

## **User Participation in the Regulation of Water and Sanitation Services: a Theoretical Framework**

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### **1. Introduction**

Among the essential services, such as transport, electricity and so on, water and sanitation services are maybe the most specific. First, they have an important social and environmental impact, especially as water is essential for human life, and sanitation for the environment. Second, as these services are -in most of the countries- industrial and commercial, they can be managed either by public or private operators.

Hence, incumbent public authorities have to manage both social (the service accessibility and affordability), sanitary and environmental (the quality of tap water and water resources) requirements, as well as industrial ones (sustainability and profitability of the water industry).

Finding the good balance and maximising the consumer surplus are not easy tasks, since incumbent public authorities have to face information asymmetries with operators or even users. They can also use such asymmetries to adopt an opportunistic behaviour and maximise their own profit (re-election, personal advantages, and so on).

Thus, one may question the ability of public authorities in charge of the service regulation to carry out their mission effectively (meaning to guarantee the service accessibility and affordability, to monitor operators, and to apply sanctions when necessary).

In France, for instance, reports underline the fact that it is difficult for the local public authorities to have access to specific information held by the operator, such as the service costs (Cour des Comptes [8]). Furthermore asymmetry appears also when contracts end up. Local public authorities have to face many difficulties if they want to go back from private to public management, especially because of the loss of technical skill, administrative difficulties, but also the difficulty to get all the information from the delegated firm (Reynaud [16]).

A report of the United Nations Research Institute for Social Development [16] shows that, in France, the ability of local public authorities to design affordable water services can also be questioned. Private participation in water services seems to have also an impact on water affordability, as increasing the private participation reduces the water charges for the richest households and increases them for the poorest, then it increases the probability of being "water poor", meaning spending more than 4% of his income on water charges. Many reasons could explain these results, maybe the cities delegating the water services, apply less pro-poor policies. Anyway, given that the majority of water and sanitation are delegated, the affordability of water and sanitation services in France can be considered as an important issue.

Transaction cost theory suggests two assumptions that may explain the difficulties faced by the public authorities to assume the regulatory missions. The first assumption is the bounded rationality of agents, especially of public authorities who cannot know all the information, for instance concerning the consumer needs or some operator actions. Since each agent has his own point of view, conflicts can arise just because of misunderstandings. The second is the potential opportunism of agents - user and operator as well as the public authorities themselves.

In such context, what can be the role of user participation in the regulation of water and sanitation services? Does it improve the quality and affordability of the services, by facilitating transactions between agents as well as increasing service transparency and adaptability? Or does it increase the complexity of the public contracting, by opening new possibilities for opportunistic behaviours especially when unpredictable events occur as contracts are necessarily incomplete, and hence the inefficiency of the services? In this paper, we formulate some hypotheses to answer these questions.

## **2. Which users and transactions are we talking about?**

### *2.1. Who are the users?*

We call “users” both individual consumers, especially households, and groups representing users (households, industrials and farmers). One should be cautious since the word “users” reflect different realities and a heterogenic group of agents. Indeed, the different kinds of users don’t necessarily have the same interest and can even compete.

Apart from institutionalised participation, for instance commission or committee who plays an official role in the regulation, users can spontaneously act by four different ways: Court, second assessment, lobbying or mobilization on a public place (Rui [17]).

### *2.2. Which transactions are we talking about?*

The link between transactions required for a public service and the service performance is a major topic on the research agenda of transaction cost theory. A substantial part of these research focuses on contracts between public authorities and operators, while others rather examine interactions with third parties, such as users or professional lobby groups. Both are interesting for our study, given that it concerns the influence of user participation on transactions involving not only public authorities and operators but also other third parties, etc... Therefore, it is important to clarify the notion of “transaction” used in this paper.

According to Coase [7], a transaction refers to the coordination between economic agents. More precisely agents can use the firm as an alternative coordination mode to the market, with different consequences in term of transaction costs. For Williamson, a transaction refers to a transfer between units technologically separable [23], which according to Ménard can be regarded as a transfer of “right to use” (Ménard [13]).

More generally, according to North [14], all types of human interaction -political, economic and social- can be considered as a transaction, constrained by institutions. “*The institutions are the humanly devised constraints that structure political, economic and social interaction*”, their goal is “*to create order and reduce uncertainty in exchange. [...] they determine transaction and production costs and hence the profitability and feasibility of engaging in economic activity*” [14].

In line with North [14], transactions therefore refer to economic exchanges as well as to other human interactions which have an impact on economy activity. Sticking to this definition, we will consider regulatory transactions between public authorities and operators as well as between public authorities and users.

## **3. User participation could facilitate transactions**

### *3.1. Is user participation in the regulation of water and sanitation services only an issue in developing countries?*

If we look at the existing economic literature concerning developing countries, user participation is often considered as a way to allow regulators to go beyond the weaknesses of institutions, enabling direct control and sanction by users, thereby reducing conflicts (Breuil [4]). Yet, in developed countries such as France or England, user participation is also rising. In France, this began towards the end of the 1980s and the beginning of the 1990s. During the 1990s, there were a number of scandals linked to corruption or embezzlement.

The most famous example might be the case of Grenoble, where, in 1995, the mayor was condemned for corruption after a user association referred to the Court.

During these years, the law was also evolving towards a gradual deregulation of the water and sanitation services. The decentralization laws adopted in France in 1982 gave more freedom to local authorities, thereafter able to choose local service contractual provisions. The principle of 'true prices', meaning that service price has to cover service costs, has been instituted for sanitation service in 1986, and later for water service. These changes were followed by high increase in prices, disconnection and user complaints (Pezon [15]). There was also an evolution towards greater transparency, with more user participation. This is well illustrated by "*the "Sapin Law" limits the duration of the delegation contracts and imposes a procedure of publicity and consultation preliminary to their conclusion or renewal*" (Reynaud [16]). Following this change, public authorities have to consult a commission with user representatives before signing delegation contracts.

It therefore appears that user participation is not only an issue in developing but also in developed countries.

### *3.2. Could user participation facilitate transactions between public authorities in charge of the service regulation and operators?*

One can consider the micro-devices, through which users participate in the regulation of the water and sanitation services, as micro-institutions supporting the transactions between regulators and operators. These micro-institutions may facilitate the transactions by reducing their costs (Ménard [13]).

Regulation can be divided into three stages -the definition of goals and rules of the game; their monitoring and enforcement; and the implementation of sanctions (Guérin-Schneider [10]). Here we focus on users' participation during the monitoring and enforcement phase.

Monitoring or systematic controlling an operator's actions can be prohibitively costly. In that context, users can act as «fire alarms», signalling a problem as it occurs (McCubbins and Schwartz [12]). Thus users' participation can reduce monitoring costs supported by the regulator and alleviate the burden on the regulator (Shirley and Ménard [18]).

This mechanism is all the more efficient if the regulator is elected by users and wants to be seen as doing an effective job in hope of being reelected (McCubbins and Schwartz [12]). This is the case in France, where public authorities are responsible for fixing service goals, organizing the services themselves or contracting out services to private, semi-public or public companies. In the case of contracting out, public authorities do not monitor the operator as a police patrol; however, if users begin to complain or seek redress in courts, there can be harsh controls accompanied by either corrective measures or punitive sanctions.

One can also consider the impact of users' participation on control over the regulator. Indeed, regulators can also act opportunistically. According to Spiller and Tommasi [20], regulation is required because of the risk of government opportunism (for example the government can "find" reasons to terminate the contracts with company once the investments are realized). In doing so, a government may be tempted to "capture" the regulator in order to hide his opportunism.

In that respect, when users participate to regulation, they can help the judiciary to have access to more information and to improve its control, thus contribution to the role of the judiciary, especially when powers are clearly separated [20].

Users can also reduce the risk of opportunism by fighting against governmental favouritism as well as corruption (Carillo and Gruenberg [6]). They can indeed put pressure for greater transparency, therefore helping to detect corruption, and might even apply direct sanctions such as denigrating the reputation of existing operators or simply not using the services

any more. Even if dissatisfied end users are unable to switch to another operator, they can still find alternative solutions, for example in buying bottled water or withdrawing from the network; digging wells in their gardens, using rainwater, or installing individual sanitation system. However, these “solutions” may have adverse effects on both network sustainability and the ability of operators to keep fixed costs down for end users remaining within the system.

### 3.3. *Could user participation facilitate transactions between public authorities in charge of the service regulation and users?*

If we assume that users are aware of their needs and have their own expectations regarding the quality of the service to be delivered (Warin [22]; Brachet [2]-[3]), their participation in regulation procedures could then reduce the costs that public authorities support to obtain this information, helping to better define goals as well as enforceable rules. Questioning each user would be very costly for public authorities, and never consulting them could lead to insustainability and to inefficiency. Users’ participation can be a way to avoid these major flaws, thus enhancing collective surplus.

However users can also adopt opportunistic behaviour. They can try to capture the public authorities (Stigler [21]). Furthermore they have incentives to give only certain information in favour of their interest and to hide the others (De Figueiredo & al [9]). Public authorities and regulators should therefore invite different categories of users with different or even opposite interest to participate. This way, regulators would limit the information power of each group and be less dependent on them (De Figueiredo & al [9]).

Last, regulators could also try to capture users’ representatives (Caillaud and Tirole [5]) and this double moral hazard seriously increase the complexity of regulation needed.

## **4. ...but in the same time user participation could increase the public contracting complexity and add new opportunism possibility**

The value of user participation is by no means evident (Lorrain [11]). It does not cancel out all the diagnostic mistakes (Barraqué [1]). It can lead to an increase in costs by multiplying the number of transactions and delaying the final decision, all the more so since the impact of user participation on conflicts is not clear. For some authors, user participation reduces the risk of conflict because different agents can explain their point of view to each other, which reduces drastically the risk of misunderstanding (Breuil [4]). However, other authors have emphasized that users can also take advantage to challenge public decisions, notably the choice of contracting, which increases the risk of conflict (Spiller [19]).

Indeed, when services are outsourced, third-parties such as users can have incentives to take advantage of contract incompleteness to challenge the contract when an unpredictable event occurs. This may reduce significantly the response to economic shocks as well as block appropriate reforms [20]. Third party opportunism can therefore cumulate with the political opportunism of the government (expropriation), and this increases even more the complexity of public contracting, which can explain why they are often “inefficient”: inefficiency is an equilibrium response to the third-party opportunism hazard [19].

In order to circumscribe these risks, contracts will have to be more specific, formal and rigid [19]. More rigid procedures are also likely to be implemented by the legislative power in order to reduce the risk of public authority opportunism, as it happened in France. Consistent with Spiller hypothesis, this means that under third party opportunism and resulting hazards, contracts can be even more specific, formal and rigid than they would be if they just fill the legislative requirements. Renegotiation, even when needed, will be avoided because it offers third parties an opportunity to challenge the contract. Public authorities would even prefer

ending the contract and paying the penalties involved rather than having to face public criticism [19].

However we can assume that the more there are users participating, the more different interests will be represented, and the less such opportunist behaviour would succeed (De Figueiredo & al [9]). Furthermore, this kind of opportunism often results from spontaneous activities of lobbies; user participation could re-balance the power of interest groups, giving to more silent groups the possibility to express their opinion (Carillo and Gruenberg [6]). So the organization of user participation and especially the socio-economic composition of users who participate could have important consequences on user participation impact.

## **5. Conclusion: what impact of participation on the water and sanitation services?**

It's not easy to conclude about the impact of user participation, since its role is controversial.

However some assumptions can be formulated.

It seems that user participation clearly influences regulatory transactions. It may in consequence have an impact on the quality and affordability of water and sanitation services.

Thus we can assume that when user participation functions well, under some of the conditions described above, it reduces the risk of inadequacy between social and environment requirements and service performance. The services will be of better quality and will be more affordable, primarily because regulators are better informed about user needs and operator actions, while they are better monitored themselves; secondly because contracts are flexible enough to permit adaptation when unpredictable event occurs and so the quality will be maintained or improved.

On another hand, when the user participation opens the door to third party opportunism, it can also have a negative impact on service quality and affordability. Actually, services will favour some user groups more than the others and the collective surplus will not be maximised. Contracts will be less flexible leading to more conflicts when unpredictable events occur or even contracts termination before the end of the arrangement agreed upon, with potentially negative consequences on the service quality.

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