unit: "*The government's willingness to prove the effectiveness of PPPs is very beneficial for program success. The government wants to ensure VfM for all projects; therefore RWS applies the standard DBFM, uses indicators to analyze project's suitability for PPPs and has systematized procedures*".

However, the GoTN has always perceived PPPs as a means to bring private funds. As stated by a public officer working for the GoTN: "*In Tamil Nadu, VfM does not apply since they do not want to consider the lifecycle approach. The budget is made by the GoTN on a cash basis, so they spend up-front in a year to year basis. Therefore, they have a very short term vision; the government wants to complete the project and have it successfully finished in five years because of political interest. The 20 years perspective does not apply to them*". Besides, there is a lack of goal alignment between public and private parties for PPP development in Tamil Nadu: the government perceives that the private sector goal is merely profit making whereas the private sector perceives that PPP success purely depends on public sector capacity. This mismatch of ideas results in inefficient projects.

7. Recommendations

PPPs can provide many advantages compared to traditional procurement. Nevertheless, the institutional environment has to be appropriate to support PPPs and we have observed that the chance of PPP success is higher when the institutional setting is propitious for PPP development. This research proves that project issues are related to the institutional context where projects take place.

The situations in the Netherlands and Tamil Nadu are completely different, as a result of their diverse institutional environments and evolution. In this chapter, we propose recommendations for policy makers in the Netherlands, Tamil Nadu, and other countries to strengthen the institutional capabilities and provide a favorable environment to foster project success. We base our recommendations in our research results and conclusions, as well as Mahalingam's (2011) work who suggests actions to build up the capabilities.

7.1. Recommendations for the Netherlands

The Dutch institutional environment has evolved over the last two decades and the government has invested in public capacity and mechanisms to support a stable PPP program that is still maturing. In this research, we have observed that a more mature institutional environment where actions have been taken to provide a propitious setting for project success, also entails complexities regarding the interconnection between the proposed institutional capabilities. Based on our research results and discussion, in this sub-chapter we propose some recommendations for Dutch policy makers to develop the capabilities that still need improvement.

Recommendation 1. Provide an active project portfolio (public and private capacity)

Learning based on experience is essential for PPP success. The Netherlands has invested in public capacity and legitimization over the last two decades, but there is a need to continue launching projects to enhance public and private capacity. The existing standard project identification assessment allows the Dutch government to provide a realistic project portfolio to develop capacity and expertise based on experience. Besides, an active portfolio provides confidence towards a programmatic approach.

We recommend the Dutch government to keep being committed to implement PPPs in the road sector, thus learning new skills and applying them to improve infrastructure delivery. The existence of *evaluation reports* contributes to reflect on their experience and provide a propitious environment for knowledge transfer from project to project. Moreover, we suggest to keep investing on work-based problem solving and performance improvement programs to improve the use of PPPs taking into account the socio economic, commercial, and political situation in the Netherlands.

Recommendation 2. Enhance private sector capacity (private sector capacity enhancement)

Bringing expertise and efficiency from the private sector is one of the sources of VfM in PPP projects. In the Netherlands, the evolution of the institutional environment has entailed a more complex setting where the institutional capabilities are interlinked and provide mechanisms to ensure that project development runs smoothly. The current, more complex institutional environment, facilitates and supports processes for public consultation, transparency and standardization. This is essential because of the importance of public decision making for project success in the Netherlands. However, we have observed that this complex institutional reality may also obstruct innovation, hence private sector capacity. The government should achieve maximum benefit from the know-how and creativity from the market.

We recommend the Dutch government to analyze potential strategies to enhance private sector capacity, thus the market can perform with minimum restrictions to bring the expected efficiencies for PPP development. Current initiatives like early market involvement can foster private sector capacity by allowing private companies to propose solutions at early stages of project development. Furthermore, an active project portfolio also helps to learn new strategies based on work-based problem solving, as stated in our first recommendation. Necessary procedures like the *Route Determination* limit private sector capacity. We suggest the Dutch government to review and update these mechanisms together with the market to improve the current situation by adopting new measures (i.e. allow for innovative materials).

Recommendation 3. Keep promoting cooperation (public and private sector commitment and capacity)

Cooperation and *working together* is the basis of a successful PPP. Given the long term nature of the contract, it is important that parties understand each other's interests and positions towards PPPs. Cooperation platforms like the existing *Bouwreflectie*[24] and alignment sessions are useful tools to provide a supportive environment where open debates and discussions aim at achieving VfM throughout project development. Our research results show that these initiatives work and promote public and private sector capacity and commitment, since they help not to idealize cooperation but to understand the natural differences and attitudes towards PPPs.

We encourage the Dutch government to keep assigning collaboration an important place for PPP development in the Netherlands.

Recommendation 4. Lower transaction costs and shorten time for planning and procurement (private sector capacity enhancement and commitment)

Our research results show that there still a need to lower transaction costs and shorten time for planning and procurement in the Netherlands. Private companies need to invest large amounts of money to compete in the Dutch environment. Together with strict financial requirements, private companies criticize the required fixed costs necessary for PPP development. The Dutch government is aware of this situation and has researched potential solutions over the last years. There is a need to reduce transaction costs to an acceptable level.

We recommend the Dutch government to keep exploring actions in order to improve this situation; hence the government can ensure competition and full performance provided by market parties. We suggest keeping using initiatives like parallel planning and procurement implemented for the A12 project to shorten time and reduce transaction costs with the additional value of bringing private sector's expertise in early stages of project development. Other options like speeding the selection of bidders by focusing on critical aspects, reducing the number of rounds during procurement through better standards of tender documents or cutting off the number of participating companies in the bidding process may provide a stricter tender planning. This can be a good motivation for all parties to optimize their resources and put pressure on transaction budgets.

Recommendation 5. Improve coordination among public agencies and different levels of government (public capacity)

There is still need for improvement in coordination between different levels of government in the Dutch environment. The current reality shows that there is much knowledge at the central

[24] http://www.bouwreflectie.nl/

government but it is not the case for all levels of government, a fact that generates problems when information is needed.

Training programs and workshops, although necessary, are not only the way to increase knowledge in the government. As stated in our first recommendation, PPPs are a learning process where government and private companies acquire knowledge based on experience. Although the unquestionable advantage of the standard DBFM contract, we recommend the Dutch government to prepare standard documents and procedures for smaller projects that municipalities and provincial governments can use. The DBFM structure implies a great investment as well as long term commitment from both parties which is not possible for projects of smaller-scale. The small size of the Netherlands limits the number of suitable large PPP projects to develop in the road sector hence the government needs to increase the available documentation with the purpose of expanding the PPP use therefore

7.2. Recommendations for Tamil Nadu

In Tamil Nadu, the institutional environment has remained stagnant over the last two decades. Our results show that Tamil Nadu needs to strengthen several institutional capabilities. In this sub-chapter we suggest some actions to improve the institutional environment hence projects will provide positive outcomes. We describe the recommended action and the institutional capability that will be affected by that action.

Recommendation 1. Establishment of a political champion (political willingness and rationale)

Our first recommendation is to establish an active political champion for PPP development in Tamil Nadu. This research has proved that political willingness plays an essential role for the evolution of a propitious institutional environment for PPP development. Even in environments where the other institutional capabilities are strong, political willingness can obstruct a positive evolution of the institutional environment, which is the case in Tamil Nadu. The rate of success for PPP projects is higher in environments where the government is committed to PPP programs.

Our recommendation is to establish an active political champion in the government who trains public officers about the benefits of PPPs and dictates a clear rationale in the government towards VfM through policy notes and training programs.
The current PPP Unit is not providing enough support for private and public parties.

Recommendation 2. Establishment of a central PPP agency (public sector predictability and capacity)

In Tamil Nadu, we have observed a lack of clarity in agencies responsible for project development as well as isolated actions by these agencies that could benefit PPPs if there was a central agency managing and coordinating all the different actions relevant for PPP development. Many initiatives to implement PPPs in the road sector at the state level have come from multilateral lenders (i.e. creation of the TNUDF and the TNRSP) or on a project to project basis (i.e. the TNRDC). However, there is a lack of clarity about the responsible agency for projects and initiatives at the state level are a response of specific projects needs instead of actions belonging to a program.

A central PPP agency could coordinate projects and serve as a center of knowledge to ensure in-house expertise and know-how transfer. This agency could also centralize all measures adopted at different government levels to make the relevant acts and mechanisms for PPPs in the road sector clear.

Its existence would provide clarity to standardize and allow for transparent project identification, award and management. These actions would improve public sector capacity and predictability. This central agency can also be the political champion mentioned in our first recommendation.

Recommendation 3. Increase public participation for PPPs (advocacy)

We recommend including public participation for project implementation. In Tamil Nadu, there is currently no public participation for project development which generates undesirable public opposition during project operation, as witnessed in our case studies. Strategies to increase public participation would help to integrate the project in society, considering the tax payer's wishes, offering a bidirectional flow of information between the project developer and citizens.

The government can achieve social acceptance through strategies such as making information available for the public in a transparent manner and involving the public in the consultation processes. Public platforms, informative sessions and forums are some of the forms by which governments can achieve social acceptance. Public consultation entails extra costs for project development such as hiring external agencies to gather and manage the information. It is also time consuming: open debates and negotiations might take long during project planning. Nevertheless, the benefits from public participation compensate the additional investment.

Recommendation 4. Establishment of an independent regulatory agency (public and private sector commitment)

Our research results show that the current dispute resolution mechanisms in Tamil Nadu are insufficient to ensure public sector commitment. The current situation in Tamil Nadu does not foster confidence among public and private sectors. We recommend the establishment of an independent and transparent regulatory agency to act according to existing laws and regulations to supervise and oversee tariffs, contract changes and performance. This regulatory agency should provide standard and legitimate processes limiting the possibility of political capture. Moreover, the regulatory agency directive should be clearly defined by laws and regulations, rather than the discretion of government authorities.

Recommendation 5. "Work through the PPP process"[25] (public sector predictability, risk allocation, public and private sector commitment)

The institutional environment in Tamil Nadu does not provide certainty and confidence to public and private party, partly because of the lack of predictability of the public sector to identify, award and govern projects. Initiatives at the national level could help the state government to analyze the most suitable assessment mechanisms for the different phases in PPP development: identification, planning, procurement, contract management and monitoring. These mechanisms should also include the establishment of standard risk allocation mechanisms to fairly transfer risks and allow for a dialogue between public and private parties before the contract is awarded. This would increase confidence for parties. Moreover, we expect the creation of standard processes and mechanisms to limit political capture.

Recommendation 6. Creation of cooperation platforms (public and private sector commitment)

Our research results show the lack of a "cooperative philosophy" behind PPP development in Tamil Nadu. There is a need for goal alignment between public and private parties to

[25] http://toolkit.pppinindia.com/highways/module2-introduction.php

understand each others' interests and facilitate the *working together*. The central agency mentioned in our second recommendation could organize periodic forums to provide a supportive environment where open debates and discussions aim at achieving VfM throughout project development.

7.3. General recommendations

Despite the fact that we find support for asserting that PPPs are implemented different in different regions and the interaction between the institutional environment and project development will be context-specific, we identify a certain strategy that provide a sequence to strengthen novel institutional environments and facilitate PPP success based on our empirical research. Importantly, PPPs are a learning process thus it is essential to implement measures based on experience. During early stages, it is necessary to have a clear rationale consistent with the motives behind launching PPPs. From the beginning, it is important to foster political willingness and maintain it during later stages so the government can ensure program continuity and the improvement of other institutional capabilities without political interference. Constant political willingness positively affects public sector commitment to enforce contracts and be committed to the agreements with the private sector. These are the foundations to increase public capacity necessary to enhance:

- Public sector predictability in decision making through transparent processes to identify, award and govern PPPs.
- Standard risk allocation mechanisms to fairly distribute risks as well as appropriate financing mechanisms to give credibility to projects and fulfill government's expectations towards PPPs.
- Advocacy to generate broad acceptance from the beginning of PPP implementation and avoid public opposition.

The existence these mechanisms will provide confidence to the private sector, increasing private sector commitment. The next step is to provide mechanisms to enhance private sector capacity in order to maximize the benefits of the efficiencies brought from the market involvement for project development.

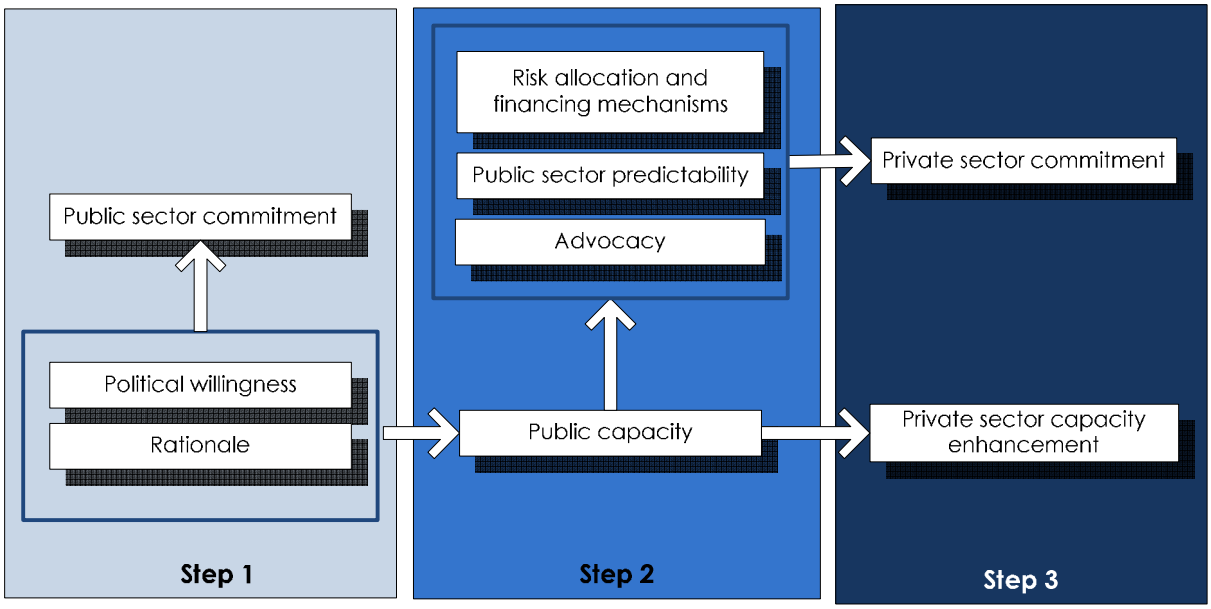


Figure 29 Correlation for institutional capabilities to facilitate PPP success

8. Limitations and further research

This research is a continuation to study the effect of the institutional environment on PPP development in the road sector. We conducted this research through the availability of data during a limited period of time; therefore we observe some limitations in this work. There are some suggestions for further elaboration and development of this research:

In our research, we have analyzed the formal mechanisms and actions that affect the institutional capabilities proposed by Mahalingam (2011). We included the institutional capabilities in the so-called regulative or formal institutions. Their evolution over time has been completely different in Tamil Nadu and the Netherlands. Normative and cognitive institutions, beyond the scope of this research, also influence in this progress since they complement regulative institutions as predicted by Henisz and Levitt (2010). Particularly, we detect that under the presence of similar formal mechanisms to promote trust between public and private parties, the outcomes of the application of these mechanisms are completely different in Tamil Nadu and the Netherlands. Specifically, there is more commitment between private and public parties in the Netherlands than Tamil Nadu. We observe that this is not a result of the improved understanding and political willingness in the country towards PPPs. We consider that this is a consequence of the different nature of the institutional settings and that factors beyond the scope of this research are the main causes for these differences. As predicted by Dewulf, Mahalingam and Jooste (2011), trust is a subjective category and represents normative and cognitive orientations towards PPPs in an environment. We propose the analysis of the influence of other factors included in cognitive or normative supports for further research, similar to the framework used by Rui, de Jong and Ten Heuvelhof (2010).

We have also evaluated the interaction between the institutional environment and project performance. We have concluded that the institutional capabilities are not isolated but they interact with each other once applied in the project. However, we have not provided the pattern how they interrelate and this research does not completely cover the proposed interactions. In other words, the relationship between institutional capabilities requires more analysis. We encourage to carry out an exhaustive study to evaluate how the institutional capabilities interact to maximize the effect of improvements on them.

Lastly, we have provided some recommendations for Dutch and Tamil policymakers. The next step after giving recommendations is to ensure that they can be implemented. The real feasibility of the recommendations should fit the actual Dutch and Tamil culture. Some of the recommendations can take longer to put into practice than others because of the priority that the government gives on them.

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Appendix 1. Acronyms

BOT Build Operate Transfer

DBFM Design Build finance Maintain

DBFOT Design Build Finance Operate Transfer

GoI Government of India

GoTN Government of Tamil Nadu

IL&FS Infrastructure Leasing & Financial Services Limited

IMF International Monetary Fund

JV Joint Venture

PPC Public Private Comparator

PPP Public Private Partnerships

PSC Public Sector Comparator

RWS Rijkswaterstaat

SPV Special Purpose Vehicle

TNRDC Tamil Nadu Road Development Company

TNRSP Tamil Nadu Road Sector Project

TNUDF Tamil Nadu Urban Development Fund

UNECE United Nations Economic Commission of Europe

VfM Value for money

VGF Viability Gap Funding

Appendix 2. List of Interviewees

The Netherlands

- Interviewee 1.

Mr. Moolhuizen. Head of legal affairs at PPS Kenniscentrum

- Interviewee 2.

Mrs. Hernández. Senior advisor PPS Kennispool

- Interviewee 3.

Mrs. Prins. Ministerie van Financen.

- Interviewee 4.

Mrs. Gorgels-Timmermans. Ministerie van Financen.

- Interviewee 5.

Mr. Patrick van Dijk. Senior investment consultant DHV.

- Interviewee 6.

Mr. van de Meene. Senior project director John Laing.

- Interviewee 7.

Mr. Lefevre. Senior project manager Ballast Nedam.

- Interviewee 8.

Mr. Draaijer. Senior project manager BAM.

Tamil Nadu

- Interviewee 9.

Mr. Vikash. Consultant advisor PricewaterHouse Coopers.

- Interviewee 10.

Mr. Venkatesh. Project manager Larson and Toubro.

- Interviewee 11.

Mr. Kapur. Member Secretary Chennai Metropolitan Development Authority.

- Interviewee 12.

Mr. Sabhanayagam. Project Manager GMR.

- Interviewee 13.

Mr. Paliwal. Managing director TNRDC.

- Interviewee 14.

Mr. Madhavan. Head of Energy and Urban Infrastructure. ICRA Management Consulting Services Limited.

- Interviewee 15.

Mr. Kushal Kumar Singh. Director Road Sector Deloitte.

Appendix 3. Questionnaire

Institutional environment

1. *How do you evaluate the implementation of PPPs in the road sector in the Netherlands/Tamil Nadu?*
2. *How do you perceive the environment for PPP development for cooperation between the public and private companies? Is there a shared and collective understanding of PPPs in the Netherlands/Tamil Nadu?*
3. *What are the main benefits for cooperation in PPP development in the Netherlands/Tamil Nadu? And the main obstacles?*
4. *What are the lessons learnt of the government/private until now regarding PPP development?*
5. *How would you describe the public and private parties' commitment to cooperate in PPP?*

Description and structure of the project

6. *What types of agreements are there in Dutch/Tamil road projects?*
7. *What is the degree of transfer of responsibility? What are the main roles and responsibilities of the government and the private sector in the project?*
8. *What are the main risks and how are these risks allocated in general? Is there any procedure?*
9. *How does the contract provide incentives or penalties to the private party?*
10. *How these arrangements shape parties' behavior? Is it planned to counteract undesired behaviors?*
11. *Do parties hold informal meetings? What is the main reason? How do they take place?*

Issues arising during project development

12. *What are the main conflicts during the project development? How did these conflicts arise? What are the main causes?*
13. *How are these conflicts solved?*

Influence of the institutional environment on the mentioned issues

14. *How do you perceive the institutional environment in the Netherlands/Tamil Nadu for PPP development?*
15. *What are the main benefits that the institutional environment brings for PPP development in the Netherlands/Tamil Nadu? And the main obstacles?*
16. *How do you think this institutional environment affects contractual choices and parties behavior during project implementation?*
17. *What are the lessons learnt of the government/private regarding the implementation of projects in the Netherlands/Tamil Nadu over the past years?*
18. *What have been the main improvements over the past years for PPP implementations?*

Appendix 4. Map of India

Figure 30 Map of India

Appendix 5. Map of the Netherlands

Figure 31 Map of the Netherlands

Appendix 6. Overview PPPs at the state level in the road sector in Tamil Nadu

Project	Type of contract	Start of construction	Contract cost
Coimbatore Bypass	BOT	1997	1100 million Rupees
East Coast Road	RIMOT	2001	600 million Rupees
IT Corridor	BOT	2004	4000 million Rupees
Outer Ring Road	DBFOT	2010	10814 million Rupees

Table 18 PPPs at the state level in the road sector in Tamil Nadu (http://www.pppinindia.com/database.php)