



The Regulation of Small-Scale Water Providers in Lao PDR

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Foreword

Water and sanitation services, which qualify as essential public services, need to be regulated from an economic, environmental and public health standpoint. Surely, the quality of regulation is one important key for the success of any water supply management model, including Public Private Partnerships (PPPs).

AFD, within the framework of its research program on PPPs, has published a literature review titled *Regulation of Water and Sanitation Services in Developing Countries* ("A Savoir" Series N°1, by Sophie Trémolet and Diane Binder, May 2010), which presents different theoretical approaches and institutional models for regulation and identifies areas for further research. One of the interesting issues identified for research work is the regulation of Small-Scale Independent Providers, which have emerged in a spontaneous manner or have been promoted by public authorities over the past few years, to the extent that in some Developing Countries they supply up to 60% of the local population. The question of how to oversee these initiatives without hampering their innovation potential has been studied both by AFD (for example in Maputo) and GRET (for example in Cambodia), and the two organizations have thus decided to launch a common research and capitalisation program on Small-Scale Independent Providers in the water sector. For this purpose, the *ContrEauverses* workshop held in Nogent-Sur-Marne on the 7th and 8th of September 2009 focused on the "contractualisation and regulation" of these providers, and a platform will be set up to share experiences on the monitoring and follow-up of their performance.

The present paper is part of this collaboration as it is a practical case study on how Laotian authorities, with GRET assistance, have recently developed an innovative regulatory framework for PPP contracts signed with small entrepreneurs, in parallel with the more classic regulation of State-owned water enterprises. The paper focuses on identifying the main functions of water supply regulation and analyses the choices that have been made so far in this regulatory process, which is still under development. Let's hope this paper will be of use to researchers and professionals in the water sector and pave the way for the creation of local PPPs in Developing Countries.

Aymeric BLANC (AFD) and Frédéric NAULET (GRET)

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More generally, all MIREP stakeholders including at the local level have contributed to this paper through several interviews and informal discussions.

I also wish to thank all of the MIREP team and especially Mr. Martin Leménager who welcomed me to the GRET office in Vientiane, provided me with all the necessary information and shared his expertise on the MIREP Program and its recent history.

Finally, the ideas and analysis contained in this paper strongly benefited from the conceptual and practical knowledge of regulation provided by Mr. Aymeric Blanc from AFD and Mr. Frédéric Naulet from GRET.

Summary

The MIREP Program in Lao PDR was launched in 2004 at the request of the Department of Housing and Urban Planning (DHUP) within the Ministry of Public Works and Transport (MPWT), with financial support from donor organizations and technical assistance from GRET, a French professional-cooperation organization. MIREP aims to improve access to safe piped water supply for populations living in small towns, through the development of appropriate technologies and the creation of partnerships between public authorities and the domestic private sector (*via* PPPs).

The MIREP Program achieved the challenging goal of setting up innovative water supply concessions with local entrepreneurs in eight small towns of Lao PDR, five of them already operational by June 2010 and all of them expected to be operational before the end of 2010.

The goal of this report is to review the regulatory schemes of the current MIREP projects and to analyze their strengths and weaknesses, achievements and challenges. As regulation is a complex and sometime confusing concept, a special effort has been made to provide clear definitions and a methodology that gives structure to the analysis.

Toward that end, this report starts with identifying the main functions of water supply regulation. Then, a snapshot of the last 10 years of the Laotian Water Supply sector describes how the concept of regulation was introduced along with increasing decentralization. A detailed analysis of the regulation of State-owned water suppliers indicates that except for tariff evaluation few other areas are currently being regulated. However, ongoing legislative efforts and progressive affirmation by the national regulator (WASRO) through its benchmarking work are encouraging signs.

In this context, in which private participation has been encouraged, but its regulation has not yet been clearly defined, MIREP has implemented an original regulatory framework involving mainly local public authorities, the national regulator and heads

of villages. It has also developed its own monitoring and evaluation tools for the purpose of project follow-up.

While on-site operations have been properly and efficiently launched, this report identifies areas of concern regarding the long-term monitoring of contracts by local public authorities, the lack of viable technical and financial support to the concessionaires, and the uncertain capacity of WASRO to follow up on the performance of local PPPs. Practical and operational suggestions are presented to address these issues before the potential upscaling of the MIREP Program.

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Introduction

Introduction

A new era for the water supply sector in Lao PDR began in 1999 with the decentralization of water supply management at the provincial level. At the same time, the concept of regulation was introduced and resulted notably in the creation of a national regulatory body (the WASA). Although the path was tortuous, a regulatory framework has progressively been developed along with related legislation advocated by foreign donor agencies.

The introduction of competition *via* private participation was simultaneously foreseen and led stakeholders in charge of the water supply at the national level to want to implement a model inspired by the MIREP project in Cambodia. MIREP strives to increase access to safe piped water supply for populations living in small towns through the creation of partnerships (PPPs) between the public authorities and the domestic private sector.

Given that private participation in water supply delivery to small towns was desired but not precisely defined, MIREP developed an innovative regulatory framework through PPP contracts. Considering the weak contractual legal framework, most of the regulation applies to the decision-making process during the feasibility study and in the way the contract is monitored afterwards.

After a quick and efficient launch of operations, a new phase starts during which the long-term viability of the program must be assessed before a potential upscaling. Are the local authorities involved playing their role as defined in the contracts? Will the private suppliers be able to operate and maintain the networks without GRET assistance after project completion? How to control these operators without making future private investors fearful? How will the national stakeholders handle a potential spread of PPPs all over the country? How will the performance be assessed, and what will be the means to address the weaknesses?

The report starts by identifying the main functions of water supply regulation. In order to answer the questions mentioned above, the Laotian WS (Water Supply) context is analyzed to better define the structure of the national regulation and its challenges. The MIREP implementation process is then scrutinized to analyze the options chosen in terms of regulation. To that purpose, two stages have been identified: (1) before the signing of the contract, when choices are made in order to

select the concessionaire, define the standards and the tariff level, and consider the social aspects and the environmental impacts; and (2) after the contract is signed, when enforcement requires adapting to an evolving situation, and the theory of the written contract confronts practical problems.

Based on this analysis, and through comparisons with the regulatory approaches of other small private operators, suggestions are presented for addressing the main highlighted concerns before they can jeopardize the future upscaling of MIREP-like PPPs in Lao PDR.

This report does not aim to discuss the pro-poor policy and the financial policy implemented under the MIREP Program as those subjects were already tackled in two previous mid-term reviews in 2009. It also does not aim to discuss the advantages and disadvantages of Private Sector Participation or Public-Private Partnerships (PPPs) as compared with public-only schemes.

Part One

1. Regulation and the Water Supply Sector

Because the term “regulation” is commonly used for different purposes, and because it is the central concern of this review, it is important to clarify what is meant by regulation before going deeper into this analysis. This preliminary section aims to provide a better understanding of what regulation is and is not, through a description of its scope and functions.^[1]

Note that the formal type of regulation described hereafter coexists with other informal regulation, which is based on cultural conventions, habits and history, referred to as “social adjustments” in sociology. Deviations from the rules and role specifications discussed later in this study are related to this distinction.

In the following sections, the analysis of the tools developed by the MIREP Program to regulate the new PPP schemes and their role within the Laotian water supply sector is based on the definition of regulation provided below.

1.1. Regulation: a key component of public action

“Around the world, governments perform three main functions: they tax, they spend, and they regulate.” Even though it is a bit radical, this statement in a recent World Bank paper shows clearly how important regulation is to the administrative functions of a country. However, suggesting that regulation encompasses all the non-financial activities provided by governments is excessive.

In order to narrow the definition, regulation has to be distinguished from two other activities of governments: the design of long-term public policies; and the defense of the State’s own economic interests. The first encompasses laws, decrees and policies, whereas the second concerns all strategic behavior of the State as an economic actor with its own assets, budget and interests.

[1] Some material for this section comes from Trémolet and Binder (2010).

Definition: Regulation can be defined as **the necessary arbitrations required to ensure fairness towards the legitimate interests of all stakeholders within the constraints of the legal framework and national objectives.**^[2] In order to ensure this result, regulation implies a certain control – or even audit – of the activity in order to be able to judge based on the highest level of information.

A fundamental aspect of this definition is that governments cannot anticipate all the issues that will arise in the future, yet nonetheless those issues will have to be resolved. Creating new laws or policies for each issue would be too slow and laborious, even though laws can keep up with the main regulation issues in order to progressively address them.

The terms “arbitration” and “fairness” are key components of regulation. Since different actors can have incompatible interests, regulation has to deal with emerging counter-weights in order to find balances. Moreover, acting within the constraints of the legal framework also requires balancing different public policy priorities (for example, economic performance *versus* quality requirements). Issues can be anticipated by creating guidelines or complementary rules based on the laws, meaning arbitrations are not necessarily the result of disputes.

The “legitimate interests of the stakeholders” refers to their expectations in regard to the activity of a sector. For the users, this would be good service quality that corresponds to the price they are willing to pay; for the private companies, it may be their financial viability but also other interests, such as social recognition and networking.

The quest for economic viability in public services, in itself, has not explicitly been addressed in the definition of regulation, but it can be set as an objective by the legal framework. Providing good incentives to enhance the efficiency of a sector in a sustainable way is then also a regulatory task. It usually involves setting performance targets for the sector stakeholders.

Distinct from the regulatory objectives described above are the characteristics required for good and effective regulation. These characteristic features are of two types: those necessary to ensure the quality of the decisions; and those necessary to enforce these decisions efficiently.

[2] Note that the word “regulation” is new in the Laotian language and has a meaning that is close to “balance”, understood as the balance between the interests of the providers and the users of a service.

Concerning the quality of the decisions, the required features are inclusive consultation of all the stakeholders, appeal procedures, and all other features ensuring a fair and neutral arbitration.^[3]

As regards to enforcement, the decisions have to earn credibility in order to be accepted by the concerned actors and thus become transparent, accountable and somehow predictable. The enforcement also depends on the power given to the regulation stakeholders,^[4] notably by the laws. Regulation stakeholders' roles can vary, from investigative powers resulting in the public disclosure of their analysis ("sunshine regulation") to strong decision-making powers ("yardstick regulation").

Table 1 *General picture of regulation*

Definition	The necessary arbitrations required to ensure fairness toward the legitimate interests of all stakeholders within the constraints of the legal framework	
Objectives	<ul style="list-style-type: none"> • Balance the different goals of public action • Balance the different interests of the sector stakeholders 	
Efficiency	Quality of arbitration / fairness	<ul style="list-style-type: none"> • External participation /consultation • Appeal procedures • Transparency
	Implementation / influence on the sector	<ul style="list-style-type: none"> • Accountability • Predictability • Legal means of action (notices, sanctions)

Source: Author.

To conclude with this general definition, it must be stressed that the scope of regulation in a sector within a specific country deeply depends on the completeness of the laws and policies regarding that sector. The looser the legal framework is, the wider the scope of regulation. This point is crucial, especially in developing countries where the legal framework usually allows a lot of room for arbitration and thus for regulation.

[3] In Western democracies, autonomy is commonly mentioned as a way to prevent political interference. But autonomy is to be moderated in developing countries where political power is concentrated and autonomy is therefore somewhat unrealistic. Moreover, autonomy is not an absolute guarantee of good regulation.

[4] Usually, the different aspects of regulation are addressed by various public or independent entities. Many countries regulate without any formal regulator (in reference to the Anglo-Saxon model). This is why the term "regulation stakeholders" is more appropriate than "regulators" here.

1.2. Scope and stakeholders of water supply regulation

Defining regulation in absolute terms, as was done in the previous section, is a difficult conceptual exercise. It becomes much more practical when applied to a specific sector.

A more detailed description of regulatory functions within the water supply sector is necessary in order to evaluate regulatory efficiency. Based on the dual characteristics mentioned in the previous section, two different approaches are possible: the different public areas involved in the legal framework of the sector; and the actors with their behavior and interests.

In order to analyze Laotian water supply regulation in a more comprehensive way, this paper identifies seven different areas for potential regulation:

- Tariff: the cornerstone of financial viability and social affordability;
- Competition: a sound and fair competitive environment;
- Quality of service: sufficient water pressure, continuous delivery, etc.;
- Quality of water: drinkability: pH, turbidity, bacteria, etc.;
- Environment: negative impacts on the area, pollution of the water resources, etc.;
- Customer representation and conflict resolution;
- Social objectives: access by the poorest citizens, service coverage, etc.

Depending on the context and priorities, different areas may be the focus of literature on water supply (WS) regulation. This present selection is particularly suited to the Laotian context notably because the seven regulatory areas listed above are under the supervision of different ministries.

The main stakeholders of the WS sector are:

- The suppliers (public or private) responsible for providing drinkable water;
- The users;
- The various national ministries involved in policymaking: usually the ministry of public works (or infrastructure), the ministry of health, the ministry of the environment, and others, depending on the country;

- The regulator, if any;
- Local public authorities (provinces, districts, towns, etc.);
- External bodies (foreign donors and aid agencies).

Identifying which actors regulate each of these seven issue areas – and how – as well as the importance attributed to them by the MIREP Program within the Laotian national context is the key purpose of this review.

Part Two

2. Urban Water Supply: the Legal Framework and its Development in Lao PDR since 1999

The following section describes how Laotian urban water supply (WS) policies have developed in the last 10 years. This step is essential in order to better situate the regulatory tools developed by MIREP within the national context, and also to foresee what evolution is necessary for these tools to be totally integrated into the system.

The first part below gives a factual overview of the last 10 years of the sector. Then, the focus turns to the entities devoted to private sector participation and concessions, since this is a primary concern for the viability and potential upscaling of the MIREP project. A presentation of the new Water and Supply Law and its consequences concludes the section.

Box 1 *Distribution of Lao urban population*

Lao PDR's urban population of 1.52 million (27% of the total population) lives in 145 officially designated urban centers in 139 districts, according to the 2005 census. The five largest towns include Vientiane Capital and the four secondary towns of Savannakhet, Pakse, Thakhek, and Luang Prabang. About 42% of the urban population lives in 140 small towns with populations ranging from 2,000 to 20,000. According to the DHUP 2008 development plan, unofficial estimates are that by 2020 the urban population will be around 2.18 million.

2.1. A short history of the Laotian urban water supply sector

Rather than just presenting a snapshot of the current laws, policies and regulatory framework for the water supply (WS) sector in Lao PDR, we take a look at how it has

developed in order to allow for a better understanding of the sector strategy and prevailing mentality.

2.1.1. 1999: A turning point – decentralization and creation of WASA

Before 1999, the urban water supply (WS) in Lao PDR was provided by a single national utility called Nam Papa Lao. At that time, urban WS services reached only the biggest towns, the provincial capitals and a few district capitals. The regulation scheme was then simple, since GoL was directly controlling the sole public company.

The legal framework was very weak, the main law being the Water and Water Resources law (1996). This law contained general rules about water usage in the country, and its application decree was not expected until 2001, so there was no defined public policy for the sector.

In 1996, the Sixth Party Congress set the long-term development objective of lifting the country out of least-developed country (LDC) status by 2020. One of the major fields identified was health, within which increased access to clean piped water, especially in urban areas, was a key objective.

As a result, in 1999 the Prime Minister Decision 37PM created the first WS sector policy, by calling for the splitting of Nam Papa Lao into 18 decentralized provincial utilities (the NPSEs). The sector's goal was to provide 24-hour access to safe drinking water for 80% of the urban population by 2020. New roles and responsibilities were assigned as follows:

- MPWT had the general role of facilitator and coordinator, and also to activate the necessary resources to achieve the sector goals;
- DHUP was responsible for setting out strategies and planning for the sector, as well as studying technical standards and regulations;
- WASA assisted MPWT in developing detailed action plans to promote new projects in urban and rural areas. It also set technical/economic specifications and standards, and directed on behalf of MPWT the implementation of the WS sector policy;
- The MOH was responsible for the provision of rural WS, as well as hygiene in both urban and rural areas;
- WRCC was responsible for water resources protection;

- Provincial governments bore all responsibilities for the WS systems within their province, both urban and rural, and would collaborate with their DPWT to assist low-income households;
- NPSEs would operate WS systems based on commercial principles in compliance with existing regulations.

Together with the creation of the WASA, its Board was appointed, composed of seven members^[5] from different ministries, plus two consumers' representatives (industrial and residential). The Board had to deal with key regulatory matters and handle complaints from consumers and NPSEs.

A special effort was made to stress the importance of the financial viability of the NPSEs, whose tariffs would have to be sufficient to cover operations and management expenses while being affordable for the consumers. Their financial accounts and corporate plans would be reported to WASA, and their activity would be monitored based on performance indicators, even though those had not yet been defined.

A sector investment plan was attached to the decree and included details about the targets and sources of funding (mainly from foreign donors).

2.1.2. 2000-2004: developing the basis for regulation

It took time for the different actors to learn their new tasks. WASA provided most of the new momentum for the sector by channeling investments from the donors. The first years were dedicated to developing piped water systems in several big to medium-size towns (mainly provincial and district capitals) funded by ADB and NORAD. As regards to its regulatory functions, WASA first had to build its own knowledge base and acquire some expertise on the sector. Toward that purpose, its first work consisted of analyzing 12 of the 18 NPSEs through which ADB funds were channeled.^[6] This allowed WASA to determine the main challenges for NPSEs in the future: weak accountability; tariffs based on political concerns rather than financial viability; low operational efficiency; poor cash collection; and high consumer dissatisfaction.

[5] Part-time government members were nominated for three years by their respective ministries, and validated by the Prime Minister. The composition of the Board later evolved, encompassing seven members in 2005 and finally nine members again in 2008. See Appendix 2.

[6] See Burwell and Virabouth (2004).

A key moment occurred in late 2001, when GoL consulted with WASA on a tariff review of the Vientiane Capital NPSE (NPNL). No tariff policy existed at that time, and WASA could test its skills at developing a cost-of-service approach. This focused attention on new factors, such as return on capital, capital maintenance, asset values and others.

In 2002, WASA performed a general review of the 18 NPSEs' performance and compiled the results in an annual report.^[7] Since there was still no specific policy guiding WASA regulatory remits, tariff setting or water and service quality standards, WASA started working on drafts. As stated in the introduction to its 2002 annual report:^[8] "The regulatory framework is currently under development and soon to be confirmed in a Prime Minister's Decision. In anticipation of this decision, we have already embarked on some of the regulatory tasks in accordance with our expected new role".

Table 2 Sector targets for 2020

2020 Targets	Vientiane Capital Secondary Towns	Provincial Capitals	District Towns	Other Small Towns
Service coverage	90% coverage	85% coverage	75% coverage	70% coverage
Unit consumption	145 Liters per capita per day	100 Lpcd	85 Lpcd	100 Lpcd
Service quality	Provide reliable, 24 hour supply with 10m min. residual head for 100% of service area			
Water Quality	Comply fully with Water Quality Regulations			
Unaccounted For Water	< 200 L/ connection/day	< 170 L/ connection/day	< 140 L/ connection/day	< 140 L/ connection/day
Master plan	Update 20-year water supply master plan			

Source: Author.

[7] Water Supply Authority, *Annual Water Sector Performance Report* (2002).

[8] Written by Dr. Somphone Dethoudom, director of WASA at that time.

These drafts later resulted in the Water Supply Tariff Policy, issued in April 2004 by a ministerial decision and Decree 191PM of July 2005 on the regulation of WS operations.

In 2004, the investment plan for the urban water supply sector was updated to reflect the GoL's growing emphasis on equitable development through improvement of service in small towns, particularly in the poorest districts. Investment needs for 2005–2020 were estimated at \$267 million, including \$103 million for small towns. This plan set specific targets for 2010, 2015 and 2020. Presented below are the targets for 2020:

2.1.3. 2005-2009: addressing the performance of the NPSEs

Decree 191PM of 2005 finally defined more precisely the regulatory tasks of WASA, and it remains the reference for most regulatory responsibilities to this day. Regulation was split into technical and economic aspects. On the technical side, WASA was responsible for validating the suppliers' licenses (mainly their service area) and for setting performance targets for service level and water quality. Suppliers were obligated to deliver specific information to WASA^[9] and to provide a complaint register. WASA could issue enforcement notices in case of offences by the suppliers, which could theoretically result in suspension or termination of service (even though this threat was not credible in absence of competition).

On the economic side, tariff calculation had to be based on the tariff policy released by MPWT in 2004 (in fact, drawn up by WASA), which mainly focuses on the long-term discounted cash flow method while also considering social fairness and affordability. To assist the suppliers, WASA was asked to develop tariff determination guidelines based on the principles stated in the tariff policy, with final tariff approval belonging to the Governor of the province. WASA was also entitled to assess the financial performance of the suppliers. Appendix 9 lists the various types of publications produced by WASA, which indicate the extent of its role.

Finally, the Water Supply Regulatory Committee (WSRC) was created to supervise the regulatory activities of WASA, a function that was previously performed by its Board. WSRC's seven members were appointed by the MPWT and met quarterly.

[9] The forms can be separated into technical specifications and service-description information (sources, treatment, coverage, customer types, volumes, water quality tests, complaints, expenses per month per category) and financial information, akin to income statements and a balance sheet.

WASA was now released from part of its policymaking responsibilities and investment channeling, which were transferred to WSD within DHUP. Relying on a stronger legal framework based on Decree 191PM and the Tariff Policy, WASA was then able to focus more thoroughly on its regulatory functions, in particular on the analysis of the NPSEs' performance during this period. Publication of the *Annual Urban WS Sector Performance Report* was an opportunity for WASA to assert its role as assessor and communicator of sector achievements.^[10]

Box 2 Operating losses of the public water suppliers

From 2002 to 2006, the NPSEs' financial statements showed that they generated total operating revenues of \$19.1 million from water tariffs and \$8.3 million from other user charges. However, these revenues have been insufficient to carry out adequate levels of O&M. The combined losses incurred by NPSEs in 2006 were more than \$3 million, greater than the government's health budget over the same period. All NPSEs lost money and relied on government financial support or simply allowed their finances to deteriorate. WASA kept on pushing tariff levels upward for the reason of better accounting and service management efficiency, as it claimed in its 2007 Tariff Determination Guidelines.

A last shift occurred in late 2008 with the reorganization of the MPWT and DHUP, with WASA becoming WASRO, and WSRC being placed directly under the supervision of MPWT instead of the DHUP. This created some distance between the design and creation of policies, now the responsibility of WSD within DHUP, and their regulation by WASRO. The list of WRSC members was also updated.

2.2. The progressive consideration of private sector participation

Private companies have been allowed to operate in Lao PDR only since 1995, and thus the private sector is quite "young". The Enterprise Law of 2005 made it much simpler to open a business,^[11] but according to the World Bank *Doing Business*

[10] Previous publication by WASA of the *Regulatory Accounting Guidelines and the Tariff Determination Methodology* in 2004 had already helped assist suppliers in improving their service levels. See Appendix 9 for a summary of WASA publications.

[11] The time required to start a business dropped from 195 to 100 days, which is still high compared with France (22 days) or Thailand (55 days) but comparable with Vietnam (116 days).

study, Lao PDR ranks 167th among the 183 analyzed countries in 2010, dropping two places since 2009 (this ranking should be considered with caution).

Although private participation in the water supply (WS) sector had been envisioned since the 1999 reform, no policy currently explains precisely how this should work. In Decree 37PM of 1999, private sector participation is not discussed until the very last articles; the other parts of the text refer only to NPSEs as the WS providers, and the word “supplier” is not even mentioned. Article 9 does give WASA, in collaboration with DHUP, the responsibility of establishing regulations for private sector participation in the development of WS and wastewater management.

This obligation led DHUP and WASA to take an interest in MIREP Cambodia and to try to adapt this program to Lao PDR. Private participation was mentioned in WASA’s 2002 annual report: “In the longer-term, we envisage a more competitive environment whereby companies may have to bid on a competitive basis for the right to operate water supply services”.

Later in 2004, WASA addressed the issue in its publication, *Tariff Determination Methodology*. This paper addressed the issue of regulation in small towns, which fall in a grey zone between rural community owned systems and larger municipal utilities. It was recognized that “standard regulatory mechanisms for tariff determination may not be appropriate in this context and alternative determination methods might be necessary”. Private sector involvement was anticipated since it was stated that: “Partnership with the private sector, envisaged as being essential in the small towns, will automatically acquire some regulatory aspects through the contracts entered into between the local authority and the appointed contractor”.

At that time, WASA confessed it did not have the resources to take on a regulatory remit beyond that of the NPSEs. Regulation would therefore be vested in local public entities as opposed to the national regulator. Nevertheless, WASA issued recommendations for tariff determination and affirmed its role as advisor and facilitator. In particular, WASA would provide support in the “identification of the most appropriate management model, the preparation of the bidding and contract documentation, the establishment of appropriate accounting procedures and assistance in the determination of tariffs and interim tariff reviews”.

In Decree 191PM of 2005, on the regulation of WS operations, the general term “suppliers” was used without specification as to whether these would be public or private. Even though this opened the way for private participation, the vagueness might have hindered private sector development. The lack of distinction between

public and private suppliers could create regulatory inconsistencies between the national law and local contracts, for example.

Apart from the Contract Law of 1990, which provides general conditions for all kinds of contracts, there is no reference in the laws to public-private partnerships for WS. To date, this gap in the national regulations has not prevented the development of local PPPs, but it is essential that future laws address this issue and distinguish between the regulation of NPSEs, as opposed to the regulation of local PPPs, in order to develop standard procedures, promote specific knowledge and better define the role of public authorities in local contract monitoring.

2.3 The new Water Supply Law and future prospects

2.3.1. *The new WS Law: a first encouraging step to be continued*^[12]

This law aims to consolidate all WS existing policies in order to provide a clearer picture of the sector. In theory, its scope is wide as it concerns both urban and rural water supply and sanitation; in practice, it deals with water supply “infrastructure” (as opposed to one-point “non-treated” systems, such as boreholes, wells, etc.). Though it is a current national priority to start sanitation planning in Lao PDR, sanitation is only partially mentioned, and this law is only a first step towards a sanitation policy.^[13] To a similar extent, rural WS is quoted but not really tackled.

The new law indicates clear improvement in how the private sector is considered: it defines the term “concessionaire”, enumerates different kinds of potential private participations (BOT, BOOT, BOO) and outlines the rights and obligations of concessionaires, as well as the maximum duration of concessions and causes for termination, which could provide a framework for PPP contracts. The law also recognizes the private property of investors and anticipates the “supervision of bidding, contracts for water supply and sanitation infrastructure construction/ installation, implementation of various contracts” (Article 65).

However, the distinction between NPSEs, the private operators under PPP contract, and other types of suppliers, such as local communities, is still not clearly defined.

[12] The only English version of this law available to date is an unofficial translation. The law should take effect around June 2010 (100 days after promulgation).

[13] For example, WS service providers are defined initially as operators of the water supply system, but later in the law they are also said to have the obligation to “construct and install sanitation infrastructure” (Article 44).

Although the purpose of regulation seems to be well understood (Articles 3, 37, and 38), with a special emphasis on the distinction between technical and economic regulations, the law does not discuss how regulation should be adapted to the different kinds of service providers.

Even if this law opens the door to participation by the private sector, most of its provisions are too general, and more detailed implementation decrees will be necessary. In particular, the role of each public entity has to be defined; for example, WASRO is almost never mentioned. The participation of other ministries must also be clarified since it is stated that “local authorities, public health sectors, water resources and environment sectors, have the right and duty to participate in water supply activities accordingly to their own roles” (Article 62), without referring to what those roles might be.

2.3.2. Future prospects and expected improvements

Prospects are good that these uncertainties will progressively be addressed in the future. The legal framework keeps evolving; for instance, WASRO is already drafting guidelines on monitoring and evaluation (including performance indicators), the licensing process, customer relations and minimum service level by the suppliers.

These drafts shed light on the new trend toward more extensive integration of private participation, and its distinction from NPSEs, at least in the minds of WASRO staff. The draft document on licensing states, for example, that: “In case operation of the urban water supply is leased or otherwise contracted out, the owner shall be fully responsible for compliance with the present regulation and all other regulation in force for urban water supplies. The operational contract shall in this case include a clear reference to this Article”. This is one of the first references in national policy to a local private contract. But it will take some time before these drafts and the implementation decrees for the new WS Law materialize.

This trend is also noticeable in the composition of the WSRC membership over the last 10 years (see Appendix 2). Technical representatives from WSD and the Science, Technology and Environmental Authority, for example, have tended to disappear, while private sector representatives from the Chamber of Commerce and the Business Promotion Office have appeared. Also, note that the issue of water quality seems to have gained importance, due to a representative from MOH.

Part Three

3. National Regulation of the Urban Water Supply

The previous section provided a chronological view of Laotian legislation on urban water supply (WS) and an overview of the place accorded to private sector participation.

This section aims to analyze how water sector regulation, as defined in Part 1 of this report, is structured based on the legal texts and activities of the sector stakeholders. Specific regulation developed during the MIREP Program will be discussed in the next section; this section deals with the national context and the NPSEs.

In the first part, an outline of Laotian WS regulation is presented. Each of the seven areas of WS regulation identified in Part 1 of this report is analyzed to see which stakeholders are involved and how. Also considered are the strategic choices made, as well as the priorities given to the different areas of regulation.

The second part focuses on the so-called regulator of the sector: WASRO (formerly WASA) and its Board, known as WSRC. This discussion shows that WASRO's scope of action and powers are somewhat wider than those of a regulator in the Anglo-Saxon model, because of WASRO's involvement in policymaking, but at the same time weaker when it comes to implementation.

Finally, the last part assesses the regulatory efficiency within the water supply sector in the last 10 years by looking at the evolution in the NPSEs' service performance.

3.1. Mapping the regulation of Laotian urban water supply

3.1.1. *Tariff setting*

Since Decree 191PM of 2005, water suppliers must submit a tariff structure for each period based on the Tariff Policy issued by the MPWT in 2004. It is then reviewed and commented on by WASRO and DPWT before being submitted for the provincial Governor's approval.

The Tariff Policy advocates a business plan based on the discounted cash flow for Long Run Average Costs (LRAC), including asset depreciation and anticipated efficiency improvements. A positive return on capital (ROC) is supported, but the tariff should not be above the users' willingness to pay, estimated at 3% to 5% of household income. WASRO is responsible for reviewing the validity of the business plans.

Based on the Tariff Policy and on the contents of its annual reports, WASRO also issues and updates Tariff Determination Guidelines for future periods. It strives to make detailed and practical recommendations to the suppliers.

The time lag between WASRO's recommendations and their implementation sometimes makes the recommendations obsolete because of inflation. This is all the more true for the NPSE Vientiane Capital, for which the Prime Minister must validate the Governor's approval meaning the whole process might take more than two years.

3.1.2. Fair competition

Competition is not a major concern at the national level since the NPSEs have protected monopoly status within their province. Nevertheless, the expression "comparative competition" is referred to in the WASRO annual reviews. These reports, available to the general public, are indeed a way to highlight the disparity in performance and thereby put some pressure on the NPSEs.

The idea of competition is still alive. For example, in the introduction to each annual review it is restated that WASRO must "encourage competition in the sector where appropriate".

3.1.3. Quality of service

In theory, suppliers must achieve the performance targets that are agreed upon with WASRO, which is supposed to issue guidelines for monitoring the level of service provided (water pressure, continuous supply, etc.). Guidelines for Minimum Service Level and Service Performance Targets are still to be published, however, as WASRO is currently working on drafts. Moreover, the information provided to WASRO for its annual review is very limited, meaning no real regulation can take place.

Water shortages, leaks and low pressure in some urban areas are caused by the disorderly expansion of the network due to nonexistent or improper urban planning.

So far, regulation of the quality of service has mostly been enforced by foreign donors, such as ADB, as a precondition for implementing projects in support of NPSEs.

3.1.4. Quality of drinking water

As the entity responsible for hygiene in both urban and rural zones, MOH is in charge of updating the corresponding water-quality laws and policies, which have been quite static.

WASRO is responsible for developing the monitoring guidelines and assessing the level of water quality. However, out in the field, NPSEs check only the pH, turbidity and residual chlorine. WASRO in its annual reviews keeps insisting on the necessity of bacteriological tests.

A Ministerial Decision on Urban Water Quality Regulations is currently being drafted, but as with the quality of service, water-quality standards have been enforced more by foreign donors so far than by national policies.

3.1.5. Environment

In the water supply sector, environmental issues concern mainly water-resource protection to ensure sustainable water management. Since 1999, WRCC (now WREA) is in charge of monitoring water and water-resource protection and must approve the water sources used by the suppliers.

Interestingly enough, the WS Tariff Policy advocates a “polluter pays” approach suggesting that water suppliers should be responsible for processing the wastewater. However, it does not support the concept of using tariffs as a mechanism to reduce consumption.

3.1.6. Customer representation and conflict resolution

Each NPSE must maintain a complaint register, which WASRO can inspect at any time. Suppliers must provide compensation to their customers for financial and other losses incurred as a result of the service. Finally, one of the members of WSRC is a customers’ representative, but this person is appointed by MPWT.

There is no specific focus on customer representation in the laws and decrees, even though the WS Tariff Policy “supports operators investing in the necessary public/customer relations activities to ensure that the users appreciate a clean

potable water supply service and that they respect the need for such a service to be paid for". Decree 191PM (2005) is not much more specific and neither is the new WS Law, even though it provides for a general dispute resolution procedure.

The process for resolving conflicts also remains vague. According to Decree 191PM: "Differences arising between the Supplier and its Customers shall be solved mutually on an amicable basis. If no agreement is reached, the differences may be referred to WASA. If they are still not able to be settled, legal process shall be considered".

WASRO is currently drafting customer relations guidelines, including the suggestion that a Community Liaison Officer (CLO) be appointed for each supplier and different consultation methods for resolving matters. This draft contains very detailed propositions and should result in great improvements when applied by the NPSEs.

3.1.7. *Social objectives*

The social objectives of the water supply (WS) sector consist in providing service to the population at an affordable price for all, and to some extent redistribution to the poorest. The GoL National Growth and Poverty Eradication Strategy (NGPES) sets an overall goal of 80% coverage for piped water supply in urban communities by 2020. However, no specific guidelines exist for implementation, given that the Sector Investment Plans remain at the macro level of operational detail (only 145 district capitals).

Concerning redistribution, the spirit of the State's vision shows up once again in the WS Tariff Policy, where it is stated that: "This Water Supply Tariff Policy takes the medium- to long-term position that wealth redistribution is a government function and not the responsibility of the water supply operators. However, in the short- to medium-term, these operators may have to shoulder some of this responsibility until alternative mechanisms are in place". Social fairness is thereby more or less delegated to the suppliers, the only precise guideline given being to set WS expenses at 3% of household income, on average, and 5% for the poorest among them.

Surprisingly enough, connection costs are not closely regulated, as opposed to tariffs. The WS Tariff Policy "supports a strategy of subsidized connection fees, especially for poor households, in exchange for higher consumption tariffs" and claims that "system expansion by a water supply operator offering the same level of service for all its customers should be financed through existing tariff structures and should not demand capital contributions from prospective customers". But in

practice, NPSEs can charge whatever price they want for new connections, and this is a major concern voiced by WASA in its 2007 Tariff Determination Guidelines, which deplored that “several NPSEs impose high margins on the connection charge as a source of profit, contrary to the Tariff Policy”.

Box 3 *The dilemma over a progressive block tariff system*

The dilemma of whether to implement a progressive block tariff system seems unresolved among Laotian authorities. Although the WS Tariff Policy states that WS operators may employ progressive block-tariff structures, the 2005-2007 Tariff Review of WASA did not support this. While acknowledging that these structures were widely utilized in Lao PDR, WASA recommended a phasing out.

Progressive block-tariff structures, which charge increasingly more for each additional level (“block”) of water consumption, are supposed to ensure social redistribution by charging wealthier households more, since they typically use more water and can afford to pay more for it. But the underlying flaws are that such structures dissuade operators from supplying poorer areas, which are less profitable because demand is low, and because shared facilities generally used by the poorest receive substantially less benefit per family than individually owned facilities. Implementing such sophisticated tariff structures also creates additional administrative costs.

WASRO also supports the phasing out of fixed minimum charges unless they are low enough.

3.1.8. *Conclusions about water supply regulation: priorities and disregards*

Regulatory priorities are not necessarily deliberate choices, since they are often dictated by the national context. This was the case in Lao PDR where the need to expand piped water supply coverage in major towns was urgent in 1999. Therefore, issues like service and drinking water quality,^[14] environment and customer relations were not top priorities at first.

[14] Note that a large percentage of the Laotian population drinks bottled water. This might explain why the potability of piped water has not been a priority, as it is either used for washing or boiled before being consumed.

Although the reforms were initially triggered by social concerns, the first issues that arose while working on achieving the NGPES were tariff determination and financial viability. In order to develop a sustainable system, NPSEs had to learn how to operate with fewer public and foreign subsidies. For this reason, WASA's first focus was tariff review and the first specific policy published was the WS Tariff Policy in 2004.

Most of the other aspects of regulation were included wherever possible in this tariff policy, which pointed out that: "This Water Supply Tariff Policy supports the concept that the determination of tariffs is not a simple financial analysis. It should take into account many factors of a non-financial nature to ensure that the concept of 'best value' is maintained".

Even though the new WS Law remains broad, the new drafts of WASRO concerning customer relations, minimum service targets and the licensing process will pave the way for a more comprehensive monitoring of regulation.

3.2. Focus on the main regulatory body: WASRO

3.2.1. A wide scope...

Obviously, regulation is not just what the regulator does. The seven areas of regulation identified previously in this report are rarely entirely regulated by a single entity. In Lao PDR, though, even if the policymaking powers belong to different ministries, the monitoring and supervision of most of these areas are mostly under WASRO's supervision as provided for in the legal texts.^[15] This is clearly the case for tariffs but also for other areas. For example, the performance targets set for suppliers consist in monitoring the quality of service, the quality of water and service coverage. Customer representation is also under WASRO's watch. The handling of these additional topics is nonetheless new for WASRO, and the related guidelines have not been published yet.

The role of WASA, and now WASRO, has evolved during the last 10 years. After being involved in policymaking, WASA progressively staked out its identity and independence as the sector regulator. In its 2008 annual report, WASRO noted: "We are not responsible for urban water supply sector policy, planning and development. The Water Supply Division of the Department of Housing and Urban Planning

[15] For that matter, regulation is often interchangeable with WASRO in the minds of many Lao WS stakeholders.

undertakes these activities. Similarly, we are not responsible for the day-to-day management of water suppliers”.^[16]

However, since the policies issued by the Ministry are vague, this leaves room for WASRO to bridge the gap by publishing guidelines and even preparing the drafts of ministry decisions. Because of this, WASRO is still deeply involved in policymaking.

The chart below presents an overview of the regulatory roles and responsibilities regarding tariffs, quality of service, quality of water, and customer relations, as distributed among various public entities. It shows that WASRO is involved in almost all aspects, notably in the creation of policy and the design of guidelines. Customer relations, for example, is an area not precisely covered in government decrees and laws, and WASRO will have to define most of the implementation in this realm.

3.2.2. *But limited enforcement powers*

If the involvement of WASRO in regulation is broad, its enforcement powers are very limited. Since the main targets of regulation are the publicly owned NPSEs, which are directly under the supervision of the provincial Governors, WASRO does not have much leverage with NPSE management. In fact, the main remits of WASRO are in policymaking, collection of data and benchmarking.

Nevertheless, even though WASRO has no sanctioning power, it surely has influence through its annual reviews, which publish technical and financial analysis, thereby adding some objectivity to the decision-making process. This check on political discretion is well documented by Foster (2005); see the diagram in Appendix 4.

Furthermore, in early 2010, WSRC and WASRO held a national workshop to explain the new regulatory framework; such communications outreach to all public authorities, especially at the provincial level, should reinforce the standing and legitimacy of WASRO in the future.

The question of manpower and the material resources of WASRO will also arise if the enhanced monitoring implicit in the future guidelines on service and water quality is confirmed. WASRO will have to deal with much more information than it has had to up until now.

Even though it is no longer part of DHUP due to the 2008 reform, WASRO is still financed by public subsidies and not by a fee levied on regulated entities. The

[16] This statement was not in WASRO's 2002 annual report.

Table 3 *Regulatory powers in the WS sector*

Regulatory aspects	Tariff setting	Quality of service	Quality of water	Customer relations
Monitoring and evaluation				
<i>Collection of data and information</i>	WASRO (receives reporting from NPSEs, but no audit is done).	WASRO (receives reporting from NPSEs, but no audit is done).	WASRO (receives reporting from NPSEs, but no audit is done).	NPSEs maintain a complaints register.
<i>Monitoring the implementation of policies</i>	WASRO (checks compliance with Tariff Policy through its annual reviews). Provincial Governor has final authority.	WASRO (through annual reviews). No detailed targets to apply yet.	WASRO (through annual reviews). Only pH, turbidity and chlorine are tested, no bacterial testing so far.	WASRO consults the complaints register.
Making rules				
<i>Developing new policies</i>	MPWT updates the WS Tariff Policy. WASRO issues recommendations in its guidelines.	WSD (DHUP) WASRO is drafting policies to define performance targets.	MOH WASRO is drafting a ministerial decision on Water Quality Regulations.	PM 191 is very vague. WASRO is drafting guidelines for customer relations.
Conflict resolution				
<i>Sanctions and conflicts settlement</i>	Enforcement notice from WASRO . Sanctions if notices are ignored. Provincial Governor has authority.	Enforcement notice from WASRO . Sanctions if not addressed (but based on limited information).	MOH should be involved.	Dispute between supplier and customers: amicable resolution efforts, then to WASRO , then to provincial court .

Source: Author.

chairmanship and a great many of the members of WSRC, in charge of validating WASRO proposals and decisions, are directly linked with MPWT meaning WASRO is strongly under the influence of that Ministry. This could present a problem as mentioned by ADB in 2008: “At present, WASA reports to MPWT, the same entity which supervises (through its provincial line agencies) the NPSEs which are among the water service providers regulated by WASA, posing genuine concerns of conflict of interest”, although in theory both entities should converge to better monitor NPSEs’ performance.

3.3. Efficiency of WS regulation: evolution of NPSE performance

As regards finance,^[17] NPSEs have been improving their performance thanks to the tariff increase advocated by WASRO. Except for Vientiane Capital City, most of the NPSEs have applied WASRO recommendations from previous annual reports, and they have started to cover their costs, including depreciation; some have even started to produce a positive ROC. But this improvement has been mitigated by a loss in cost efficiency due to increasing staff levels.

The remaining issues are related to accounting procedures since most NPSEs follow the required national rules, which are weak compared to international standards.

However, as regards technical aspects, WASRO keeps deploring its powerlessness. The new guidelines addressing performance targets might help WASRO gain influence in the future.

Above all, WASRO is concerned about the reliability of the data submitted by the NPSEs in the absence of field audit procedures. Such audits are prescribed by the Enterprise Law of 2005 (Article 153), but WASRO simply has no manpower to conduct the audits.

In 2008, an audit of nine NPSEs was made possible by a program funded by NORAD. These type of audits should be more numerous in the future.

WASRO is confident that the ongoing corporatization of the NPSEs under the NCRWSSP project of ADB^[18] will help create incentives for NPSE managers, who could potentially share in the benefits resulting from efficiency improvements.

[17] Data and comments in this part mainly come from the latest WASRO annual report.

[18] See Binch (2007).

Part Four

4. Regulation under the MIREP Program

DHUP and WASA, in collaboration with GRET, launched the MIREP Program in 2004 to pioneer the participation of the local private sector in the development of water supply services. From 2004 to 2006, a first pilot phase supported the creation of two piped networks in Vientiane Province. The current phase, planned to run until the end of 2010 (MIREP II), targets eight small towns with 2,000 to 5,000 inhabitants each, for a total population of 18,000 to 23,000. Small towns are undergoing rapid socioeconomic change, leading to greater concern about the provision of basic services.

Following the impetus of Decree 91PM, MIREP was the very first program in Lao PDR to deeply involve the local private sector in service management and capital investment, using a PPP approach. As of June 2010, five systems are in operation (and the three remaining are to become operational before the end of 2010):^[19]

- In Vientiane Province: Tha Heua, Meuang Feuang (I and II) and Hin Heup;
- In Bolikhamxay Province: Houay Khoun.

The MIREP Program received financial support from donor organizations, such as SEDIF (Syndicat des Eaux d'Ile de France), the French Ministry of Foreign and European Affairs, the Municipality of Paris and UN-Habitat.

As has been shown in previous sections of this report, private sector participation has been encouraged since 1999, but methods for regulating such new operators were not specifically stated in the laws, leaving the door open to innovative approaches. Within this context, MIREP implemented a regulation by contract model, tending toward a hybrid approach with the increasing participation of WASRO. This section provides a description and analysis of how regulation has been developed through the MIREP Program's PPP schemes (see Appendix 3 for a diagram of the MIREP stakeholders and Appendix 7 for a summary of its implementation process).

[19] See Appendix 6 for a brief overview of MIREP Lao PDR.

For the purpose of this study, the MIREP implementation process is divided into two phases:

- Before the signing of the contract, consultations and arbitrations have to be done specifically regarding social objectives, environmental issues, competition and tariffs. Once the negotiations lead to an agreement between the contracting parties, this first step of regulation results in a written contract;
- After it is signed, the contract must be monitored, the performance must be followed-up and any conflicts settled. The main focus of regulation then becomes service and water quality, as well as customer relations.

Table 4 *Main phases of MIREP implementation*

NATIONAL LEGISLATION			
	Before signing the contract →	Signing →	LOCAL CONTRACT
REGULATION	1. Feasibility study	Materialization of the first step of regulation	• Contract monitoring
	2. Service provider selection		• Follow-up of the performance
	3. Contract negotiation		• Conflict resolution

Source: Author.

4.1. First phase of regulation: before signing of the contract

Project design is not part of regulation, but the choice was made here to include the pre-contractual phase within the scope of regulation, because during this phase much consultation is done that defines future services: national authorities cooperate in choosing the site; villagers are consulted during surveys; DPWT and WSD give technical advice, etc. Besides the final result, which is the written contract, much arbitration is done throughout this phase, including tariff setting. The bidding process is of course part of competition regulation.

4.1.1. General description

Feasibility study

MIREP sub-projects start with a feasibility study. The first step consists in selecting the target provinces and sites. Even if DHUP is responsible for the selection, GRET

and WASRO are also deeply involved in the process by conducting field studies, during which they meet provincial authorities and collect information.

Once the target provinces are selected, a list of potential target sites is drafted by DPWT based on the selection criteria prepared by WSD, WASRO and GRET. A delegation composed of DPWT, WSD, WASRO and GRET visits the sites and meets with the district authorities and heads of village to assess the socioeconomic situation at each site. Finally, the Governor's Cabinet Office (GCO) discloses the selected sites in official letters, to which district authorities respond to express their interest.

Once the site is selected, the District Management Committee (DMC) is formed. This committee, composed of district representatives and the heads of villages, plays a major role in the subsequent stages of the project. DMC is then responsible for three surveys: socioeconomic, technical and financial. These surveys enable the gathering of information necessary for the bid.

Table 5 *Chronology of feasibility study: four different stages*

	(1) Identification of the sites →	(2) Socioeconomic survey →	(3) Technical survey →	(4) Financial survey →
Purpose	Select province / sites	Assess demand and capacity to pay	Assess cost of the technical options	Assess business plan, subsidy, tariff
Entities Responsible	DHUP / GCO	District Management Committee	District Management Committee	District Management Committee
Entities Participating	WASRO, WSD, DPWT / district	DPWT, heads of village, WASRO	WSD, DPWT	WASRO
Assistance, Tools and Methodology	GRET			

Source: Author.

Even though it is involved in most of these stages, WASRO is mostly active during the financial survey, during which it is supposed to determine the tariff according to WS Tariff Policy.

Note that the District Management Committee’s role might seem a little exaggerated, but in practice it is supervised either by GRET, DPWT or WASRO at each stage.

Selection of the service provider

Once the feasibility study is finished, the Bidding Management Committee (BMC) is set up and composed of representatives from: GCO, WASRO, WSD, DPWT, DPI, the District Management Committee and GRET.

WASRO, with assistance from GRET, DPWT and DPI, prepares the tender documents and defines procedures for short-listing the candidates and scoring their proposal.

Advertisements are placed in the newspapers and investors are invited to express their interest. The following table summarizes the selection criteria:

Table 6 *The bidding process*

	Short-listing →	Selection	
		Technical →	Financial →
Information gathered	Capital, assets, experience, investment capacity, motivation.	Management skills, understanding of PPPs, detailed experience, BOQ and investment.	Level of subsidy asked, business plan (expenses, incomes, cash flow).
Criterion	BMC’s discretion	Pass requires a 70% score	Lowest subsidy

Source: Author.

On the bid-opening day, the contestants are first judged on the technical criteria. For those who make it through the technical requirements, subsidy level becomes the deciding factor.

Note that during this selection phase, workshops and orientation meetings are organized by the BMC to advise the investors and answer their questions.

Project's detailed design and signing of the PPP contract

Once the concessionaire is awarded the contract and has confirmed its acceptance after discussing its concerns and conditions with WASRO, DPWT and GRET, under the approval of the provincial Governor, it must produce (itself or an engineering company it has contracted) the detailed construction drawings and the final BOQ. Temporary versions of these documents are reviewed by these public authorities: DMC, DPWT, WSD and GRET.

At the same time, GRET works with DMC, DPWT and the heads of the villages to create an initial list of the poorest households.^[20]

Before negotiating the final version of the contract, WASRO, with assistance from GRET, conducts a training session for the DMC, heads of villages and members of the Province (DPWT and Cabinet Office) to provide them with background information on PPP contracts.

Finally, the last phase consists of negotiations between the DMC and DPWT on the one hand, and the service provider on the other, which formulates its final requests based on the bid and the detailed design.

In the meantime, the subsidy contract is prepared by DPWT and GRET, in which the output-based aid (OBA) conditions are stipulated.

Both contracts are signed the same day: the concession contract is signed between the supplier and the District, which owns the piped water system. It is witnessed and validated by WASRO, DHUP and the concerned DPWT and heads of village, before being finally certified by the provincial Governor.

The subsidy contract is signed between DPWT, GRET and the WS supplier.

4.1.2. Regulation priorities during this phase

The major regulatory aspects assessed during this pre-contract phase are tariffs, competition and social objectives.

- Tariff determination takes into account all the results of the surveys. Once the other exogenous parameters are determined (socioeconomic results are more or less stable for typical 4,000 inhabitant small towns), a technical

[20] For a more detailed description of the pro-poor policy, see the MIREP pro-poor policy mid-term review (January 2009).

solution is chosen, investment and O&M costs are assessed, and the maximum subsidy is fixed, the tariff becomes the cornerstone of overall financial viability (the tariff is set to achieve an Internal Rate of Return ranging from 10% to 15%), as well as social affordability. WASRO is supposed to issue recommendations based on the concepts outlined in the national WS Tariff Policy. The concessionaire might ask for modifications during the last round of negotiations.

It would still be too early to determine if the tariff level set in the contract is appropriate. Several years of operations will reveal its financial viability;

- Competition is a central concern during service provider selection. The latest project sites have attracted between three to five different investors, and thus created a more sound competitive environment. This was not the case for the first bidding processes, but this was to be expected during the introduction of the first PPP schemes; time and communication efforts by public authorities have enabled an outreach to more potential private investors.

The rules of the bidding process are clearly defined and equivalent to developed country standards;

- Social objectives are to guide the choice of the project sites. The government targets specific provinces based on statistics, historical and contextual factors. Density of population, economic development and attractiveness to private investors then determine the choice of specific sites.

Service affordability is assessed through the feasibility study, and the pro-poor policy performed by GRET contributes to social redistribution by subsidizing water connections for the poorest households. Low-cost technical solutions also enable reductions in connection costs;

- Even though the surveys aim more at assessing the global needs and demand rather than responding to personal concerns, the villagers are informed of the results of the feasibility study *via* representatives and the heads of villages. Village meetings and mediation by village leaders help them feel integrated into the project;
- Quality of service and quality of water standards are set by MIREP during the feasibility study and are not negotiable, thus not much time is spent on them;
- Environmental issues were not priority topics initially, but in 2009 for the first time an environmental impact assessment was included in the feasibility

study for Nong-O. The recent creation of WREA offices at the district level contributes to better addressing environmental concerns.

Conclusion of the pre-signing phase:

Like the national reform of 1999, the MIREP Program was instigated by social concerns: quickly increasing access to piped drinking water in small towns, which had

Table 7 Regulation in force before signing of the contract

Regulation aspect	Main stakeholders	Regulation implementation
Tariff	WASRO, GRET, suppliers	<ol style="list-style-type: none"> Contextual factors are assessed in the feasibility study and detailed design. Draft of business plan is prepared by WASRO and GRET, modified after the detailed design. Tariff is suggested by WASRO based on WS Tariff Policy.
Fair competition	Bidding Management Committee	<ol style="list-style-type: none"> Advertising of the invitation to tender. Orientation meetings to give the maximum opportunities to all contestants. Scoring rules for the proposals.
Quality of service	WSD, WASRO	<ol style="list-style-type: none"> MIREP standards in the feasibility study. National standards in the draft of the contract.
Quality of drinking water	MOH	National standards in the draft of the contract no specific focus (minimum: pH, turbidity, chlorine).
Environment	WREA, DPWT, WSD	<ul style="list-style-type: none"> WREA can be consulted by GRET about water sources' global management (in Namone). But generally no specific focus.
Customer representation and conflict resolution	Heads of villages, GRET	<ul style="list-style-type: none"> Heads of villages represent the villagers in the process. 15% consulted for the socioeconomic survey, prepared by village meetings. Results of feasibility study communicated to villagers' representatives.
Social objectives	DHUP, WASRO, GRET, DPWT	<ul style="list-style-type: none"> National strategy applied by DHUP for choosing the target provinces and districts, and MIREP guidelines by DPWT for choosing the target sites. Pro-poor policy of MIREP.

Source: Author.

been left behind in the national planning so far. It is important to stress here that despite the small size of the target towns, the quality of service and quality of water standards meet the national standards, except for pressure level, which in theory has a minimum of 5 meters, as opposed to 10 meters for the NPSEs.

Tariff levels are comparable to those of the NPSEs, which is also a great achievement, considering the smaller scale of the networks, and the lower level of ability/willingness to pay in the small towns.

Environmental impacts are few because of the small size of the sites; but it is still important to continue including them in future studies. Ongoing work at the national level by WREA should soon materialize in a more precise policy.

4.2. Second phase of regulation: implementation of the contract

4.2.1. General description

While a chronological approach suited the description of the pre-contract phase, this part relies more on a thematic approach, since all post-signing activities are ongoing during contract implementation.^[21]

Concessions implemented during the MIREP Lao PDR Program are 25-year BOT (Build, Operate and Transfer) contracts. After the signing, regulation consists in ensuring that the contract provisions are adhered to by the parties, but also making use of contract incompleteness to arbitrate and create some flexibility.

Monitoring the contract

Monitoring is defined in the contract itself (part VII). As owner of the facilities and signatory of the contract, the District is in theory the main stakeholder in contract monitoring, but it is not alone in this task. According to MIREP procedures, DPWT, WASRO and GRET should provide assistance to the District Management Committee during the first years of water service. In addition to duties shown in the chart below, national sector stakeholders “shall be involved according to their mandates as defined in Lao Laws and Regulations”, although these mandates barely address PPP contracts, as was shown in Part 2 of this report.

[21] Except for construction, but there is not much regulation at this stage. Key decisions have already been made during the feasibility survey and creation of the detailed design.

WASRO is more specifically involved since it: takes part in tariff reviews; supports the concessionaire in preparing new business plans; has unmitigated access to the infrastructure; issues enforcement notices to the concessionaire; validates the depreciation plan for remaining assets in case of termination or default; and finally validates any modification of the contract.

The District also ensures that the contractual obligations of the supplier and the users are fulfilled, and it has access to all documents from the concessionaire pertaining to the management of the WS service. Contract review meetings are to be organized every six months between the DMC and the concessionaire, which is to provide a summary of its activities and discussions about users' complaints with

Table 8 *Roles and stakeholders of contract monitoring*

Regulation aspect	Main stakeholders	Monitoring
Tariff	DMC, WASRO, DPWT	<ul style="list-style-type: none"> • Automatic yearly revision based on inflation. • Concerted revision based on cost of energy and other components, or in case of unplanned construction of facilities.
Fair competition	District	<ul style="list-style-type: none"> • Ensures exclusivity of service and use of water sources by the concessionaire.
Quality of service	District	<ul style="list-style-type: none"> • Ensures that supplier provides water pressure at national standards and continuous supply.
Quality of drinking water	District	<ul style="list-style-type: none"> • Ensures compliance with national standards, posts the results in a public place. • Decides about quarterly bacteriological water analysis.
Environment	District	<ul style="list-style-type: none"> • Approves access to additional water sources. • Ensures that existing sources are protected from pollution.
Customer representation and conflict resolution	Heads of villages, district	<ul style="list-style-type: none"> • Heads of villages facilitate communication between the District and villagers, record and report complaints, represent interests of users in the DMC. • District seeks reconciliation of conflicts between concessionaire and users.
Social objectives	District	<ul style="list-style-type: none"> • Approves requests to expand service areas.

Source: Author.

the heads of villages. In practice, the biannual frequency has been difficult to enforce, and these meetings have occurred once a year.

Besides the contract review meetings, informal local consultations might occur between the operator and heads of villages (regarding user complaints) or between the concessionaires and the District authorities (regarding taxes, for example) to resolve conflicts, thus expanding the formal consultation process.

Assistance and training

Although its name does not appear in the concession contract, GRET nonetheless plays an essential role after the start of operations notably by providing training sessions.

Training is not formally part of regulation, as defined in Part 1 of this report. However, the MIREP Program operates at such a local level that the main stakeholders (local authorities, the concessionaire, and the villagers) usually do not have the necessary expertise and background to properly manage the contract. Because of this, training is useful in enhancing service performance and preventing conflicts. Thus, training has common objectives with regulation, even though in theory training falls more under internal business management and should therefore be financed by the stakeholders themselves (see the comparison with TFME in Section 5 of this report).

The training sessions performed by GRET are varied (see table below). Informing the villagers about their rights and obligations enables them to better express their concerns and opinions, thus contributing to the customer relations aspect of regulation. Re-enforcing the villagers' counter-weight in the power balance is indeed a regulatory task.

Training the concessionaires and operators^[22] about water connection contracts, billing systems, accounting and other tasks not only improves their efficiency but also enhances the accuracy of the reporting, thus contributing to more reliable information on which to base regulatory decisions.

Finally, training of the District staff is vital. As project manager and contract signatory, the District must have a strong understanding about how to monitor the

[22] It is important to distinguish between the concessionaires and the operators. The concessionaires, important and busy businessmen usually based in Vientiane, delegate the daily management to an on-site operator. Operators usually know little about the overall financial issues of the project while the concessionaires are not aware of all the details of operation.

contract. Its proficiency is one of the major prerequisites ensuring the viability of the MIREP Program, as discussed in the second part.

GRET also provides assistance to the operator in regard to social marketing, hence contributing to the social objectives of regulation, and also helps DMC in monitoring the contract.

Table 9 *Training sessions organized by GRET*

Topic	Organization	Trainers	Beneficiaries
Construction process	GRET	GRET, WSD, DPWT	DMC, concessionaire
Roles during construction		GRET, WSD, DPWT	DMC, concessionaire and operator
What is a piped water system?		GRET, DMC, DPWT	Villagers
Why connecting?		GRET, DMC, DPWT	Villagers
Rights & obligations of users		GRET	Villagers, DMC, concessionaire and operator
O&M		GRET	Concessionaire + Operator
Service management		GRET	Concessionaire + Operator

Source: Author.

Follow-up: the Monitoring & Evaluation database (or “Observatory”)

A specific monitoring and evaluation (M&E) tool, the M&E database, was developed for follow-up on MIREP projects. This tool originally had three main objectives:

- To help the MIREP team track the progress of program implementation;
- To provide regular information about the ongoing activities of the operators (this second purpose is the one important for regulation);
- To take stock of the knowledge available for similar projects in the future.

As discussed in Part 1 of this report, the regular gathering of accurate information on sector performance is a major regulatory concern, enabling a fair arbitration. As

regards MIREP, the M&E database can assist in assessing and comparing service performance at the various MIREP sites, and also on a larger scale relative to other national WS systems (although comparing different models is always a difficult task, as discussed in part 3 of this section).

It is stipulated in the contract that: “The concessionaire shall provide to the District all documents related to the management of the water supply service”. The M&E database is a way to formalize this collection of information on a regular basis.

M&E basically requires three different kinds of data:

- Organizational data concern MIREP project implementation and are intended for MIREP decision-makers only;
- Socioeconomic data are quite static. They are compiled from initial socioeconomic surveys and later by “zoom surveys”;
- Technical and financial data should be provided monthly for each of the operating sites. They also contain relatively static information, such as the amount of investment, even though this can change due to the addition of new facilities.

Operators provide monthly data, such as: service coverage, new connections, income, expenses, a detailed list of the maintenance operations and a list of complaints from the users. A MIREP employee regularly enters this detailed information into the M&E database, which is then used to compute totals and key performance indicators (see Appendix 8 for an example of graphs based on M&E data).

In 2010, a new stage of collaboration started between MIREP and WASRO in order to reconcile data collection from the NPSEs and from the MIREP private operators. The M&E database software is currently being transferred to WASRO so that its staff can fully undertake the task of data collection and benchmarking focused on private operators. However, the question of whether this tool can be adapted to regulatory functions, or whether WASRO will fully adopt it, remains to be answered. Regardless, WASRO will probably not have time to process such detailed data, and private operators will therefore have to provide summarized statements.

WASRO’s 2009 annual performance report is supposed to include PPPs for the first time. It will be interesting to see how WASRO processes the new data, and what analysis it presents based on these data.

4.2.2. *Contract regulation: theory and practice*

Behavior of the stakeholders: findings of the zoom surveys

If the concept of regulation is new in Lao PDR, so are PPP schemes. At the national level, institutions like WASRO, DHUP and WSD have been involved with PPPs since the beginning of the MIREP Program in 2004, and have thus developed a strong understanding of PPPs, and to a lesser extent, so have the authorities of the two provinces concerned, as well as the concessionaires. At the local level, however, the District authorities, villagers, operators, and the heads of villages have had less time to assimilate the PPP mechanisms.

The second phase of the zoom surveys performed in late 2008^[23] provided some interesting clues about the ongoing monitoring of operations under the existing contracts. For that purpose, the main stakeholders of the first two MIREP sites were interviewed, and it was revealed that the roles played by the different actors do not exactly correspond with the terms of the contract.

One major conclusion is that the District does not carry out all its responsibilities for monitoring. Although it participates in all the meetings and has developed a strong sense of ownership of the project,^[24] it seems that the District is not as involved as it should be.^[25] From the surveys, it appears as if the District considers itself as a consultant and remains unaware that it has the authority to force the concessionaire to act. This could partially be explained by lack of staff and expertise, but probably also by the District staff not fully understanding their role. The high turnover among the District staff is a major concern; people in charge often change positions but are provided with little transitional training.

Another finding of the survey was the ambiguous role of GRET. Most of the local stakeholders consider GRET not only an assistant but also as a decision-maker and conflict-solver. Even though GRET's authority is not stated in the contract, it naturally flows from its expertise and from the subsidies provided. In fact, GRET

[23] Socio-anthropological follow-up to the MIREP water supply service (2008), *Zooming on local stakeholders of a piped water supply service*, GRET study report.

[24] The Districts do take some initiative. For example in 2009, in Nong-O, the District required an environmental impact assessment as part of the feasibility study.

[25] For example, at one of the sites, it did not play a mediation role between villagers and the operator during conflicts caused by water cuts during the dry season.

faces a dilemma caused by two conflicting objectives: (1) implementing the project as it was planned (especially regarding quality standards); or (2) letting the stakeholders figure out how to implement the contract “in their own words”.

Finally, these zoom surveys emphasized the importance of the private relationships among the various stakeholders in the field. These relationships differ depending on the site, meaning no general rule can be ascertained except that relationships have to be fully taken into account before a monitoring system is created for the contract and before the concessionaire is selected. For example, one of the concessionaires is especially charismatic and popular among the heads of villages. This may have caused him to be less careful in regard to his contractual obligations, and the heads of villages to not fully act on their role as representatives when conflicts arose with the villagers.

Contract enforcement

Although most of the following requirements apply to both parties to the contract, the three of them are hardly ever put into effect:

- The quarterly water analysis: analysis of pH levels and residual chlorine are done on a daily basis by the operator; but more thorough analyses (bacterial, etc.) have not yet been conducted. The implicit costs of additional testing dissuade the operator, and the District, which is concerned about its financial performance, and does not want to take on these costs either. Pressure from GRET has had no concrete results so far;
- For the same reason, concession fees have not yet been collected by the provinces. The underlying idea is to allow some time for the concessionaires to recover the high expenses incurred during the first years. This approach is also supported in the MIREP’s financial review;^[26]
- Systematic tariff reviews have not been kept up to date mainly because of the low inflation rate. At first, the concessionaires did not want to give the users a bad signal by increasing tariffs too quickly, which is an interesting indication of the role played by user pressure in regulation. Note that this pressure from the users is real and surfaces regularly. For example, in Hin Heup, villagers complained that part of the town was not covered, forcing the concessionaire

[26] Schoen, R., (2009), “MIREP Financing Policy - Mid-term review of the financing policy adopted for the PPP projects of MIREP Program in Lao PDR”, *GRET Policy Review*, Vientiane.

to consider investing in new facilities (see the next Box about the contract review meeting in Hin Heup). This social pressure was also mentioned by the concessionaires (during the consultation workshop on PPP regulation in WS held in Vientiane, June 2010) as another difficulty in their everyday business.

But notably because the price of energy has significantly increased, concessionaires are now starting to ask for tariff revisions.^[27]

Although the contract sets a level of service that is up to national standards, it is not too demanding in terms of performance targets and does not include any financial penalties. According to the existing literature, this relative modesty is wise in countries where the legal framework surrounding the contract is weak. Various World Bank papers (such as Kariuki, Requena, and Triche, 2006) have noted that many contracts failed because they were too ambitious. This is all the more true in Lao PDR, where there is not much of a written tradition. In practice, MIREP operators and local public authorities rarely refer to the contract, except for a few major provisions.

Technical and financial follow-up: reliability of the data

Since the beginning of operations, the data collection at MIREP sites has not always been accurate. The quality depends partly on the site and in general reveals a non-optimal organization in the field. Efforts have to be made to simplify the data collection process for the operator, in order to save time and to avoid preventable mistakes.

At their own request, operators have been provided with IT billing, a simplified accounting software for issuing invoices and recording payments and expenses. In exchange for training on how to use this tool, GRET asked the operators to send back copies of the data. The use of IT billing limits hardcopy mistakes and provides totals automatically, thus freeing up time for analysis.

[27] Note that systematic revisions do not take into account specific variations, like the cost of energy and chlorine, but only the general inflation index.

Box 4 *Contract Review Meeting in Hin Heup, May 2010*

This was the first contract review meeting after the beginning of operations, following less formal meetings between the concessionaire and the District. Each of the main stakeholders spoke, thereby interestingly exposing their concerns and level of involvement in the contract.

The concessionaire started by summarizing its operations in terms of the number of connections, water sales, management and human resources, financial statements, sources of satisfaction and concern. He insisted on specifics about the taxes (he wanted to know if the turnover tax would be 5% or 10%) and voiced his concern about the lack of water resources during the dry season. For that purpose, and to extend the service to un-serviced areas, he requested authorization to build new facilities (borehole, tank and main pipes).

The heads of villages declared their global satisfaction with the service except for the slight water shortages during the dry season. They also asked for an extension of the service to remote areas.

The director of WASRO reminded everyone at the meaning of the word “regulation” (close to the word “balance” in Lao) and WASRO’s involvement since the beginning of the project. He expressed his intent to include MIREP follow-up in the WASRO annual report and to be able to follow up more closely all WS projects within two to three years. He also explained the government’s plan to better manage water resources in the future through the work of WREA.

The deputy director of the DPWT of the Vientiane Province warned that GRET would not be there forever, and that the District should handle contract monitoring on its own. He also requested that the concessionaire conduct bacterial testing of the water.

The Vice Governor of the District apologized because the person responsible for monitoring MIREP was new to the job, meaning no one had a great understanding of the contract, and that he had not read the contract himself. Three other District representatives were present: one for PWT, one from the WREA office, and the head of the cabinet.

...

...

The GRET deputy manager stated that PPPs were not only the business of the concessionaire but also of each public stakeholder, which should take part according to the contract that is available to all and should be referred to more often. He added that the concession will last 25 years, that GRET will not always be there to plan the follow-up, and that such contract review meetings should be held twice a year. Concerning the new borehole and extension into new areas, GRET warned about the necessity of an appropriate survey and design, and about the future impact that the additional investment may have on the tariff.

Finally, the District agreed to set the turnover tax at 5% based on the recommendation of the province and WASRO; the concessionaire agreed to perform bacteriological testing; and GRET offered technical assistance for the study of new infrastructure.

4.3. Quantitative analysis based on Monitoring & Evaluation (M&E): performance indicators

4.3.1. Comparing NPSE with MIREP

Comparing the performance of MIREP's small, private operators with the NPSEs (national, publicly owned suppliers) is a difficult exercise. The contexts are very different, especially in terms of service area size, implying different economies of scale, different management models, etc. Keeping these differences in mind, it might still be informative to take a look at the numbers in order to better place MIREP performance within the national context.

The table below compares the NPSEs' 2008 performance, reported in the WASRO annual report, with that of the three MIREP projects operating in 2009, based on their M&E data:

The three operating MIREP sites in 2009 were: Tha Heua opened in April 2006; Meuang Feuang opened in June 2008; and Hin Heup opened in December 2008. The relative "youth" of the sites has consequences particularly for coverage (still expanding) and thus costs (the wider the coverage, the lower the cost per 1 m³) and ROC (it should improve as unit costs decrease in the future). NPSEs, on the other hand, have already experienced several years of service and are operating on a more stable basis in most of their service areas. However, with the help of the ADB's

Table 10 Comparison of technical and financial indicators of NPSE and MIREP sites

		NPSEs (2008)	MIREP sites (2009)		
			Tha Heua	Meuang Feuang	Hin Heup
Coverage (%)	Range	45 to 90	76	46	67
	Average	67	63		
Sales (Liters/day/household)	R	150 to 1,400	435	337	309
	A	620	360		
NRW (L/day/HH)	R	50 to 600	37%	0%	10%
	A	233 (27%)	15%		
Staff /1000 connections	R	8 to 29	4,7	7,8	6
	A	10,8	6,2		
Average implied tariff (Kip/m ³)	R	1,300 to 3,720	2,988	2,497	3,877
	A	2,350	3,121		
O&M costs excl. energy (Kip/m ³)	R	400 to 2,000	494	1,9	829
	A	1,065	1,074		
O&M costs (Kip/m ³)	R	700 to 2,700	573	2,161	1,036
	A	1,585	1,257		
ROC (%)	R	- 4 to + 2	0.2	-0.3	0
	A	-14	-0.04		
Account R (days)	R	20 to 250			
	A	113			

Source: Author.

NCRWSSP Program, many new NPSE sites have opened and are still expanding as well.

If WASRO continues to question the reliability of the NPSE data (especially about the inclusion of non-core activities in the accounting, such as bottled water figures), the M&E data are to be considered with caution as well, especially in regard to NRW,

costs and ROC (in green in the Table). However, the coverage, sales, staff and tariff figures are more reliable since they are easier to assess.

- Coverage: MIREP sites have impressive coverage rates especially in Tha Heua and Hin Heup. But coverage cannot be directly compared as this mainly depends on the initial definition of the service area. NPSEs' expansion into new areas causes their total coverage to decrease even though their absolute number of connections increases, as opposed to MIREP sites where the area is fixed from the beginning. It could be more relevant to compare the ongoing expansion of coverage within fixed service areas;
- Sales: villagers at the MIREP sites consume less water than do the bigger towns serviced by the NPSEs. Several factors could be at play: the system is new and it takes time for people to change their behavior; households at the MIREP sites have lower incomes, on average, and the pro-poor policy connects the poorest households, which use small amounts of water; the tariffs differ, and so does the way of life between small rural towns and more developed towns; and people in small towns have easier access to other water resources like domestic wells;
- Staff: private operators have fewer staff than NPSEs. This is all the more significant since economies of scale from broad network coverage should favor the NPSEs. Considering that the levels of service are comparable (from the little information available on both sides), this highlights the higher efficiency level of private operators compared with publicly owned NPSEs, whose staffing is politically managed;
- Tariff: average implied tariffs at the MIREP sites are reasonable compared with those of the NPSEs. MIREP tariffs are set based on full cost recovery, including depreciation and a positive ROC in the long run (around 10%), but 30% of the investment is subsidized. Most of the NPSEs, on the other hand, still do not cover all their costs despite the recent tariff increase pushed through by WASRO.

Tariff analysis is relevant only when intertwined with ROC analysis. Unfortunately, ROC measures are not reliable yet for the MIREP sites because the costs have not yet been fully assessed. The same comparison in a few years should reveal the relative efficiency of MIREP *versus* the NPSEs;

- Costs: In this early stage of MIREP, expense figures are less reliable. In Tha Heua, for instance, a cost of 573 Kip/m³ is hardly credible, although this site

has good reason to post lower expenses per m³ than the others: the initial investment was lower and thus depreciation costs as well; the coverage rate is higher (and thus the volumes sold are larger) and water treatment is cheaper (natural spring). One main reason for this discrepancy is the undeclared transactions between the concessionaires and the operator. These are not accounted for and thus distort the results.

It seems as if MIREP costs are comparable with those of the NPSEs on average. While this appears to be an impressive achievement, considering MIREP's smaller economies of scale, a comprehensive analysis would require a more thorough comparison of the technical choices made by MIREP *versus* those made by the NPSEs. These choices affect maintenance costs and network lifespan, and therefore have consequences for business management. Only a detailed analysis of materials, designs, etc. would allow for a meaningful comparison.

4.3.2. Comparing MIREP actual performance with the initial business plan

As in the previous comparison with the NPSEs, the comparison figures here are to be considered with caution. The most reliable are coverage, water consumption, and turnover. These show that the sites have had different results in regard to their connection targets, depending mainly on the commercial and social marketing skills of the concessionaires. Turnover is close to that anticipated in the business plans; the discrepancies can be attributed to whether the coverage rate targets were achieved or not.

Regarding the other fields of information, formulating an analysis at this point might be premature since the business plans did not delineate a specific phase for the starting of the service, during which connections would increase quickly and at an uneven rate along with the related specific costs. In the business plans, costs were anticipated to grow steadily and in proportion with the size of the network. A meaningful analysis will be possible only when the sites attain more stable growth rates.

Some of the difference is due to specific unexpected events, and not to mistakes in business plan development. For example, in Meuang Feuang, the concessionaire was supposed to start repayment of a 47 million Kip loan in 2009, but he has not even started this process yet, thereby creating a big deviation from the business plan. Concession fees of 5 million Kip per year have not been paid either so far.

Table 11 *Comparing MIREP actual performance with the initial business plan*

Year	MF			TH			HH	
	2007	2008	2009	2007	2008	2009	2008	2009
Connection rates estimated	35%	45%	55%	55%	60%	65%	40%	50%
ACTUAL	30%	41%	46%	70%	74%	76%	41%	66%
Water consumption (l.cap.d)	58			66			60	
ACTUAL	48	43	57	44	69	86	46	48
Water leakage rate (NRW)	5%	6%	7%	6%	7%	8%	5%	6%
ACTUAL	-1%	13%	3%	0%	28%	39%	0%	12%
Turnover (million Kip)	75.9	100.9	127.5	98.1	107.8	118.3	56.2	72.7
ACTUAL	53.3	75.5	120.7	32.5	134.2	154.3	3.7	81.3
O&M expenses (million Kip)	45.4	48.2	51.3	47.7	49.1	50.6	44.1	38.2
ACTUAL		49.9	83.3	25.5	30.3	48.1	15.3	28.3
Interest (million Kip)		27.4	30.4					
ACTUAL		28.6	37.9					
CASH FLOW (million Kip)	30.6	20.1	-6.3	44.5	52.8	61.8	12.2	31.8
ACTUAL		-3.0	-0.5	7.0	103.9	106.2	-11.6	53.0
Depreciation (per year, million Kip)	44.2			20.5			32.9	

Source: Author.

Part Five

5. Comparison with Other Regulatory Approaches

MIREP Lao PDR introduced the involvement of private investors at the local level in Lao PDR, and in that regard it is a very singular development. The private sector in Lao PDR is still young, and only minor and informal private water suppliers pre-existed this occurrence.

Literature on PPP regulation in developing countries flourished after the wave of privatization throughout the 1990s. But most of the papers focused either on the companies running water supply (WS) concessions in major cities or the informal, small-scale independent providers (SSIPs) that had illegally been set up to meet demand in unconnected but growing areas (like Maputo, Mozambique).

5.1. MIREP Cambodia

Even though the socioeconomic and institutional context of Cambodia is different from the one in Lao PDR, MIREP Cambodia can be considered as the father of MIREP Lao PDR. Launched in 2000, MIREP Cambodia enabled the testing of different options, the building of a methodology, and a number of learning opportunities. The following analysis is mainly based on two GRET reviews (Botton, 2008 and Naulet, 2010).

5.1.1. *National context and program objectives*

The Cambodian water supply (WS) sector is split into urban and rural areas: the former is under the Ministry of Industry, Mines and Energy (MIME), and the latter under the Ministry of Rural Development (MRD). Like in Lao PDR, small towns fall in a grey area in between.

There is no regulator for the sector; the World Bank withdrew from a program aiming to create such a regulatory body. The national policy is also very loose, relying on general concepts like demand-driven approach, local private sector promotion, and social tariff setting.

High population growth combined with the public incapacity to provide water services caused the development of private small-scale providers (SSPs) beginning in 1990. Although these SSPs partially met demand in the small towns, their service had two major problems: first, even though they were tolerated and not illegal, these informal operators did not have any guarantee about the future of their business, and thus they could not safely invest and expand. Secondly, because they were just private business opportunities and not publicly mandated, their services were not adequate in terms of social fairness and water quality.

GRET thus had two main objectives in the implementation of the MIREP Program:

- Enhance water quality by subsidizing the construction of water treatment plants;
- Create a contractual framework between the local public authorities and the private SSPs to guide and regulate the sector like a public service.

5.1.2. A laboratory-like setting beneficial to MIREP Lao PDR

Most of the features of MIREP Lao PDR originate from the earlier MIREP Program in Cambodia. First, MIREP Cambodia allowed for experimentation with different models for leasing, concessions, delegation of public service, etc. These models were tested based on local contexts. The demand assessment also enabled benchmarking, a method that would later be used in the MIREP Lao PDR feasibility studies.

Like in Lao PDR, the institutional framework was incomplete. This allowed MIREP to work in new fields and try new approaches. MIREP even anticipated national reforms, essentially betting on an extension of decentralization. By doing so, however, GRET sometimes neglected to work more closely with the central authorities (MIME in particular), which caused some problems afterwards. Power and money struggles, notably due to an unsound licensing process, hampered the projects.

This issue did not surface in Lao PDR since the central ministries were the first to be involved in the program; and this did not prevent working with the local level later on.

MIREP Cambodia supported 14 small networks that enabled a jump from 20% to 70% coverage in their areas, and better quality of service and water, with only 30%

of the investment provided through subsidies. Quick implementation and inexpensive construction were its main strengths.

The expected scaling up did not happen, mainly because of the withdrawal of the World Bank due to corruption scandals and the shift in AFD priorities. However, MIREP still remains the reference in Cambodian water supply (WS) solutions to this day, and despite the different context (especially in terms of the private sector), this program helped develop strong knowledge and expertise that was later used by MIREP Lao PDR.

Interestingly enough, some of the issues faced by MIREP Cambodia showed up again in Lao PDR. It became evident, for example: that local public authorities often lacked enough expertise and ability to monitor such services; that the villagers were not consulted and represented enough; and that quality standards were difficult to verify.

But on the other hand, MIREP Lao PDR implemented improvements that had been foreseen in Cambodia, like the integration of OBA to support a pro-poor policy.

5.2. The “socialization program” in Ho Chi Minh City, Vietnam

Ho Chi Minh City (HCMC) is a huge metropolis with a population of about 8 million (more than the entire Lao PDR), and WS there is performed by a State-owned company called Sawaco. In Vietnam, the WS sector has been decentralized since 1990, and tariff determination and regulation have been entrusted to the provincial level or to the city People’s Committee in HCMC and other big cities.^[28]

While Sawaco was providing water in the main urban areas of HCMC, informal SSPs developed in uncovered suburban areas. These illegal actors, tolerated for their contribution to overall WS coverage in the context of quick urban expansion, ranged from very small neighborhood providers with high tariffs and low quality to more developed SSPs providing a comparable service to that of Sawaco.

Considering that these SSPs could prevent unnecessary additional investments by Sawaco, an innovative program backed by ADB was launched in 2000 called the “socialization program”. The idea was to allow these SSPs to register with Sawaco

[28] For further details, see Blanc and Botton (2009), *Gouvernance urbaine inclusive et accès de tous aux services d'eau: Le rôle des petits opérateurs privés à Hô-Chi-Minh-Ville, Vietnam*.

and operate through a contract. Such registration allowed them to get a proper license, and qualify for tax exemptions and assistance in exchange for providing standard quality in terms of service and water. Two pilot projects started in 2003 with two private operators whose service levels were comparable to those of Sawaco. There was a willingness to anticipate and monitor the expansion of these private SSPs rather than just adapting to them.

Regulation of the contracts was very loose, however. The contracted SSPs bought water in bulk from Sawaco and could then resell it through their network with few tariff restraints in an area where they enjoyed a monopoly. Competition in providing the service was supposed to ensure affordability.

Even though the quality was monitored, no specific body was tracking the performance of the SSPs meaning no data were available.

Finally, despite the innovative ideas, this project could not scale up because of another conflicting sector policy: the recapitalization of Sawaco in 2005 and its splitting into eight privately funded subsidiaries created a competitive environment between Sawaco and the SSPs. No other SSP was contracted outside the two pilot projects.

A similar approach is being considered for the new MADEVIE project developed by GRET in Lao PDR, aiming to interest private operators in contracting directly with the Vientiane Capital NPSE, even though it targets remote areas, unlike in HCMC where the concerned areas abutted the Sawaco network.

ADB, through its Small Town Water Supply and Sanitation Project, is also considering the prospect of setting up PPPs to fill the niche between the NPSEs operating in the center of towns and the small private investors who buy water in bulk and resell it. The PPPs would build a pipe network to provide water to the surrounding villages.

The development of suitable regulation, notably through contracts, will be an interesting challenge for these projects.

5.3. Technical and Financial Monitoring and Evaluation (TFME)

Technical and Financial Monitoring and Evaluation (TFME; STEFI in French) came about in Africa during the 1990s as a way to overcome the lack of knowledge and expertise required to viably manage water supply (WS) services, in terms of facilities maintenance and financial management.

The idea was to outsource the technical and financial expertise, with funding provided by the service itself, its income being linked to the volume of water sold. This new external actor, working with the water provider, the users, and the public entity in charge of monitoring the service, then undertakes three main functions:

- **Technical and financial control**

On the technical side: checks compliance with quality standards on service and water, maintenance of the facilities and potential environmental concerns.

On the financial side: checks accounting reports and helps to assess costs.

For both the technical and financial aspects, the TFME operator conducts periodic field audits and communicates the results to the monitoring public entity and the users.

- **Staff training**

Initial staff training for the water supply (WS) provider and the public authorities is the responsibility of the State, but ongoing training is conducted by the TFME operator, through a hotline and during its field missions.

- **Communication**

These tasks are comparable to those performed by a consulting firm: anticipates future needs; assists and guides the WS provider; provides support in making good strategic decisions.

TFME starts once the utilities are constructed and the service is operational. Thus, TFME is not involved in the choice of service provider (public or private), initial staff training or defining distribution, which are duties of the political institutions.

A technical and financial survey is conducted every six months, delivering a summary of the key performance indicators. Before being transmitted to the public authority in charge, to this is added a supplementary description of the service in terms of: fulfillment of the objectives; progress of service; and difficulties encountered and choices made.

Although internal funding of the TFME process accounts for between 4% and 8% of the service provider's income, several evaluation studies have shown the benefits of TFME:

- It extends the life of the utilities and thus limits overall investment;

- It provides the necessary information to properly regulate the service;
- It enhances the quality of the service and the water provided;
- It produces benchmarking at the national scale.

The TFME operator has no power to regulate or to judge performance and the fulfillment of strategic objectives, which are tasks usually performed by the monitoring public authorities or by a national regulator. However, TFME surely participates in the regulation process *via* the information and the benchmarking provided.

- **Comparison with MIREP**

TFME activities mainly involve consulting and collecting data. Both of these functions are also vital to the MIREP Program (as discussed in the previous section), since there is a lack of expertise among the operators and at the District level; these data are also necessary to regulating and assessing performance.

Bringing TFME to the MIREP Program is not topical since the monitoring has already been planned differently. But the same functions have to be undertaken somehow. The consulting aspect is currently performed by GRET; agreements have been signed by operators and GRET regarding the IT billing tool: they receive the software and the training in exchange for providing the related ongoing data to GRET. On the technical side, the consulting is less formalized, but the operators occasionally consult GRET when they face technical problems or plan to build new infrastructure.^[29]

As explained before, data collection and benchmarking are the responsibility of WASRO through its annual reviews. So far, this has been done by GRET through M&E, but it should progressively be transferred to WASRO.

Finally, M&E does not include the field audit aspect of TFME, which is essential in the long run, even though the priority in Lao PDR so far has rather been to encourage private participation than to stifle it through stringent supervision.

[29] In some cases, DPWT or the provincial NPSEs can also play this advisor and consulting role too.

Part Six

6. Suggestions for Continued Efficient Regulation

This last section aims to address the main challenges identified during this study and to suggest both short-term and long-term options for tackling these challenges, in anticipation of the future upscaling of MIREP-like PPP schemes for small towns in Lao PDR.

6.1. Contract implementation

6.1.1. *Legislative consistency between national laws and contracts*

Issues:

As pointed out in Part 2 of this report, PPPs are not sufficiently addressed in the water supply (WS) legislation. In other countries, this uncertainty has sometimes been harmful. For instance, Foster (2005) notes a situation in Bolivia where “the concession contract for water services in the metropolitan area was issued prior to the sector law and regulations, which are still in progress. This is creating considerable regulatory uncertainty because of a number of points on which the sector law contradicts the concession contract”.

Until now, such inconsistency has not hindered the MIREP project because the government has been supporting its implementation. An informal transition period can even be beneficial since it may provide time to construct laws that are more suitable to PPPs as they develop in the country over time, as pointed out by Kariuki, *et al.* (2006) in a World Bank working paper. However, this transition period must evolve within a more stable legislative context. A World Bank evaluation of about 2,500 PPP contracts around the world showed that renegotiations were twice as likely to occur when regulation had been stipulated in the contract rather than in the national laws. Moreover, the more comprehensive that laws are regarding PPPs, the more trustworthy and attractive the business will be to private investors.

Suggestions:

The new Water Supply Law is a first step toward better consideration of private suppliers, but it is not sufficient. Application decrees and guidelines, issued by WASRO, are slated to be released on the following issues: performance targets; licenses; and customer relations. These must be scrutinized carefully to ensure their consistency with existing and future PPP contracts.

Moreover, it is important to arrive at a common national strategy regarding the laws that apply to the regulation of private suppliers. Different opinions among the various public stakeholders surfaced during the consultation workshop on PPP regulation in water supply (held June 2010), with some participants saying that the laws had to stay broad and general, while others advocated for more specificity.

6.1.2. *The bidding process and private sector promotion*

Issues:

The bidding process rules are clear and up to the standards of developed countries. However, the last qualification criterion, which is now based solely on the lowest subsidy, might be reconsidered. This approach could lead to the selection of a concessionaire with few guarantees and whose business plan is impossibly ambitious.

The program's attractiveness to private investors is also a concern, given that only a few private investors are aware of MIREP in Lao PDR.

Suggestions:

Instead of basing the selection process on technical criteria, with the final decision resting only on the subsidy size, a balance between the technical aspects and the subsidy level could be struck, to guard against selecting an investor with much less experience but with only a slightly lower subsidy requirement.

Regarding the attractiveness to the private sector, a good way to promote MIREP would be to create a website with general information about the program, downloadable forms for the bids and potentially also the written contract. Note that DHUP is currently creating a website, which could contain a MIREP tab. Now that Internet use is spreading in Lao PDR, it could be a convenient tool for advertising MIREP, especially in case of an upscaling.

6.1.3. District involvement

Issues:

As pointed out in Part 4 of this report, involvement by the District is not sufficient for monitoring the contract. Decentralization is new in Lao PDR, and Districts are the lowest hierarchical level, their tasks consisting mainly in collecting taxes and other administrative work. In this regard, it was ambitious to entrust them with most of the regulatory responsibilities, which require considerable judgment, expertise and flexibility. So far, no job position is specifically devoted to the monitoring of MIREP contracts, and staff turnover is high, meaning no in-depth knowledge and expertise can be accumulated (see the Contract Review Meeting description in Part 4).

Suggestions:

With 142 different District authorities, the training or appointing of new employees is an expensive proposition. In its future human resources strategy for the water supply, ADB does not plan to work at the District level, because it does not have the capacity to do so.

However, most of the contract monitoring work is not complicated (checking water quality tests, solving basic disputes between the operator and the villagers, ensuring that the main contract provisions are adhered to, organizing contract review meetings), meaning expertise is not necessarily the major concern. Special efforts should be made to ensure that the staff's high turnover rate drops, and that one person is appointed to be responsible for MIREP contract monitoring.

A clear listing of major monthly tasks would be helpful too. District employees are more likely to use a checklist rather than referring to a complicated legal document. In case of a more complex, technical or financial problem, higher-up authorities like WASRO, WSD or provincial DPWT can step in to help.

6.2. Data collection and use

6.2.1. Data collection in the field

Issues:

As the first step of any business analysis, and thus vital to the viability of the program, data collection is more or less accurate depending on the sites. Although M&E has

been properly designed with relevant indicators, operators in the field do not clearly understand the purpose of data collection, especially regarding expenses. The organization of the field work is also not optimal and can account for some of the mistakes.

Options:

Training activities for the operators have to be strengthened. As for the District's duties, a clear checklist of the data to be collected and accurate definitions of each indicator would help. A short written report that describes the main unusual events, and could be attached to the quantitative form, would help in pinpointing the biggest mistakes.

Note that the concessionaires are active help-seekers, on technical matters as well as regarding business management. They do not fear openly communicating information about their performance, and this should last as long as they are not making a profit.

6.2.2. *Data validation and audit*

Issues:

A periodic audit of the data is necessary to ensure its reliability in the long run. The District and WASRO have the power to do audits as described in the contract, but no specific agenda for the audits is presented, and as a result, nobody undertakes this function.

Official validation of the data is also important for the sake of accountability.

Suggestions:

Periodic audits are expensive, and a too-restrictive policy could worry future potential investors. Nonetheless, intermediary solutions can be imagined. One initial improvement suggested by WASRO is to set up a two-step signature process for the M&E: one signature from the recorder (typically the operator) and another from a "validator" (the concessionaire for example). This would add some legitimacy to the reports.

Concerning external audit, the District already gathers information for tax collection purposes on a regularly basis. This could be used as an opportunity for them to formally certify the financial statements.

In the longer run, WASRO should perform field audits of the PPPs, potentially through external consultants, given its limited staff. A method must also be found to finance the collection of such information.

6.2.3. *Use of information*

Issues:

So far, data are received by GRET through M&E. The first purpose of this tool was to track the operations, and to check if they are evolving according to the business plan.

In 2008, WASRO started to integrate PPP performance indicators in its annual report, and it is supposed to separate these out in its overall provincial analysis for 2009. But no detailed analysis of PPP performance has been done so far, and the information collected is not promoted at national or local level.

Suggestions:

In order for WASRO to develop a critical analysis of PPPs, as it currently does for the NPSEs, one staff member should be devoted to monitoring and follow-up of the PPPs. Because the context and the regulations are different from those for the NPSEs, WASRO needs to adapt its vision and its tools to the specific challenges presented by PPPs and to create a new section in the annual performance reviews.

Once this level of analysis is achieved, the move from the issuance of recommendations to their implementation must also be planned in order to “close the loop” of regulation. Local level meetings, like the Contract Review Meetings, can provide the channel for implementing and monitoring regulations.

6.3. Private suppliers: management of operations

6.3.1. *Involvement of the concessionaire*

Issues:

The concessionaires are usually not directly involved in the ongoing management of the water supply operations. Most of them receive only basic monthly information, like total income and total expenses, so they can track overall financial performance.

Their transactions with the operators are also problematic, because they are not recorded in MØE (they typically provide pipes and other materials). This blurs the tracking of the expenses and thus the entire financial analysis.

Suggestions:

Even though they are busy and not easy to track down, concessionaires have to be more highly trained, especially regarding accounting skills, so that they fully understand the importance of proper business data recording.

6.3.2. *Technical and financial skills*

Issues:

Most of the concessionaires involved in MIREP have little experience with water supply (WS) management. They and their operators usually lack the technical background required to run a WS network.

So far, the MIREP team has been supporting them when they need assistance. This method is not viable since GRET will not be able to carry out this consulting work for the entire duration of the concessions. The financing of this expertise has to be “insourced” by the businesses.

Suggestions:

A good solution would be to organize a training exchange among the different concessionaires. Depending on the topic – maintenance, accounting, customer relations, management, etc. – the most skilled concessionaire could advise the others. Note that this idea is currently being considered by WSP, which is about to launch a small capacity building program.

This mutual aid can be extended *via* the creation of an association of private water suppliers. A new Association Law facilitating this type of formation was recently passed. But the previous experiences of such associations in Lao PDR, notably one for architects, have not proved to be very helpful. Moreover, they are expensive because of the administrative costs; and Mr. Noupheuk Virabouth, Deputy Director of DHUP in charge of water supply, said he thought associations were not a good option at the consultation workshop on PPP regulation in WS held in June 2010.

Private operators will have to find a way to finance this expertise somehow, either through this kind of association or through the hiring of private consultants. The Water Works Training Center in Vientiane (CFME in French), funded by AFD and

used by the staff of provincial NPSEs, is another option if it succeeds in gathering expert trainers and attracting private operators.

The following Table, complementary to Appendix 5, summarizes most of the suggested improvements presented in this section; it outlines how the TFME functions are handled under the current MIREP Program and how they should evolve:

Table 12 *Comparison of technical and financial indicators of NPSE and MIREP sites*

		TFME	MIREP (current)	MIREP (future?)
Technical and financial control	Collecting data	TFME operator	GRET	WASRO
	Checking compliance with standards/contract	TFME operator	(District)	District
	Field audits	TFME operator	NONE	District, DPWT or WASRO
Staff training	Initial	State responsibility	GRET	State responsibility
	Ongoing	TFME operator	NONE	Operators mutual aid (association)
Communication	Technical consulting	TFME operator	GRET, Operators mutual aid, NPSEs	Private consultants, Operators mutual aid, NPSEs
	Financial consulting	TFME operator	GRET	Private consultants

Conclusion

Conclusion

The MIREP Program in Lao PDR emerged out of an uncertain new institutional framework, notably the decentralization of Nam Papa, the State-owned enterprises (NPSEs), and the creation of a regulatory body, with sector legislation still in progress. As the first effort involving PPPs for water supply services in Lao PDR, MIREP had to develop an innovative regulation scheme, in which local authorities had to be entrusted with new powers; new tools have been created to track and monitor the PPP operations.

The result is unanimously praised by the national public stakeholders for its quick and easy implementation compared with other projects. This new approach to expanding water supply coverage is well suited to small towns, and its launch was well implemented by GRET, involving national authorities from the start and providing training for capacity building.

The time has now come to rethink the long-term viability of the program before looking ahead at a potential upscaling. Monitoring of the contracts, tracking performance, and providing assistance to the private operators are the three main subjects to be tackled. The options suggested above are practical and suited to the current model, but a debate should also be initiated that eventually leads to a rethinking of the contract monitoring model^[30] and especially the responsibilities assigned to the Districts. Even though working at the District level is convenient for practical reasons (such as those related to land), other models for shared responsibility could be imagined, for instance, involving the heads of villages and DPWT at the provincial level.

[30] In this regard, a consultation workshop was organized on June 2, 2010 in MPWT by WASRO and GRET. It was chaired by Dr. Somphone Dethoudom, deputy chairman of WSRC.

Appendices

Appendix 1:

List of key information providers and stakeholders consulted

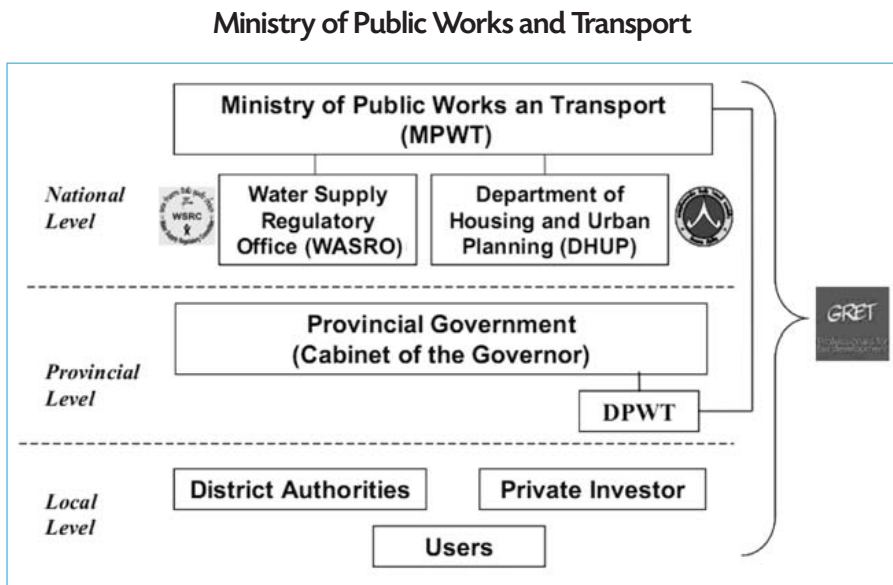
Organization	Position	Name
MPWT	Deputy Chairman of WSRC	Dr. Somphone Dethoudom
DHUP	Deputy Director	Mr. Noupheuk Virabouth
WASRO	Director General	Mr. Somvan Mongpachanh
WASRO	In charge of economic regulation	Mr. Khamphouvong
NPSE Vientiane Capital	Director General	Mr. Daophet Bouapha
Hin Heup Water Supply	Concessionaire	Mr. Khamsing Phommany
Houay Khoun Water Supply	Concessionaire	Mr. Khomsan Papassarang
Small town WSSSP	Program Manager	Mr. Phomma Veoravanh
Ex-WSP (World Bank)	Water and Sanitation Specialist	Mr. Thomas Meadley
WTA	Deputy Director	Mr. Alexandre Bui
GRET	MIREP Deputy Manager	Mr. Chanhsouk Simai
GRET	MADEVIE Deputy Manager	Mr. Thongleuane Phengmany

Appendix 2: Evolution of WSRC membership (formerly the Board of WASA) from 1999 to 2008

1999	2005	2008
<ul style="list-style-type: none"> • Vice Minister of MPWT • Director of DHUP • Representative of Ministry of Finance (or Office for State-owned Enterprise under PM) • Suppliers' representative • Customers' representative • Director of WASA / WASRO • Representative of Ministry of Justice • Representative of Science, Technology and Environmental Authority • Representative of Prime Minister's Office 	<ul style="list-style-type: none"> • Vice Minister of MPWT • Director of DHUP • Representative of Ministry of Finance (or Office for State-owned Enterprise under PM) • Suppliers' representative • Customers' representative • Director of WASA / WASRO • Head of WSD 	<ul style="list-style-type: none"> • Vice Minister of MPWT • Director of DHUP • Representative of Ministry of Finance (or Office for State-owned Enterprise under PM) • Suppliers' representative • Customers' representative • Director of WASA / WASRO • Representative of Business Promotion Office • Representative of Chamber of Commerce and Industry • Representative of MOH

Source: Author.

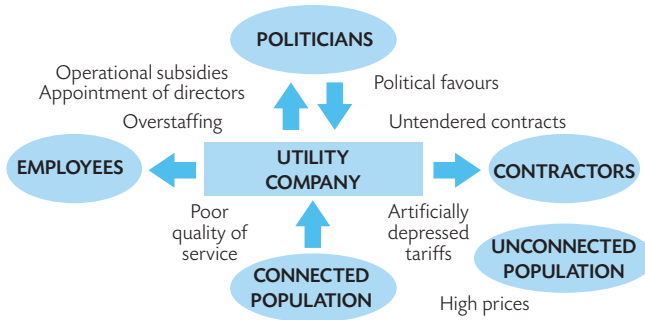
Appendix 3: MIREP stakeholders at the national and local level



Source: GRET MIREP Lao PDR team.

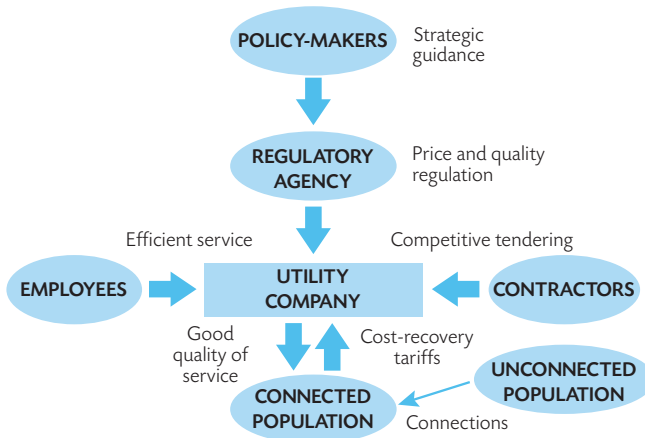
Appendix 4: How a regulatory body can hinder the “clientilist” model

Figure 1: The “clientilist” Model of Water Provision



Source: Foster, V. (2005).

Figure 2: The Reformed Model of Water Provision



Source: Foster, V. (2005).

Appendix 5: The Regulatory Tasks of NPSE, MIREP and their hypothetical evolution

				NPSE	MIREP I and II	MIREP III?
REGULATION	Legislation	National objectives		GoL	GoL	GoL
		Institutional scheme		GoL, MPWT	Contract	Contract
		Rules and guidelines		WASRO	Contract and Laws	Contract and Laws
	Analysis and recommendations	Follow-up	Data collection	WASRO	GRET	WASRO
			Audits	NONE	NONE	WASRO, DPWT
		Analysis and recommendations	Check respect of rules	WASRO	District	District, heads of villages
			Benchmarking	WASRO	GRET	WASRO
		Decision-making		Governors, foreign donors	District	District, DPWT
	Judiciary	Conflicts between operators and users		Amicable, WASRO, Legal	Heads of villages, District	Heads of villages, District, DPWT, WASRO
		Violation of rules	Decisions	Governor	District	DPWT, WASRO
Sanctions			NONE	NONE	NONE	

	Well managed
	Could be improved or not clearly defined
	Not properly done
	Not done

Source: Author.

Appendix 6: MIREP Lao PDR I and II in brief

Reminder : Description of MIREP Laos

- **Implementation period :** 2004 - 2010
- **Programme owner :** DHUP, MPWT
- **Programme manager :** WaSRO (ex-WASA), MPWT
- **Technical assistance:** GRET
- **Programme donors :**
 - French Ministry of Foreign Affairs
 - SEDIF
 - Municipality of Paris
 - UN-Habitat

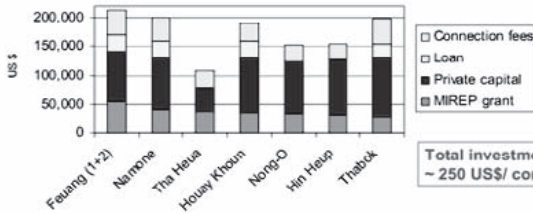


Source: GRET MIREP Lao PDR team.

Total investment costs and sources of financing

Max. subsidy amount is calculated according to # of potential connections

MIREP grant: 14 – 34 %
Private capital: 41 – 63 %
Loan: 0 – 16 %
Connection fees: 15 – 26 %



Total investment: ~ 250 US\$/ conn.

Vientiane province

- I. Tha Heua
- II. Feuang #1
- III. Feuang #2
- IV. Hin Heup
- V. Namone

Bolikhamxay province

- I. Houay Koun
- II. Thabok
- III. Nong-O



Source: GRET MIREP Lao PDR team.

Appendix 7:

MIREP implementation and procedure

Phase I: Feasibility study

Step 1	Identification of the target sites
Activity 1	Identifying the target provinces
Activity 2	Pre-selecting potential target sites
Activity 3	Validating potential target sites
Step 2	Socioeconomic survey
Activity 1	Preparing the field surveys
Activity 2	Conducting the field surveys
Activity 3	Analyzing the results
Step 3	Technical survey
Activity 1	Organizing the technical survey
Activity 2	Conducting on-site assessments
Activity 3	Analyzing the results
Step 4	Financial analysis
Activity 1	Preparing the least cost analyses
Activity 2	Calculating the maximum amount of investment subsidy
Activity 3	Estimating the appropriate water tariffs

Step 5	Feasibility study approval
Activity 1	Validating the feasibility study
Activity 2	Communicating the results to the villagers
Activity 3	Establishing the Contract Management Committee

Expected results:

At completion of the first phase, the feasibility study should be finalized, validated by the relevant public authorities, and the outputs of the study should be broadly communicated at the national, provincial and local levels.

Schedule:

The total period to implement the activities of this first phase is **four months** at maximum

1	2	3	4	5	6	7	8	9	10	11	12

Phase 2: Service provider selection / project detailed design

Step 6	Selection of the water supply service provider
Activity 1	Preparing the tender documents
Activity 2	Calling for expressions of interest
Activity 3	Pre-selecting the bidders
Activity 4	Selecting the future water supply service provider
Activity 5	Awarding the future water supply service provider

Step 7	Selection of the engineering company
Activity 1	Pre-selecting eligible engineering companies
Activity 2	Preparing the contract documents
Activity 3	Selecting the local engineering company

Step 8	Preparation of the project detailed design
Activity 1	Designing the detailed technical plans
Activity 2	Preparing the final BOQ
Activity 3	Reviewing and validating the project

Step 9	Identification of the poor households
Activity 1	Preparing the identification procedure of the poor households
Activity 2	Validating the list of poor households
Activity 3	Analyzing the water demands of the poor households

Step 10	Signing of the PPP and the subsidy contracts
Activity 1	Training session on PPP contract
Activity 2	Negotiating the service delegation contract
Activity 3	Preparing the subsidy contract
Activity 4	Establishing the MIREP Investment fund

Expected results:
 At completion of the second phase, the water supply service provider is identified, the technical options are designed, and the service management modalities are approved. The construction work can be launched.

Schedule:
 The total period to implement the activities of this phase is **eight months** at maximum.

1	2	3	4	5	6	7	8	9	10	11	12

Phase 3: Works, supervision and support to service management

Step 11	Selection of the local consultant to supervise the construction process
Activity 1	Training session on the construction process
Activity 2	Pre-selecting eligible consultants
Activity 3	Preparing the TOR and the other contractual documents
Activity 4	Selecting the local consultant for works supervision
Activity 5	Validating potential target sites

Step 12	Construction works and work supervision
Activity 1	Training session about stakeholders' role during construction
Activity 2	Conducting construction work
Activity 3	Disbursing the investment subsidies

Step 13	Population training and social marketing activities
Activity 1	Training session #1: what is a piped water supply system?
Activity 2	Training session #2: why connect to the piped water supply system?
Activity 3	Training session #3: promoting the rights and obligations of users
Activity 4	Social marketing activities

Step 14	Users connection process
Activity 1	Connecting the households to the water supply system
Activity 2	Disbursing the OBA subsidies

Step 15	Training of the private operators / contract monitoring
Activity 1	Training in operation and maintenance of the water system
Activity 2	Training in service management
Activity 3	Contract monitoring

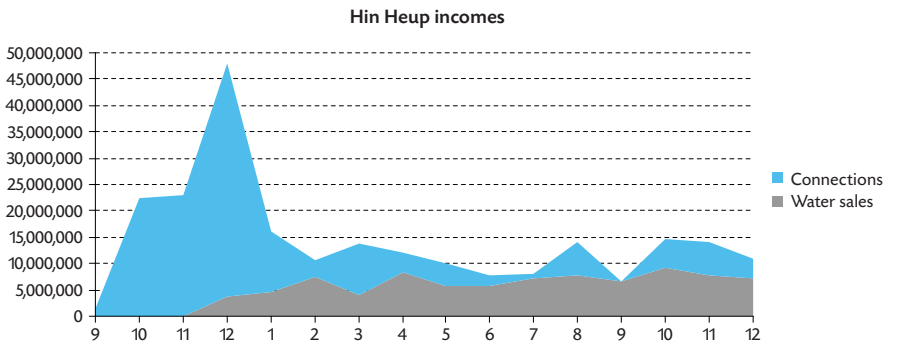
Expected results:
 At completion of the third phase, the construction of the main works is finished and the service is operational. The first households start connecting to the piped water system and the follow-up activities are launched.

Schedule:
 The total period for conducting the activities of this phase is six months at maximum.

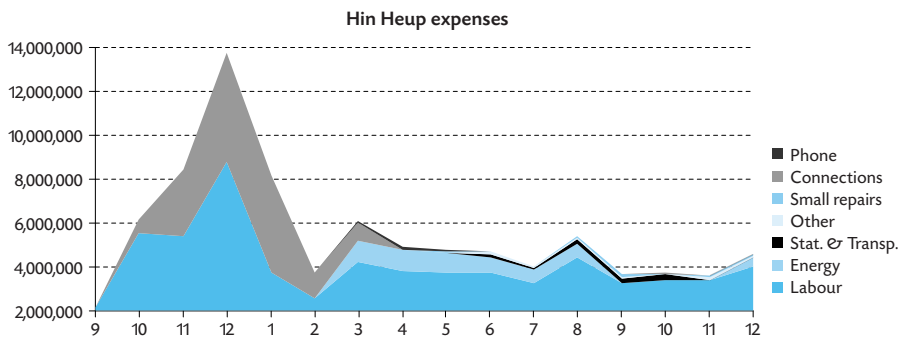
1	2	3	4	5	6	7	8	9	10	11	12

Source: GRET MIREP Lao PDR team.

Appendix 8: Example of analyses based on Monitoring & Evaluation (M&E) software



Source: GRET MIREP Lao PDR team



Source: GRET MIREP Lao PDR team

These graphs have been created in Excel from data entered into Monitoring & Evaluation (M&E) software. They show the income and expenses (in million Kip) per category for the first 18 months (from September 2008 to December 2009) of operations in Hin Heup.

Appendix 9: Documents produced by WASA / WASRO

The Water Supply Tariff Policy, April 2004: even though it is based on a ministerial decision by the MPWT, this policy has been developed by WASA. It fulfills a requirement of Decree 37/PM, for WASA to establish tariff guidelines (art. 4.8). This has been the only legal reference for tariff regulation up until now. It concerns all urban water supply (WS), NPSEs, and others.

Water Supply Tariff Determination Methodology, June 2004: published as part of the Building Consensus campaign supported by the Water and Sanitation Program. The purpose was to prepare for future private participation in the Laotian urban WS, specifically targeting small towns. This report was mainly the result of the work of a consultant (Keith Burwell) but also reflected WASA's and DHUP's intent.

Annual water sector performance reports, yearly starting in 2002: compare the technical and financial performance of the WS providers, including some key indicators, and a methodology to compute a global rating for each NPSE. This is the main tool used for benchmarking.

Tariff Determination Guidelines - Tariff Review, every three years starting in 2004: duty of WASA as mentioned in the WS Tariff Policy. This sets out all the requirements for the tariff determination process. It is combined with the tariff review, which analyses and comments on the tariff levels and accounting statements of the last three years of operations. So far, two have been performed: the 2005–2007 Tariff Review performed in 2004 (which was simply called **Accounting Guidelines**) and the 2008–2010 Tariff Review performed in 2007.

Future guidelines, still being drafted: these will be an opportunity for WASRO to extend its regulatory powers beyond tariff regulation. The current drafts tackle:

- Customer relations;
- License procedures;
- Enforcement of payment and disconnection procedures;
- Minimum service level;
- Performance targets.

List of Abbreviations and Acronyms

List of Abbreviations and Acronyms

ADB	Asian Development Bank
AFD	Agence Française de Développement (French Development Agency)
BMC	Bidding Management Committee
BOQ	Bill of Quantity
BOT	Build-Operate-Transfer concession scheme
DHUP	Department for Housing and Urban Planning
DMC	District Management Committee
DPI	Department of Planning and Investment (Provincial level)
DPWT	Department of Public Works and Transport (Provincial level)
GCO	Governor Cabinet Office
GoL	Government of Lao PDR
GRET	Groupe de Recherche et d'Échanges Technologiques
HH	Household
JICA	Japan International Cooperation Agency
M&E	Monitoring and Evaluation (under MIREP Program)
MIREP	Mini Réseaux d'Eau Potable (Small scale water supply networks)
MOH	Ministry of Health
MPWT	Ministry of Public Works and Transport
NCRWSSSP	Northern and Central Regions Water Supply and Sanitation Sector Project
NGPES	National Growth and Poverty Eradication Strategy

NORAD	Norwegian Agency for Development
NPSE	Nam Papa State-owned Enterprises (provincial public water suppliers)
O&M	Operation and Maintenance
OBA	Output-Based Aid
PPP	Public-Private Partnership
SEAWUN	South East Asia Water Utility Network
SS(I)P	Small-Scale (Independent) Provider
TFME	Technical and Financial Monitoring and Evaluation (STEFI in French)
WASA	Former Water Supply Authority, renamed WASRO in 2009
WASRO/WSRC	Water Supply Regulatory Office / Committee
WB	World Bank
WRCC	Water Resources Coordination Committee
WREA	Water Resources and Environment Administration
WSD	Water Supply Division
WS	Water Supply
WSP	Water and Sanitation Program (World Bank)
WSS (WS)	Water Supply and Sanitation (Water Supply)

Bibliography

Bibliography

Publications

BINCH, I.R. (2007), *Corporatization and the Lao PDR Urban Water Supply Sector*, ADB.

BOTTON S. AND A. BLANC (2010), *Accès de tous aux services d'eau : Le rôle des petits opérateurs privés à Hô-Chi-Minh-Ville, Vietnam*, Focales N°1, AFD, Paris.

BOTTON, S. (2008), « L'émergence d'une politique de l'eau dans les gros bourgs ruraux au Cambodge », GRET, Etudes et Travaux en ligne N°19.

BURWELL, K. AND N. VIRABOUTH (2004), "Regulation of the Urban Water Supply Sector in the Lao PDR", 30th WEDC International Conference, Vientiane.

EHRHARD, D., E. GROOM AND J. HALPERN (2006), "Key Topics in Regulation: Water Supply and Sanitation", Sector Board Discussion Paper Series, Paper N°6.

FOSTER, V. (2005), "Ten Years of Water Service Reform in Latin America: Toward an Anglo-French Model", Water Supply and Sanitation Sector, Board Discussion Paper Series, Paper N°3.

KARIUKI, M., S. REQUENA AND T. TRICHE (2006), "Engaging Local Private Operators in Water Supply and Sanitation", Water Supply and Sanitation, Working Notes, Note N°12.

MAHÉ, J.P. (2008), *Building Water Utilities with Local Private Entrepreneurs: The Example of the Mirep Program in Cambodia 2000-2010*, GRET and WSP, p.102.

NAULET, F. (2010), *Encourager la transition institutionnelle des petits opérateurs privés d'eau potable – Enseignements tirés du programme Mirep au Cambodge*, forthcoming, AFD, Paris.

TREMOLET, S. AND D. BINDER (2010), *The Regulation of Water and Sanitation Services in DCs – Literature Review, Insights and Areas for Research*, A Savoir N°1, AFD.

Websites

Doing Business, World Bank (June 2010): <http://www.doingbusiness.org/>

Other

WASA, WASRO and WSRC documents:

Water Supply Authority, *Annual Water Sector Performance Report* (2002).

Water Supply Authority, *Regulatory Accounting Guidelines* (2004).

Water Supply Authority, *Water Supply Tariff Determination Methodologies* (2004).

Water Supply Authority, *Tariff Determination Guidelines, 2008-2010 Tariff Review* (2007).

Water Supply Regulatory Committee, *Annual Urban Water Sector Performance Report* (2008).

Relevant legislation of Lao PDR:

Law N°08-90/NA 1990; Contract Law.

Law N°02-96/NA 1996; Law on Water and Water Resources.

Decree N°37/PM 1999; Management and Development of Water Supply Sector; Prime Ministerial Decision.

Ministerial Decision N°1728/MCTPC (2000), Decision on the Organisation and Activities of the Water Supply Authority, MCPTC Decision (formerly MPWT).

Decree N°191/PM (2005), Regulation of Urban Water Supply Operations, Prime Ministerial Decree.

Law N°11-05/NA (2005), Enterprise Law (Amendment).

Ministerial Decision N°13266/MPWT (2008), Decision on the Organisation and Activities of the Water Supply Regulatory Office, MPWT Decision.

Ministerial Decision N°13265/MPWT (2008), Decision on the Establishment of the Water Supply Regulatory Committee, MPWT Decision.

Law N°04-10/NA (2010), Water Supply Law.

GRET Working Papers:

SOCIO-ANTHROPOLOGICAL FOLLOW-UP OF THE MIREP WATER SUPPLY SERVICE (2008), *Zooming in on the local stakeholders of piped water supply service*, GRET Study Report, Vientiane.

MIREP LAO PDR (2009), *Mid-term review of the policy adopted by the Mini Réseaux d'eau Potable (MIREP) programme in favour of poor households*, GRET Policy Review, Vientiane.

SCHOEN, R. (2009), *MIREP Financing Policy - Mid-term review of the financing policy adopted for the PPP projects of the MIREP Program in Lao PDR*, GRET Policy Review, Vientiane.

MIREP PROGRAM (2008), Project Implementation Manual.

PROGRAMME MIREP LAO PDR (2009), Activity Report Year 3.

What is GRET?

Founded in 1976, GRET is a non-profit organization gathering professionals working for inclusive development. It supports processes for sustainable development in urban and rural areas based on social equity, economic development and respect for the environment. In 2009, GRET was operating in 30 countries with 13 permanent representations in Asia, Africa and Latin America. It operates in the following sectors:

- a) Access to essential services;
- b) Sustainable food and agriculture;
- c) Institutional development, actors and territories;
- d) Information and communication for development;
- e) Microfinance and services for small businesses;
- f) Public policies and international regulations.

www.gret.org

What is AFD ?

AFD stands for Agence Française de Développement. AFD is a public development finance institution that has worked to fight poverty and support economic growth in developing countries and the French Overseas Communities for almost 70 years. AFD executes the French government's development aid policies.

Through offices in more than fifty countries and nine French Overseas Communities, AFD provides financing and support for projects that improve people's living conditions, promote economic growth and protect the planet: schooling, maternal healthcare, help for farmers and small business, water supply, preservation of tropical forests, and fighting climate change, among other concerns.

In 2009, AFD committed more than €6.2 billion to financing aid activities in developing and emerging countries and the French Overseas Communities. The funds will help vaccinate 1.8 million children, improve drinking water access for 7.3 million people and support 900,000 private sector jobs, while energy efficiency projects save nearly 5 million tons of carbon dioxide emissions per year.

www.afd.fr

The Regulation of Small-Scale Water Providers in Lao PDR

Water and sanitation services, which qualify as essential public services, need to be regulated from an economic, environmental and public health standpoint.

AFD, within the framework of its research program on PPPs, has worked on theoretical approaches and institutional models for regulation. One of the interesting issues identified for research work is the regulation of Small-Scale Independent Providers, which have emerged in a spontaneous manner or have been promoted by public authorities over the past few years.

The question of how to oversee these initiatives without hampering their innovation potential has been studied by AFD and GRET through a common research and capitalisation program on Small-Scale Independent Providers in the water sector. The present paper, which fits in this collaboration, is a practical case study on how Laotian authorities, with GRET assistance, have recently developed an innovative regulatory framework for PPP contracts signed with small entrepreneurs, in parallel with the more classic regulation of State-owned water enterprises. The paper focuses on identifying the main functions of water supply regulation and analyses the choices that have been made so far in this regulatory process, which is still under development.

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