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Community Partnerships- the Missing Link in the Water Sector.

Introduction

Safe water and sanitation are so vital to human beings as is the air. Yet, despite the efforts of governments and world wide aid organisations, a high population in urban and rural areas of developing countries still lack of reliable sanitary services. The main cause is perhaps that safe water has only recently been seen as a product that comes from fresh water, an increasingly scarce natural resource., and sanitation is only starting to be seen as a service that must include safe disposal of wastewater, an activity increasingly difficult to perform, because the capacity of soils, rivers, lakes and seas to receive wastewater discharges without damaging the hydro environment and the aquatic life, is at their most

The service delivery model comprising water tariffs at the lowest level because water was as vital as the air, prevented private investment in the sector while governments took the responsibility of providing the services. However, government funds and bureaucratic inefficiencies in the provision, allowed the expansion of services for some years, but could not cope with the urban growth. Therefore, the provision of drinking water and sanitation became limited to restricted areas, paradoxically to the areas where the affluent groups of the population live, and benefited from the under pricing of the services. The result has been a high percentage of the population, particularly the poor, without access to drinking water and sanitation provided by efficient public utilities, and meaning morbidity and mortality coming from waterborne diseases, affecting labour productivity and the country economy as a whole.

Water distribution and waste water collection by networks, have no competitive alternative for concentrated population in urban and rural areas, in small and large cities, because of scale economies. Therefore, water distribution and waste water collection become natural monopolies. Safe water production and wastewater disposal become also natural monopolies because they are normally closely related to a distribution or collection system, and because to manage a basin in an integrated way, from the point of view of water provision or water disposal, can also introduce scale economies and systems optimisation. Thus, we come to the point that large investments are required to produce water of good quality and to perform safe collection and disposal of waste water, in all urban locations, and in rural areas of concentrated population. Due to the need of large investments, high efficiency in provision, together with high efficiency in consumption is a pre-requisite for a fair price, to both providers and consumers. A sound regulation for controlling investment, efficiency and fair prices is also required, because of the monopolistic nature of the sector.

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There should not be differences in opportunities of access to drinking water of good quality and to sanitation services that do not cause environmental damage. The poor should be the best customers of efficient public utilities.

The question is how to promote investment, efficiency and equality in the sector, to reach the goal of water and sanitation for all, in the benefit of all.

The principal actors involved in water and sanitation for all are Consumers and Providers. Another principal actor is the Regulator that must establish the terms under which the contract between Consumers and Providers should be signed. The interest of Consumer should be: efficient service in every urban location (or concentrated population rural areas) at a fair price. The interest of Providers should be investment recovery at a fair price. The interest of Regulator should be a fair play of Consumers and Providers.

However, apart from Consumers, Providers and the Regulator, there are other actors that must be involved in full water and sanitation coverage. These are central governments, local governments, non governmental organisations, community organisations, consumers associations, professionals and their associations, universities and research institutions, etc. All of them are members of the community or the civil society of a country, and the best interest of the country is at the stake. Hence all of them should be interested in reaching the goal of full water and sanitation coverage.

The best way to reach a goal is to build partnerships among actors interested in accomplishing the goal. We postulate that to promote investment, efficiency and equality in the water sector, partnerships among all members of community should be built. We also postulate that the lack of these partnerships has been the missing link to attain safe water and sanitation for all in developing countries. This paper is referred to some of the partnerships that can be built in the water sector, starting for the partnership between Consumers and Providers, the principal actors involved, giving some examples that have work in developing countries.

There are many other examples that could have been mentioned in this paper. There must exist also other partnerships that can be built. We leave to the reader the task of completing this paper with its own experience, and with its own ideas for building other community partnerships, for the benefit of its own country at the light of its culture and needs.

1.- How to promote investment in the water sector. Building partnerships for investments.

1.1 Pricing.

Public utilities, that is private or public organisations that deliver a public service (electricity, water, railroads, etc) at large or to a whole community, unlike other industries, are required to render adequate service **all the time**. This involves the making of substantial investments.

"The supplying of water is a very old industry, but the early systems of wells and canals, and the street vendors of the ancient cities with their water skins and jars, had little in common with the modern systems, with pumping stations and mains which had their origin three hundred years ago" The Economics of Public Utilities, L.R.N. Mc Graw Hill Book.Co. Inc, 1925

Today the water and sanitation sector, that is potable water produced from underground or surface intakes, and distributed through water networks, and waste water collected through a net work of sewers and disposed for in water courses in sanitary conditions, is the most high capital intensive industrial sector and it is very likely to remain so. This is because the growing use and scarcity of the raw material, fresh water. The growing scarcity of fresh water obliges to think in more costly technologies to produce drinking water than the ones existing today. Water desalination, and water reclamation from wastewater comes to the scene in countries that are experimenting frequent droughts. On the other hand, the growing requirements and recommendations to meeting environmental standards would require substantial investment in wastewater treatment for safety disposal in water courses, in developing countries in which this field had been left aside.

However, the only public utility field in which competitive substitute service is not available, is that of water supply. In fact, there is no competition from other public service of the same kind, because that will mean duplication of costly facilities and underground structures. There is also no competition from self producers in urban areas or in rural areas of concentrated population because of the scale economies of the public utility.

Yet, when the poor are denied the access to the public service because their dwellings are located far away from the utility networks, they need to pay often 10 or more times the prices charges to those who have access (see some examples in Box 1)

In spite of the high investments required for the Water and Sanitation Sector, clean water provision from a utility production system, through a utility network is the most economic way of a city provision, because the monopolistic situation of the utility and the scale economies that can reach. Moreover, the utility storage and regulation system (reservoirs and tanks) allow the enterprise to cope with the monthly, daily and hourly variations of the demand. With a proper storage and regulation system, utilities can work in an uninterrupted basis, 24 hours a day. The water from a vendor or from a stand post must come from a far away utility network, or from a far away unreliable well and does not have the same value of the public service in terms of hygiene and continuity of distribution.

The situation is similar for wastewater collection. There is no other economic option than the public sewerage system, in urban areas. Septic tanks can work but these facilities have a high cost of construction and must be cleaned every five years at least. Low cost latrines must be emptied and replaced more often than septic tanks and the size of the plot must allow latrine rebuilding that is not easy in urban developments. The sludge of septic tanks and latrines is often disposed of in the sewerage system.

If we analyse with attention the content in BOX 1 we can reach the conclusion that is very likely that utilities in those cities are charging tariffs below cost. The other reflection is that the lack of water service of the people paying vendors is not because they cannot afford a house connection to a network in front of their houses, rather because that network does not exist. In other words there is insufficient provision of service, that matches with insufficient funds, inefficiency or just negligence to serve the poor.

We can come to the conclusion also, that the willingness to pay of the poor is higher than is normally assumed. This has its explanation in the fact that **nobody can live without water**. The poor who are not paying vendors, are paying in terms of morbidity and mortality.

In 1897, in a case of San Diego Water Company v/s San Diego City(California, USA) Chief Justice Beatty said *"Rates ought to be adjusted to the value of the service rendered, and this means that the water companies should be allowed to collect annually a gross income sufficient to pay current expenses, maintain the necessary plant in a state of efficiency, and declare a dividend to stockholders equal to at least the lowest current rates of interest, not on the par or market value of the stock, but on the actual value of the property necessarily used in providing and distributing the water to consumers"* Depreciation of Public Utility Properties, Henry Earle Riggs. Mc Graw Hill Book Co. Inc., 1922.

The belief in developing countries that water could be considered as almost a free good, and that should be delivered at low or no cost because is a vital service, has made governments or municipalities keep for themselves the responsibility of the provision alongside with the provision of sanitation. However this responsibility has not been encompassed by a fair price charged for the service. The result has been utilities with large financial hardships that provide services of poor quality, continuity and coverage

Freedom of competition from other public service of the same kind is of substantial advantage both to the utilities and their customers, and here lies the explanation why although the high capital costs, investors can be attracted to the sector, if an adequate rate of return on investment is guaranteed. *" Financial Stability. Because of recurrent adjustments of their charges to meet business conditions and for other reasons, public utilities (in U.S.A.) have a record for stability of earnings and return to their investors which is not paralleled in any other line of business and which has attracted many conservative investors to public utility securities"* Economics of Public Utilities. L. R. N. Mc Graw -Hill Book Co.Inc. 1925.

Box 1: HOW MUCH POOR URBAN POPULATIONS ARE PAYING FOR WATER

The problem of lack of water services is felt more pronounced by the poor in slum areas of the large cities in developing countries, accounting for between 30 per cent and 70 per cent of the population. Many times, the only choice for those low-income households who cannot afford a house connection is to buy water of substandard quality from private vendors at a relatively high price, sometimes 100 times higher than could be provided by public authorities. Some examples of this phenomenon are presented in the following table.

Ratios Between Prices Charges by Vendors and Public Utilities

Country	City	Ratio
Bangladesh	Dhaka	12-25
Colombia	Cali	10
Ecuador	Guayaquil	20
Haiti	Port-au-Prince	17-100
Honduras	Tegucigalpa	16-34
Indonesia	DKI Jakarta	4-60
	Surabaya	20-60
Ivory Coast	Abidjan	5
Kenya	Nairobi	7-11
Mauritania	Nouakchott	100
Nigeria	Lagos	4-10
	Onitsha	6-38
Pakistan	Karachi	28-83
Peru	Lima	17
Togo	Lome	7-10
Turkey	Istanbul	10
Uganda	Kampala	4-9

Source: "Water resources Policies and the Urban Poor: Innovative Approaches and policy Imperatives." Ramesh Bhatia and Malin Falkenmark. Water and Sanitation Currents, UNDP-World Bank Water and Sanitation Program, 1993.

¿What could have been the missing link in developing countries that has prevented private or public investment in the Water and Sanitation Sector ?

Our answer is that the lack of community partnerships within the civil society, that is partnerships between central governments, local governments, consumers, investors, community organisations, professionals and their associations, universities, etc., is the missing link that has prevented investment for a better coverage.

1.2. Building Partnerships for Investments in the Water Sector.

"Partnership is an essential feature of the provision of water and sanitation services. To guarantee adequate project design and efficient and effective management, the partnership

needs to include all the agencies involved (government agencies, utilities, banks, NGOs, grassroots organisations and consumer groups).

Governments, with the support of ESAs, should therefore provide the legal, institutional and policy framework that is necessary to ensure this partnership and remove obstacles preventing people's participation, especially those hampering the full involvement of women".(Working Group on Urbanization Report. Water Supply and Sanitation Collaborative Council, 1993).

1.2.1 Partnerships between Consumers and Providers.

The relationships between investors and rate payers, that is between utilities that charge a tariff, and consumers who pay the tariff is one of the most intimate and vital business relationships to be found.

Considering the monopolistic nature of a sector, so closely related to the welfare and health of the population, its institutionality in its simplest form should be: A Regulator (government) granting franchises or concessions to public or private utilities that would have the obligation of delivering service to **all the population** inside the concession zone at a tariff set by the government considering an **efficient** provision of the service.

Therefore, the first partnership to be built is between the principal actors involved in the provision: providers and consumers, that is between utilities and their customers or clients. This partnership should be established in a contract whose main clauses consider:

- Utilities providing efficient service to their customers at the fair price set by the Regulator.
- Customers making efficient use of the facilities and paying the fair price.

The fair price represents the fair value of providing the service. Customers should pay all costs, plus a fair return on capital to invest. The importance of linking pricing to future investments plans has been highlighted by modern economists. Long Term Marginal Cost, that is related to the cost-effect of a change in the future demand, appears to be a convenient tool for pricing. Customers should not pay utilities inefficiencies both in the investment and in the operation and maintenance side, beyond the real needs of the utility. Customers cannot be expected to bear excessive investment nor to guarantee a return on properties built where there is not real demand for the services.

Public hearings, Consumer Associations participation in the process of setting tariffs or of approving investments are a sort of partnerships between Consumer and the Regulator. If they receive enough information, consumers directly or through Consumer Associations can also help Regulator to control the quality of the services.

"The Ofwat (British Regulator)National Customer Council is growing in stature. It was closely involved in the periodic review of the industry's price controls and the Director general has stated that he intends to use it increasingly in the future as a major means by

which he will comply with his duty to protect consumer's interests." Consumer representation in the Public utilities, A review by the National Consumer Council, London, 1996.

The fluent communication among parties, should start from the beginning of the provision contract

Utilities should communicate its clients : "Look, here are my obligations. There are yours. If you are not satisfied with the service you can put a claim to the Regulator."

And this communication should be maintained as long as the services is rendered.: "Look, I will build a new treatment plant, but because of new technology it is very likely that this will not cause a tariff increase"

1.2.2. Partnerships between Utilities and Future Clients.

Investments in the water sector apart from being high are very much related to the planning of the city development. Thus, partnerships should be built also among future clients, or housing developers and utilities. Developers should communicate to the utility "Look, I am planning to build a new housing development in the border of your concession zone. Do you think you can manage and ensure the water and sanitation service?" Future clients should communicate the utility "Look, I would like to have my house connected to the public sewerage system, would you allow me to pay by long term instalment ?. The monopolistic nature of the Water and Sanitation Sector ensure " clients for ever", thus utility benefits by helping future clients to be connected to its networks.

" In 1991 an overall survey of houses not connected to the EMOS(Santiago water and sanitation utility) sewerage system was carried out. The company made special offers to middle-income families that had an intermediate sanitation solution to pay the connections in twelve or twenty instalments included in their bills. Sixty instalments were allowed to low-income families, and the very poor who had municipal certification were connected if they paid a symbolic price of USD5 or USD10 on a ten-instalment basis, in order to create payment habit. As a result, some 30,000 houses, which had on-site solution, were connected to the already existing sewerage system" Linkages between Municipalities and Utilities. An Experience in Overcoming Urban Poverty" Raquel Alfaro, Visiting Practitioner at TWUESD, The World Bank, 1996.

1.2.3 Partnerships between Providers and Communities for Investment in Feeder Infrastructure.

Partnership for direct investment, between communities and service providers is suited for feeder infrastructures (connections and networks) in urban areas, and for rural communities In Box 2 there is an example of Community Mobilisation for Sanitation in Kenya.

Other examples of partnerships for investments are Rural Drinking Water or Sanitation programs in which governments provide total or partial of the investment costs, and directly or through public utilities organise community(Water or Sanitation Commitee) to run the system. Community operates and maintains the works with the funds that they collect from

the members, and government (or public utility) provide technical and administrative assistance. These partnerships are working in Paraguay, Chile, Indonesia, and other countries)

Box 2 **Community Mobilisation for Sanitation in Kenya**

The village of Maina is an informal settlement within the municipal boundaries of Nyahururu town in Kenya, where DANIDA executed a sewerage house connection project between 1988 and 1991. In the first year of the project, a trunk sewer and lateral sewers were constructed without any participation by residents. The consequences were predictable: villagers did not understand the project motives, and therefore resisted collaborating with project teams when the plans indicated that the layout of some plots would be altered to make room for roads, storm drains, and toilet units. Villager apprehensions were based on a valid concern that engineers plans would result in large-scale alterations to existing structures and houses.

A DANIDA review mission in 1989 recommended that the physical plan be revised with community participation before any further investments were made. A site committee was formed, involving residents in the process of determining what the project components would. Extension workers from government ministries and staff from a leading Kenyan NGO (KWAHO) were enlisted as facilitators. The results were strikingly different. Communities began mobilising internal resources, both labour and materials, and also began participating in the operation and maintenance of constructed facilities.

By the time the project came to an end, the community groups, with support from KWAHO, had charted a completely different course for the project, and were able to engage the Nyahururu Municipal Council in a productive dialogue on where and when other infrastructural facilities, such roads, a police station, and a post office, could be located within Maina village.

1.2.4 Partnerships between Public and Private Sector for Trunk Infrastructure Investments.

In the case of trunk infrastructure for a city, the possibility are open for building partnerships between public and private sector for the provision and management of water and sanitation. The main types of options are:

- **Partial privatisation** of a public utility company, sharing the ownership and control through minority or majority private participation. The objective is to introduce external capital and to enhance management through know-how transference. Private investor receives its portion of annual profits. There are very few examples of this partnerships, although it is intended that some of the Chilean Water and Sanitation Companies could be privatised in this way, because of big investments required and the need of improving efficiency.
- **Concession contract.** In this case the contractor is responsible for the construction, financing, operation and maintenance of a facility of a public company (BOT, Build Operate and Transfer type contracts), or for operating, maintaining and investing in the whole public utility, over the period of the concession, before finally transferring the

facility to the government at no cost. There are whole concessions in France, (many cities) Argentina (Buenos Aires and a number of provinces), Cote d' Ivoire (Abidjan), Filipinas (Manila). There are BOT contracts in Malaysia (a water treatment plant), in Mexico (a wastewater treatment plant). The concession period, that can be renewed, is for 20 to 30 years. The contractor has tariffs revenues. Tariffs are periodically renegotiated.

- **Lease contract.** In this case the private contractor rents facilities from a public company, which remains responsible for new investments. The contractor is responsible for operation and maintenance of the facilities for a period of 5 or 10 years, that can be renewed. Contractor receives revenues from customers and have to pay a fixed fee to the government. There are lease contracts in France, Guinea and Cote d' Ivoire.

2.- How to Promote Efficiency. Building Partnerships for Efficiency in the Water and Sanitation Sector.

2.1.-Building partnerships for efficient consumption.

Drinking water is the unique vital product that has no economic substitute, yet it is the unique product that is thrown away without any use, through leaks and drops, as the water running all the time in ill-functioning toilets or hidden leaks. The water losses increase the monthly bill if the water is metered, or increase utility waste if not. In both cases consumers wastage of water increase the size of the investment in water and sanitation facilities. A toilet running- which is not uncommon in houses, schools, hotels, etc. in developing countries- for only 24 hours, represents a volume equivalent to the normal consumption of a family of five in a month.

Demand management is a new approach taking place in the water industry. It applies different tools to promote better patterns of consumption. *"Increases in supply should not be ignored, but with the escalating costs of new supplies, demand management is rapidly becoming the low cost alternative"* (Intersectoral Water Allocation and Pricing. W. Easter, 1992). We could add, demand management through information and education is the best subsidy given to the poor because they learn how to manage their monthly bill.

A good example of the advantage to build partnerships within civil society is the demand management program of the EMOS's (Santiago, Chile) Consumer Orientation Unit of the Commercial Division. This is an educational program. *" In the client education tasks oriented to water conservation and demand management, there is another link between utilities and municipalities. EMOS normally uses municipal facilities for its plumbing workshops (addressed mainly to women in low income neighbourhoods), videos projections, and presentations to community groups. Municipal social workers who deal with community groups help EMOS to organise tours to its facilities and other events"* Linkages between Municipalities and Utilities : An Experience in Overcoming Urban Poverty. Raquel Alfaro, Visiting Practitioner at TWUESD, The World Bank, 1996.

An economic evaluation of the educational program gave a high Internal Rate of Return (27 %) to EMOS. Benefit calculations included decrease in illegal connections, decrease in under metered low water flows, and decrease of ill use of hydrants. The benefit of reducing the demand when the production system capacity was overcharged because a delay in the building of a new water treatment plant, was not included in the calculation.(All the water that a family was wasting could be used by another family). The benefits for the consumer are decrease in the monthly bill without restricting useful consumption.

2.2. Building Partnerships for Efficient Provision.

As it was said before, the regulator should consider efficient provision when setting the fair price for Water and Sanitation. Consequently utilities must be efficient if they want to have a fair return on the investment.

Unaccounted for water is perhaps the principal factor affecting a water utility efficiency and hence its profitability. Therefore utilities should pay special attention to UFW reduction. *"interestingly enough most of the utilities that have an Operating Ratio (the ratio of operating costs to operating revenues) larger than 1, also have an average UFW ratio larger than 40 %"* Water & Wastewater Utilities Indicators. Guillermo Yepes , Augusta Dianderas, Water and Sanitation Division, The World Bank, 1996.

In 2.1 we discussed the benefit for building partnership with clients for UFW reduction. However domestic unaccounted for water is only one element of the total UFW of the water companies. Other elements are losses in the production processes (intakes, aqueducts, water treatment plants) and in the distribution system (mains, networks, tanks, valves, etc).. An interesting partnership between civil society and water utilities for increases in efficiency, particularly unaccounted for water reduction, are agreements with universities. Universities can look to utilities as places where its undergraduates or graduates can make useful research while utilities will benefit from academic research.

Good relationships with workers, contractors and suppliers, thinking of them as associates or partners rather people sat at the other end of the table will improve utilities efficiency. In fact, if workers, contractors and suppliers are made aware of the importance of utilities increase in efficiency or are offered a share of the extra benefits, by means of "bonus" or "premium" clauses in contracts if utilities reach some targets, or for anticipated deliveries or anticipated finishing of works, they will contribute to that increase of efficiency.

Outsourcing in the Water and Sanitation sector increases efficiency because it means to introduce competition in a monopolistic activity. Labour productivity inside the companies also increases when workers are confronted with outsourcing.

Good relationships with other kind of public utilities, for instance, electricity, telecommunication, railways, or government divisions in charge of public works, also contributes to efficiency. Agreements could be signed or partnerships could be established for common purposes, for example agreed rupture of streets.

2.3. Building partnerships between other members of the Community for investment and efficiency in The Water and Sanitation Sector.

Another opportunity of creating partnerships for efficiency, within Civil Society are the associations of professionals working in the Water and Sanitation Sector. In the last National Congress of the Chilean Association for Sanitary Engineering celebrated recently in Copiapó, Chile, apart from presentations on technology, demand management, efficient allocation of resources, regulations, etc., there were presentations of the National Commission of Environment, the Metropolitan Service for Environmental Health, the National Institute of Technology, the Sanitary Engineering Department and the Economics Department of the University of Chile, etc. In all these presentations the importance of creating new patterns of community participation in the field of Water Supply, Sanitation and the Environment towards sustainable development was stressed. Interaction, shared responsibilities, partnerships between the different agents involved, were phrases repeated for almost all these presentations expositors. They were, physicians, economists, engineers, sociologists, etc., talking about issues such as :environmental education, working with and training local authorities officials, the importance of working with and training media professionals, involving politicians, communicators, teachers associations, union associations, industrial and commercial associations (producers and suppliers of goods and services) in environmental issues ; forging strategic alliances between ONGs, industry and technology institutes, introduction of internet communication systems, etc.

International partnerships for technology and best practices transferances, was also mentioned as a main tool.

In conclusion, we can say that there is a tremendous potential for community partnerships towards sustainable end efficient Water and Sanitation. The developing countries that are already working in this way or are planning to do so, have the best possibilities of success in achieving the goal of Water Supply and Sanitation for all.

Regarding international co-operation its worthwhile two events:

In Manila, the participants in the Water Supply and Sanitation Collaborative Council Fourth Global Forum, November 1997 (Theme : Water and Sanitation for all : Calling all stakeholders) *"Will work out how they, their colleagues and their counterparts around the world can push communities, governments, donors, NGOs and all stakeholders into intensified efforts to implement effective water and sanitation programmes"* (Press release). The WWSSCC is sponsored by WHO, UNDP, and other international organisations for development.

In New York the Expert Group Meeting Organised by UNCHS (Habitat) in co-ordination with the UN Department for Policy Co-ordination and Sustainable Development, April 1997, discussed the issue of "Changing Consumption (and Production) Patterns in Human Settlements" to ensure that the goods and services required to meet everyone's consumption needs, among them, Water and Sanitation, are delivered without undermining the environmental capital of nations and the world.

Conclusion

UNCHS (Habitat) today is calling an International Consultation on "Partnerships in the Water Sector for Cities in Africa". *"Community participation in the water sector has special advantages. This not only ensures that community is provided with what it wants rather the government thinks it needs, but also provides the community with a sense of belonging and ownership, which inevitable results in better care for the investment and a greater willingness to pay for the services: this can go a long way towards cost recovery and long-term sustainability of services. The women of the community, in particular, can be important agents for change. The private sector can bring significant efficiency gains and the much needed investment funds the water sector. However, private sector capital is not unlimited and there are many demands for capital financing in the infrastructure sector. A strong political commitment, institutional reforms and sound strategies will be needed to ensure that more water and sanitation projects attract private sector investment and risk-taking."* (Introductory paper to the Consultation)

Santiago, October 30 1997.