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## **The Complex Interplay between the Institutional Context and PPP Project Outcomes**

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# THE COMPLEX INTERPLAY BETWEEN THE INSTITUTIONAL CONTEXT AND PPP PROJECT OUTCOMES

Julieta Matos Castaño<sup>1</sup>, Geert Dewulf<sup>2</sup> and Ashwin Mahalingam<sup>3</sup>

## ABSTRACT

Recent research has focused on institutional impacts on the implementation of PPP policies, specifically the role that the institutional and political context play in the process of developing PPP projects, and mostly analyzing contexts with similar institutional traditions. To contribute to the current state of the art, this paper attempts to answer the question of how the institutional environment affects project outcomes in PPP development in the road sector through a comparative analysis of two environments with very different institutional traditions - the Netherlands and Tamil Nadu (India) - but with similar project volumes and a comparable history of PPPs in the road sector. The maturity of the institutional environment for PPPs was comparable when both regions embarked upon PPP programs. However, the evolutions of the PPP environments and project outcomes have varied across these settings. To explain this, we draw upon *institutional theory* and *structuration theory*, to analyze the evolution of the institutional environment and its influence on project outcomes at different points of time. Our results show that the institutional environment influences project outcomes and that context-specific factors shape the evolution of the institutional environment in different ways in different arenas, thereby leading to different project outcomes over time, even when the initial set of institutional logics surrounding PPPs are the same across these arenas. We draw two main conclusions: 1) policy interventions contribute to the development of the institutional environment positively influencing project outcomes and 2) there is path dependent response at the institutional level to project outcomes, linked to political willingness to implement enabling policy actions to foster PPP development. These results contribute to our understanding of the evolution of PPP enabling fields over time and the complex interplay between institutional regulative mechanisms and outcomes on project level.

**Key words:** Public Private Partnerships, Institutional Theory, Structuration Theory, Comparative Study, Infrastructure, Case Study.

## INTRODUCTION

Given the key role of infrastructure in promoting economic growth governments have traditionally been responsible for infrastructure development (Hammami et al., 2006). However, over the past few decades, several countries have continuously grappled with the fact that their infrastructure (both its capacity and its quality) does not meet growing demands. Worldwide, governments face the challenge of developing assets to sustain long term

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economic growth. Governments, therefore, are increasingly relying on private sector's capacities through Public Private Partnerships (PPPs).

PPPs often take place as a part of PPP programs under a dominant institutional environment. Evaluations of PPPs, to date, place emphasis on the importance of institutions, capacity building in PPPs and the critical goals of improving governance in PPPs. The challenge however is not only in creating new institutions but in also developing public expertise to manage projects (UNECE, 2007). Recent research has focused on institutional impacts on the implementation of PPP policies in different contexts, specifically the role that the institutional and political context plays in the process of developing PPP-enabling fields (Delhi et al., 2010; Jooste et al., 2011; Mu et al., 2010). Jooste et al. (2011) emphasize the importance of an enabling environment for the successful development of PPP programs. Jooste et al. (2011) note that PPPs are implemented differently in different regions and they state that PPP programs are shaped by the institutional and political frameworks where PPP development takes place. Delhi et al. (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. They define a propitious institutional environment as a context where governments understand roles and responsibilities of PPPs, leading parties to enter into sustainable PPP arrangements where institutional structures serve as a guideline to achieve a coherent PPP policy, supportive risk sharing, transparency, sustainable development and a clear legal framework. Mu et al. (2010) state that the occurrence of undesirable parties' performance is a sign of institutional deficiencies, capturing the need to improve the institutional setting where projects take place. Other authors focus on how project outcomes are influencing the successful development of PPP programs. Garvin and Bosso (2008), for instance, present a normative framework to establish the necessary conditions for profitable PPPs which heavily depend on establishing a balance between the interests of state, society, industry, and market.

Despite the existence of academic contributions analyzing the interlink between institutions and PPP projects, little empirical research has been done that evaluates the effects of the evolution of the institutional environment on project outcomes for PPPs, and the few comparative studies have mainly focused on contexts with similar institutional traditions (Aziz, 2007; Jooste et al., 2011; Petersen, 2011), placing great emphasis on the institutions and largely ignoring the diversity of reactions that comes from differing institutional contexts. In response, this paper attempts to answer the question of how the institutional environment affects project outcomes in PPP development in the road sector in two different contexts: the Netherlands and Tamil Nadu, India. We consider it essential to evaluate the way the institutional environment and the project structure are related. In order to improve the PPP environment it is important to understand how institutions influence projects and vice versa.

## **OVERVIEW OF THIS PAPER**

This paper provides a comparative study of two environments with very different institutional traditions –the Netherlands and Tamil Nadu - but with very similar project volumes and a comparable history of PPPs in the road sector. Our main goal is to analyze the influence of the institutional environment on the project structures in both contexts. In this research, we draw upon institutional theory (Scott, 2004) to analyze this influence at different points of time, starting from the late 1990's when the first PPPs were implemented in both environments. Our findings contribute to depict the interplay between actions and institutions and to address the practical problem of how to study institutional maintenance and change in organizations.

## **Institutional Theory**

Governments operate in an institutional environment which influences their actions. In this environment, the main goal of organizations is to survive not only economically, but they need to establish acceptability within the world they operate. Institutional theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 1995) analyzes how structures including procedures, rules, schemas, and routines, become established as guiding principles for social behavior through processes. Scott (2008) defines institutions as the *symbolic frameworks that create shared meanings and controls that provide order to social action*. Institutions determine how different elements are developed, diffused, adopted, and adapted over space and time (Scott, 2004; Scott, 2008). An important element of institutional theory is *conformity* or *rational myths* (Meyer & Rowan, 1977; Zucker, 1987). These *rational myths* determine what is coherent to an organization, incorporating rules, procedures, and norms through which the organization pursues its mission and goals. These institutional environments are created by agents like national or state governments that are sufficiently powerful to impose structural practices such as regulations or formal procedures because of the authority they possess (Scott, 1987). The existing norms, regulations, and procedures are the means through which governments attempt to pursue their goals. These elements are the result of three types of institutional supports: regulative, cognitive, and normative (Scott, 1995; Henisz et al., 2012). Regulative supports include established understandings of public policy, procedures, laws and formal mechanisms. Normative supports prescribe values and norms which determine what is acceptable at a given environment. Cognitive elements determine the extent to which broader belief systems and cultural frames are imposed or adopted by organizations. Therefore, institutional theory embrace both the formal and informal prevalent at a given environment. While formal institutions are conscious guiding principles which prescribe or proscribe parties' behavior (Eggertsson, 1996), it is also important to include informal rules or trust patterns as part of the institutional framework since behavioral patterns become institutionalized and informal rules become seen as given (Winch, 2010), or, as Ring and Van de Ven (1994) state, informal commitments become institutionalized over time due to the repetitive execution of acts by individuals involved. Moreover, organizations make choices not only based on the coercive power of punishment exerted by laws and rules, or some sort of social obligation. They do so because organizations are embedded in certain institutions and follow routines that are taken for granted as *the way we do these things* (Scott, 2001, p.57).

More specifically, there is a reciprocal relationship between policy actions and the way institutions are shaped. This is grounded in Giddens' structuration theory which recognizes that actors affect structure through their practices, and that structure affects the practices of actors (Giddens, 1984). The institutional environment shapes political processes and the rules of the political game (Spiller et al., 2003) and vice versa. There is a link between how political institutions shape political incentives, how political behavior influences policy making processes and their capabilities. In the case of PPPs, governments are responsible to establish programs and develop the necessary capacity to ensure project success. The way a government shapes the environment for PPP development will depend on the institutional context where projects take place. The policy interventions will have an impact on the institutional capabilities of the environment to foster PPP development and provide an *enabling environment* (Jooste et al., 2011).

## **PPPs and Institutional Capabilities**

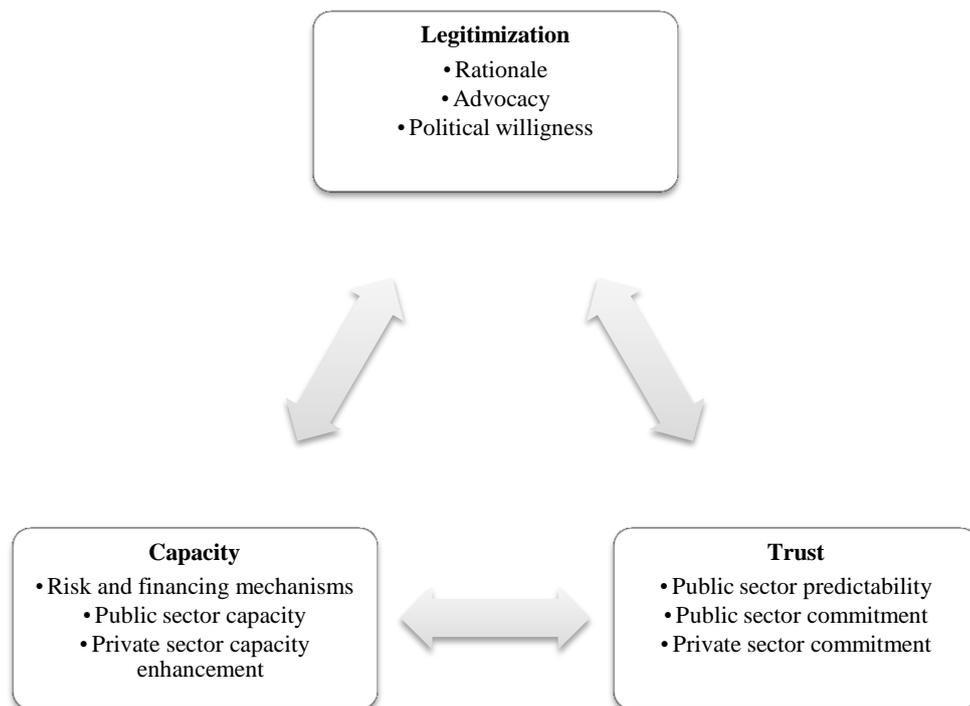
Previous research has shown that the institutional environment has an impact on the outcomes of PPP projects (Delhi et al., 2010). Recent work has confirmed that rather than overcoming institutional capacity constraints, PPPs require a variety of new types of

institutional capacity (Jooste et al., 2011). In order to analyze the impact of the institutional environment, we categorize the existing regulative instruments into three “institutional capabilities” proposed by Mahalingam et al. (2011). These are: *legitimization*, *trust*, and *capacity* which serve as a framework for our research. We use this model to analyze the influence of the institutional environment on PPP projects with the intention of refining it and proposing it for further research to study the interplay between the institutional and project outcomes. The categorization proposed by Mahalingam et al. (2011) serves as a means to delimit the institutional environment and characterize the institutional capabilities needed for PPP development so then we can compare different institutional environments.

Legitimacy is *a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions* (Suchman, 1995). Legitimization concerns PPPs because these projects introduce private operators into services that were traditionally provided by governments, and require large financial commitments from private parties who expect long term returns for their investments (Jooste et al., 2011). Strategies to build legitimization include guaranteeing transparency, giving strategic information, and providing a stable political environment. Legitimization refers to the formal actions that promote the willingness of public and private actors to engage in PPPs. Mahalingam et al (2011) state that governments can ensure legitimization through 1) a clear rationale for PPPs, 2) political willingness to promote a proactive attitude towards PPPs, and 3) advocacy to ensure that all stakeholders are informed and governments make effective communication strategies available to accomplish this purpose.

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). In this research, we analyze trust across the interfaces of the PPPs, specifically the formal mechanisms that foster trust between public and private actors by means of standards and mechanisms implemented by the government. We agree with Sitkin (1995) and Zucker (1986) who state that trust and formal mechanisms are mutually reinforcing and contribute to the level of cooperation needed in a relationship. Formal mechanisms can influence trust since standard rules and procedures allow them to establish a pattern of behavior to base their assessments and evaluations on others (Bijlsma-Frankema & Costa, 2005; Sitkin, 1995) making the relationships more predictable. According to Mahalingam et al. (2011), the key capabilities to foster trust for PPP development are 1) public sector predictability, and 2) ensuring public and private sectors commitment.

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 new roles and acquire specific expertise at several levels. According to Mahalingam (2011) governments can improve capacity to develop PPPs by 1) building the necessary capacities within the public sector, 2) providing appropriate risk and financing mechanisms to effectively award and govern PPP projects, and 3) enhancing private sector capacity.



**Figure 1. Institutional capabilities proposed by Mahalingam et al (2011)**

## RESEARCH DESIGN AND METHODOLOGY

To be able to analyze the impact of the institutional environment on project outcomes we studied two different environments - different in legitimization, capacity and trust – but both with a long history of PPPs: the Netherlands and Tamil Nadu (India). We studied the evolution of the institutional environment in both countries over time and evaluated the impact on project at three different times. This enabled us to study the impact of institutional structures on project outcomes and vice versa. In other words, the longitudinal approach enabled us to study the complex interplay between institutional structures and actions in projects.

The research was undertaken in four stages. The first step was to gather data about policy interventions in the Netherlands and Tamil Nadu. We collected publicly available reports, and policies mainly authored by public governmental agencies and related to the policy interventions for PPP development in the roads sector in both regions. This secondary analysis allowed us to reconstruct the historical evolution of the institutional environment for PPPs in both contexts. Second, we analyzed the influence of these policy interventions on the institutional environment. For this purpose we used the framework of Mahalingam et al. (2011) presented in the previous section. Table 1 displays the operationalization of these institutional capabilities.

**Table 1. Template to evaluate the institutional capabilities**

<b>Institutional capabilities</b>	<b>Policy interventions</b>
<b>LEGITIMIZATION</b>	
<b>Rationale</b>	
<b>Political willingness</b>	
	Political champion
	Project portfolio
	PPP policies

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

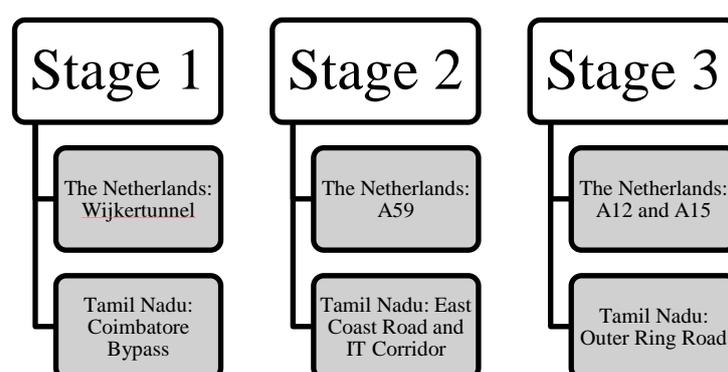
Third, we analyzed projects over time to evaluate the project outcomes. We selected four available case studies in each location, comparable in terms of relative capital investments and contract duration. An overview of the cases is given in table 2. Our main goal was to select cases that took place at different points of time, so we could analyze the impact of the evolution of the institutional capabilities on project outcomes. To evaluate the selected projects we carried out exploratory interviews in the Netherlands and Tamil Nadu. Our interviews were semi-structured and the questions asked were both exploratory and descriptive in nature. We gathered information about the institutional situation during their involvement in PPP development, the description and structure of the projects where they participated, and the issues arising during these projects. We carried out 8 interviews with experts in the Netherlands – 3 project managers, 2 consultants and 3 public officers- and 7 in Tamil Nadu -2 project managers, 3 consultants and 2 public officers-. Data triangulation was done through validating our data with the secondary data about the projects we found in journal articles, governmental reports, and articles in the media.

**Table 2. Overview of the case studies**

Number	Project title	Year start operations	PPP type	Project investment
<b>Netherlands</b>				
1	Wijkertunnel	1996	BOT Shadow toll	231 million euro
2	A59	2005	DBFM	218 million euro
3	A12	2014	DBFM	373 million euro
4	A15	2015	DBFM	1095 million euro
<b>Tamil Nadu</b>				
5	Coimbatore Bypass	1998	BOT Toll based	16 million euro
6	East Coast Road	2002	Joint Venture and RIMOT- Toll based	9 million euro
7	IT Corridor	2008	Joint Venture and BOT Toll based	58 million euro
8	Outer Ring Road	2012	DBFOT Annuity basis	159 million euro

## RESEARCH RESULTS

To characterize the institutional environment in the Netherlands and Tamil Nadu, we first describe the PPP policy interventions that took place in both environments, emphasizing the events that modified the environment for PPP implementation at a certain point of time. We demarcate three stages where our case studies took place, and describe the institutional context and the project outcomes for each environment. Throughout this evolution, we observe that the institutional environment has an impact on project development captured in the different nature of project issues that we identify.



**Figure 2. Stages and case studies in the Netherlands and Tamil Nadu**

### The Netherlands

Space scarcity and high demands for infrastructure have a strong influence on PPP development in the Netherlands. This situation entails complex stakeholder involvement whose interests may conflict. As the client of the national water and road infrastructure, Rijkswaterstaat (RWS) as part of the Ministry of Transport, Public Works and Water Management plays a dominant role (Lenferink & Arts, 2009). The Dutch landscape is increasingly influenced by European legislation reflected in procurement and planning

procedures and schemes as well as changing role of the government towards a more robust business-oriented approach.

### *Stage 1. Introduction of PPP in the Netherlands*

During this first stage we observe that the Dutch government started developing PPPs in the road sector as a means to develop projects that would not have been possible without private investments. In the 80s, the Dutch government mentioned PPPs for the first time referring to the PFI concept in the UK: “a new form of public private cooperation at different levels of government which will aim to increase the volume of investment”(Klijn, 2009). The government launched two PPPs in the road sector in the early 1990’s because public funding was scarce and private capital was necessary to improve the national infrastructure and make projects possible (van Ham & Koppenjan, 2001). When the Dutch National Court of Audit evaluated the projects’ outcomes, they found out that these projects were more expensive than they had been developed through public finance: 21% more expensive for the Noordtunnel and 41% for the Wijkertunnel(van Ham & Koppenjan, 2001). The main reason behind it was that the government did not possess enough capacity to launch PPPs and the project structure and demands were not correct (European Commission, 2004; Klijn, 2009).

After these experiences, the government’s interest for PPPs decreased considerably and they did not mention PPPs until 1998. By then, the government was again confronted with insufficient public funds to meet infrastructure investment needs and private participation was put on the political agenda (Bult-Spiering & Dewulf, 2006; Koppenjan, 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, the Betuwe-Lijn, and high-speed railways between Amsterdam and the Belgian and German borders including the development of various high-speed railway stations (Koppenjan, 2005).

### *Wijkertunnel project*

The Wijkertunnel was a BOT shadow toll where the demand risk was borne by the government and maximum revenues were not capped. With increasing traffic on the road, the private consortia got the project return before the end of the contract. This project highlighted the importance of planning and procurement for project success as well as the need for public capacity before embarking on a complex PPP project.

### *Stage 2. Creation of the PPP Unit and value for money*

After the first stage, the government realized the need to strengthen the institutional environment to provide a propitious context for PPP development. The first action was the publication of a report in 1998, where the central government evaluated international experiences for PPPs and, based on this information formulated conditions for a successful partnership (Dutch Ministry of Finance, 1998; Klijn, 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* in Dutch). The Dutch government established this agency to encourage the use of PPPs, advise government agencies, and provide private companies with general information regarding PPPs (Bult-Spiering & Dewulf, 2006). One of the main goals of the PPP Unit was to stress the importance of goal alignment in public agencies and create public capacity to structure and formulate clear and functionally specific outputs (Kenniscentrum PPS, 2002).

In 1999, the government developed the first PPP policy. This included several mechanisms to support the development of PPPs 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 PPPs. 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 value for money to improve infrastructure efficiency (Bult-Spiering & Dewulf, 2006). Right after its creation, the PPP Unit was committed to assessing the evolution for PPP development in the country, evaluating the main problems and their potential causes. These actions contributed to build public support for PPPs through better knowledge dissemination, strengthening advocacy, and changing the government's rationale towards achieving value for money through PPPs.

In 2001, RWS launched two pilot projects (the N31 and the A59) through a DBFM contract, with the ambition of getting value for money through a more integrated approach for infrastructure development (Horchner & Ham, 2003). Right after these projects, the PPP Unit emphasized the importance of providing a project portfolio to learn based on experience and improve capacity (Kenniscentrum PPS, 2002). In 2002, the government published guidelines to identify PPP projects and ensure value for money through the Public Private Comparator and the Public Sector Comparator. This way, the government aimed at providing confidence to private investors and different levels of government.

### *The A59*

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 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 in English schemes was not efficient since UK contracts are based on common law whereas Dutch contracts are based on civil law. Thus 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.

Our respondents pointed out that the A59 showed 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 showed the need to improve public capacity to successfully launch more PPPs in the country. The government analyzed the A59's inefficiencies in the evaluation report of the project. 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. These 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 PPS, 2005) by increasing public sector capacity and predictability.

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

The experiences from the A59 led to new measures to strength the institutional capabilities, leading to a robust environment for PPPs. PPP development in the Netherlands was also influenced by some measures at the European level. In 2004, the European Commission published the Green Paper (European Commission, 2004) addressing various topics associated with public procurement of PPPs, particularly the framework for the procedures for selection of private partners and the advantages of the *competitive dialogue procedure*<sup>1</sup>. 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 implanting that

scheme (Nagelkerke et al., 2008). Since 2004, the Dutch government has procured large infrastructure projects in the road sector through competitive dialogue. By developing norms and procedures for project identification and approval, as well as standardizing procurement, the Dutch government contributed to increasing public sector predictability for PPP decision making, a fact that would positively increase private sector confidence to embark on a PPP project with RWS.

Despite the encouragement of the PPP Unit to provide an active project portfolio, up to 2005, the only projects that were successfully implemented in the road sector were the A59 and the N31. 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.

In 2005, the Dutch government published the report *Nota Mobiliteit* (Ministerie van Werker en Waterstaat, 2005) which 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 need to ensure social accountability by standard procedures like the Route Determination<sup>ii</sup>, and the urgency to avoid high transaction costs (Ministerie van Werker en Waterstaat, 2005). Again, this political statement contributed to reaffirm political willingness and create confidence for PPP development in the Netherlands. Besides, the Dutch government introduced the concept of listed risks<sup>iii</sup> (Bos, 2009) to provide a standard procedure to discuss about the potential risks during procurement. This helped both private and public parties to obtain appropriate insight into the risks, their magnitude and the probability that they will emerge 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.

The Dutch government altered the structure of the PPP Unit, but this one kept safeguarding that the knowledge about PPP was not lost and was passed on to all involved parties. 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 public 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 Financien, 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 (Rijkwaterstaat, 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.

RWS is nowadays moving from a dominant, closed and inward-oriented organization towards a more transparent, customer-oriented facilitator (Van den Brink, 2009). 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 PPP 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.

## A12 and A15

The A12 and A15 were procured through competitive dialogue at the end of 2009. Despite the efforts from the Dutch government to shorten planning and procurement by early market involvement and standardization, our respondents stated that planning and decision making take long time and entail high transaction costs in the Netherlands. Besides, our interviewees pointed out that there is little room for technical creativity during competitive dialogue, caused by several limiting public decisions such as *Route Determination*. 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 municipalities creating resistance by not providing the permits and approvals for the project (Van Valkenburg et al., 2008). However, our respondents highlighted that the *Route Determination* is necessary but it obstructs private capacity by restricting innovation. 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 contractors sharp to finish construction works in time. Despite the benefits of this practice that encourages private parties to be committed, our respondents pointed out that this kind of DBFM contract does not offer many possibilities for contract changes or innovation because of time pressure and availability demands.

### *Evolution of the institutional environment for PPPs in the Netherlands*

In this section we use the template presented in Table 1 to show the influence of the policy interventions on the institutional capabilities and depict their evolution throughout the three stages. 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 interventions that influenced the institutional capabilities and the projects presented in our case studies by adding a “+” when this capability evolved from one stage to another. In the Netherlands we observe a link between the lessons obtained from the implementation of these projects and the policy interventions at the institutional level.

**Table 3. Evolution of the institutional capabilities in the Netherlands**

Institutional capabilities	Policy interventions	Stage 1	Stage 2	Stage 3	End situation
<b>LEGITIMIZATION</b>					
<b>Rationale</b>					
	<i>Clear rationale</i>	-	+	+	
	<b>Result</b>	-	+	+	++
<b>Political willingness</b>					
	<i>Political champion</i>	-	+	+	
	<i>Project portfolio</i>	-	+	+	
	<i>PPP policies</i>	-	+	+	
	<b>Result</b>	-	+++	+++	++++++
<b>Advocacy</b>					
	<i>Public consultation</i>	-	-	+	
	<b>Result</b>	-	-	+	+
<b>TRUST</b>					
<b>Public sector predictability</b>					
	<i>Decision making</i>	-	-	-	

<i>departments:</i>					
<b>Guidance documents</b>	<i>Project preparation and identification guidelines Standard documents. Model contract</i>	-	-	+	
	<i>Project development responsibility</i>	-	-	-	
<b>Result</b>		-	-	+	+
<b>Public sector commitment</b>					
	<i>Established regulatory agency</i>	-	-	-	
	<i>Standard dispute resolution mechanisms</i>	-	-	-	
	<i>Cooperation platforms</i>	-	+	+	
<b>Result</b>		-	+	+	++
<b>Private sector commitment</b>					
	<i>Project monitoring</i>	-	+	+	
	<i>Cooperation platforms</i>	-	+	+	
<b>Result</b>		-	++	++	++++
<b>CAPACITY</b>					
<b>Public sector capacity</b>					
	<i>In house PPP knowledge</i>	-	-	+	
	<i>Training programs-workshops</i>	-	-	+	
	<i>Cross project knowledge</i>	-	+	+	
	<i>Guidance notes</i>	-	-	+	
<b>Result</b>		-	+	++++	+++++
<b>Risk and financing mechanisms</b>					
	<i>Standard risk allocation mechanisms</i>	-	-	+	
	<i>Type of contract</i>	-	+	+	
	<i>State support funding distort</i>	-	-	-	
<b>Result</b>		-	+	++	+++
<b>Private sector capacity enhancement</b>					
	<i>Competitive bidding</i>	-	-	+	
	<i>Cooperation</i>	-	+	+	
<b>Result</b>		-	+	++	+++

## **Tamil Nadu**

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).

### *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 et al., 2010). Over the last two decades, the momentum for PPP implementation has significantly increased and diverse road projects have been implemented through PPPs at the national and state level. 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).

### *Coimbatore Bypass*

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 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).

### *Stage 2. Attracting private funds and second generation of PPPs*

The experiences during stage 1 did not contribute to develop a positive perception about PPPs in Tamil Nadu. However, the GoTN needed private funds to develop infrastructure, hence the GoTN launched new PPP projects during stage 2 as we saw in the Netherlands. During stage 2, the GoTN aimed at attracting private funds to give credibility to the projects.

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).

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<sup>iv</sup> (TNRDC) in 1998. TNRDC is a Joint Venture between the GoTN, the private partner Infrastructure Leasing & Financial Services Limited 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). Since its creation, the TNRDC has stated mandates for identifying and developing opportunities for private investors to further legitimate PPPs in the road sector (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 et al., 2010).

Given the infrastructure needs in the region for economic development, the GoTN drafted a road policy<sup>v</sup> 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. et al., 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<sup>vi</sup> (Economic Consulting Associates et al., 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 2003, the Tamil Nadu Road Sector Project<sup>vii</sup> (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 but not as a PPP option. The past experiences in PPP projects encouraged new forms of promoting infrastructure in Tamil Nadu.

Given the large infrastructure needs in the country, the GoI is committed to encouraging the use of PPPs as a means to bring private resources and meet the resource deficit. Therefore, the GoI is encouraging PPPs not only at the national level, but also at the state level (Government of India, 2007, 2008). While promoting 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 of a large number of projects, lack of credible-bankable infrastructure projects, lack of market instruments to meet the long-term equity and debt financing needed by infrastructure projects, and inadequate advocacy to create acceptance of PPPs by the stakeholders.

### *The East Coast Road and IT Corridor*

In 2000, the TNRDC signed the agreement to develop the East Coast Road. In 2002, operations for the East Coast Road started. The GoTN was again faced with 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. et al., 2010). This weak public

commitment generated some tensions among public and private parties to provide a propitious environment for PPP development.

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 et al., 2010). The expected year of operations commencement was 2005; however, phase I did not open until 2008 because of significant delays. 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.

### *Stage 3. Recent developments*

Due to the unsuccessful development of projects like the East Coast Road or IT Corridor, the GoTN has stopped initiatives to promote PPPs at the state level and we observe that projects are now awarded through annuities. The second phase of the IT Corridor is a good example. In 2009, the GoTN took over the private party's equity for the IT Corridor and restructured the JV. The GoTN announced that phase II will be developed through an annuity (availability) contract.

The evolution we observe in this stage comes mainly from the enthusiasm of the GoI to provide infrastructure through PPPs. 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 national programs 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<sup>viii</sup> (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. In 2010, the GoTN published a road policy note (Government of Tamil Nadu, 2009-2010), where the government very briefly encourages developing roads with heavy traffic through PPPs.

### *Outer Ring Road*

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.

*Evolution of the institutional environment in Tamil Nadu*

Table 4 shows the evolution of the institutional capabilities in Tamil Nadu. As for 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. After the Coimbatore Bypass, political willingness decreased in Tamil Nadu. Due to external circumstances (need of private funds), the government brought the PPP 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.

**Table 4. Evolution of the institutional capabilities in Tamil Nadu**

<b>Institutional capabilities</b>	<b>Policy interventions</b>	<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 3</b>	<b>End situation</b>
<b>LEGITIMIZATION</b>					
<b>Rationale</b>					
	<i>Clear rationale</i>	-	-	-	
	<b>Result</b>	-	-	-	-
<b>Political willingness</b>					
	<i>Political champion</i>	-	-	-	
	<i>Project portfolio</i>	-	+	+	
	<i>PPP policies</i>	-	-	-	
	<b>Result</b>	-	+	+	++
<b>Advocacy</b>					
	<i>Public consultation</i>	-	-	-	
	<b>Result</b>	-	-	-	-
<b>TRUST</b>					
<b>Public sector predictability</b>					
	<i>Decision making departments:</i>	-	-	-	
<b>Guidance documents</b>	<i>Project preparation and identification guidelines Standard documents. Model contract</i>	-	-	+	
	<i>Project development responsibility</i>	-	-	-	
	<b>Result</b>	-	-	+	+
<b>Public sector commitment</b>					
	<i>Established regulatory agency</i>	-	-	-	
	<i>Standard dispute resolution mechanisms</i>	-	-	-	
	<i>Cooperation platforms</i>	-	-	-	
	<b>Result</b>	-	-	-	-
<b>Private sector commitment</b>					

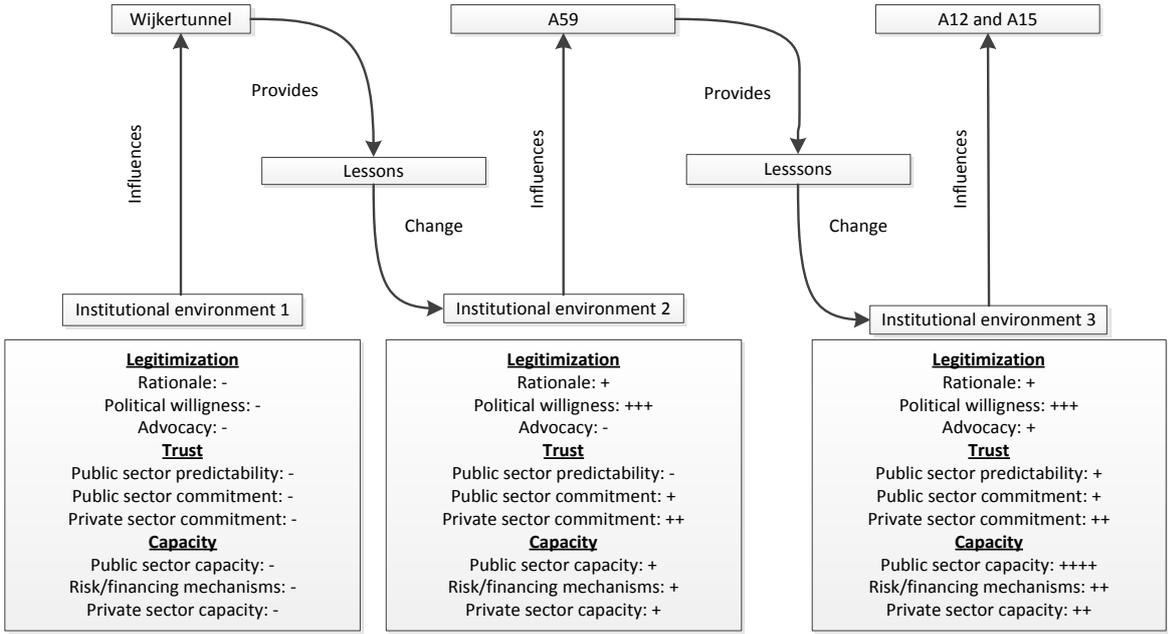
<i>Project monitoring</i>	-	-	-	
<i>Cooperation platforms</i>	-	-	-	
<b>Result</b>	-	-	-	-
<b>CAPACITY</b>				
<b>Public sector capacity</b>				
<i>In house PPP knowledge</i>	-	-	-	
<i>Training programs- workshops</i>	-	+	-	
<i>Cross project knowledge</i>	-	-	-	
<i>Guidance notes</i>	-	-	+	
<b>Result</b>	-	+	+	++
<b>Risk and financing mechanisms</b>				
<i>Standard risk allocation mechanisms</i>	-	-	-	
<i>Type of contract</i>	-	-	+	
<i>State support funding distort</i>	-	+	+	
<b>Result</b>	-	+	++	+++
<b>Private sector capacity enhancement</b>				
<i>Competitive bidding</i>	-	-	-	
<i>Cooperation</i>	-	-	-	
<b>Result</b>	-	-	-	-

## DISCUSSION

The starting point of our research was to analyze the influence of the institutional environment on PPP projects. With this purpose, we have analyzed the institutional environment in two contexts: 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 a result of policy implementations over time.

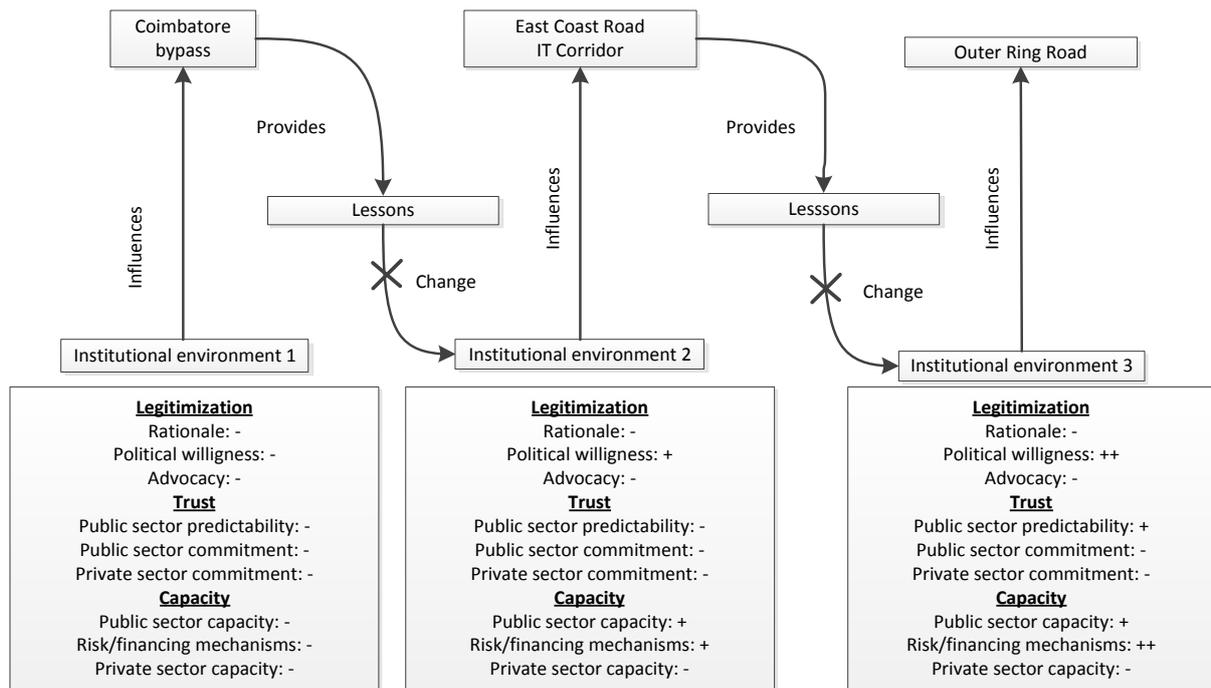
We aim at evaluating how institutions influence project characteristics, acknowledging that actions create, maintain and change institutions in return. Specifically, we observe that the institutional environment influences the contract structure, the duration of negotiations for planning and procurement, or the emergence of public opposition. We also observe that project outcomes provide some lessons and actors assess these project outcomes and then strategize. Starting from a similar degree of maturity, there is a completely different evolution of the PPP environment in the Netherlands and Tamil Nadu. In the Netherlands, the institutional environment has evolved since the implementation of the first PPP in the country as a consequence of several policy interventions, whereas the environment has remained relatively stagnant in Tamil Nadu. This is reflected in the type of issues that arise during project development. In the Netherlands we observe a link between the lessons obtained from the project level and policy intervention at the institutional level. The Dutch government has adopted a pro-active attitude to improve the institutional environment and learn based on project experiences. Particularly, political willingness has contributed to make PPPs so that a programmatic approach could follow. The Dutch government has invested resources in evaluation reports, standard procedures and mechanisms, and cooperation platforms to

evaluate PPP's evolution, their problems and potential causes. We display this relationship in figure 3.



**Figure 3. Relationship between the institutional environment and project outcomes in the Netherlands**

However, in Tamil Nadu we do not observe such a link between the lessons obtained from project experience and changes in the institutional environment. 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. However, we observe a stagnant institutional environment to build public capacity. In Tamil Nadu, there were also lessons learnt from the implementation of projects, but the government has not applied them. On the contrary, negative experiences have negatively affected political willingness to implement measures which could improve project development. The GoTN has faced a lack of public capacity and extensive mistrust among public officers and tax-payers of the profitmaking aspect of PPPs. We display this relationship in figure 4.



**Figure 4. Relationship between the institutional environment and project outcomes in Tamil Nadu**

The analysis of the institutional environment in the Netherlands and Tamil Nadu over time shows that institutions are dynamic and change over time. We bring some evidence of the influence that project outcomes have on institutions. These results link our research results to structuration theory (Barley & Tolbert, 1997; Giddens, 1984) and some recent research about PPP development (Jooste et al., 2011) which draw attention to the interplay between the institutional context, material systems, and the mechanisms of change. They state that the institutional environment has an influence in the events in the *realm of action* (project level) and the outcomes of the *realm of action* will change the institutional environment in return. This interaction between the *realm of action* and the institutional environment is very different in the Netherlands and Tamil Nadu. PPPs are “embedded” in the institutional environment, different in each location, which have a different effect on the types of issues that arise during project development and the reaction of organizations to these issues. This research results are also in line with Garvin and Bosso (2008) since we observe that project outcomes influence the programmatic implementation of PPP projects. We agree with Suchman (1995) saying that the institutional construction takes place on the level at which the problem is perceived. In both environments there were some lessons coming from the project implementation but these lessons were interpreted differently in Tamil Nadu and the Netherlands. The stagnant environment in Tamil Nadu is a result of a resistance to change coming from a lack of willingness to implement PPPs in the state. However, the Dutch government has used political willingness as a means to provide a programmatic approach for PPPs.

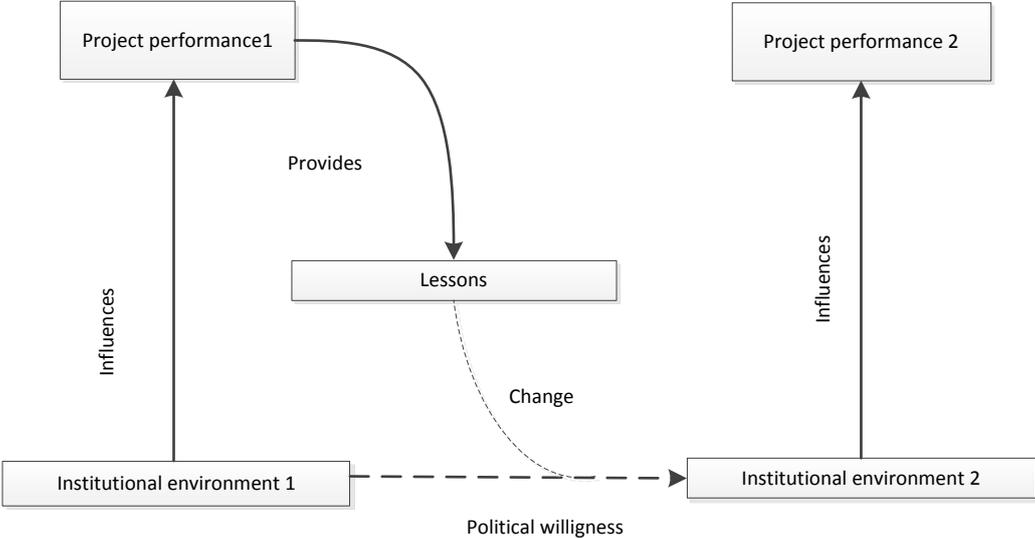
## CONCLUSIONS

The main goal of this research was to evaluate how the institutional environment influences project development in PPPs in the road sector. We have found that the institutional environment has an influence at the project level. Besides, we have observed that the Dutch and Tamil environment have evolved differently, being perceptible in project development. Based on our results we can draw two main conclusions: 1) policy interventions contribute to the development of the institutional environment positively influencing project

outcomes and 2) there is a path dependent response at the institutional level to project outcomes, directly linked to political willingness to implement enabling policy actions to foster PPP development.

The institutional environment has an on contract structure, the duration of negotiations for planning and procurement, and the emergence of public opposition. Projects' outcomes result in lessons learnt. The influence of the institutional environment on project outcomes and context specific factors shape the evolution of the institutional environment in different ways in different arenas, thereby leading to diverse project outcomes over time, even when the initial set of institutional logics surrounding PPPs are the same across these arenas.

These results contribute to our understanding of the evolution of PPP enabling fields over time and the complex interplay between institutional regulative mechanisms and outcomes on project level. By studying longitudinally the PPP institutional field on the one hand and the evolution of projects on the other, we are able to analyze how this interplay took place. Figure 5 displays a model which allows us to represent the evolution of the institutional environment and its influence at the project level.



**Figure 5. Proposed model for the evolution of the institutional environment through different stages**

Institutions influence the *realm of action* and events in the *realm of action* influence institutions in return (Barley & Tolbert, 1997). Throughout the model, we observe 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. Our research results show some evidence of the influence of project outcomes on the institutional environment, generating reluctance or willingness as a result of the experiences implementing PPPs. Comparing PPP development in The Netherlands and Tamil Nadu we observe that the different evolution of the institutional environments is a result of the program progress, directly linked to the political willingness to implement measures at the institutional level based on the lessons learnt from past experiences. In our cases, 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, the institutional capabilities will remain stagnant and not applied for project development. This finding is in line with the principle of structuration theory which states that institutions organize actions and acknowledging that actions create, maintain and change institutions in return. Moreover, structuration theory focuses on the dynamics by which institutions are modified. In this paper we have provided an analysis to show how both

theories complement each other and provide useful insights for PPP development. We encourage further research comparing different environments to evaluate the influence of the institutional capabilities at the project level, and more especially, how project outcomes influence institutions in return.

## Appendix 1. Evolution of the Institutional Capabilities in the Netherlands

<b>LEGITIMIZATION</b>				
	<b>1<sup>st</sup> stage</b>	<b>2<sup>nd</sup> stage</b>	<b>3<sup>rd</sup> stage</b>	
	<b>1990-2000</b>	<b>2001-2003</b>	<b>2004-2011</b>	
<b>Rationale</b>				
	Project urgency	Project urgency and value for money	Value for money	
<b>Political willingness</b>				
	Political champion	No mechanisms	PPPs Kenniscentrum	PPS Kennispool
	Project portfolio	No mechanism	First DBFM in the Netherlands	Improved project portfolio: 2 <sup>nd</sup> Coen Tunnel, A12, A15, N33, Schiphol-Amsterdam-Almere Projects included in the Urgency Approach
	PPP policies	No mechanisms	First PPP Policy, Nota Mobiliteit, Ruding Report. Active PPP Unit	Active PPP Unit Publication guidelines, procedures, standard documents
<b>Advocacy</b>				
	Public consultation	No data	Route Determination Public consultation	Route Determination Public consultation Early market involvement
<b>TRUST</b>				
<b>Public sector predictability</b>				
	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
<b>Guidance documents</b>	Project preparation and identification guidelines Standard documents. Model contract	No mechanisms	Project basis First DBFM	Guidelines PSC and PPC Market scan Standard DBFM P Procurement through competitive dialogue
	Project development responsibility	RWS	RWS	RWS
<b>Public sector commitment</b>				
	Established regulatory agency	Dutch civil law Clause reasonableness	Dutch civil law Clause reasonableness and	Dutch civil law Clause reasonableness and fairness

		and fairness	fairness	
	Standard dispute resolution mechanisms	No data	Contract: International dispute resolution mechanisms	Contract: International dispute resolution mechanisms
	Cooperation platforms	No data	Alignment meetings, open debate	Open debate, cooperation platforms
<b>Private sector commitment</b>				
	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
<b>CAPACITY</b>				
<b>Public sector capacity</b>				
	In house PPP knowledge	Consultants hired from the UK	Consultants hired form 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
<b>Risk and financing mechanisms</b>				
	Standard risk allocation mechanisms	Risks negotiated	Risks negotiated	Listed risks
	Type of contract	BOT Shadow toll	Availability based DBFM	Availability DBFM
	State support funding	No mechanisms	No mechanisms	No mechanisms
<b>Private sector capacity enhancement</b>				
	Competitive bidding	Competitive procurement	Competitive procurement	Competitive dialogue, early market involvement
	Cooperation	No data	Alignment meetings, open debate	Open debate, cooperation platforms

## Appendix 2. Case Studies in the Netherlands

<b>Project</b>	<b>Project outcomes</b>	<b>Lessons learnt</b>
<b>Wijkertunnel</b>	Project 41% more expensive than developed by the public sector	Importance of planning and procurement for project success Importance of developing public capacity before embarking on a complex PPP project
<b>A59</b>	Delays in planning and procurement High transaction costs	PPPs are a learning process Need for cooperation and knowledge transfer to increase public and private capacity Need to keep in-house knowledge
<b>A12 and A15</b>	High transaction costs Long planning and procurement Innovation versus proven technology	Need to enhance private sector capacity Need to minimize transaction costs and planning and procurement Need to increase knowledge transfer during different project stages by avoiding the “changing-teams” issue

### Appendix 3. Evolution of Institutional Capabilities in Tamil Nadu

<b>LEGITIMIZATION</b>		<b>1<sup>st</sup> stage 1990-1998</b>	<b>2<sup>nd</sup> stage 199-2008</b>	<b>3<sup>rd</sup> stage 2009-2011</b>
<b>Rationale</b>				
		Urgency	Need for private funds	Need for private funds, efficiency gains
<b>Political willingness</b>				
	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
<b>Advocacy</b>				
	Public consultation	No mechanisms	No mechanisms	No mechanisms
<b>TRUST</b>				
<b>Public sector predictability</b>				
	Decision making departments:	State Highways department 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
<b>Guidance documents</b>	Project preparation and identification guidelines Standard documents. Model contract	State Highways department of Tamil Nadu Case to case basis No mechanisms	TNRDC, Transparency Act 1998, Highways Act 2001 Case to case basis No mechanisms	TNRDC, Model concession agreement by GoI, procedures and documents by GoI
	Project development responsibility	State Highways, department Tamil Nadu	TNRDC	TNRDC
<b>Public sector commitment</b>				
	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

<b>Private sector commitment</b>				
	Project monitoring	Included in the contract	Included in the contract	Included in the contract
	Cooperation platforms	No mechanisms	No mechanisms	No mechanisms
<b>CAPACITY</b>				
<b>Public sector capacity</b>				
	In house PPP knowledge	Hired consultants	Hired consultants Creation of TNRDC Creation TNRSP	Hired consultants
	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
<b>Risk and financing mechanisms</b>				
	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	--	VGF by GOI	VGF by GoI
<b>Private sector capacity enhancement</b>				
	Competitive bidding	Competitive bidding	Negotiated contracts Transparency Act 1998	Competitive bidding
	Cooperation	No mechanisms	No mechanisms	No mechanisms

#### Appendix 4. Case Studies in Tamil Nadu

<b>Project</b>	<b>Project outcomes</b>	<b>Lessons learnt</b>
<b>Coimbatore Bypass</b>	Public opposition to pay. Costs overruns. Lack of value for money.	Need for goal alignment between public and private parties and effective dispute resolution mechanisms Importance of planning and procurement for project success Need for public consultation processes
<b>East Coast Road and IT Corridor</b>	Costs overruns Lack of value for money Delays Increasing accidents	Need for goal alignment between public and private parties and effective dispute resolution mechanisms Need to reduce political interference and need for public sector commitment Need for public consultation processes
<b>Outer Ring Road</b>	Delays in project planning	Need for goal alignment between public and private parties and effective dispute resolution mechanisms 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

## References

- Aziz, A. M. A. (2007). Successful Delivery of Public-Private Partnerships for Infrastructure Development. *Journal of Construction Engineering and Management*, 918-931.
- Barley, S. R., & Tolbert, P. S. (1997). Institutionalization and structuration: studying the links between action and institution. *Organization studies*, 93-117.
- Bijlsma-Frankema, K., & Costa, A. C. (2005). Understanding the Trust-Control Nexus. *International Sociology*, 20(3), 259-282.
- Bos, B. B. (2009). Inventarisatie van mogelijke verbeteringen voor Lijstrisico's bij PPS-projecten van Rijkswaterstaat. Delft University: Master Thesis.
- Bult-Spiering, M., & Dewulf, G. (2006). *Strategic issues in Public-Private Partnerships. An international perspective*: Blackwell Publishing.
- Cherian, T. (2009). *Domestic Financing and Special Financial Institutions for PPP Projects*. Paper presented at the UNESCAP Inter-regional Expert Group Meeting on Public Private Partnerships in Infrastructure Development, Bangkok, Thailand.
- Delhi, V. S. K., Palukuri, S., & Mahalingam, A. (2010). *Governance issues in Public Private Partnerships in infrastructure projects in India*. Paper presented at the Engineering Project Organizations Conference, South Lake Tahoe, CA.
- Deloitte. (2003). Evaluatie PPS A59.
- DiMaggio, P., & Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147-160.
- Dutch Ministry of Finance. (1998). Meer waarde door samen werken (Added Value through Cooperation). The Hague.
- Economic Consulting Associates, IL&FS, J Sagar Associates, CA Legal, & CEPA. (2005). Tamil Nadu, India: Development of Public Private Partnership Policy Framework *Inception Report*. London.
- Eggertsson, T. (1996). *A note on the economics of institutions*. Cambridge: Cambridge University Press.
- European Commission. (2004). Green Paper on Public Private Partnerships and Community Law on Public Contracts and Concession. Brussels: Commission of the European Communities.
- Franken (2010). *Project Rijksweg 15, Maasvlakte-Vaanplein*. Paper presented at the NETLIPSE Conference Vienna.
- Giddens. (1984). *The Constitution of Society*. Cambridge: Polity Press.
- Giddens, A. (1984). *The constitution of society: outline of the theory of structuration* Berkeley, California: University of California Press.
- Government of India. (2007). Public private partnerships: Creating an enabling environment for state projects. New Delhi: Department of Economic Affairs, Ministry of Finance.
- Government of India. (2008). Public private partnerships: Creating an enabling environment for State projects. New Delhi: Department of Economic Affairs, Ministry of Finance.
- Government of India. (2009). Model Concession Agreement for PPP in State Highways. *India Infrastructure, Building Growth*. Retrieved from <http://infrastructure.gov.in/mca.htm>
- Government of India (Producer). (2010-2011). PPP Toolkit for Improving PPP Decision Making Processes. Retrieved from <http://toolkit.pppinindia.com>
- Government of Tamil Nadu. (2009-2010). Road, Bridges, Minor Ports and Shipping: Government of Tamil Nadu.
- Hammami, M., Ruhashyankiko, J.-F., & Yehoue, E. B. (2006). Determinants of Public Private Partnerships in Infrastructure: International Monetary Fund Working Paper.

- Henisz, W. J., Levitt, R. E., & Scott, W. R. (2012). Toward a unified theory of project governance: economic, sociological, and psychological supports for relational contracting. *Engineering Project Organization Journal*, 2, 37-55.
- Horchner, C., & Ham, M. (2003). *Efficiency, what about it? PFI experience in the Dutch road sector*. Paper presented at the European Transport Conference.
- Jooste, S. F., Levitt, R. E., & Scott, W. R. (2010). *Beyond "One Size Fits All": How Local Conditions Shape PPP-enabled Field Development*. Paper presented at the Engineering Project Organizations Conference, South Lake Tahoe, CA.
- Jooste, S. F., Levitt, R. E., & Scott, W. R. (2010). *Capacity, Legitimacy, and Interest: Toward a Framework for PPP Program Success*. Paper presented at the Proceedings of 2010 Engineering Project Organization Conference, Fallen Leaf Lake, CA.
- Jooste, S. F., Levitt, R. E., & Scott, W. R. (2011). Beyond "one size fits all": how local conditions shape PPP enabled field development. *Engineering Project Organization Journal* 1(1), 11-25.
- Kenniscentrum PPS. (2002). Handleiding Publieke Sector Comparator. The Hague.
- Kenniscentrum PPS. (2005). Voortgangsrapportage (Progress Report). The Hague.
- Klijn, E.-H. (2009). Public Private Partnerships in the Netherlands: Policy, Projects and Lessons. *Institute of Economic Affairs*.
- Koppenjan, J. F. M. (2005). *The Formation of Public-Private Partnerships: Lessons from Nine Transport Infrastructure Projects in The Netherlands*: Wiley.
- Koster, J. (2005). Public-private partnerships: Netherlands switches on to public-private deals.
- Lenferink, S., & Arts, J. (2009). *Government Strategies for Market Involvement in Road Infrastructure Planning: an International Overview*. Paper presented at the Changing roles; New Roles, New Challenges.
- Lenferink, S., Arts, J., & Tillema, T. (2010). *Ongoing Public Private Interaction in Infrastructure Planning: an Evaluation of Dutch Competitive Dialogue Projects*. Paper presented at the International Public Procurement Conference (IPPC), Seoul.
- Mahalingam, A. (2010). *Urban PPP Case Studies in Tamil Nadu: Tamil Nadu Urban Development Fund*.
- Mahalingam, A. (2011). *Creating an enabling environment for PPPs: Toolkit for Policymakers Engaged in Designing and Managing PPP Interventions in the Infrastructure Sector*: IFMR Research.
- Mahalingam, A., & Kapur, V. (2009). *Institutional capacity and governance for PPP projects in India*.
- Meyer, J., & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*, 87, 340-363.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340-363.
- Ministerie van Financien. (2008). DBFM- Handboek 'een verkenning van contractonderdelen': Interdepartementaal programma "Pps bij het Rijk".
- Ministerie van Werker en Waterstaat. (2005). *Nota Mobiliteit*. The Hague.
- Mu, R., de Jong, M., & Heuvelhof, E. T. (2010). Public-private partnerships for expressways in China: An agency theory approach. *European Journal of Transport and Infrastructure Research*, 10(1), 42-62.
- Nagelkerke, M. C. J., van Rijn, M., Huith, G. J., & van Valkenburg, M. (2008). *Competitive Dialogue: Abyss or Opportunity?* Paper presented at the 3rd International Public Procurement Conference Proceedings.
- Petersen, O. H. (2011). *Public-Private Partnerships: Policy and Regulation – With Comparative and Multi-level Case Studies from Denmark and Ireland*. PhD, Copenhagen Business School Copenhagen.

- Provincie Noord Brabant. (2006). Evaluatie Uitvoeringsfase pilotproject Publiek Private Samenwerking PPS A59.
- Raghuram, G., & Kheskani, D. (2002). Government's Role in Road Toll Collection: The Coimbatore Bypass Experience: Indian Institute of Management.
- Rajan A., T., Siddharth, R., & Mukund, S. P. (2010). PPPs in road renovation and maintenance: a case study of the East Coast Road project. *Journal of Financial Management of Property and Construction*.
- Rijksoverheid. (2009). The competitive dialogue: Rijksoverheid.
- Ring, P.S. and Van de Ven, A.H.(1994). Developmental processes of cooperative interorganizational relationships. *Academy of Management Review*, 19, 1: 90-118.
- Ruding. (2008). Op de goede weg en het juiste spoor (On the road and on the right track). The Hague: Commissie Private Financiering van Infrastructuur [Advice External Committee on Private Financing of Infrastructure].
- Scott, R. (1995). *Institutions and organizations*. CA: Sage: Thousand Oaks.
- Scott, R. W. (2001). *Institutions and Organizations*: Thousand Oaks: Sage Publications.
- Scott, W. R. (1987). The adolescence of institutional theory. *Administrative Science Quarterly*, 32(4), 493-511.
- Scott, W. R. (2004). Institutional Theory: Contributing to a Theoretical Research Program *Great Minds in Management: The Process of Theory Development*: Oxford University Press.
- Scott, W. R. (2008). *Institutions and Organizations: Ideas and Interests*. Thousand Oaks, California: Sage Publications.
- Sitkin, S. B. (1995). On the Positive Effect of Legalization on Trust. *Research on Negotiation in Organisations*, 5, 185–217.
- Smyth, D. H., & Pryke, S. (2008). *Collaborative Relationships in Construction: Developing Frameworks and Networks*: Wiley-Blackwell.
- Spiller, P. T., Stein, E., & Tommasi, M. (2003). Political institutions, policymaking processes and policy outcomes. An intertemporal transactions framework: Latin American Research Network.
- Suchman, M. C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review*, 20(3), 571-610.
- UNECE. (2007). A Guide to Promoting Good Governance in Public Private Partnerships: United Nations Economic Commission for Europe.
- Van den Brink, M. A. (2009). *Rijkswaterstaat on the Horns of a dilemma*. Delft: Eburon.
- van Ham, J. C., & Koppenjan, J. F. M. (2001). Building Public Private Partnerships. *Public Management Review*, 593-616.
- van Marken, P. (2001). PPP in the Netherlands. *Public Service Review*, 104-105.
- Van Valkenburg, M., Lenferink, S., Nijsten, R., & Arts, J. (2008). 'Early Contractor Involvement: A new strategy for 'buying the best' in infrastructure development in the Netherlands. Paper presented at the Third International Public Procurement Conference Amsterdam.
- Winch, G. (2010). *Managing construction projects*: Wiley-Blackwell.
- Zucker, L. G. (1986). Production of Trust: Institutional Sources of Economic Structure. *Research in Organizational Behavior*, 8, 53–112.
- Zucker, L. G. (1987). Institutional theories of organization. *Annual review of sociology*, 13, 443-464.

## Notes

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<sup>i</sup>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 et al., 2010). Involving bidders at early stages of the project promotes cooperation about essential contract aspects like risk allocation (European Commission, 2004).

<sup>ii</sup>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.

<sup>iii</sup>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 (Franken, 2010)

<sup>iv</sup> <http://tnrdc.com/>

<sup>v</sup><http://www.tnhighways.org/road%20policy.htm>

<sup>vi</sup>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).

<sup>vii</sup> <http://tnrsp.com/>

<sup>viii</sup> <http://toolkit.pppinindia.com/>