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# Output-based aid in the urban water sector

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Insights from New Institutional Economics

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## Abstract

This essay examines if and how output-based aid (OBA) in the urban water sector contributes to long-term and pro-poor development. OBA is a results-based method where contractual agreements stipulate subsidy payments on delivery of outputs, rather than subsidies towards project inputs. To study the characteristics and effects of OBA, the essay adopts a New Institutional Economics perspective, and puts this theoretical framework in relation to the contemporary debate and practice within the international development cooperation community. Two Indonesian cities, Jakarta and Surabaya, and their respective OBA projects are used for a comparative case study.

The essay concludes that OBA solves basic but important principal-agent problems, targets relatively poor people and manages to provide more people access to network water service. This is pro-poor, as is the fact the OBA targets network connections costs. However, analysis displays the diverse and difficult institutional set-up that governs the developing country urban water sector, and thus emphasises several institutional aspects that need attention and effort in order to achieve pro-poor services and the accompanying institutional change necessary. It is shown that OBA has not paid enough attention to the institutional context to ensure long-term, sustainable pro-poor results and the reduction of multidimensional poverty.

*Keywords:* Output-based aid (OBA), Indonesia, New Institutional Economics (NIE), urban, water.

**Contents**

- 1 Introduction..... 5
  - 1.1 Foreword ..... 5
  - 1.2 Statement of purpose ..... 6
  - 1.3 Method..... 7
  - 1.4 Material and delimitations ..... 9
  - 1.5 Disposition..... 10
- 2 Theoretical background: Contemporary international discourse on water development and poverty reduction..... 10
- 3 Theoretical framework..... 13
  - 3.1 New Institutional Economics: An introduction ..... 13
  - 3.2 The role of institutions in the management of water: A theoretical framework ..... 16
    - 3.2.1 The institutional environment: formal and informal institutions for development ..... 16
    - 3.2.2 Public participation and collective action ..... 19
    - 3.2.3 Principal-agent problems ..... 20
    - 3.2.4 Contracts and risks in context ..... 22
    - 3.2.5 Monitoring and regulation ..... 23
- 4 OBA – the method and two projects presented ..... 26
  - 4.1 The OBA lowdown – the nuts and bolts of the method..... 26
  - 4.2 Background: Poverty and Water and Sanitation in Indonesia ..... 32
  - 4.3 Case 1: Expansion of water services in low income areas of Jakarta..... 33
    - 4.3.1 Context and background ..... 33
    - 4.3.2 Features of the OBA project..... 38
  - 4.4 Case 2: Expanding piped water supply to Surabaya's urban poor ..... 43
    - 4.4.1 Context and background ..... 43
    - 4.4.2 Features of the OBA project..... 45
- 5 Analysis: the role of institutions in pro-poor water sector development..... 50
  - 5.1 The institutional environment: formal and informal institutions for development ..... 50
  - 5.2 Public participation and collective action ..... 52
  - 5.3 Principal-agent problems ..... 53
  - 5.4 Contracts and risks in context ..... 55
  - 5.5 Monitoring and regulation ..... 56
- 6 Conclusions..... 58
- 7 References..... 60

7.1	Printed material.....	60
7.2	Electronic and other material.....	63

## Acronyms and abbreviations

▪ BKM	-	Urban community organisation in Surabaya, Indonesia
▪ CBO	-	Community Based Organisation
▪ DSM	-	Demand-Side Management
▪ GPOBA	-	Global Partnership on Output-based Aid
▪ ICT	-	Information and Communication Technology
▪ IDR	-	The Rupiah, the Indonesian Currency
▪ IUCN	-	Int. Union for Conservation of Nature and Natural Resources
▪ IVA	-	Independent Verification Agent
▪ JWSRB	-	Jakarta Water Supply Regulatory Body
▪ MDG	-	Millennium Development Goal
▪ MOA	-	Memorandum of Agreement
▪ MSD	-	Most Similar Design
▪ NIE	-	New Institutional Economics
▪ NGO	-	Non-Governmental Organisation
▪ OBA	-	Output-Based Aid
▪ PALYJA-		PT Pam Lyonnaise Jaya
▪ PDAM	-	Indonesian Public Water Utility
▪ PKK	-	Women's organisation in Surabaya, Indonesia
▪ Sida	-	The Swedish International Development Cooperation Agency
▪ TPJ	-	Thames Pam Jaya
▪ UFW	-	Unaccounted-for Water
▪ UNDP	-	United Nations Development Programme
▪ USAID	-	The United States Agency for International Development
▪ USD	-	United States dollar
▪ WTP	-	Willingness-To-Pay
▪ YLKI	-	Non-governmental Consumer Protection Body

# 1 Introduction

## 1.1 Foreword

About one billion people around the world do not have access to safe drinking water. A large number of these are poor people living in urban areas. This situation constitutes a significant obstacle to economic and human development – and climate change and ongoing rapid urbanisation will not make the situation any easier for the developing countries' cities.

During the two years that I have worked with water issues at Sida (the Swedish International Development Cooperation Agency) I have learnt that there are no “quick fixes”. To achieve positive change in the water sector an integrated approach is necessary; an approach that takes economic, social, political, cultural as well as environmental concerns into account, simultaneously. At the heart of all this are institutions, which can serve as a nexus for all the relevant elements that affect the way the water sector works, or not works.

The World Bank's 2004 World Development Report (2003, p.160) states the following regarding the improvement of water services for the poor: “What is needed is a way to think about the institutional and political characteristics of infrastructure services to understand what works where and why”. My hope is that this essay is a small contribution to that necessary thinking.

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Stockholm, July 2010

## 1.2 Statement of purpose

The purpose of this essay is to examine the connection between poverty and access to water, through analysing an economic intervention called Output-based aid (OBA), which has the aim of reducing poverty by increasing the access to water services. As we shall learn below, access to cheaper, more and higher quality water is strongly poverty-reducing. The advocates of OBA recognise this, and the method has the aim to increase access to water for the relatively poor. Thus, if successful, one can assume that the OBA method would contribute to poverty alleviation, and hence increased economic equity. But is it an efficient and effective method in doing this,<sup>1</sup> and are long-term results achieved?

The underlying connecting thought of this essay is to highlight a link between the contemporary thinking among leading international aid/development organisation with the theory of New Institutional Economics (NIE) and the practical aid method OBA. The essay will discuss this connection through analysing the OBA method from a New Institutional Economics (NIE) perspective to see whether or not the method is achieving its intended objectives; increased access to water for the poor, and thus, poverty reduction. It is also in this link and approach that the distinctive character and individuality of this essay is found. OBA is a new method within international aid and has not been analysed much or in a systematic manner, and thus has not been approached adequately from an institutional economical perspective. However, the method involves billions of dollars globally and is embraced by an influential actor (The World Bank) and is preparing to be scaled up in the global water sector, making it relevant to analyse and assess the method's characteristics and effects.

Hence, my aim is to conduct the above analyse and assess the OBA method through pursuing the answer of the following main question:

Is OBA contributing towards poverty reduction through increasing the access to network water?

Obviously, at the same time one has to answer *how?* and *why?* or *why not?* Also, when applying a development perspective, it is interesting to examine if the OBA method is likely

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<sup>1</sup> In this essay, *efficiency* does not refer to the strict economic term with distinction between static and dynamic efficiency. Instead, the more general meaning is used; functioning or producing an effect and with the least waste of time, resource or effort. Here, being *effective* means producing or being capable of producing an intended result or having a striking effect.

to lead to sustainable results. Poverty and the problems of the urban water sector are complex issues, that go beyond the apparent financing and physical infrastructure needs. This is where NIE adds perspective. NIE is suitable to apply in the search for the answers to the above questions, since it is a broad and comprehensive approach that should be able to capture the complexity of poverty and water sector development.

Several other issues are of immediate interest when wanting to analyse and answer these questions. What is the OBA method and how is it applied? How can the NIE perspective be applied to water services? Can our understanding of water distribution and poverty be enhanced by economically analysing the OBA method? My hope is that this essay provides some answers to the above questions.

### **1.3 Method**

In order to be strategic, avoid arbitrariness and to allow for some possible generalisation of results, I used the “Most Similar Design” (MSD) approach when selecting the cases for this essay. In the MSD approach, the to-be analysed cases should show signs of being as similar contexts as possible, except for the variables subject to the study. If the aim is to find out about the nature of the dependent variable (y) and the characteristics of the independent variable (x) that may be influencing y, MSD dictates choosing the cases that show variation in independent variables (x). In this present essay, the application of MSD resulted in choosing projects implemented in the same type of context (Indonesia) wishing to keep as many contextual elements as possible constant (except for the independent variable) (Esaiasson et al 2007, p.112-117). Thus, the Indonesian cases have comparable contexts, show variation in x (OBA set-up), and the nature of y (the influence on water services and poverty) is the object of investigation.

Although studying and comparing many cases can more easily lead to globally applicable inferences, strategically choosing and studying a smaller number of cases provide for a deeper and broader perspective and results that are more nuanced and better informed by the respective contextual specificities – while still keeping some potential for generalisation (Landman 2003, p.29-36). Since I find it suitable to the economic theory and

multidimensional definition of poverty I use and research question I ask, this study focuses on a smaller number of cases: the cities of Jakarta and Surabaya in Indonesia.

Studying Indonesia (and Jakarta and Surabaya) is also interesting in its own right. It is a country where the management of the water shows similarities with many other places throughout the developing world, and several characteristic efforts and problems are concentrated and highlighted in the cases of Jakarta and Surabaya; poor management, lack of capacities, environmental issues, private-sector involvement, political intervention, inequity in access and expenditure patterns etc. Even though it is possible under the right circumstances, one should be humble and modest towards making generalisations from a few cases (Landman 2003, p.34-36). However, studying Indonesia and the two major cities included in this essay through a theoretical framework should hopefully enable some learning and insights that can be used when studying similar water issues generally or in other parts of the world.

To supplement my literature study I conducted interviews with two key persons within the international OBA business, two experts from the leading organisation, the GPOBA. These two persons were Patricia Veevers-Carter, the head (Program Manager) of GPOBA, and Carmen Nonay, Senior Infrastructure Specialist.

Interview studies in social sciences can be divided into two sorts: informant study/interview and respondent study/interview. The difference between the two methods is that in a respondent study it is the respondents themselves that are the objects of the study, while in an informant study the persons interviewed are used as witnesses or “truth tellers” that shall contribute with information about a certain matter of interest. In this latter method, then, the persons are treated as sources, and the information received from these interviews are often combined with a literature/document study. The type of questions asked is typically more open, varied and person-adapted than in a respondent study (Esaiasson et al 2007, p.257-258). “Centrality” is a common selection principle when it comes to preparing informant studies. The choice of persons are motivated by that the informants, through their positions, are expected to be experts or to have a useful concentration of knowledge regarding the subject matter (Esaiasson et al 2007, p.291-292). I deemed the informant method to be the most feasible and fruitful for my essay, and that the persons interviewed are relevant due to their “centrality”. My interview questions were about OBA as a method and its application in the urban developing country water sectors.



## 1.4 Material and delimitations

The present essay is based to the largest part on a literature and document study. Mainly secondary or theoretical material (e.g. scientific and theoretical articles, books, and web pages) have been used, but a significant part of the material is primary sources (contracts, project documents and informant interviews, for example).

Esaiasson and others state that there are four criteria that should be applied by the reader when studying material in a scientific study: authenticity, independence, contemporaneousness and tendency. Paying attention to these concepts will help make the study more objective and independent. In line with this, primary material is generally regarded as being more trustworthy than secondary material (Esaiasson et al 2007, p.313-325). Thus, throughout, I have kept the above key criteria in mind, and have tried to keep a critical distance and perspective while examining my material, and have tried to find overlapping or confirming supplementary sources as to avoid one source's view to dominate in a certain issue.

The delimitation of this study provides a focus on NIE analysis of OBA in relation to the water supply sector in developing countries. Since the essay includes only two case studies, theoretical and empirical delimitation is not kept too narrow, enabling the use of a broad NIE framework, desirable because this type of economic analysis has not been conducted extensively in this empirical field and is suitable for case studies. OBA is also a relatively new phenomenon, making it interesting and relevant to analyse it comprehensively and from many angles at the same time. The focus in the study is on the *urban* water supply sector, to provide some more ground for comparison between cases, since the *rural* water services sector is significantly different in many ways. When studying the water sector and its related services one often includes sanitation, and thus calls the subject area "water supply and sanitation". This essay, however, mainly addresses water supply and not sanitation specifically, even though the sector may sometimes be referred to as the water and sanitation sector, where relevant.

## 1.5 Disposition

The essay is divided into 6 main chapters. After the first introductory chapter, the second and third chapters present the theoretical foundations of the essay. New Institutional Economics (NIE) and its relation to development in the water sector is introduced, and the essay's theoretical framework is presented. Chapter four outlines – still mainly from a NIE perspective – the empirical objects; the OBA method and two OBA project cases. Chapter five takes the analysis further and connects back to the theoretical framework when analysing the OBA method and the cases. The sixth and final chapter presents the conclusions drawn.

## 2 Theoretical background: Contemporary international discourse on water development and poverty reduction

“[The global] water crisis is largely our own making. It has resulted not from the natural limitations of the water supply or lack of financing and appropriate technologies, even though these are important factors, but rather from profound failures in water governance. Consequently, resolving the challenges in this area must be a key priority if we are to achieve sustainable water resources development and management. Therefore, UNDP's response to this water crisis has been to emphasize an integrated approach to water resource management through effective water governance” (Undp.org, 2010-06-17).

The quote above illustrates quite precisely the view that the majority of the international development aid community has on how to improve the access to good-quality water services, and to reduce poverty. It is about establishing good governance, integrated and holistic management approaches – and it is about improving institutions. It has become clear that technical solutions, infrastructure and “hardware” investments are not enough. To improve the water situation – e.g. in a developing country city – the political, economic, social and administrative systems must function and interact toward the effective and equitable use of resources. It is also necessary to involve all stakeholders; listen to their priorities, find common ground and meet the needs (Undp.org, 2010-06-17).

Currently, about 1 billion people around the world lack access to adequate water (Undp.org, 2010-06-17). The 2004 edition of the influential World Development Report, published by the World Bank, was called “Making Services Work for the Poor”. The report identified the lack of basic services (such as water supply) as a major hinder to (economic) development. Services are not reaching out, especially not to the poor. And the reasons are largely institutional: weak incentives to perform, corruption, lack of (proper) monitoring, and administrative failure. To be able to solve these problems, poor people need to be involved in the service delivery. This would help empower people, provide “voice”, reduce poverty and create more functioning services. It is not only about investing in infrastructure for service provision, it is about investing in people, the report states (World Bank 2003, p.1-18). “Poor people bear a disproportionate share of the impact of inefficient water and sanitation services. Fewer poor people are connected to a network. When they do have access, the installation has to be shared among many more people. And the prices they pay are among the highest, generally more than those paid by more affluent households connected to the piped system” (World Bank 2003, p.160).

The International Union for Conservation of Nature and Natural Resources (IUCN) – another influential global actor – also emphasises the importance of good governance and institutions for the sound development and management of the water sector. IUCN writes that (pro-poor) water sector reform is dependent on a strong “institutional framework”. Examples of essential elements in such a framework are monitoring and information management mechanisms, and public and civil society participation (Iza and Stein 2009, p. 71-91, 107-108).

In a recent report from the 2030 Water Resources Group, including expert advisors from many of the world’s leading multilateral and non-governmental organisations on environment and development issues, it is stated that: “Although affordable solutions are in principle available to close the projected water supply-demand gaps for most countries and regions, institutional barriers, lack of awareness, and misaligned incentives may stand in the way of implementation, across both the private and public sectors. Overcoming these barriers will require persistent action and, in many cases, an integrated agenda of water sector transformation” (Addams et al 2009, p.28).

Why, then, is it so difficult change the situation and to establish working and pro-poor services? Clearly, numerous factors contribute to create the negative situation. But one

perspective will be highlighted here, relevant to the (urban) water sector – the so called “low-level equilibrium” situation. Common to, for example, cities in poor countries where the water supply distribution is not working, is that the sector has got caught in a vicious circle of (artificially, regulated) low prices, with accompanying low quality services, limited network expansion, inefficient operation, and corruption, which erodes the citizens’ faith in the system further. The reasons for this sub-optimal “low-level equilibrium” are largely institutional. In the absence of effective regulation and incentives the political and governmental institutions as well as the service provider can act opportunistically and inefficiently. The state is stable, since there are not any obvious incentives for any influential parties to alter the situation. And the ones being the most negatively affected by this – the poor – do not have enough capacity, resources or voice to achieve change (Spiller & Savedoff 199, p.1-2). Thus, the vested interests and economic, social and political power structures prevailing in the context cement the situation, and the relatively powerful may oppose or obstruct reforms. To achieve development, institutional change must be promoted or triggered, through actions or events (Ostrom et al 2002, p.32-33).

Before moving on to the essay’s theoretical framework in the next section, the definitions of two key concepts should briefly be presented. Firstly, this essay adheres to a multidimensional definition of poverty, which does not only include the level of income and material wealth. Poverty is also the lack of power, “voice”, rights, security and choice. Poverty is the lack of opportunities, and the inability to seize opportunities. Poverty is context-specific and has economic, political, socio-cultural and environmental dimensions (Sida 2002, p.7-8). Water services have many positive consequences for poverty reduction and economic development, both directly and indirectly. For instance, good access to water improves health, increases time and resources available for economic, political or social activity and creates positive externalities for people and society (World Bank 2003, p.159).

Secondly, there are many different ways in which the term “sustainability” has been defined in scientific, popular and political literature. Following Elinor Ostrom and others, this essay uses “sustainable” and “sustainability” when referring to the longevity of the development results, i.e. durable, long-term effects that live on after a project has finished (Ostrom et al 2002, p.7-9).

## 3 Theoretical framework

### 3.1 New Institutional Economics: An introduction

The thinking described in the last section on international development cooperation, has many links – I think – to the field of New Institutional Economics (NIE). NIE is a field of economic research and theory that is commonly said to have had its first spark of life with the theories of Ronald H Coase in the mid-1900's, and further developed by names such as Oliver Williamson and Douglass North. However, even though the foundations for NIE was somewhat initiated with Coase and others, it is still young as a coherent and distinct field of economic research. Rather, NIE has only in more recent years come together and become more clearly defined; it is expanding and deepening rapidly, adding to and supplementing “traditional” or “mainstream” economic perspectives, with influences from and influencing other subjects, such as political science and law (Coase 2000, p. 3; Ménard 2000a, p.xix). Thus, NIE is a relatively new perspective that has several areas and objects of study yet to be more extensively explored – one of them being (output-based) aid interventions in water services.

In short, NIE deals with and give great significance to institutions – both formal and informal – and the interaction with and affect these have on the different types of economic performance in society. In this perspective, “it is the institutions that govern the performance of an economy” (Coase 2000, p. 3). The institutions structure the political, economical, social or cultural behaviour of humans (Ostrom et al 2002, p.1). But what are “institutions”, then? Several different definitions and interpretations exist and everything is not clear-cut. An institution is often identified as an organisation or a “player of the game”, hence an actor in the economy/society. However, most adherents to the NIE perspective follow to some extent the alternative definition argued for originally by Douglass North in his seminal work of 1990<sup>2</sup>. In this view, institutions are rather the “rules of the game”, where the players (organisations) follow or interact with the rules of the game and can affect the rules – thus contributing to institutional change (Aoki 2000, p.12). However, the distinction is not always as sharp, and need not be. Since it is the actors that formulate, apply, enforce and change

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<sup>2</sup> North, Douglass, C, 1990. *Institutions, Institutional change and Economic Performance*. New York: Cambridge University Press.

institutions (Ostrom et al 2002, 291), one could say that, in a way, institutions consist of actors, or *are* the actors. So, this present essay basically subscribes to the “Northian” way of defining institutions, even though it also embraces the add-on that the actors/players/organisations are intimately interrelated with the institutions. In particular, what is important in the context of this essay and its analysis of development in the water sector is rather the interaction between players and institutions and institutional change. And – in line with the discussion above – such change can occur more directly through a direct change of rules or that the players change their way of acting and interacting, or the change can occur more indirectly through (players affecting the) players affecting the rules of the game (the institutions). Hence, actors can influence other actors as to achieve change in their behaviour and in the institutions.

Adding to the definition of institutions is the distinction between formal and informal institutions. Basically, formal institutions are rules provided by the state or government, often embodied in laws, regulations, contracts and the structure of the state. Informal institutions on the other hand, are private institutions; social norms, traditions etc (Keefer & Shirley 2000, p.96-97; della Porta & Vannucci 2005, p.156). Both these types of institutions play important roles in society and they interact and influence each other.

Institutions are mechanisms to enhance efficiency through processes such as facilitating coordination and commitment, promoting cooperation and improving information flows (Pénard 2008, p.159). Hence if the institutions do not work, or work towards societal suboptimal directions, development is held back.

In line with the above, NIE means that any society or economy is structured and that this structure is person-made. The structure is complex; consisting of a web of rules, norms, cultures, behaviours and conventions. And no efficient market exists that is not structured by the players, including the government (North 2000, p.7). NIE predicts that to reach positive (economic) development and poverty reduction, functioning and efficient institutions and non-arbitrary governance is needed. Otherwise, the necessary security and predictability will be lacking. For example, (formal) contract and property rights are crucial to development, but the institutions that underpin these rights are less visible. Most international development assistance, however, has failed in supporting and strengthening essential formal rights. Focus has been on reforming policies rather than institutions, although it is the quality of institutions that has to be enhanced for poorer countries. Corrupt or incompetent bureaucracy or

government will lead to weak contract enforcement, for example. Improving the bureaucracy, e.g., is important for poverty alleviation, but development assistance/aid has commonly instead tried to bypass dysfunctional governmental institutions and structures. From a NIE perspective, this historically widespread approach is not optimal, since institutional change is necessary for development and poverty reduction. Focus must be on both formal and informal institutions, and even though often neglected the benefits from developing informal institutions can by far outweigh the costs and supplement the often difficult reformation of formal rules (Keefer & Shirley 2000, p.88-89, 93-96, 103-104). Institutional change is mostly a gradual and incremental process, often characterised by trial-and-error, and thus “institutional patching” may be a good way of improving institutions (Glachant & Perez 2008, p.354; Brousseau & Glachant 2008, p.liii, lvii).

In the next section of the essay, I present and discuss five key NIE concepts or themes, and relate and apply them more specifically to international aid and the “water sector”. These interrelated and somewhat overlapping themes constitute my theoretical framework. To achieve the transition to a better, more efficient and equitable equilibrium, institutional change must occur. Hence, the NIE elements outlined below will be used in this essay to analyse the OBA method, and depending on how OBA interacts with these elements it will affect if and how OBA promotes institutional change and pro-poor economic development. The highly schematic Figure 1 below provides an overview of the essay’s process of analysis.

### 3.2 The role of institutions in the management of water: A theoretical framework

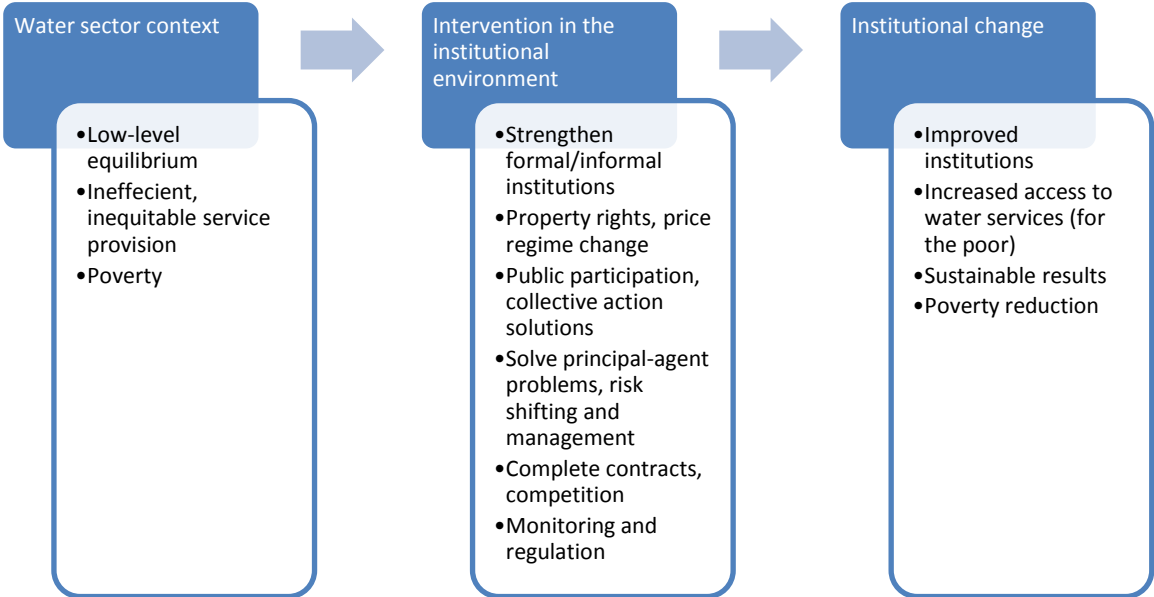


Figure 1: The figure shows how a physical and financial intervention in an inefficient and inequitable urban water sector can be supplemented by local institutional development to achieve long-term pro-poor results. This is the basic framework for analysis in this essay.

#### 3.2.1 The institutional environment: formal and informal institutions for development

From a NIE perspective, economic performance depends largely on the status of the institutional environment. Weak institutions create uncertainty that call for strong public enforcement – but the enforcement mechanisms are also likely to be weak in this setting. In developing countries, this becomes even more acute, since weak institutions are often a main contributor to the low economic development and high poverty levels. Building enabling, motivating and guiding institutions for actors to create welfare is of high importance in developing or poorer countries. Such institutional reform depends, though, on the government’s incentives and capacity to implement and enforce reform (Oppen 2008, 389-390, 396, 401). Commonly, poverty and inequality is upheld by skewed and biased institutions and/or elite interests, limiting the access to opportunities and the voice of poor people (Engerman et al 2000, p.125). The above is equally true for the water sector in poorer countries. It is important to build functioning government structures around a network industry such as water distribution, but the process may take time (Glachant & Perez 2008, p.353). And the formulation and implementation of holistic water service policies require



functioning governmental institutions, and the involvement of relevant local ministries as well as public participation. Local organisations and institutions often get great responsibility for implementation, but not enough capacity or resources (UN-ESCAP 2000, p.32, 51-52).

As noted above, the urban (developing-country) water sector can be ridden by a “low-level equilibrium”, often with institutional causes. This essay observes a direct connection between this “equilibrium” and the way that institutions work and the path-dependency of them. Institutions tend to reinforce their own stability through several positive feedback mechanisms (e.g. high set-up costs of new institutions and learning processes), not only at the level of individual institutions or organisations, but also on the level of the institutional environment (della Porta & Vannucci 2005, p.157-162). Hence, to achieve change, improvements and a break in the cycle, change must be triggered by actions or events.

Two specific elements of the institutional environment are discussed below, due to their significance for the development within the water sector, poverty reduction, and thus for the case studies in the next chapter of this essay.

Firstly, property rights. The issue of “property rights” is a central concept in NIE with a vast amount of associated literature. There is neither room nor need to go into all theoretical details here in this essay – rather it shall briefly be presented how property rights issues matter when it comes to water services for poor people. Secure and predictable property rights are essential for economic development and security (Demsetz 2000, p.73-75, 78-79; Keefer & Shirley, p.88-98. In practice, this important institutional concept affect poor people (here, in particular urban poor) and their access to water services through land tenure and housing rights issues. The urban poor, often living in “slum” settlements, commonly do not have formal housing rights – and are sometimes deemed to be “illegal” inhabitants in the city – making them non-eligible to many (government) services, including network water. This fact creates significant barriers and adverse incentives for extending and gaining access to water services – on both the supply and demand side (World Bank 2009, p.66-72). Hence, it becomes a very practical example of how institutions matter for basic needs and poverty reduction, and that the issue of property rights thus cannot be ignored in initiatives to expand network water services to poor people.

Secondly, there is the price regime, and its link to service affordability and demand. Due to the network water sector’s “natural monopoly” characteristics, water prices are often regulated (Ehrhardt et al 2007, p.1). Frequently, some kind of “social tariff” or cross-subsidy

system is established – e.g. an Increasing Block Tariff (IBT)<sup>3</sup> system, as to assist the poorer and less-consuming costumers. A system like that can work progressively (enhancing equity) in a well-functioning network/context, wherein cross-payments work and enough high-paying network users exist etc. However, in many settings (typically a developing country city) this kind of tariff regime is not enough to ensure that the relatively poor get network water access. Rather, the system can work regressively, only helping the already connected and provide disincentives for the service provider to expand the network to the unconnected (poor) people that were to pay (too) low tariffs if connected (Mumssen et al 2010, p.101-102; Bakker et al 2008, p.1901; Morris & Gallardo Cabrera 2005, p.117). Hence, long-term and sustainable access and expansion to poor people cannot ignore the institutions of the price regime.

The sustainability of the results of a redistributing or expanding infrastructure project depend either on that the customers are able and willing to pay a cost-recovering or sufficient fee, or that the provider/government is committed to increased equity in network services (Ostrom et al, 2002, 288). Commonly, poor people pay relatively more for their water than relatively wealthier people in developing country cities. So, affordability and demand for relatively cheaper piped water is usually not considered to be a big problem, as long as the barrier to entry (the connection cost) is overcome. However, one cannot be sure beforehand about the ability and willingness to pay for and use network water. Affordability is related to the *total* cost of network water to the user (including other transaction costs in addition to merely the tariff rate) (Bakker 2007, p.863-864). Also, the demand for this water is also determined by other, informal, institutional constraints, such as habits, cultures, social norms and pressure etc. Thus, efficient, sustainable and pro-poor water service management and allocation depend on the proper incorporation of the demand side – well-adapted and comprehensive WTP and ability-to-pay investigations must be carried out, alongside “demand-side management (DSM)” efforts (e.g. information, education, awareness-raising) (Renzetti 2005 20-27; Bakker 2007, p.863-865), and alternative solutions such as public water taps, as to ensure affordability, demand and desired results (Mumssen et al 2010, p.133).

Finally, as we have seen above, the institutional environment includes both formal and informal institutions. Thus focusing solely on improving formal institutions, for example, is not likely to lead to sustainable positive development results (Ostrom et al 2002, p.281).

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<sup>3</sup> “Increasing Block Tariff (IBT)” or “Inverted Block Tariff” rate structure means that the per-unit cost of consumption increases with additional units of consumption, according to a defined ladder of blocks of volume consumed (Tietenberg & Lewis 2009, p.235-236)

Water is a sensitive and contentious “good” in many (informal) institutional ways (Libecap 2008, p.273) which calls for the inclusion of stakeholders in the management of services. Informal rules are important governors of incentives for people, as we have seen and shall see more of below, informal institutions are essential when dealing with poor people’s demand for water.

### **3.2.2 Public participation and collective action**

NIE also includes theories of collective action. Collective action is the situation when two or more actors associate to produce something that would have been difficult to produce alone. When there is lack of motivation and/or information asymmetries, incentives can be created that prevent individuals from collectively solving an issue (of joint interest) or produce; there is a collective action problem. Collective action problems are identified as important obstacles to development and poverty reduction. Hence, successful and sustainable development aid must involve tackling the underlying collective-action problems behind the poverty-creating situation, and support proper incentives (Ostrom et al 2002, p.xiii, 10-11). “Most collective-action problems are themselves embedded in a context of a pre-existing distribution of economic and political power. If that distribution is highly unequal, it is likely that the elite have ensured that past decisions have distributed assets disproportionately to them. There are collective-action problems in which the current situation leads to low productivity, but generates advantages for those with asymmetric power. If they feel threatened by changes that increase the joint outcomes for all, but do not leave the elite in an advantageous position, these individuals may resist any efforts to change the distribution of outcomes. They prefer the less productive *status quo* that distributes assets to them in a disproportionate manner to a more equitable and productive change” (Ostrom et al 2002, p.33).

Applying these issues to the water sector can be done both on the system and community level. At the system level the collective action problem and asymmetric power can explain the low level equilibrium and unequal distribution of water services. At the community or household level, collective action problems due to e.g. lack of information, perverse incentives, free-riding, power structures etc., can hinder the efficient use of the water supply.

Following upon the theories of collective action situations, then, is the need for “public participation” in the development of the water services sector to achieve poverty reduction. To help solve the collective action problems and information and power asymmetries, participation should be used in all stages of a project: in the planning and design, in the

implementation, management, enforcement, monitoring and regulation. To achieve this effectively, capacity building of the involved stakeholders and proper and diverse demand-side management (DSM) would be necessary (Renzetti 2005, p.20-28; Owen 2005, p.80). However important, policy makers and authorities have often been sceptical to participatory approaches. At the same time, when policies with distributional effects are to be implemented, stakeholders and associated interest groups have clear incentives to act and monitor (Spiller & Liao 2008, p.307-308).

The advantages of participation and information exchange are twofold: The efficiency and sustainability of the intervention may be enhanced if the stakeholders (e.g. poor urban people, community groups, NGOs, local private sector) can be informed, but the initiatives may also be enhanced since the stakeholders has an comparative information advantage when it comes to preferences and how assets and services are, will and should be used in the local context (UN-ESCAP 2000, p.55). Hence, this participatory approach means that only increased demand-side *information* (e.g. through WTP surveys) is not enough to ensure efficient, sustainable and poverty-reducing water sector interventions; participation should be promoted since poverty also is associated with the inability for people to express and empower themselves regarding local issues (Morris & Gallardo Cabrera 2005, p.119-120). The participation of poor people in societal and government initiatives and development projects, help produce informed and empowered people that are more likely to hold authorities responsible (Ostrom et al 2002, p.52) – an important dimension in the reduction of poverty.

### **3.2.3 Principal-agent problems**

NIE highlights the existence of opportunistic behaviour as an important ingredient in the economy. Opportunistic behaviour is hard to avoid fully, since e.g. there are no “complete contracts” that are certain to be fulfilled in every aspect (see more in 3.2.4 below) (Furubotn & Richter 2005, p.5). Opportunistic behaviour is also a central element in the theories of principal-agent problems, also a key ingredient in New Institutional Economics (NIE). A principal is someone who hires someone – the agent – to perform a service. The basic principal-agent problem, then, arises when the interests of the two parties involved do not coincide. The parties are interested in obtaining as high of a payoff possible from their transaction. Assuming that the social optimum (highest total payoff to society) is when the agent puts in high effort and performs the duty according to the principal’s wishes with expected results, there may still be incentives for the agent to put in lower effort into the contract – increasing its individual payoff, but lowering the principal’s and thus causing an

efficiency loss to society. Hence, the issue is for the principal to design incentive mechanisms to influence the agent to behave according to the principal's needs, e.g. to put in high effort to receive desired results (Ostrom et al 2002, p.305-308). Consequently, if the contract arrangements or the institutional context does not hinder it, the principal-agent problem may obstruct the achievement of or sustainability or quality of intended (development) results.

How can this principal-agent problem and opportunistic behaviour happen? Much of the answer lies in the incompleteness of contracts (see 3.2.4 below) and on the issue of incomplete or asymmetric information. Gathering information is costly and all individuals in an interaction do not have access to the same information. Commonly, the agent has an information advantage as to which actions are taken, need to be taken, and how they are performed. All of this makes contracts even harder to write with regard to establishing and achieving the inputs or outputs desired by the principal (Ostrom et al 2002, p.39-41, 278-279).

One possible strategy for the principal to limit the agent's opportunistic opportunities is to design a contract that awards the delivery of desired results, making the agent forced to perform sufficiently in order to receive payoff – thus linking payment to output (Ostrom et al 2002, p.40-41, 307-308). A results-based contract help partly solve the *ex ante* or *ex post* or “moral hazard” contractual issues associated with the principal-agent problem – at least in the shorter term. This is because with this type of contract one alters the incentives for performance and makes sure that agent bears some costs of its actions (shifting the risk), also after the entering of the contract. Results are thus more likely to be delivered, especially if there is no “sequencing” or “phasing” of the payments so that the whole payment is made after delivery of results (Furubotn & Richter 2005, 200-201, 268-269).

However, these contracts are hard to write since foreseeing all possible issues are difficult. Incentive- or results-based contracts shift more uncertainty and risk onto the operator, but it is also harder to define the assignments or outputs within the contract, and there are factors affecting the outcomes that the agent cannot control (Rothenberger & Truffer 2005, p.87). This adds to the complexity of making “complete contracts” (3.2.4 below). Furthermore, a result-based contract is only as effective as its comprehensiveness, completeness and length, and may not ensure long-term high-quality or sustainable results, i.e. the status of the results after the contractual payments have been made. Other institutions or contractual arrangements must be added to enhance the possibilities for long-term results.

The above discussion is highly applicable to development aid and its associated contract arrangement in the pursuit of infrastructure development in the water sector. Also, the fact that urban water services are characterised by high “asset specificity” and high initial/sunk costs make transaction costs of making and implementing the contract higher as well as increasing the risk of opportunism. Asset specificity (that can be “non-physical”, such as reputation) may create lock-in situations for the investments, making the risk higher that the agent acts opportunistically after the investment is made (Rothenberger & Truffer 2005, p.84-85).

Since the above risks of opportunism, and thus lack of achieved results, exist, there is a strong need for institutional mechanism that help ensure the monitoring and enforcement of contractual agreements and achievement of results (Ménard 2000b, p.240). We return to this demand in the next two sections below.

#### **3.2.4 Contracts and risks in context**

A common approach within NIE is to view contracts as costly to design and manage and then always being “incomplete” and imperfect because they are made and established in an imperfect institutional environment. This implies the need for institutional analysis before making contracts and to ensure that supporting mechanisms are in place to enforce the contract. Contracts are “embedded” in the institutional environment and are therefore dependent on the quality and nature of the institutions, e.g. the clarity of accountability and division of roles within a sector. Incomplete contracts may provide incentives for cheating or at least make it easier to cheat, since the contract itself cannot fully regulate the outcome. As a result, formal contracts may have to be supplemented by other informal institutions, governance mechanisms or specialised third parties to ensure proper monitoring, enforcement and results of the contract (Brousseau 2008, p.37-64). NIE predicts that if monitoring is weak or its costs too high, violation of the contract conditions are almost inevitable (Furubotn & Richter 2005, p.54).

To achieve effective and efficient outcomes in a development project like an OBA project, competition for the contract may be a necessary factor – not least since (ex ante) information asymmetries exist with regards costs etc (Owen 2005, 68, 80, 94). However, competition in the urban water sector is often weak, or non-existing. Network water has strong “natural monopoly” characteristics, making competition difficult to achieve at a later stage when the concessionaire – for example – already is in place (Ostrom et al 2002, p.294). Preferably,

there would be a proper bidding process with strong competition for the right to provide water service or to be involved in a water development project (Furubotn & Richter 2005, p.345). Low level of contestability in the market (as in urban water delivery) also implies a higher risk of opportunistic behaviour by the agent at the contract stage (Rothenberger & Truffer 2005, p.85). When competition is weak, the need for controlling the provider increases; monitoring, regulation and clear accountability is crucial (Ehrhardt et al 2007, p.6-7)

When contracting for services in the water sector several different types of risks are involved and related to the performance of the contract, and the (output-based aid) contract involves shifting these risks onto the service provider to ensure achievement of desired results. The degree of risk shifted is closely linked to the level and quality of results achieved, but the process of establishing the contract risks may involve significant set-up and transaction costs as to make the provider take on the optimal level of risk. Mainly and importantly, contracts involve shifting the performance risk onto the agent (the service provider). When dealing with water services, demand or “uptake” risks are also present. The provider faces a risk with regard to what level of demand and uptake that will be realized during the contract period (and thereafter). This has to be taken into account and managed, as well, e.g. through WTP surveys and demand-side management (DSM) efforts. The degree of risk (performance and demand) involved and shifted depends on the definition of the contract and the outputs, and may be a matter of negotiation between the players (Brook & Petrie 2001, p.4; Mumssen et al 2001, p.71-72, 111-112).

In a one-off payment contract, however, the long-term performance risk is not binding for the provider. This causes problems for the sustainability of project/service results, and call for other long-term institutional solutions, such as focusing on sustainable tariffs or well-defined and well-enforced long-term concession contracts (if applicable) (Mumssen et al 2010, p.110). Other types of informal institutional strategies may also be effective, such as “reputation strategies” wherein one shifts reputation risk onto the agent, so as to change its trade-off between short-term benefits and long-term status of trustworthiness and reliability (Ostrom et al 2002, p.279, 313).

### **3.2.5 Monitoring and regulation**

All of the above NIE themes point to issues and opportunities within the institutional context. Generally, and specifically in the water sector, these issues (e.g. opportunism and asymmetric information) are not likely to be mitigated and the opportunities not likely to be seized if no

proper monitoring and regulation is present. Scholar Claude Ménard states that good-quality regulatory institutions are crucial to the feasibility and sustainability of public utility reform (Ménard 2000b, p.247). He is not alone in this, and it can be argued that it is especially true to water sector development for pro-poor effects.

Clearly, economic theory underlines the importance of strong monitoring and regulation mechanisms in order to ensure and improve (economic) performance and the fulfilment of contracts. But who should carry out this monitoring, especially when dealing with the water sector services? Two basic alternatives are at hand: government bodies or third-party (private) actors. There may be a trade-off between the independency of the regulator and the risk of bypassing and/or undermining the existing local organisational framework regarding monitoring (Brook & Petrie 2001, p.4-9; Ehrhardt et al 2007, p.1-3).

Although it may be efficient and convenient in the short term, it is problematic to set up parallel monitoring mechanisms that do not build upon the already existing government structures and that may even overlap or undermine existing structures. Rather, local authorities and institutions should be involved as to build long-term capacities that are crucial to functioning basic services and (economic) development (UN-ESCAP 2000, p.34-35, 48-55, 81; Ehrhardt et al 2007, p.1-3) As with institutions in general, aid must build upon and “improve” existing institutions on order to reach sustainable solutions (Ostrom et al 2002, p.281).

Another, possible monitoring agent is the community or the public. Including the stakeholders in the monitoring also help strengthen the participatory aspect of an intervention, and can also work to inform and empower the affected customers, providing poor people a new common social platform and channel of “voice”. Thus participation can promote a “double poverty-reducing effect” at the same time; helping the establishment of sustainable water services as well as increasing the opportunities and power available to poor people and their ability to solve collective-action issues. The consumers can also be argued to have an information advantage when it comes to measuring the quality of the service. To be sure, this kind of participatory and demand-side focused approach to monitoring is – alongside a functioning regulatory/monitoring agency with social priorities – necessary to achieve proper pro-poor results (Morris & Gallardo Cabrera 2005, p.118-120). Involving the stakeholders in the monitoring does not only apply to monitoring of the service provider; efficiency gains can also be reached through supporting community monitoring of the proper and efficient use of



the services by the customers – e.g. through informal institutions such as social norms and “punishments” or formal institutions (contracts, metering etc.) (Ostrom et al 2002, p.281, 35-36; Morris & Gallardo Cabrera 2005, p.118-120).

## 4 OBA – the method and two projects presented

### 4.1 The OBA lowdown – the nuts and bolts of the method

Output-based aid is a method to use performance or results-based contracting to achieve development results. OBA has been put forward as an alternative to so called “traditional” or “input-based” approaches, wherein the public financing or the subsidy is linked to the “inputs” needed to construct the system for providing a service. In this traditional approach, one is contracting relatively far away from the output or outcome results, and the means and incentives to ensure the fulfilment of the results (in access) are weaker. For example, in an input-based scheme, one helps finance the inputs (e.g. the laying of water distribution pipes) for the expansion of a network. This can be said to provide low accountability and incentives for efficiency in delivery (Smith 2001, p.91; Mumssen et al 2010, p.4-7). In contrast, the OBA approach ties the subsidy to the achievement of certain output results, clearly specified in line with the goal of improving access to basic services. The implementer is responsible for pre-financing the project. In this way, the OBA advocates mean that performance risk is more clearly shifted onto the implementer and that stronger incentives to perform are created. Also, the beneficiaries can more clearly be identified in an OBA scheme compared to the input-approach, since in OBA the output on which payment will be made must be specified beforehand (Mumssen et al 2010, p.4-7, 102; Brook & Petrie 2001, p.4).

The rationale behind OBA is to contract as closely as possible to outcome<sup>4</sup> or impact as possible. At the same time there is a trade-off, since the results that are contracted for have to be specific and clear enough to be monitored and verified as to judge if the agreement has been fulfilled – and that the disbursement of the funds should be made. Also, the “farther out” on the results chain one goes and closer to outcomes, the risk increases, as the results become more reliant also on factors not under the direct influence of the service provider. Most often, then, OBA output results are defined as the installation of a (certain number of) functioning connection (e.g. water network connection). In addition, to pursue better sustainability and greater bearing of demand-risk by the service provider, OBA can involve disbursements on

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<sup>4</sup> A definition of outcome-level results: “*Outcomes* are the ultimate effects of services on the community—such as improvements in health or in educational attainment. Outcomes may be influenced by factors other than the activities of the service provider, which distinguishes them from outputs” (Smith 2001, p.103).

“intermediate outcomes” such as the actual use of the service by the customers (Mumssen et al 2010, p.4-7, 71-72).

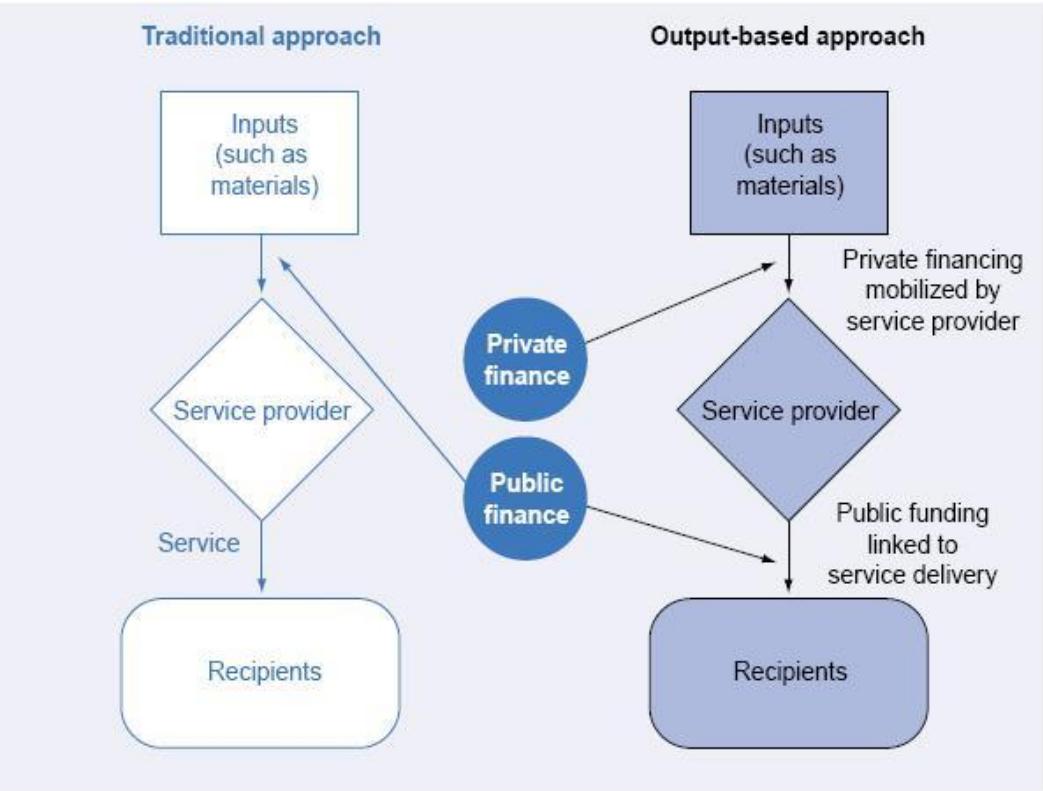


Figure 2: Traditional and output-based approaches to service delivery (Brook and Petrie 2001, p.6).

The subsidy is defined as public funding that is used to “fill the gap between the total cost of providing the service to a user and the user fees charged for that service” (Mumssen et al 2010, p.5). There are several different types of subsidies, but the most common (especially for the water sector) is the one-off subsidy, where disbursement is made when access to a service is given (e.g. the instalment of a functioning water network connection). There is also a judgement to be made regarding how the payment should be designed; everything after delivery or some up-front – or a combination? There is obviously a trade-off here between risk and incentives with regard to the service provider. When working with one-off subsidies for access, to promote sustainability one has to promote cost-recouping tariffs and/or ensure proper long-term service contracts, since long-range operational risk is not borne by the provider (Mumssen et al 2010, p.18-19, 110; Brook & Petrie 2001, p.8). The author of this essay will argue that the institutional economic perspective may also add other instruments to help ensure long-term services; e.g. improved institutions, monitoring capacities and public participation.

With a focus on subsidising access to basic services, the OBA method is said to be, and aims to be, pro-poor, since the poor are the ones usually lacking connection to network services. One can argue that, at least in theory, OBA should increase the incentives for stakeholder participation, since demand risk is shifted onto providers and since there is a connection to output and uptake. Demand/uptake risks are often substantial in OBA and poverty-targeting schemes, so managing and shifting these risks to the provider becomes important. OBA should also increase and improve targeting of the subsidies, thus enhancing the level of efficiency in the use of public funds. The outputs, and the number of them, should be clearly defined, and the target population selected as to effectively and efficiently concentrate on the people in need of service subsidies. The targeting method can be geographical, means-tested and/or self-selection<sup>5</sup> (Mumssen et al 2010, p.9-10, 18, 69, 111). What targeting method that is the most appropriate and effective/efficient depends on the context, the data available, and the set-up and aim of the OBA project in question. How, and who, one targets in a project may have influence on the level of sustainability and poverty alleviation achieved.

Mumssen and others put forward assumed and plausible advantages of the OBA method for achieving development results. Firstly, OBA promotes transparency. The explicit and clearly defined output goals are transparent, and the targeted subsidies increase efficiency and equity in results. Secondly, increased accountability is obtained by having clear contracts and by shifting performance risk to service providers. Thirdly, OBA increases the private sector's engagement in basic service delivery to the poor. Fourthly, by leaving the service provision "solution" partly up to the providers and through least-cost determination of required subsidies, OBA encourages innovation and efficiency in implementation. Fifthly, sustainability of public funds expenses should be enhanced through linking one-off subsidies to sustainable services. Lastly, monitoring of results is enhanced since payments are made against output delivery (Mumssen et al 2010, p. 7-8, 101-133).

To fully obtain the above advantages, and thus better development results, several prerequisites are necessary. For example, to achieve more extensive efficiency and innovation gains, and information about the level of subsidy needed, competition should be added to the

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<sup>5</sup> Geographical targeting means choosing to target a specific and defined geographical area, including all its inhabitants. Self-selection targeting "involves designing projects to ensure that outputs chosen by poorer beneficiaries receive a higher share of subsidies. Subsidies can be targeted progressively by providing higher subsidies for more basic services or by subsidising services less attractive to the rich". Means-testing "involves measuring a beneficiary's wealth to assess whether a subsidy is warranted" (Mumssen et al 2010, p.103-104).

approach. This can be done through e.g. a competitive bidding process for the project contract (Mumssen et al 2010, p.120-130). When working with the water sector, it is quite common that there is an existing incumbent operator and possibly in a monopoly position. This lack of competition calls for more focus on regulatory oversight and stakeholder involvement in project design, as to find compensating efficiency-enhancing factors (Smith 2001, p.100). To increase sustainability, the nature of the subsidy design and the level and nature of risk shifted to the provider are important factors. Clearly, the tariff set-up in the context in question will be important for the sustainability, since if the tariffs do not cover costs and there is no functioning cross-subsidy system for example, incentives and possibilities for sustained service decrease. Consequently, OBA projects cannot ignore or be done in isolation from tariff issues, and may have to go hand in hand with tariff reform. In addition, user/community involvement can increase local project “ownership” and therefore increase the sustainability (Mumssen et al 2010, p.120-130). User fees/tariffs are not always good instruments by themselves or good measurements of social welfare. Many services (e.g. water) have positive external effects for society not captured by the sole consumer. “For these services, reliance on user fees alone would lead to underconsumption relative to the socially optimal level” (Smith 2001, p.93). Sometimes, lack of awareness and demand at the poor customer side add to this issue, calling for education, DSM, proper WTP and ability-to-pay assessments in order to enhance welfare (Smith 2001, p.93-94, 115; Nonay 2010, interview).

A supportive and enabling (institutional) environment is also crucial to the success and sustainability of OBA; “An OBA scheme is only as sustainable as the environment in which it operates” (Mumssen et al 2010, p.120-130). Thus, in the longer term and when scaling up, OBA cannot be separated from broader sector reform. The following elements in the institutional environment are important for the success or failure of an OBA initiative:

- “Market structure and the experience with competitive processes to encourage efficiency
- Regulatory framework or legal or contractual framework for the sector, including tariff-setting and adjustment policies
- Capacity of implementing agencies, for example, to handle procurement and transaction processes, monitoring and verification, and funds flow, and also in relation to understanding of and willingness to work with performance-based arrangements

- Extent of experience with the private sector in service provision, where relevant” (Mumssen et al 2010, p.129).

Brook and Petrie (2001) add that evidence shows that private participation in services demands functioning institutions and regulatory reforms. “Time and again, sound contract design, attention to facilitating competition, transparent project procurement, regulatory independence and accountability, and sound strategies for allocating and mitigating risk have proved to be essential for sustainable, beneficial projects” (Brook & Petrie 2001, 4). They write further: “It is also important to design schemes in ways that build and reinforce good governance, particularly in awarding and monitoring contracts, and that ensure cost-effective administration” (Brook & Petrie 2001, 5-6).

Finally, and importantly, monitoring must be properly established and carried out in order to achieve successful projects and results. OBA internalises the demand for monitoring of output, but does not automatically ensure the quality of the same. The quality of the monitoring, and thus the quality of the results, is dependent on the project design and the capacities, independence and existence of the relevant agents and institutions in the local context. OBA and proper monitoring could decrease the risk of corruption and waste of donor money. However, OBA monitoring rarely leaves the output stage or continues long-term after payments, often due to short-term costs (Mumssen et al 2010, p.130-132; Brook & Petrie 2001, p.8). In GPOBA’s projects, a private consultancy firm is generally selected to do the monitoring and results verification, being a so called Output Auditor or Independent Verification Agent (IVA) (Veevers-Carter 2010; Nonay 2010, interviews). However, as Mumssen and others also state, since successful monitoring is crucial, government entities should also be involved in the monitoring (Mumssen et al 2010, p.76).

The above points to a need for more monitoring and/or other forms or agents for monitoring – and points also to the (untapped) potential of monitoring as a factor to improve institutions and governance. Mumssen and others also note that OBA projects are dependent on and can make use of the existing institutional environment when it comes to conducting monitoring. Many different methods and actors should be taken into account and used (Mumssen et al 2010, p.132). Monitoring could be improved and conducted in many ways, including involvement by and capacity-building of NGOs, communities or government bodies (World Bank 2002, p.60; Brook & Petrie 2001, p.9). Specific project outputs may be relatively easy

to monitor, but compliance with the present general regulatory framework of the context may be more difficult and less transparent. It also becomes important to balance the need for independent monitoring of the project with the broader sector monitoring needs and to ensure that the existing regulatory or government agency obtains ownership (Mumssen et al 2010, p.132). This, again, points out how OBA – intentionally or not – enters, can affect and is affected by an existing institutional environment. A fact that is essential when it comes to what results that are achieved and the sustainability of them.

OBA is a relatively new method within international development aid. The concept of OBA was officially introduced as a financing instrument by the World Bank in its Private Sector Development Strategy of 2002. In that document the basic features of the method was presented; basics that principally have remained valid although the method has evolved and expanded over time. However, the approach is in the Private Sector Development strategy mostly described as an instrument focused on the private sector (World Bank 2002, p.59-64; Veevers-Carter 2010, interview). The Bank writes: “In contrast to traditional approaches of channeling support to inputs consumed by public sector providers, OBA delegates service delivery to third parties under contracts that tie payment to the outputs or results actually delivered. The approach thus helps to shift performance risk to the private sector, and in so doing can help to sharpen the targeting of development outcomes, sharpen incentives for efficiency, and mobilize private finance in support of development objectives” (World Bank 2002, p.61). Furthermore: “The involvement of private firms should ideally rely on competitive disciplines to ensure that subsidies are applied to intended purposes and not to enhance private firms’ profits excessively. Where these disciplines are inadequate, they may need to be supplemented by government regulation” (World Bank 2002, p.63).

The World Bank launched the programme Global Partnership on Output-Based Aid (GPOBA) in 2003, with the objective to “mainstream” OBA within international development assistance, within the WBG and other development partners and agencies. GPOBA is a program under the World Bank (Mumssen et al 2010, p.4), working as a partnership of donors and other international organisations to support OBA. The mandate of the GPOBA is to “fund, design, demonstrate, and document OBA approaches to improve delivery of basic infrastructure and social services to the poor in developing countries” (gpoba.org, 2010-05-19). The GPOBA has a portfolio of about 30 projects (mostly pilots) amounting over USD 100 million in funding, while about 130 OBA projects have been identified within the World

Bank Group with a total funding of around USD 3.3 billion. This can be compared to a total of 22 projects in 2003 with a value of USD 100 million (GPOBA 2010, p. v, 1; Veevers-Carter, OBA course presentation, 2010-05-17). With regard to the World Bank Group, however, the GPOBA still has a way to go, since the method cannot be said to be mainstreamed within the World Bank Group yet (Mumssen et al 2010, p.15). A possibly important step might be taken this year, however, as the World Bank is developing a new “investment lending instrument” with “results-based financing guidelines” (Veevers-Carter, OBA course presentation, 2010-05-18). GPOBA works in six sectors, including ICT, roads, energy, health, education, and has invested significantly into the water and sanitation sector, since – still today – relatively limited experience exists of implementing OBA in the water sector (Mumssen et al, 2010, p.17, 67).

## **4.2 Background: Poverty and Water and Sanitation in Indonesia**

Indonesia, a country with almost 240 million people, has a significantly uneven spatial distribution of its population. The island of Java, where both Jakarta and Surabaya (see below) are located, is one of the most densely populated places in the world. Java can be deemed to already be “overpopulated”, but still its immigration outnumbers its emigration – and the flow largely consists of poor people from rural areas moving into the cities in search for job opportunities. In year 2008, 48 % of Indonesia’s population lived in cities, and Jakarta had 8.6 million inhabitants, while Surabaya had 2.3 million (Nationalencyklopedin 2010, ne.se).

Recent estimates indicate that more than 32 million Indonesians live below the poverty line and about half of all households remain clustered around the national poverty line set at 200,262 Indonesia Rupiah (equivalent of USD 22 as of March 2010) (World Bank 2010).

The problem of poverty is also reflected in the access to water within urban areas. GPOBA draws on data from the UN Joint-Monitoring Programme (JMP) database when stating that: “Currently, only 17 percent of households have access to piped water. For Indonesia to achieve its Millennium Development Goal (MDG) for water, sector investment must increase from \$50 million to at least \$450 million per year until 2015. Unsurprisingly, Indonesia is below the coverage required to be on track to fulfilling the MDGs for both water and sanitation in 2015. Disaggregated data for urban and rural areas show that urban water



coverage has fared particularly badly with coverage actually regressing from 1990 (92 percent) to 2004 (87 percent)". Latest data at the time, from 2004 (GPOBA 2007, p. 9). Furthermore, Indonesia's urban water supply show characteristics of the quite common "low-level equilibrium" (see chapter 2 above) wherein negative cash flows, underinvestment, inadequate maintenance and increasing indebtedness and arrears or defaults on loans create a negative cycle. This equilibrium is created by, among other things, too low tariff levels, low coverage, water losses, poor service and management capacity, indebtedness, and political interventions. Also, the lack of a national water strategy worsens the situation, since no supporting framework then exists for the local governments that got responsibility over the services after a decentralization in 2001 – a decentralization that stopped national financing to local water utilities but has left them highly indebted to central government and financially "unhealthy" (GPOBA 2007, p. 9). As we saw above, this type of discrepancy between local level resources and responsibility is not uncommon in the developing world. The mismatch constitutes an institutional problem that worsens the governance of water and leads to deterioration of maintenance and hampering of infrastructure investment.

When lacking network access, people either turn to relatively expensive vendors or to wells for their water. The use of wells is a practice that is increasingly unsustainable, since lack of sanitation contaminates the water (fostering water-borne diseases) and the extensive use deteriorates and/or depletes scarce groundwater resources. Though survey evidence indicates that capability and willingness to pay (WTP) is not a problem, the connection fees are most often prohibitive for the poor and unconnected (GPOBA 2007, p. 9-10).

### **4.3 Case 1: Expansion of water services in low income areas of Jakarta**

#### **4.3.1 Context and background**

Jakarta, the capital of Indonesia, is a city with much diversity and inequality, both in income and in access to water and sanitation. Although Jakarta's water system is deemed to be one of Asia's most efficient utility systems (e.g. 5.3 staff/1000 connections compared to an average of 8.3 across 18 major Asian cities, 99% connections metered compared to 76.5%, 98% revenue collection efficiency compared to 87.7%), it has not been able to keep up with the population increase, and has left large areas and groups of primarily poor people without network access (with only 51% of inhabitants having network water, compared to an average of 79% for Asian cities). The poor are forced to use often contaminated groundwater sources

as their source of water, and/or have to pay private vendors for drinking water, making poor people spend approximately 15 % more of their income on water than the average network user (World Bank 2006, p.1; World Bank 2007, p.1). The quality of the network water is also low, especially in poorer parts of the city, and unofficial estimates state that only 25 % of Jakarta's real population served (Bakker et al 2008, p.1896-1897). Indeed, as we shall see below, the problems in water supply and inequity in provision are interrelated to deeply rooted institutional issues in Jakarta – on both the “supply side” and the “demand side” of water services.

The local government, through its water utility PAM Jaya, is responsible for the water provision in Jakarta. In 1997, PAM Jaya selected two concessionaires which it entered into 25-year agreements with; PT Thames Pam Jaya (TPJ) supplying water to the eastern part of the city, and PT Pam Lyonnaise Jaya (PALYJA), responsible for the western area. In 2001, in relation with a revision of the concession agreements, the Government of Jakarta established a specific body to regulate the water and sanitation services, called the Jakarta Water Supply Regulatory Body (JWSRB) (GPOBA 2008, p.1). PALYJA is an Indonesian registered subsidiary of the large international water utility company Suez Environment, and TPJ was until late 2006 majority-owned by another big company, Thames Water International. No proper competitive bidding process occurred when PALYJA and TPJ got the concession rights in Jakarta. Rather, the process was tainted by corruption and both PALYJA and TPJ had strong personal bounds to the then-ruling Soeharto government. The initial contract was ambitious regarding access increase (100 % access target), but Jakarta's private-sector participation concession has not been pro-poor, and has thus not delivered pro-poor results. Some expansion of access has occurred, but by large majority to middle and upper income areas. The main reason for this development is the disincentives for pro-poor service on the part of *all* involved stakeholders; the local government, the private operators and the poor households (Bakker 2007, p.855-859).

How can this be? Firstly, to put it frankly yet figuratively, Jakarta's water supply “network” is actually more of an “archipelago”, and socioeconomic status and access to and quality of supply go hand in hand. Poorer areas (most of which are located in eastern Jakarta) have less network access, worse water quality and pressure, and more unreliability of supply. This pattern has been entrenched since colonial times, and the urban governance culture in Indonesia does not prioritise the poor (Bakker et al 2008, p.1897-1899; Kooy 2008). The

reluctance of the authorities toward acknowledging and extending services to the poor also stem from the state's will to not encourage further urban immigration (Zakaria 2009, p.6). An expression of this reluctance may also be the fact that the government forbids network connections in "informal" or "illegal" settlement areas, home to many poor people in Jakarta (Kooy 2008, p.186-193). As we shall see below, this institutional reality had consequences for the OBA project.

Secondly, the "incompleteness" of the concession contract between the municipality and the concessionaires PALYJA and TPJ laid the ground for disincentives for network expansion. In the contract set-up, risks are mainly borne by the local government. The government got the cost-recovery risk because of the "profit-sharing mechanism" stipulated in the contract, delinking the profit of the operators from the revenues collected from the network; the operators were to be paid by the local government according to the volume supplied and billed (the so called "water charge"), not directly from the tariffs paid by consumers and collected by the government (Kooy 2008, p.102-103; Santono 2006, p.3-4). Hence, the operators' income was not directly linked to the tariffs or cost-recovery percentage. In addition to this, currency risk was borne by the government since an "indexation formula" in the contract linked the rupiah-US dollar exchange rate and the Indonesian inflation rate to the water charge (Bakker 2007, p.859). These arrangements proved to be important factors for why the investment in the network did not evolve as hoped. The municipality became increasingly indebted to the operators as the water fees (network revenue) collected could not match the water charge to be paid to the operators (Santono 2006, p.12; Bakker 2007, p.860). Also, the government accumulated significant arrears towards both TPJ and PALYJA during the country's period of high inflation 2000-2005, and the tariff levels have not been able to fund major capital investments – even though the tariffs have been increased over the years (World Bank 2007, p.1).

Thirdly, Jakarta has an Increasing Block Tariff (IBT) system, wherein water consumption is divided into bands of level of consumption, and where each level is attributed with a fee that rises as the band level rises. IBT's are usually argued to be an instrument for cross-subsidisation between richer and poorer water users in order to increase equity. This can also be the case, but it depends on the circumstances. In the case of Jakarta, a lot points to that the IBT system rather has worked against a pro-poor expansion of the system. Jakarta has such a high proportion of poor people that the IBT becomes ineffective in generating subsidies for

the poor users and tariffs (and increases in them) become an ineffective tool in generating expansion (Bakker 2007, p.863; Bakker et al 2008, p. 1901). Thus, the price regime is institutionally flawed.

“[The IBT structure] created (and still creates) a strong disincentive for the water supply utility to connect the poor. Public hydrants— usually built in kampungs<sup>6</sup> — are charged higher volumetric tariffs than individual households, creating a counterintuitive cross-subsidy from poor to middle and upper class customers. Banded tariff structures with a rising block tariff beginning with rates below production cost create a disincentive for providing direct network connections to poor customers, who pay lower amounts per unit volume; large numbers of poor customers thus threaten to decrease water company revenues, and could theoretically result in revenue per unit volume falling below marginal cost” (Bakker et al 2008, p. 1901).

A further disincentive is created by the higher average cost per connection associated with poor areas. The dense and disordered poorer neighbourhoods are more time-consuming and expensive to extend access to. Raising prices (tariffs) are not straightforward an efficient (or equitable) measure to address these incentive problems as long as poor people are “price takers” rather than “price makers” within their local area water market (see more below), and where the local water markets are rigidly governed by (criminal) institutions, and where a variety of different local water sources are available – characteristics that are all found in Jakarta (Bakker 2007, p.861-863).

Fifthly, the factors just mentioned above, lead us into the issue of disincentives on behalf of the poor water users – the “demand side” of pro-poor water service provision. Bakker and other authors recognise several aspects of the context in Jakarta that make the question of the incentives of the poor a bit more complex than assuming that all people would like to use networked water if they just got access. Indeed, even in areas with network access many poor people choose to use non-network sources for their water supply needs. This is so for a variety of economic and non-economic reasons, including connection fees (total cost of water supply), transaction costs, housing and residence status, security of water supply, and sometimes, perceptions of water quality. Importantly, the total cost of network water for the poor may be prohibitively high even though network water supply tends to be much cheaper

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<sup>6</sup> A term used for poor urban neighbourhoods in Indonesia.

(per volume) compared to other (informal) sources. This is due to such “additional” costs as, billing costs, fixed charges (e.g. meter instalment), and household transaction costs such as connection costs, waiting time, utility inflexibility and contact distance, bribes etc. Also, asymmetric or incomplete information and land tenure issues may add to the incentive problem. People may not be aware of the relative costs of the different alternatives, and/or have weak property rights institutions that provide an entry barrier. The non-network sources may also seem (and be) relatively accessible, reliable and of higher quality in poor areas where network density, pressure and quality is (perceived as) low (Bakker 2007, p.863-865; Bakker et al 2008, p.1903-1905; Kooy 2008, p.194-196). Hence, there are incentive problems to be addressed also on the consumer side if pro-poor sustainable water access is to be achieved. However, the following empirical sections as well section 5.1 below indicate that the OBA projects generally have failed to properly incorporate the demand side into the sector development.

Finally, a few notes can be made regarding governmental and non-governmental actors with stake and responsibility in the Jakarta water and sanitation sector. The regulatory authority, JWSRB, strives to be an independent regulator and monitoring body, but is weak when it comes to pushing for pro-poor policy or programs. The JWSRB does support advocacy and public awareness on e.g. water conservation, and receives reports on the progress of programs like the GPOBA. Together with the non-governmental Consumer Protection Body, YLKI, the JWSRB has established a consumer communication forum. However, the YLKI seems weak in terms of pro-poor program knowledge and is mostly there for connected costumers. There are a few other NGOs that are active in Jakarta. Some are more generally “poverty-oriented” and may work to support better service access for poor people, and a few are also engaging in the water and sanitation sector. However, these latter NGOs, mainly represent and work toward already network-connected people (Zakaria 2009, p.5, 31-39, 49; Kooy 2008, p.195). This institutional issue further increases the problem of lack of “voice” for the poor and unconnected. Successful water and poverty-reducing initiatives would have to address this (see chapter 5).

There is also an ongoing problem of “leakage” in the water network; the amount of unaccounted-for water (UFW) is high. This leakage (itself partly a consequence of the inability to include the poor) adds to the incentives problem present in Jakarta. The high UFW rates come mainly from administrative (illegal connection/taps, corruption) rather than

technical (leaking pipes) leakage. Free-riding problems exist. The situation increases the disincentives to expand access to poorer areas. The operators have, in cooperation with some NGOs, conducted campaigns against the free-rider habits (Kooy 2008, p.109-113).

As noted above, many poor and unconnected get their water from private vendors. Apart from being relatively expensive, it has other problematic consequences. The vendors typically operate as a monopoly in their respective areas, and collude with others in order to split and control the markets. This makes information on the actual WTP of the poor difficult to abstract. The monopoly rents created are attractive and sometimes (as in Jakarta) these informal water markets (themselves complex structures with many actors in the “product chain”) get linked with organised crime; mafia-like structures control many poor areas (Bakker 2007, 862). All of this creates incentive problems and a significant institutional and political barrier for expansion of formal (network) services. It also makes demand-side surveying and management more difficult – and necessary (see further 5.1 below).

To sum up, the above outlines a difficult institutional environment for the provision, and development, of (pro-poor) water services in Jakarta.

#### **4.3.2 Features of the OBA project**

GPOBA’s output-based aid scheme in Jakarta was at first intended to work with both PALYJA and TPJ (World Bank 2006, p.1), but later changed to first focusing on the PALYJA area (western Jakarta) before expanding to TPJ concession area (eastern parts of the city) (World Bank 2007, p.1). In the end, however, the project had to reduce its scale and focus only on the PALYJA area (see more on this below). With a funding of approximately USD 5 million (World Bank 2007, p.1), the project was initially aimed at reaching 20 000 new house connections in both western and eastern parts of Jakarta, but this number had to be scaled down (see below) (Kooy 2008, p.186).

When entering into a grant agreement with PALYJA, the GPOBA project objective was to connect poor communities with approximately 11,600 households. Achieving this objective would result – the project states – in: access to affordable and reliable clean water services, health benefits, direct and indirect economic benefits, and social benefits from equitable access (GPOBA 2008, 1-2). In a results chain, these results can be labelled as “outcomes” or “impacts”.

The outputs of the project are divided into Type 1 and Type 2 connections. A Type 1 connection is a standard metered household connection, providing running water from a tap inside the house. It is offered to legal settlements. No definite technical specification for Type 2 connections can be found in the available project documents; the details of this connection type was to be developed during a 500-household pilot in a “slum” area, Muaru Baru, Penjaringan (GPOBA 2008, 6-7). It is hard to exactly see what type of connection the “Type 2” was intended to be; e.g. if it is also to be an individual household connection with individual metering or more of a community-based system with bulk metering and over-the-ground piping (see e.g. GPOBA 2008, 2-7 or World Bank 2007, p.2 or the OBA Grant Agreement 2007, p.16-18). But this second type of connection is to be suited for dense, very low-income slum or illegal settlements and have a connection charge of one tenth of the Type 1 connection charge (IDR 12,000 compared to IDR 120,000). Once connected, the customers will get the service – and pay the tariffs of their applicable “tariff group” – in accordance with PAM Jaya and the regular concession agreement in Jakarta (GPOBA 2008, p.2-3). If successful, this Type 2 connection will be expanded to a further 1,700 slum households in a Phase 2 of the project. The Government of Jakarta has agreed to this – that slum dwellers will be provided networked water service through OBA – pending the outcome of Phase 1. Each output then has a first and second output attached to it. The first output is a confirmed connection<sup>7</sup>. The second output is three months of service delivered and confirmed. These outputs provide the basis for payment to the operator under the OBA scheme (GPOBA 2008, p.3-6; OBA Grant Agreement 2007, p.5-9). The connection will be charged to the costumers at a highly discounted rate, and can be paid in instalments instead of as a lump sum (Zakaria, 2008, p.28). The scheme’s output is verified/monitored by an independent audit firm (the “Output Auditor/Verifier”), selected by PALYJA through procurement and subject to a “no objection” by the World Bank (GPOBA) and JWSRB (GPOBA 2008, 6-7). Thus, the OBA project does not rely on existing local governmental entities to perform or contribute to results monitoring (see further in 5.5 below).

At bottom, the method for community selection is largely geographical (World Bank 2006, p.1). On top of this a list of criteria is used by the involved actors to specify eligible communities: “technical criteria (in areas with adequate levels of service such that new

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<sup>7</sup> A connection verified by the independent monitoring agent assigned.

connections will not affect the service in neighbouring areas; in areas where there is no need for secondary or primary network construction, and in areas with limited or polluted groundwater resources), policy criteria (poverty level and compatibility with the Government of Jakarta spatial plans) and social criterion (willingness to connect)” (World Bank 2007, p.2). PALYJA prepares a list of communities that meet the technical criteria, the Government then reviews these in relation to their policy criteria, for approval. PALYJA commissions a survey of “willingness-to-connect” in approved areas, and the JWSRB is to oversight that process. Communities that reach at least 50 % willingness-to-connect may be considered for the OBA scheme (GPOBA 2008, p. 4).

The payment/subsidy mechanism of the OBA contract was set up as follows. Since the communities chosen were to be based on a willingness-to-connect survey, the scheme contains an up-take risk. The contract and the Operational manual for the project states that experience shows that the “real up-take” or demand usually is lower than what the surveys show. Therefore, GPOBA and PALYJA agreed to a risk-sharing mechanism regarding up-take. The details of this mechanism are a bit complicated, but can be found in full in the Operational manual. However, the basic meaning is that GPOBA takes on some of the risk of connection instalment being lower than expected, so that PALYJA still can receive full payment of the network cost, or be partly compensated, in the case of lower-than-expected connection rates (GPOBA 2008, .8-12). PALYJA is then paid in two steps: 75 % of the total payment for level of achievement of the first output (connections made), and 25 % of the total payment for the level of achievement of the second output (upheld service delivery). The funds received from connection charges from the customers (one amount per Type 1 connection, and a lower amount for Type 2 connections) are counted as income for PALYJA and are deducted from the OBA payment amount (GPOBA 2008, .8-12).

One NGO, Mercy Corps, are active in supporting the OBA project (Zakaria 2009, p.35), although it is not clear in what way. PALYJA is to gather information and prepare post-project annual reports for GPOBA during a period of two years after the project’s closing date (OBA Grant Agreement 2007, p.8). The total OBA grant funding for the project is USD 2,573,140, and the total cost (budget) estimated to 2,688,940 (including customer co-financing contributions of USD 115,800) (GPOBA 2008, p.24).



So, how has the project progressed? Several obstacles to smooth and as-planned implementation can be observed. As stated above, the intention was to involve both PALYJA and TPJ in the project. And, indeed, TPJ did agree to participate and suggested communities within its concession area to be included in the project. However, later on, PALYJA became the only implementing operator, as TPJ's proposed communities failed to meet the authorities', and thus also the project's, requirements for area eligibility (Zakaria 2009, p.28-29). The reason was land tenure status and regulation. Land tenancy is a serious problem in Jakarta, being a crowded and big city with many poor communities. These property rights issues and rules are not under the control of the utilities, but rather are government concerns. TPJ's proposition was stopped by the authorities' demand that settlements included in the project was not to be of "illegal" status. Neither the utility nor the GPOBA had the capacity or ability to resolve this, and thus TPJ dropped out (Bakker et al 2008, p.1906). Bakker and others write: "Under the OBA project, 20,000 households were targeted to receive new, subsidized water supply connections; however, most households qualifying as sufficiently poor to receive a subsidized connection do not have legal land tenure status, precluding their participation in the programme. Despite lobbying of government by the private sector operators to change this tenure policy, the original target has been scaled back to less than 4,000 households." (Bakker et al 2008, p.1906). The loss of TPJ as a participant did not only reduce the number of potential beneficiaries, but may also have decreased the potential pro-poor impact of the project relatively more so. This is because the east and north areas (TPJ's concession) of Jakarta has a larger share of poor people and the poorest water network service (Kooy 2008, p.186). Other information states that OBA project had an initial target of 11,600 connections, which had to be changed to 6,500 for PALYJA to install, according progress reporting as of March 2009. While it clearly limits the potential coverage and reduces the amount of beneficiaries, the criteria for community selection was established to make the implementation of the project easier as the water utility in this was not have to face the risks changes in land use or "disappearance" of current residents (Zakaria 2009, p.45).

On the other hand, as we learned above, the policy from the municipality's side has been one of refusing formalised and networked services to informal settlements. Even so, Kooy (2008) finds the project's area-selection criteria to be problematic, since they did not adequately foresee the institutional setting of Jakarta and were drafted in such a way that they became almost mutually exclusive. In this way they caused the project to be reduced in size, less effective and less pro-poor (2008, p.186) (see also 5.1 below).

Firstly, the technical criteria said that the eligible households had to be located very near an existing network pipe and that the new connections not could affect negatively the already connected customers in the area. In a city like Jakarta, where network density and service quality is lower in poorer areas, this criterion becomes problematic when wanting to reach the poor. Secondly, the socio-economical and political criteria were in conflict. Kooy writes: “if households met the strict poverty criteria set by the government (meeting both household and neighbourhood poverty assessments), and were considered truly poor enough to qualify for a subsidised connection, they did not meet the socio-political requirements of possessing proper residency cards and land tenure documents. On the other hand, if households met the socio-political criteria, they were above the poverty level. Not surprisingly, this left very few households as potential beneficiaries” (2008, p.186-187). Despite pressure from the GPOBA, the utilities and the JWSRB, the government refused to let illegal settlements be eligible for the project connections. These communities were not only low-priority for the government, they were neglected. Project staff described the situation as that the government just wanted to “pretend that these residents did not exist” (Kooy 2008, p.187). These institutional and political issues contributed to the lowering of the numerical connection ambitions of the project, which from the beginning had a planned budget of USD 5 million.

Continuous pressure from the GPOBA later (not until early 2008) resulted in the DKI approving the piloting of 1,700 slum settlement Type 2 connections in a second Phase of the OBA project – depending on the results of its Phase 1 (Kooy 2008, p.187). This may be seen as a first step in contributing to institutional change (see further discussion in 5.1 below).

The OBA project was also provided with some more concrete and literal resistance by alternative water sources existing in Jakarta. The project implementation was challenged by a group of rebelling water vendors. These local hydrant operators tried to put a stop to the project in order to protect their business and income (Zakaria 2009, p.29).

Finally, Kooy states that the reluctance of the private sector partners to accept risk resulted in very high per household connection subsidy costs: “Currently calculated to spend between \$300-\$400 USD per household, the Jakarta OBA project being implemented by the private sector is ironically far less cost-efficient than a similar project being implemented by the public sector in Surabaya, where the Output Based Aid mechanism will spend only \$20 USD per capita” (Kooy 2008, p.109). This would indicate higher efficiency and more risk-shifting

achieved in the Surabaya case (as discussed in 5.1 below). It is the case of Surabaya that is presented in the next section of this essay.

The Jakarta OBA project has slowly been moving forward. The physical implementation work has been ongoing as of March 2008. Per June 2009, 1384 households have been connected through the network extension (Zakaria 2009, p.29).

## **4.4 Case 2: Expanding piped water supply to Surabaya's urban poor**

### **4.4.1 Context and background**

Surabaya is Indonesia's second largest city. As in its bigger relative, Jakarta, the groundwater is polluted and the water levels are dropping. Surabaya also has problems with large immigration and poor and informal housing for, not least, the immigrants. These inhabitants generally lack public services, including water supply, why they have to turn to informal and alternative water sources, e.g. wells for groundwater (Santosa 2000, p.177-179). GPOBA describes the poverty situation in Surabaya: "Around 10-20% of Surabaya's residents are estimated as officially poor. In practice, many more live on less than \$2 per day. Many of these poor households are unable to afford the steep connection fee which includes the cost of tertiary [water] network expansion. In addition, some segments of the urban poor population are unable to furnish the legal paperwork required by the utility for the provision of individual household connections—documents such as land titles and national identity cards" (GPOBA 2007, p.10).

Like in most Indonesian cities, the local PDAM is responsible for the provision of water supply. The PDAM (Perusahaan Daerah Air Minum) is a public, semi-autonomous water supply utility/enterprise (OBA Grant Agreement 2009, p.14). Surabaya's PDAM is – unlike most other Indonesian water utilities – relatively financially healthy with no arrears on its debts and has a good reputation in the market. In 2005, its total operating and maintenance costs were USD 25 million and its revenue USD 31 million. Its bill collection rates are high and in 2006 the utility reduced the level of non-revenue water by 1.3 % to 36 % in total. Coverage was 67 % in 2007<sup>8</sup>, and the city is said to have ambitious expansion goals. However, both funds and know-how are limited, and the expansion initiative does not target

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<sup>8</sup> Lucas & Djati 2007, p. 344, states that 40 %, 1.3 million people, of the population was unconnected in year 2000

the poorest people. This is because the people on the city's connection waiting list are not particularly poor (even though they might not be able to afford the connection fees). Hence, the poorest households, which are not on the list, are not being targeted (GPOBA 2007, p.10). Furthermore, PDAM, besides having low capacity and expertise, has had serious internal problems of corruption and has historically been reluctant towards connecting poorer "kampungs"<sup>9</sup> (Lucas & Djati 2007, p.328, 337, 345)

Surabaya's main source for drinking water is the river system of the Brantas River, Surabaya River and the Kali Mas. Over the years, there have been severe problems with pollution in the river, coming from local residents and not least from (factory) production. The pollution issue became a political issue in many ways. The problems were for long neglected by the authorities, and when initiatives actually took place, they failed, mostly due to inadequate monitoring. Pollution levels had started to come down a bit, but with the economic crisis and the fall of the Soeharto government in the late 1990's, a new era of political neglect started. The new political leadership in the city is formed by elites with associated elite interests. All ongoing water or environmental programmes stopped, and with the lack of monitoring water pollution has risen again (Lucas & Djati 2007, p.321-329). As recently as in the autumns of 2008 and 2009 industrial dumping has polluted the river to the extent that the PDAM cannot keep up with (chemically) treating the water, making the water not fit for drinking at all (Jakarta Globe 2009). In recent years, the local government in efforts to reduce pollution is removing illegal houses and buildings on the river banks. This can have a positive effect on the water, but one did not simultaneously address what should happen to the evicted, now homeless, (poor) residents when removing housing (Lucas & Djati 2007, p.447). Hence, political, economic and elite interests help sustain the problematic sector situation – as is often the case with low-level equilibriums.

Besides the problematical political situation, the water quality problem can also be derived from the institutional relationship between the PDAM and Jasa Tirta, the company responsible for delivering the water from the river to PDAM and its urban water system. PDAM is dependent on Jasa Tirta's services, but cannot do anything about the quality of the river water or the prices for it charged by Jasa Tirta. If and when the drinking water quality is bad, the two enterprises blame one another. Neither Jasa Tirta nor PDAM has the authority or the capacity to enforce pollution regulation of the area's surface water (Lucas & Djati 2007,

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<sup>9</sup> Urban neighbourhoods/districts in Surabaya.

p.334-335; Jakarta Globe 2009). Accountability in the sector is thus not clear, as is further discussed in section 5.4 below.

However, there is also another side to Surabaya's urban development; public participation and activism. Surabaya has had several long-running urban development schemes, and there is an established culture of allowing for citizen participation in these initiatives. For example, the Kampung Improvement Programme has been active since the 1960's, and is well-known in Asia. The government has also had "five-year plans" for its urban development work, wherein the communities have played an important role and have organised themselves on neighbourhood and community level. There is an international aid-initiated and -supported "Urban Forum Surabaya" where stakeholders meet and discuss urban development. Surabaya also seems to have a relatively different view on and approach towards the informal/slum settlements. Instead of fully ignoring them or work against them, the authorities have worked for settlement upgrading (including recognising areas as residential areas) and to secure land tenure and legal status for the inhabitants. Projects for cheap and simple regularisation of land tenure has been initiated (Santosa 2000, p.176-183).

Moreover, there has been broad and frequent public organisation, activism and protests regarding water issues in Surabaya over the years. Often through organised local NGOs or (unconnected) kampung communities, people have protested or even tried to sue the authorities for the problems of pollution or limited/poor water supply services. Perhaps, somewhat surprisingly, poor women have been the most active and loud, and have for example used the local and otherwise apolitical and weak women's organisation PKK as a channel for influence. At times, the protests have succeeded, e.g. in making PDAM restore the flow of piped water supply to poor kampungs that had been "unjustly" disconnected on doubtful grounds. In this example, the protesters were also helped in their cause by significant media attention (Lucas & Djati 2007, p. 329, 339-41).

Generally though, the Surabaya municipality has not reacted to the pollution problem or to the frequent public protests, and does little to protect the inhabitant's main source of drinking water (Lucas & Djati 2007, p.329).

#### **4.4.2 Features of the OBA project**

The OBA project in Surabaya targets both formal and informal city areas. The goal is to achieve 15,000 new individual household connections to the piped network, and 500 more households (ten communities) in dense or informal areas to be reached with a custom

designed “master meter” scheme (more about this below). It is estimated that the total number of beneficiaries will be approximately 77,500 people (counted as 5 persons per household targeted). GPOBA’s project partner and the implementing agency of the project is the local PDAM – Surabaya’s water utility (World Bank 2008, p.1; OBA Grant Agreement 2009, p.6; World Bank 2007b, 3-4).

The agreement partner (the “Recipient”) is formally the Government of Indonesia (represented by the Ministry of Finance), since it was not possible to sign a contract directly with the PDAM or a local government/ministry. Therefore, the Recipient will be responsible for signing a separate “On-Grant Agreement” between the Ministry of Finance and the City Government of Surabaya. It will then be the local city Department of the Ministry of Public Works that will be responsible to manage the project. The Department of Public Works shall then establish and head a City Government Committee to be responsible for oversight of the project. Also, a Provincial Satker<sup>10</sup> shall be established for the hiring of the OBA Auditor and for overall project monitoring and evaluation. (Hence, also in this case project monitoring does not significantly involve existing local structures, as discussed in 5.5 below). Finally, a City Satker shall be responsible for managing the project, confirming eligibility of, and managing, subsidy payments, compliance and reporting, in relation to the implementer, PDAM. The utility shall pre-finance the project’s network expansion, and is responsible for the procurement, installation and operation of the connections. It is thus PDAM that is the ultimate receiver of the subsidy payments (GPOBA 2007, p.25-26; OBA Grant Agreement 2009, p.7, 14-15). As one would note, the institutional arrangement around the project contract is a bit complex, and requires good coordination and accountability between the different levels and parts of the Indonesian government system involved. (This may constitute an accountability issue, as discussed in 5.4 below).

The project’s output is the network connections confirmed and three months of confirmed service provision. As mentioned above, the project consists of two parts; the individual household connections, and the master meter connections to the informal settlements. The first part itself consists of two types of connections: “in-fill connections” that connect a household to a nearby existing network pipeline, and “expansion connections” that involve expanding the network to previously unserved areas. The in-fills are estimated to cost USD 78 each, while the expansion connection each costs USD 283. A survey of 10,000 unconnected

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<sup>10</sup> A “Satker” is a project implementation group, here established by the Ministry of Public Works.

households indicated that 57 % had a WTP of USD 33 and above. Thus the household contribution in the project was set at USD 33, and the PDAM “would consider accepting” the payment to be made in instalments over three months, as to be able to reach people with lower WTP. Hence, the subsidy size for the two connection types becomes USD 45 (78-33) and USD 250 (283-33), respectively. With regard to the expansion connections, PDAM will bear the cost of network expansion to households not eligible for OBA, while expanding the network to new city areas. These households could be non-eligible because of not meeting the targeting criteria or that they are not willing to connect. The project assumes that the amount of non-eligible may be 50 %, making GPOBA only subsidise 50 % the expansion and the PDAM bearing the other half, estimated to USD 1.5 million – thus being a co-financing of the project. The maximum average subsidy per household is set at USD 150 (or USD 30 per person, calculated with 5 people per household). Thus the project’s mix of connections and PDAM’s costs for implementing it shall not exceed this maximum average subsidy. The subsidy disbursement is made in 100 % after verification of output, including the three months of service (GPOBA 2007, p.14-16; World Bank 2008, p.2-3). Hence, no sequencing of payments is made in this case, putting more risk at the hands of the project implementer.

The total grant amount is set at USD 2,407,500. Annual post-project Completion Reports shall be submitted to GPOBA during two years after the projects closing date (OBA Grant Agreement 2009, p.11, 13). As arguments for enhanced project sustainability, GPOBA puts forward that the Mayor of Surabaya is supportive of the initiative, and that the project is embedded within existing government structures (GPOBA 2007, p.25, 28).

The communities targeted were selected through applying a set of eligibility criteria (poverty proxy variables), since no reliable poor household mapping database was deemed to exist. The criteria were:

1. Building size < 60 m<sup>2</sup>, and
2. Road width < 6 m, and
3. Formal installed electricity capacity < 1,300 VA (with a preference for households < 900 VA), or no formal connection.

However, PDAM first initiated the area selection by selecting a number of city areas/districts (“kelurahans”) where it deemed to be possible and appropriate to identify potential beneficiaries and commence network expansion (GPOBA 2007, p. 16).

The Surabaya OBA project's second part is the implementation of a master meter scheme, to serve poor informal communities not eligible for individual household connections under current government regulations. "By regulation, PDAM cannot invest or lay pipes in any area that is (1) not zoned as residential in the Master Plan or (2) is zoned as residential but the residents lack legal land title—either because the land is government owned, private owned, or simply unclear. Although master meter connections cannot generally be provided to the first of these categories, they will be developed as a way to alleviate PDAM's constraints in the second" (GPOBA 2007, p.16-17).

The master meter project will target 500 households over three years, aiming for 10-15 schemes of around 25-100 households in each, not to exceed the project's maximum average household subsidy of USD 150 (30 per person). The target beneficiaries are clusters of poor households living in informal areas that are lacking legal paperwork for individual connections but are residing in areas zoned as residential by the City. Since, due to regulation, PDAM cannot invest in informal communities "downstream" of the master meter, PDAM's asset will stop at the entrance to the community on the closest municipal land. As the approach is deemed experimental by the GPOBA and targets the poorest of the poor, the GPOBA does not expect the utility to co-finance the subsidy expenditure. "Downstream" from the master meter installed and managed by PDAM, the community is responsible for the design, financing, construction, operation and maintenance of the system. "An NGO will have to be actively involved in facilitating this process as the broker between the community and the PDAM, and in forming a legal Community Based Organization (CBO) if one does not already exist. The NGO will bear the costs for this software component out of its own budget. Both [aid organisations/programs] PLAN International and ESP/ECO-Asia have agreed to fund this component for a certain number of schemes (GPOBA 2007, p.17)". The bulk tariff to be paid by the community to PDAM was not yet set, but was estimated to be a low flat rate, since applying the normal tariff rate (IBT) system would be highly regressive on bulk scale level. The community must also put an additional operation and maintenance fee on its bills to its inhabitants/customers as to ensure proper service. Hence, the customers may pay a flat fee, if not individual household meters are installed in the community. The PDAM contract for a master meter will be signed with a CBO as a legal entity. The CBOs and the NGOs should also mobilize the community downstream of the master meter and assist in generating demand and in designing the scheme (GPOBA 2007, p.17). "GPOBA reimbursement will be contingent on two outputs: (1) three months of billing and payment of the bulk supply bill,



and (2) a signed contract between a CBO and the PDAM. This limits the PDAM's responsibility to the master meter but requires actual service to households in order for reimbursement to occur" (GPOBA 2007, p.18).

The above description regarding the community/NGO participation is presented in the project document of late 2007. In the Grant Agreement signed in 2009, however, it is stated that so called BKMs ("Badan Keswadayaan Masyarakat") shall be established in each city area where connections are made or to be made. A BKM is "a Kelurahan level organization with elected members, legally empowered by registering as an association to act on behalf of the Kelurahan community, established in an area in which Connections will or have been made, which will act to identify Beneficiaries for Connections, and to receive Subsidy payments and transfer such payments to PDAM Surabaya" (OBA Grant Agreement 2009, p.13, capital letters in original). Further: "The Recipient shall ensure that each BKM established in each area in Surabaya in which Connections are made shall: (a) cooperate with PDAM Surabaya to identify Beneficiaries for Connections; and (b) receive Subsidies on behalf of the Beneficiaries and transfer such payments to PDAM Surabaya, in each case in accordance with the PDAM-BKM-MOA and the Payment Instructions" (OBA Grant Agreement 2009, p.7, capital letters in original). In the last sentence, reference is made to the "MOA" ("Memorandum of Agreement") that are to be signed between each BKM and PDAM. Such MOAs are also to be signed between each of the other involved parties (the Satkers) and each BKM, as to establish responsibilities for the implementation and administration of the project (OBA Grant Agreement 2009, p.7-10). It is not clear from the available documents how and by whom the BKMs will be established and if they take the role of the NGOs/CBOs mentioned regarding downstream implementation of the master meter schemes. However, the BKMs seem to be established in all project areas, including the areas eligible for individual household connections, and are the strongest sign of public participation in the Indonesian OBA projects (further discussion on this in section 5.2 below).

The above agreements and actors form a quite extensive network around the project, with many chains of accountability, which may constitute an institutional issue. The Grant Agreement also states, however: "The Recipient shall ensure that each of the Provincial Satker, the City Satker, PDAM Surabaya, BKM and GC [Government Committee] shall implement the Project in accordance with the terms of this Agreement" (2009, p.10).

## **5 Analysis: the role of institutions in pro-poor water sector development**

### **5.1 The institutional environment: formal and informal institutions for development**

As indicated in sections 3.2 and 4.1 above, pro-poor improvements in the urban water sector cannot be done without altering the institutional environment. And therefore, sustainable OBA results cannot be achieved without paying attention to and affecting the existing local institutions. The water sector in the Indonesian cases show clear signs of weak institutions, low-level equilibriums and skewed institutional settings with elites capturing the benefits of the present service system. To achieve pro-poor results, theory suggests that one must achieve institutional change; break the vicious cycle.

However, Chapter 4 and 5 of this essay show that the OBA method generally has not paid sufficient attention to the institutional contexts in which the projects are carried out – even though the GPOBA is aware of the effects: “[...] if the institutions are weak when we leave, then it is not very likely that the results are sustainable” (Nonay 2010, interview). When asked, GPOBA says that output-based aid can supplement reform. But the organisation shows signs of having a relatively narrow focus on institutional and institutional change, e.g. as they state technical assistance, shifting performance risk and the use of “delegated management contracts” towards operator managers as the main ways of OBA contributing to solving the local institutional problems in the water sector (Nonay 2010 and Veevers-Carter 2010, interviews).

Firstly, there have been issues around how OBA has tackled – or rather not tackled – the price regime and its influence on the affordability of the services to the (poor) people. OBA has used one-off subsidies to help people pass the hurdle of connection costs. This is pro-poor, since connection costs most often are the main obstacle to poor people’s ability to obtain network services. Even so, the subsidised connection fee the poor have to pay may still be a difficult or prohibitive lump-sum cost. Therefore, it is more pro-poor if this sum can be paid in instalments – something that was allowed in the Jakarta case, and “was to be considered” in the Surabaya case. However, if the surrounding price/tariff structure is flawed, inefficient or negative to poor people the OBA results will not be as efficient or sustainable, anyway. And this seems to have been the case in Indonesia, especially in Jakarta. The cross-subsidy (IBT)

system was not well suited for Jakarta and the concession contract set-up did not shift enough risk onto the operators, and this has created disincentives for pro-poor expansion, and would continue to be a problem also after the project if not addressed (4.3.2 above). A successful project must contribute towards sector reform and institutional change (and thus also tariff system improvements), but the only tangible sign in this respect seems to be the tariff set-up in the “master meter” schemes in the Surabaya project, wherein specifically designed tariffs are used for the service to the poor communities (4.4.2 above). Also with regard to building on and involving local government structures, the Surabaya project seem to be more in line with what theory would suggest. In Surabaya, several government levels were involved and specific bodies were assigned to working with the project (e.g. the “Saters”). In Jakarta, basically only the regulatory body (the JWSRB) was involved (in a limited way) in project implementation.

To reach an efficient, affordable and sustainable network expansion for poor people, economic theory puts forward that the consumer (demand) side must be taken into account. The OBA methodology includes consumer (WTP) surveys at the planning stage, which are necessary to obtain a picture of the demand. But a broader and more comprehensive approach seems to be needed in order to achieve the desired service, derive the demand and consumption patterns and map and manage the associated demand risks; acknowledging and targeting the informal (institutional) constraints that exist, and putting significant resources and effort into demand-side management (DSM) initiatives. Also, there is a need to consider the *total* cost of water to the (poor) customers, not only the basic tariff and connection fee. The Indonesian cases (especially the Jakarta project) show the problems and negative influence on pro-poor results that insufficient demand-side focus brings a water development project. In Jakarta, there may also be a possible connection between the demand risk-sharing mechanism in the GPOBA-PALYJA agreement and the low level of demand-side involvement/efforts (section 4.3.2). However, again the Surabaya project’s master meter scheme provides an example of how the consumers and the community can be involved to achieve a more suitable and affordable service form in poor and “informal” areas, otherwise not served.

Turning to the issue of property rights raised in section 3.2, it has been a significant factor in the design and level of success of the OBA projects. The institutional context in Indonesia that deem many poor inhabitants as “illegal” or “informal” with weak or no property rights and non-eligible to network services, make pro-poor OBA difficult. To reach the (poorest of

the) poor this issue has to be addressed. In the Jakarta case, land tenure has been a clear problem for expansion of services in general and for the OBA project as such. The problem was not sufficiently foreseen or addressed, at least not from the beginning, and the project's selection criteria were problematic. In the case of Surabaya, the context was from the beginning a bit more favourable to service expansion. The authorities in Surabaya have had a more open and flexible approach to the poor, "informal" inhabitants – something that the OBA project did make use of and was thus able to reach these poor communities through the "master meter" scheme (4.4.2 above)

## 5.2 Public participation and collective action

Section 3.2.2 of the Theoretical framework stipulated several advantages of having a participatory approach to project planning and implementation and water sector development. Involving the stakeholders not only help mitigate problems of power and information asymmetries and collective action, it also promotes poverty reduction through informing and empowering the poor. Further, sustainability of services should be enhanced since the stakeholders will have greater knowledge and responsibility in the service delivery and use. In combination with demand-side management (DSM) strategies, participation also helps reduce and manage the demand or "uptake" risk facing the service provider.

To help solve the collective action problems and power and information asymmetries, engagement cannot only be one-way. As can be seen in the outline of the OBA method in section 4.1 above, public participation does not seem to be a core or standard feature of all the stages of OBA as a method. For sure, proper WTP and ability-to-pay surveying and consumer education is emphasised but that is not the same as allowing for *participation* in a project's different phases. This "lighter" or narrower take on participation within the OBA method is also reflected in the project implementation in the water sector. Both projects in Indonesia – Jakarta and Surabaya – were based on thorough WTP and willingness-to-connect mappings, by the GPOBA and/or operators or the authorities. But for the main part of the projects, the "participation" and demand-side management (DSM) largely stopped there. In the Jakarta case there are no signs of public/customer participation in the planning, implementation or monitoring of the project. In the Surabaya project, relatively stronger participatory approach has been used. Perhaps, this was also facilitated by the relatively vivid participatory traditions

in urban development in Surabaya, and the more flexible approach by the authorities towards “informal” communities. In any case, the second part of the Surabaya project uses a strongly participatory approach to supply the poorest communities with custom-designed “master meter” taps. The community itself will manage the water scheme in their area. However, it is still a relatively small part of the whole of the OBA project in Surabaya.

NGOs and community groups/organisations are a common channel for public participation in urban development. In the OBA projects, this type of participation has not been significant. In Jakarta, there are some active NGOs in the sector, but they primarily work for and represent connected people. Unconnected poor seem to lack voice, as reflected in this fact. One NGO (Mercy Corps) is said to be involved in the Jakarta project, but it is not known how much and in what capacity. In Surabaya, there is more community and NGO involvement – but, again, it is mainly in the master meter scheme mentioned above. Also, it seems – although unclear – that the community organisations (the BKMs) that will be responsible for the scheme management within the selected “slum” areas are established for this sole purpose by the project implementers. This would thus indicate that the project does not build on potential existing institutions or organisations, and rather creates new and parallel structures “from above”.

### **5.3 Principal-agent problems**

From a NIE perspective it becomes quite clear that the OBA method of contracting for services helps solve some important aspects of the principal-agent problem that has commonly hampered earlier similar aid initiatives in the water sector. Linking contract payment only to delivered results shifts performance risk onto the agent and reduces the risk that the agent acts opportunistically and obtains pay-off without effort. This is important from a poverty-perspective, since it is the outputs that matter when wanting to achieve pro-poor expansion of network services. The “input side” is not as interesting and the results-based contracts leave room for innovation and cost-efficiency in design and implementation, since the operator will want to reach outputs in the most efficient way in order to maximise its revenue-cost ratio and pay-off. Also, stating the outputs and beneficiaries (areas) beforehand is more pro-poor as it reduces the risk of service in the end being expanded to relatively already well-off areas – as has been the case in many earlier input-based contract projects.

Still, in practice it becomes difficult to utilise the full strength of the result-based contract and to ensure sustainable results – as the Indonesian OBA projects show. To maximise the risk shifted onto the agent, and thus minimising the risk of opportunism, the full contract payment should be made after the delivery of agreed outputs. In the Jakarta case, however, the agent (the private concessionaire) showed signs of being unwilling to take on the full risk. A demand-risk-sharing mechanism was negotiated relieving the agent of some uptake risk. Also, the agent was paid in two steps with 75 % of the subsidy being disbursed after completion of the first output (connections made) and the remaining 25 % after completion of the second output (upheld service delivery). This reduces the amount of performance risk shifted onto the provider, and thus the increasing the risk of opportunism and short-lasting results. The public utility in Surabaya, on the other hand, took on more risk in its OBA agreement. In this case the full subsidy disbursement is made after verification of the output, which includes three months confirmed services – hence putting more performance risk at the hand of the operator, increasing the chance of desired outputs.

Even if the full payment is linked to the delivery of output including a period of three month's upheld service delivery, this may still not guarantee opportunism-free behaviour or long-term sustainable results. The service provider may still have incentives to cut or lower the quality of the service after the contracted service period has ended. This depends strongly on the type of institutions that surrounds and governs the operator and the sector. The period of three months of service delivery used in the Indonesian OBA projects may be too short. A longer contracted service period might help sustainable results, but it also increases the risk to the provider and thus may make projects more difficult to initiate. Rather, from an NIE perspective, it seems more likely that efficient and sustainable results can be achieved if the institutions (e.g. regarding monitoring and regulation) in the sector are strong and create incentives and pressure that help upheld the poor customers service access. Hence, even a well-designed and implemented OBA contract may need developed institutions and institutional mechanisms to ensure continued (economic) performance and service provision. This is discussed further in 5.4 and 5.5 below.

Finally, although results-based contracts have the potential to promote more efficient contract performance, they are also more difficult to design. The information problems and complexity in defining the outputs and writing the OBA contracts add to the issue of establishing incomplete contracts, which facilitate risk of opportunism and difficulties in achieving desired outputs and outcome (see also section 5.4 below).

## 5.4 Contracts and risks in context

Competition (for contracts) is an important factor for reducing the inefficiency problems created by, for example, asymmetric information and principal-agent problems. This is also emphasised in the OBA methodology; competition should be added to the project approach (section 4.1 above). Yet, in practice this is more difficult and less often applied – which is also illustrated by in the two Indonesian cases. Typically for the urban water sector, the two OBA subsidy schemes targeted incumbent operators and no competition for getting to be part of the projects seem to have been used. As noted earlier, lack of competition calls for strong institutions and well-designed and enforced (concession) contracts as well monitoring. However, the Indonesian cases show that this demand is not always fulfilled. In the Jakarta case, not only was there no competition for project rights – there are clear signs of that the operators themselves had not been chosen through an efficient and proper bidding-process with good competition. In addition, the Jakarta concession contracts show several flaws that hampers the efficiency, expansion and pro-poorness of the services. This makes the OBA projects more risky, since – especially in the Jakarta case – there are uncertainties regarding the competitiveness, efficiency and information-level of the incumbent operators and the associated institutions. According to theory, these risks should be met by strong institutional focus; promoting change and monitoring and regulation.

The OBA method also emphasises the importance of accountability, and that the method increases the accountability by clear contracts and the shifting of risk. This is also in line with NIE theory. In practice, however, the institutional context makes these advantages less obvious. In the Jakarta case, there is a clear and straightforward contract partner, the concessionaire PALYJA – although the framing and more long-term concession contract may be “incomplete” and flawed, making (long-term) accountability for results less clear. In Surabaya (section 4.4.2), there were signs of more complex – and potentially less accountable – chains of contracts and accountability. The agent responsible for implementation (the PDAM utility) was not the agreement partner for the project, and there are a number of governmental levels involved, making accountability more complicated. Less clarity in the division of roles is not economically desirable since – in addition – the Surabaya water sector has long-term and overarching accountability issues as illustrated by the low political effort and the problematic institutional relationship between the Jasa Tirta river company and the PDAM.

Risks have been discussed above, but it can be noted here that there seem to be differences in working with a private partner (Jakarta) or a public partner (Surabaya), with regard to the ability and level of risk-shifting. The private agent in Jakarta was relatively less prone to accept risk compared to the public utility in Surabaya. There can be several reasons to this, for example GPOBA says that a public partner may not be as used to risk-taking and may not even be fully aware of the risks it is facing (Veevers-Carter 2010, interview). This is probably not the most solid foundation for a risk-shifting contract situation, and the issue indicates the need to conduct institutional analysis before choosing project partner and designing an OBA scheme.

As has been noted above, to be able to achieve long-term results with one-off subsidies in a difficult institutional context with incomplete contracts and low competition and complex accountability, there is a need to build and develop (supplementary) formal and informal institutions that help ensure the proper performance of contractual obligations and functioning services. We turn to the aspect of monitoring and regulation in the next section.

## **5.5 Monitoring and regulation**

As we have seen throughout this essay, there is a clear risk of problems of opportunism and asymmetric information etc in initiatives in the developing country urban water sector – as demonstrated in the two Indonesian cases. One important institutional factor for mitigating these problems and facilitate sustainable pro-poor outcomes is monitoring and regulation.

A private monitoring agent (firm) can have the advantage of being relatively more independent than a government boy or independent government-created monitoring agency. But even with this trade-off in mind, NIE theory provides another trade-off: between short-term and long-term results and institutional change. A private-firm monitoring agent is easier to apply to ensure proper monitoring of a project, but bypasses existing structures and may even undermine them. The OBA methodology (section 4.1 above) has so far exclusively involved the hiring of an independent (private) third-party agent to be responsible for the monitoring of the contract results, although it is also emphasised the government entities should be involved in some way. GPOBA has focused on independence and avoidance of “conflict of interests”, and has thus chosen to work with private firms, even though they may be local firms and report to the relevant government agency (Nonay 2010, interview). The



two Indonesian projects illustrate this approach quite clearly. In both cases, private firms are hired for monitoring and verification of contract obligations, with little involvement by government bodies in the actual monitoring. Hence, no noticeable use or long-term capacity building of (the weak) existing local structures seem to occur regarding monitoring. Independence may be achieved, even though one can perhaps wonder at the consequences for independence by the fact that the project partners (the concessionaire and the local government, respectively) get to procure and select the monitoring firm.

The case studies confirm the risk that OBA monitoring does not reach beyond outputs and short-term result monitoring. The present set-up of the method and the projects (with private external monitoring firms and three-month's service confirmation) does not considerably help to ensure long-term sustainable outputs outcomes. Economic theory would state that aid should build on and improve institutions to achieve sustainable results, and thus local authorities should at least be involved and participate, to build long-term capable institutions and organisations. Another important element also in monitoring is public or community participation. This type of monitoring could contribute to long-term and lasting monitoring, results, capacity building and poverty reduction, but has not been widely used in the projects.

In sum, OBA monitoring in the water sector seem to have been done independently, but with relatively short-term focus and with small focus on building on and improving the capability of local institutions and organisations.

## 6 Conclusions

Sections 4.2, 4.3.1 and 4.4.1 describe the difficult institutional environment that constitutes the Indonesian urban water sector. Looking at this from a New Institutional Economics (NIE) perspective implies that no sustainable pro-poor sector development can be achieved without proper attention given to the existing local institutions. Institutional change must occur, and thus be promoted by actors engaging in the sector.

Referring back to Figure 1 in section 3.2, we see that the Indonesian contexts showed to have all of those difficulties, and that the OBA interventions did not fully address the institutional elements that needed development. Evidently, OBA solves basic but important principal-agent problems, targets relatively poor people and manages to provide more people access to good network water service. This is pro-poor, as is the fact that OBA targets connections costs – the main barrier for poor people in accessing basic services. But this essay shows that OBA has not paid enough attention to the institutional context of the developing country urban water sector to ensure long-term, sustainable pro-poor results and the reduction of multidimensional poverty. NIE perspective analysis displays the diverse and difficult institutional set-up that governs the urban water sector, and thus emphasises several institutional aspects that need attention and effort in order to achieve pro-poor services and the accompanying institutional change necessary. The OBA method has not proven to be sufficiently comprehensive in these respects, even though a number of institutional efforts have been made and the method has also evolved and improved over time – as indicated by the more recent and innovative Surabaya project.

Relatively little has been done in the projects with improving and building on existing formal and informal institutions – something that is needed when working in the contexts that are urban water sectors in developing countries. To be able to design and implement projects more in line with NIE pro-poor theory, one would have to accept higher total and short-term transaction/project costs, since the set-up and realisation of such initiatives would be more demanding, of both time and resources. In this perspective, the long-term society benefits should outweigh the costs, however. Hence, the answer to this essay's main question then becomes “yes”, but with the reservation that the results are limited and are not ensured to be long-term or sustainable.

Finally, it would be interesting to see more and extensive studies on this subject, to analyse how institutions can and do affect the performance of international aid in the water sector. For example: how could more competition be incorporated into projects? How can efficient monitoring be established that builds on local structures and experience? Finding out more regarding issues like these could help the development of pro-poor water sector initiatives around the world, and could then inspire and be inspired by similar effort in other sectors.

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