

Progress with Public-Private Partnership Projects in Developing Countries (draft)

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1. Framework for Case Studies

1-1. Case studies on network utilities

This paper is dedicated to deepening the understanding of a more practical arrangement of Public-Private Partnership (PPP) project structures by means of PPP case studies. For the purposes of analysis, some cases often cited as good practices have been selected from the sectors of water supply and sewerage, regional electric power supply and telecommunications. Among different types of infrastructure, they all face particularly high social demand and are expected to help reduce poverty. Expecting to charge fees, power and telecommunications businesses are relatively viable in a commercial sense. Infrastructure building has been active with the use of private capital. But it is difficult to expect a large number of private operators to participate in the construction, operation and maintenance of power supply and communication infrastructure in rural poverty zones. Many people remark that profitability cannot be ensured in any project involving water services or other infrastructure of great social significance because of high water supply or other costs. The case studies discussed in this paper show good examples of making the most of the business expertise and capital of private investors/operators to maximize business efficiency and to expand the service beneficiaries even under the circumstances just described.

1-1-1. Perspectives on reviewing PPP project structures

Although the sectors examined in this paper all fall under the category of “network utilities,” [1] the structure of the network varies from sector to sector. In referring to the innovative cases in the sectors, this paper starts with an analysis of international targets in the sectors in connection with the Millennium Development Goals (MDGs), before taking a brief look at the characteristics of the industrial structures in these sectors. Next, it examines the initial circumstances surrounding the projects associated with the case studies and the problems involved in them for reviewing the business structures of the projects. And it assesses these individual projects in the following aspects related to the mechanism of improving business efficiency and effects.

(1) System for increasing profitability based on innovation of private operators

When private operators consider whether or not to launch a new business, the most important

factor is profitability. When using private capital, it is necessary to study the cost of funds. No private operators will invest in the business unless it is more profitable than other investment opportunities. If external funds are raised by issuing bonds or through bank loans, the project must be more profitable than the cost of fund procurement. If there is any possibility of devising a good method of cutting costs or raising the profitability of the project, private operators will endeavor to do so.

(2) System for benefiting from the principle of competition

Introduction of private sector vitality to the public sector operations means cutting costs in accordance with the principle of competition. For projects involving the maintenance and repair of the nationwide road network and urban water services, the invitation of private bids for separate contracts associated with the fragmented zones of the coverage area will make the competition principle work and help increase the service efficiency of the infrastructure. In the project involving the maintenance and repair of rural roads in Argentina, the nationwide road network was divided into 60 zones so that separate contracts for individual zones would be put out to tender. In the urban water supply project in metro Manila, the city of Manila split the service area into two, namely east and west, to boost price competition. The case studies check whether each project incorporates a mechanism in which multiple private operators are subject to the principle of competition.

(3) Subsidization based on monitored performance and a system for curtailing the size of the subsidy

In an area of extreme poverty, the managerial efforts of private operators alone may not suffice to ensure the profitability of public services provided. This issue is known as the real access gap (See Fig. 1).

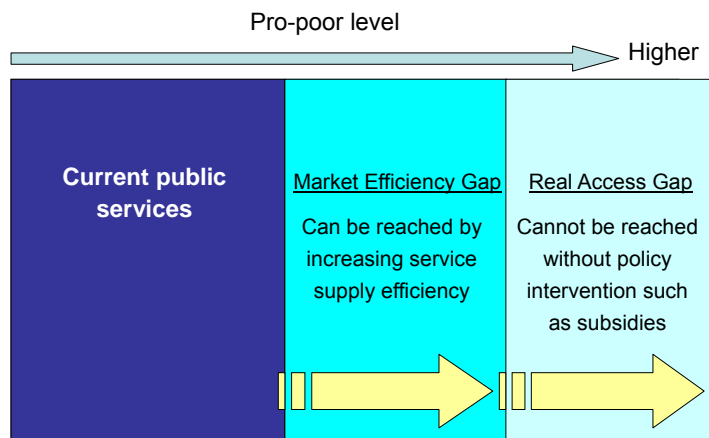
In this case, this goal may only be achieved with government subsidies. Needless to say, private operators are expected to make their best possible efforts to cut costs even when benefiting from the subsidies. And in many cases, subsidy payments are combined with monitoring of the extent to which the targets predefined in the contract are achieved. Many project contracts stipulate some sort of system that encourages private operators to make efforts in this respect, such as penalties if progress is behind schedule and bonuses for early fulfillment of targets. The case studies examine how such “stick-and-carrot” systems are used in the projects. To prevent the subsidies from leading to a permanent financial burden, the project needs to include a timetable according to which the subsidy amount will gradually decline.

(4) Participation of firms and consultants with expertise and creativity

PPP arrangements require some knowledge that has never been necessary in the public sector. It is also necessary to hire experts in financial, technological, legal, insurance and other affairs. In

addition, it is difficult for the public sector to independently devise and conduct a detailed design of the household budget survey or to make demand forecasts, which require professional knowledge. It is important to find private firms and consultants with the outstanding specialist skills to meet those needs. The case studies analyze the available materials to assess the involvement of such firms and consultants.

Figure 1: Improvement in Pro-Poorness of Public Services



Source: Created by the author

(5) Proactive players in forming the partnership

In general, the establishment of multi-actor partnerships like PPPs may entail large transaction costs. There are heavy time and labor requirements in ensuring that different actors share the project objectives on the basis of their mutual understanding and agree to share risks and responsibilities. It is highly likely that the actors would place a higher priority on averting short-term costs than on reaping long-term benefits, dooming the attempts at forming a partnership to failure. A decisive factor in bolstering the partnership is whether or not it has any leader able to exert a powerful initiative to bring the project to the incubation stage. It may be either the government or a private company that can play this leading role. Or partnerships could be formed at the initiative of local communities. The case studies examine who played this significant function.

1-1-2. Viewpoints in studying the project impact

In each case study, it is necessary to look at what achievements came out of the partnership arrangement and how its effect can be evaluated. It is said that it is vital to determine what can be achieved by forming the PPP. Possible results expected from such partnerships include (i) geographical expansion of the service, (ii) improved business efficiency, (iii) upgraded quality of the service, (iv) attainment of financial soundness, (v) the acceptable service charge rates in consideration of business sustainability and the ability and willingness of beneficiaries to pay. [2]

However, it is not always the case that all of them can be achieved at the same time. So an analysis of the effect is performed by comparing the actual achievement with the initially intended goals of each project.

1-2. Study on new areas and challenges to which the PPP approach is applicable

In this paper, Section 3 mentions some PPPs in a certain category of social services, specifically including education and health and medical care. Social services in this category have greater diversity in the manner of involvement of private actors than network utilities and it is considered more desirable to show the possibilities than to introduce specific case studies.

This paper attempts to deepen the knowledge about the possibility and challenges of expanding the introduction of PPPs in those areas by reviewing the following aspects:

- i. Which MDGs are specified as goals to be met in the area?
- ii. What difficulties need to be addressed to reach the goals in the area?
- iii. What are the possible approaches to sorting through the difficulties?
- iv. What project schemes are possible in the PPPs implemented in the area?
- v. What is the responsibility of the governments of developing nations when such project schemes are introduced?

2. Examples of Partnerships in Sectors with Advanced PPPs

This section takes a look at examples of PPPs to obtain a deeper understanding of the practical arrangements of project structures. For the analysis, we have chosen cases that are often cited as good practices from the sectors of water supply and sewerage, regional power supply and telecommunications. In these sectors especially, there is very high social demand for infrastructure and a contribution to poverty reduction is required.

2-1. Water supply

It has been estimated that the world has 1.1 billion people without access to safe water. The drinking water supply service penetration rate is extremely low in rural areas where water supply operation costs are high. People living there are chronically affected by water shortages. Under these circumstances, the MDGs underline the need to secure access to safe drinking water. They include a target to halve the percentage of people without sustainable access to safe drinking water by 2015 (See Table 1). The 2003 World Water Forum had several new proposals for achieving the MDGs, including the introduction of the PPP method, and it strongly called for the use of private funds and expertise in the water services operations.

It can therefore be said that international society wants water services not only to construct water

treatment plants and expand their services network as they have traditionally done but to improve the quality of drinking water, to ensure service sustainability and to establish optimal systems that help meet these demands by supporting the PPPs in the drinking water supply sector. What is critical in achieving sustainability include the perspectives of (i) environmental sustainability, (ii) financial sustainability and (iii) institutional sustainability in the process of project formulation. Environmental sustainability refers to the deterrence of environmental destruction caused by the water business. Financial sustainability means the financial soundness of the business with an appropriate degree of cost recovery. And institutional sustainability is concerned with the strengthened capabilities of the water business operator to continuously operate the services.

Table 1: MDG Target and Indicator Concerned with Water Supply

Goal and target	Indicator
<p>Goal 7: Ensure environmental sustainability Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation.</p>	<p>1. Proportion of population with sustainable access to an improved water source</p>

Moreover, it should be noted that the methods of applying the PPP approach to water services differ somewhat between developing countries suffering from water shortages and developed countries that have attained high penetration levels. Traditionally, the focus has been placed on supplying a good quantity of drinking water in developing countries and on supplying a good quality of drinking water in developed countries. Today, fiscal stringency is a worldwide phenomenon. Fiscal demands on public works are growing. Global environmental problems are exacerbated. Developing countries are now also expected to construct systems that offer the supply of water of good quantity and quality. In other words, they need to devise a method of raising funds for quantitative and qualitative improvements. Quantitative enhancement includes (i) providing access to hygienic water that meets the demand of a growing population, (ii) restoring facilities that have deteriorated after poor management, (iii) ensuring water supply to low-income groups who have difficulty in paying their bills and (iv) attaining independent and autonomous management of water services, whereas qualitative betterment involves (v) tighter regulations on water quality, (vi) increased management efficiency, (vii) environmental friendliness and (viii) innovative ways of raising funds for repairing obsolete facilities. Given that water businesses are closely related to localities, developing countries have fiscal and corruption problems that differ from those facing central governments.

The above problems with the water supply services also exist in the sewerage services. Sewerage services in developing countries must deal with the strong reluctance of beneficiaries to pay for them. Cost recovery is harder to achieve than that in water supply services. And they have a substantial

impact on the environment. It is necessary to find a way to finance the sewerage cost, for example through the appropriation of charge fees earned by the water supply services.

In order to meet these challenges facing the water business, the style and the degree of collaboration and involvement of the public and private actors in PPP arrangements vary significantly depending on certain preconditions, including what the program aims to achieve in preference to others and the circumstances of the local area. Initiatives are underway to seek different models for the effective and efficient participation of the private sector suited to the distinctive social, economic and water policy circumstances that confront different countries and regions.

Looking at past examples of reform in the water service sector in developing countries, we find that many of them involved a transfer of ownership from a monopolistic state-run company to a monopolistic private operator to ensure exclusive operation of the water services. The problems and lessons of this type of operation is that some monopolistic private water operators lowered their tariffs in a period of high inflation without considering the introduction of any cost-based tariff structure. In the wake of an economic crisis, they failed to hedge the foreign exchange risks and fell into financial difficulties, and eventually had to enter into renegotiation or withdraw from the business (See Box 1).

On the other hand, there has been recent growth in the number of projects run in true “public-private” collaboration, in which different types of private companies and the public sector share the project risks. This differs from the autonomous operation of the monopolistic private firm as described above. In some South American projects, various types of water business operators, including former public companies, private companies that have independently handled water supply operation and joint ventures set up by local governments and the private sector share risks with the government, local water supply public corporations and other actors in the public sector to operate PPP-based services focused on providing the poor with access to running water. This section spotlights some advanced cases of PPP-based water utility projects in Latin America.

2-1-1. Chile: a PPP water project with a combination of family income surveys and subsidies

(1) Background

The Chilean national government began to review its statutory regulations, finance and organizations associated with the water sector as part of its administrative reform in the late 1980s. At that time, water tariffs were uniform throughout the country. For a long time, the tariff revenues alone had not covered even half of the cost incurred. Especially in rural areas, the cost of water pipe connection work is so high that charge fees failed to reach 20% of the total cost. These circumstances constantly drove up the deficit in the public sector, specifically the water supply public corporation. The primary objectives of the reform were to replace the conventional uniform

tariff with raised rates commensurate with the essential economic cost of the water services and to construct a mechanism under which poor beneficiaries could enjoy the access and pay for it by means of privatization and PPP projects.

Chile already had in place a water supply network equipped with water meters. The main focus of the reform was on reorganizing the charging system to cover the country's poor population.

Box 1: Case Studies on Privatization of Water Services for Large Urban Areas

Water Supply for the Buenos Aires Metropolitan Region

The water supply and sewerage services in the Buenos Aires Metropolitan Region had been operated by OSN, a state-run sanitation public corporation, since 1912. Prior to the privatization project, its performance was very poor with a coverage ratio of 70%, an unaccounted for water (UFW) ratio of 45%, water meter penetration of 20% and a sewerage coverage ratio of 58%. Rehabilitation of the business was an urgent issue.

In 1993, privatization of water services was approved as part of a program for privatizing state-run companies with the help of the World Bank, to correct economic mismanagement. Under a 30-year concession agreement, the international joint venture called Aguas Argentinas (AA) took over the responsibility for operating the water services.

After the privatization, US\$600 million were invested. The project was reported to be a success, with tariffs lowered by 27% and a water supply volume up by 37%. However, when Argentina devalued its currency in the wake of its economic crisis in 2002, the AA experienced a two-thirds fall in revenues, and encountered serious financial difficulties. The concession agreement had a provision for renegotiation, including that based on foreign exchange risks. However, the government froze the reassessment and no tariff increase has taken place. AA's largest shareholder, Suez, suffered Euro 500 million loss in FY2002.

Water Services for Metro Manila

Manila Metropolitan Waterworks and Sewerage Services (MWSS) had operated the water supply and sewerage services for metro Manila since 1971. Its performance was so poor—with water supply penetration of 68%, a UFW ratio of 44%, unpaid charges and illegal connections—that half of the population had access to water for only a half day every day.

In 1995, the MWSS was privatized, following the example of Buenos Aires. With the principle of competition introduced to a local monopoly environment, the city of Manila was split into eastern and western areas to invite private bids for services in separate areas, to prevent any cessation in the water supply citywide even in the event a privatized business should go bankrupt. As a result, Maynilad Water Services (MWSI) won a 25-year concession to operate the services for the west area while Manila Water Company (MWCI) was successful for the

east area.

The greatest achievement of the MWSI and the MWCI is expansion of their areas of coverage. Five years after the inauguration of the service, the number of connections soared about 30%. The daily average water availability duration increased to 17 to 21 hours. However, the performance of their sewerage services remains far short of the goal. The UFW ratio still remains unreduced.

Introduction of private capital led to service expansion. But it cannot be said to have completely improved the financial position. In the wake of the 1997 Southeast Asian economic crisis and the Philippines' slumping currency, the cumulative debts in Philippine peso swelled 60%. This was partly because a large portion of the debts of the MWSI for the western district was in foreign currencies. In March 2001, the annual debt repayment in the west area became equal to the charge fees. The MWSI was obliged to raise the tariffs. The tariff increases approved by the government in October 2001 and in July 2002 finally improved the financial position. Later, the government declared a freeze on water tariff hikes. In response, the MWSI informed the government it planned to relinquish its operations rights on the grounds that the contractual terms for tariff revisions were violated.

In the east district, the MWCI increased operational efficiency to achieve profitability. It has yet to remove the entire governmental financial burden. Not all fiscal burdens for future investment plans including water source development have been eased. The east-west disparity in performance is partly attributable to differences between the two areas. The east has well-developed infrastructure and a business district while the west lacks infrastructure and has many poverty zones.

(2) Flow and structure of the system

Table 2 shows the public and private actors involved in the PPP project, which consists of household budget surveys based on the Communal Social Assistance Committees (CAS) scoring system conducted by local governments and subsidies to water supply operators providing services based on the survey results. Fig. 2 portrays the overall flow and structure of the project.

Table 2: Public and Private Actors in the Water PPP in Chile

Public sector: Interior Ministry, Ministry of Finance and local governments

Private sector: water supply companies including EMOS, Chile's largest water supplier

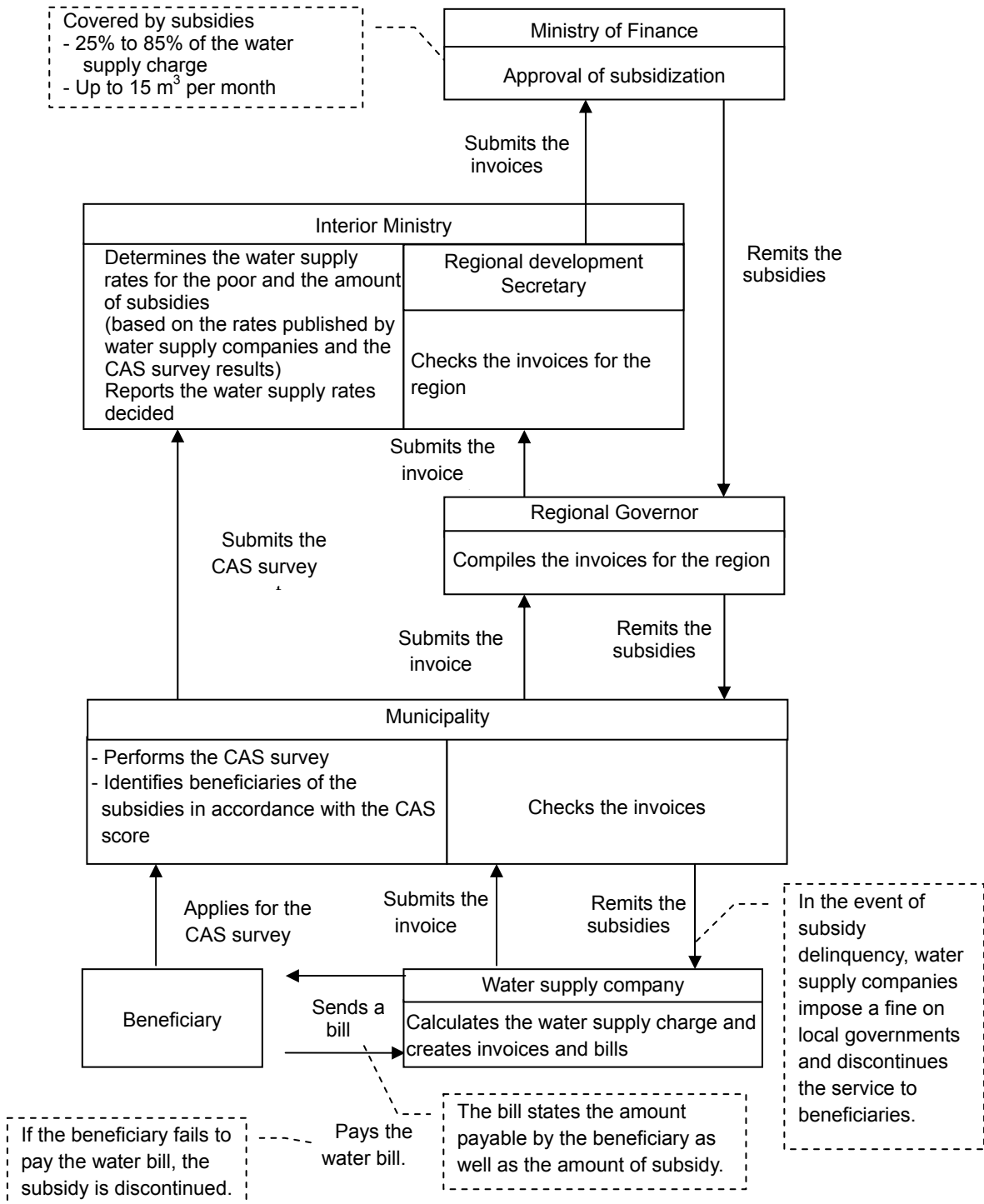
Several existing water supply companies have all evolved from the former water supply public corporation, which was privatized in the 1990s. EMOS is the country's largest water supplier covering the Santiago urban area.

The process of securing a budget for the subsidy program starts with an application submitted by the poor beneficiaries to the local government for household income assessment. Next, every local government checks the applications and compiles the assessment results to identify households eligible for subsidies. The water supplier calculates and publishes the water tariff appropriate to the cost. Receiving reports from local authorities, the Interior Ministry examines the subsidy eligibility criteria in terms of household income level and district and the level of water tariffs payable by subsidy beneficiaries to ensure that the amount they pay will not exceed 5% of their income. The difference between the water tariffs calculated by the Ministry and by the water company is regarded as the subsidy. The actual subsidies account for 25-85% of the water tariffs of the beneficiary households, with the actual degree of subsidization depending on the financial position of individual households. The upper limit of the volume of water consumption covered by the subsidy was set to 15 m³ per month per household.

In response to the report from the government, the water supplier creates and submits invoices to local governments. The subsidies are then disbursed to the water supplier with the approval of the regional development secretary in the Ministry of the Interior and the Ministry of Finance. It is local governments that disburse the subsidies and there is a risk that they may not appropriately grant the subsidies to the water supplier. For this reason, this program provides that local governments will be fined by the water supplying company for their non-performance to disburse the subsidies and entitles the water supplier to suspend its services to subsidized beneficiaries in the case of subsidy delinquency.

Meanwhile, beneficiaries each receive a bill that states both the payment that is due and the amount covered by the subsidy. If they do not pay the amount due, the subsidies cease to be provided and they have to pay the water tariffs in full. This system places on poor beneficiaries who need subsidies two obligations: the obligation to apply to their local government for CAS assessment and the obligation to pay the water bill to the private operator. These obligations are aimed at making the beneficiaries more aware of the role they need to play in the PPP.

Figure 2: Structure of Water PPP in Chile



(3) Key points (mechanisms to ensure program efficiency and effectiveness)

Based on the above observations, we have developed the following list of key institutional arrangements for raising the effectiveness and efficiency of the project and other measures in terms of the division of roles and collaboration between the public and private sectors.

i. Applications to local governments for household income assessment to be made by beneficiaries themselves

Designed to limit the subsidy beneficiaries to those who have applied for household income assessment, the program obliges poor beneficiaries in need of financial help to undertake application procedures to raise their awareness of their roles in the PPP arrangement.

ii. Ceiling on water volume covered by subsidies

The water volume subject to subsidies is capped at 15 m³ per month per household, which is the necessary minimum water volume. This ceiling gives the beneficiaries an economic incentive to limit their water consumption to a level at which the lowered water tariffs are applied and prompts them to consume supplied water in a non-wasteful manner.

iii. Control by a secretary in the Interior Ministry

Under the scheme, the invoices submitted by the water supply operator have to be checked and approved by the Secretary in charge of local development, which is the top management position in the Interior Ministry. In addition to subsidy payments from local governments to the water supplier, the procedures for granting subsidies are under his/her control. This system is highly appreciated for having increased the water supplier's confidence in the PPP project and has led to stable service operation.

iv. Fines and suspension of services to beneficiaries in the event of local governments' subsidy delinquency

For the purpose of averting the risk that local governments, as the final payers of subsidies, may not disburse the subsidies to the water supplier, the program provides for a penalty payable to the water service operator by local governments if they fail to grant subsidies. It also guarantees the operator's right to suspend its services to the beneficiaries that benefit from the subsidy scheme. This ensures that local governments carry out prompt payment of subsidies.

v. Discontinuation of subsidization for beneficiaries failing to pay their water bills

If any beneficiary fails to pay their water bills, their subsidy is stopped and they must pay the bills in full. This rule encourages the beneficiaries to be aware of their obligation to pay their water bills and habituate them to the payment.

(4) Achievements (impact)

This PPP project was initially aimed at expanding the coverage of drinking water supply services to low income populations who could not afford to pay the water bills; improving the tariff collection; raising the cost-based tariff; and thereby putting an end to deficit operations. To date, the PPP project has nearly doubled the water tariff rates while introducing a subsidy program linked with the household income assessment to keep the rates for the low-income population at a low level. It succeeds in establishing a cost-based tariff scheme without provoking any resistance from local people or social problems. Since the commencement of the project, the water supply service coverage was generally expanded to the degree to which it is now available in 73% of urban areas. The tariff collection ratio has been massively improved and the privatized water supplier has achieved profitability. Table 3 shows some major achievement indicators associated with this project.

It should be noted that the success of this project was aided by some favorable circumstances. First, Chile was already virtually equipped with waterworks facilities with water meters. Thanks to this, the construction or connection cost was in principle not passed on in the government budget for the subsidies and in the water bills charged to beneficiaries. The government and beneficiaries incurred a smaller economic burden than seen in other countries which have difficulties in financing the construction cost. The project had another advantage in providing an enabling environment for the supplier who could concentrate on operation and maintenance, areas to which it can more easily bring new ideas than to construction.

Second, Chile's local authorities already had enough skills to conduct household income assessments. Such practice requires great skill as well as a large number of staff for a broad array of processes, including a public campaign to bring poor people to submit applications, guidance on how to complete the application form, collection of application forms submitted and identification of the applicants eligible for subsidies. In fact, CAS practice entailed a huge administrative cost. The Chilean government is now studying the possibility of setting up a system in which the survey results will be used for diverse welfare policies and projects other than the water project to hold down the overall administrative cost.

Table 3: Major Achievement Indicators of the Water PPP in Chile

Expansion of service	<ul style="list-style-type: none"> - Aid worth US\$10 per household on average was offered to around 450,000 households, which made up 13% of all households in 1998. The total amount of subsidies was US\$33.6 million. - In some areas with high proportions of poor households and high water supply costs, one third of the households are subject to the subsidies.
Efficiency of project	<ul style="list-style-type: none"> - The cost recovery ratio improved from below 50% (or 20% in areas where the water supply cost was particularly high) to 100%. - Balance improved from a 2% deficit to a 4% surplus (1998).
Quality of service	<ul style="list-style-type: none"> - The stable water supply service was ensured. - Setting of a ceiling on water volume covered by the subsidies encouraged waste-free minimal consumption of water.
Financial soundness	<ul style="list-style-type: none"> - The shift to the subsidy system only for those poor households that have applied for the CAS assessment has substantially cut the financial burden on the government.
Service charge	<ul style="list-style-type: none"> - The water supply tariff rates were doubled. (It is estimated that the monthly bill based on the defined rates does not exceed around 5% of the monthly average household income.)

2-1-2. Paraguay: a PPP water project using the experience and expertise in water supply of aguateros

(1) Background

In the late 1990s, the Paraguayan state government explored a model for projects designed to achieve cost-effective operation and expansion of water services. At that time, it faced a major problem with a lack of water services, especially in rural areas with a high concentration of poor people. It urgently needed to set up an organization that would perform effective construction and operation of water supply facilities in the rural areas. At first, the government envisioned appointing Empresa de Service Sanitarios del Paraguay (ESSAP), a state body controlling the water services in urban areas, or Direccion General de Salud Ambienta (SENASA), a regional organization providing water supply services for 30-40% of households in rural areas, to meet this need. But both had outmoded and inefficient operation structures. Moreover, ESSAP had huge debts. It was therefore considered very difficult to give these public bodies a new central role in implementing water services in rural zones.

But Paraguay had some private water suppliers, called *aguateros*. They had been supplying water to suburban residents without receiving any government support. The government launched PPP-based pilot projects to examine the possibility of *aguateros* providing water services in rural areas.

(2) Flow and structure of the system

Table 4 describes the public and private actors in the PPP project. Two rounds of bidding for pilot projects were planned. Prior to the first bid, SENASA specified the amount of the subsidy for covering the cost of connection work performed by *aguateros* (hereinafter referred to as “the connection subsidy”) as US\$150 per connection. Given this amount, *aguateros* estimated the connection charge to be imposed on beneficiaries and placed their bids. The first bids were examined on the basis of their connection charge. In the second round, the bidding conditions were in reverse: SENASA set the connection charges imposed on beneficiaries beforehand, to US\$80 per connection for household consumers and US\$112 per connection for business or other consumers and the upper limit of the subsidy to be granted. *Aguateros* estimated the connection subsidy required by them in view of the announced preset values and placed their bids. The bids were then examined on the basis of the amount of connection subsidy tendered. For both pilot projects, it has been determined that the water tariffs should be fully paid by beneficiaries.

Table 4: Public and Private Actors in the Water PPP in Paraguay

Public sector: SENASA (Dirección General de Salud Ambiental) and Water Users Association (WUA)

SENASA is a water supply body controlling the rural areas. It controls the service for about 37% of the households in areas with a population of less than 10,000, or about 18% of the total households across the country. WUAs are under the aegis of SENASA in each rural community. It is responsible for actual service provision. There are more than 1,000 such associations throughout the country.

Private sector: *aguateros*

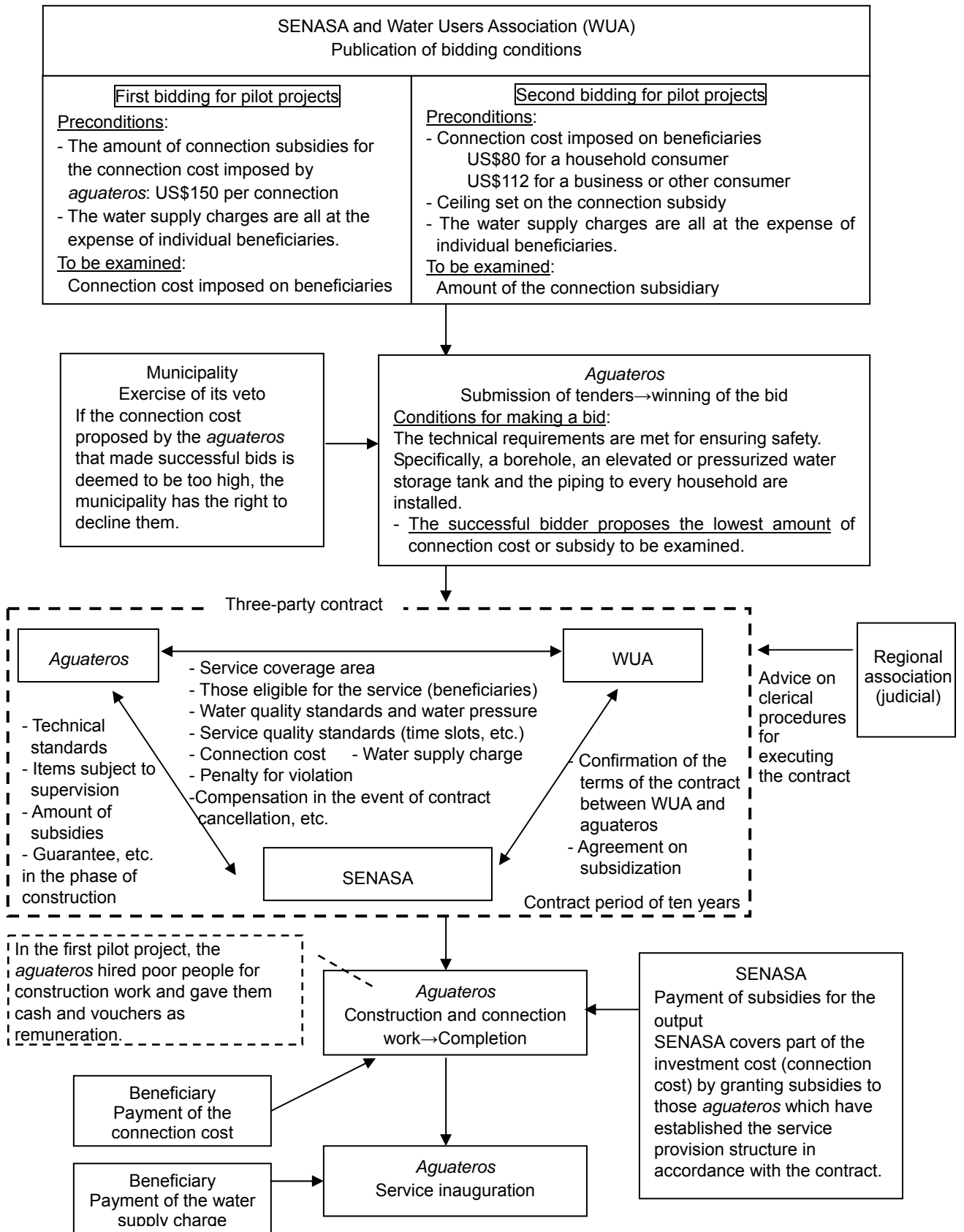
Most of the *aguateros* are informal water suppliers [3] without registration of corporate bodies. Today there are approximately 400 such suppliers in the whole country. They cover about 9% of the population, mainly in urban areas, especially in the Asunción metropolitan area.

Without enjoying public support, they have been supplying water through water service pipelines for more than 20 years. They are highly regarded for their meticulous services that meet the diverse needs of local residents. [4] In some regions, they cover more households than the public suppliers do. Even a small-scale supplier handles 300 connections [5] and some large-scale ones deal with 3,000 connections each.

In other words, this PPP project sees the subsidy provided by the public sector as a grant to cover the cost of connection or construction work. It differs from the Chilean project seen in the previous section in that the subsidy is not intended to ease the water charge burdens on beneficiaries.

Fig. 3 illustrates the overall flow and structure of the pilot project. In this project, the *aguateros* must meet the preconditions for participating in the bidding process that they need to have enough technical capacity to ensure safe operations, including the maintenance of storage tanks. Then the tender that proposes the lowest connection subsidy or connection charge on beneficiaries is the winner.

Figure 3: Structure of the Water PPP in Paraguay



The winning *aguateros* enter into negotiations on contractual terms with SENASA and the Water Users Association (WUA), which is a water management association under the control of SENASA and set up in each rural community. They reach an agreement with SENASA on the terms and conditions with regards to the construction process, including technical standards of construction work. Meanwhile they sign a ten-year management contract with the WUA that covers a range of services, water tariff rates and penalties for violation. During the process of contract negotiations, WUA is supported by a local association which gives advice on legal affairs and thereby offsets WUA's lack of experience and knowledge of administrative procedures in signing the contract. The signed terms and conditions are reported to SENASA, which grants approval for payment of the subsidies for the project after checking the terms. The contract for the first pilot project was signed in August 2002.

On completion of the construction and connection work spelled out in the terms and conditions, the contracted *aguatero* is set to have its investment partly reimbursed by SENASA in the form of an Output-based Aid (OBA).

(3) Key points (mechanisms to ensure program efficiency and effectiveness)

In light of the aspects described above, we explore what institutional approaches and other matters for the division of duties and public-private collaboration were used to increase business efficiency and effectiveness in the pilot projects.

i. Difference in bidding conditions between the pilot projects

A number of bidding conditions were tested to determine which conditions would be best suited to the regional circumstances, such as adjacent water sources, topographic features and the coverage of existing infrastructure, as well as the actual conditions of *aguateros* that are likely to be the bidders. However, the system stipulates that the operator that meets the minimal technical requirements and puts in the lowest bid will win the contract. This is an aspect that stimulates competition among *aguateros* but we cannot find any mechanism to promote competitive bidding.

ii. Mutual agreements among three parties

The WUA is closely linked to local communities. It is placed at the center of the contractual framework to construct a system for supplying sophisticated services that satisfy the needs of local residents. The contractual terms are checked by the three parties, which ensure transparency in the project.

iii. Municipalities entitled to veto

When the connection charge proposed by the *aguatero* that wins the bid is too high, residents have a right to veto the *aguatero* through the municipality. It acts as a liaison to provide a forum for

communications between beneficiaries and the public and private sectors.

iv. Penalties for violation of the contract

Detailed contractual arrangements including penalties for violation encourage the *aguateros* to provide stable high-quality services.

v. The incentive-based subsidies

The incentive-based subsidies, or Output-based Aid (OBA) offset part of the invested cost for connection incurred by those *aguateros* that have established a service provision system compliant with the agreement. Offering an availability fee [6], this encourages *aguateros* to carry out quick and efficient construction of water supply equipment and connections with it.

vi. Recruitment of construction workers from among the poor (in the first pilot project)

To offset the burden of paying water bills and connection charges placed on poor beneficiaries, the first pilot project hired low income earners for on-site water pipe installation work and provided them with remuneration in the form of cash and vouchers.

(4) Achievements (impact)

The initial goal of the pilot projects was to expand the water supply services to rural areas where there are a large number of low income earners, utilizing the capital, experience and expertise of private water suppliers (*aguateros*), and to achieve stable collection of water charges. The first pilot project has successfully expanded the service coverage in its target district and generally receives high acclaim from beneficiaries. The PPP project is expected to cover a broader area. Table 5 outlines the major achievement indicators associated with this project.

Table 5: Major Achievement Indicators of the Water PPP in Paraguay

Expansion of service	- The service was expanded in four communities covered by the first pilot project.
Efficiency of project	- The cost recovery ratio was improved.
Quality of service	- A stable water supply service was ensured
Financial soundness	- The amount of subsidies for water supply services in rural areas decreased from US\$300-400 to US\$150 per connection in the first pilot project.
Service charge	- The water supply rate settings proposed by the <i>aguateros</i> winning the bid were accepted by the community in the process of forming the project.

2-1-3. Colombia: a PPP water project with the active use of internal cross-class support

(1) Background

In the early 1990s, the Colombian municipality of Cartagena studied a new operational approach to develop a cost-effective water service structure and to enlarge municipal water supply services. At that time, the municipal water tariff rate was uniform citywide and the tariff revenues were insufficient to cover the cost. The deficit of the public operator had been accumulated. Meanwhile, 30% of households in the city, many of which were classified as poor, lacked access to drinking water supply. The municipality faced the problem of mounting unauthorized consumption of city water in which illicit organizations were involved, constructing illegal pipelines to poor people. To address these issues, the municipality set up a joint venture called AGUACAR with a Spain-based water supply firm that had an excellent track record in water services. It launched water service reform based on the *affermage* [7] approach, in which the infrastructure is constructed by the public sector and operated by the private sector. The keys to the reform were to raise the water service tariffs to a level appropriate to the economic cost of the services provision, replacing the existing unified tariff scheme, and to establish a system in which the water service would be made available and affordable to poor people with the use of private sector expertise.

(2) Flow and structure of the system

Table 6 shows the public and private actors in the PPP arrangement. This project is implemented by the joint venture company, AGUACAR, in accordance with the *affermage* agreement with the municipality of Cartagena. Fig. 4 illustrates the structure of the PPP system.

Colombia's Law No. 142 of 1994 stipulates that the local authorities must conduct a survey of all residential buildings, including location, form, state and quality of the houses. Following the survey results, local governments classify each single house on a six-level scale based on its overall quality. The PPP project uses the survey findings to determine water tariff rates. A tariff rate equivalent to the cost of water supply is applied to middle-class consumers living in level-4 houses while lower rates are applied to poor people living in houses rated levels 1 to 3. The deficit in the tariff revenue resulting from the reduction for the poor is cross-subsidized by higher rates applied to wealthier residents living in level-5 or -6 houses. The project does not adopt the conventional approach of filling the gap with subsidies. It has constructed a mechanism of cross subsidization among the operations for the different groups of beneficiaries.

As in the case in Chile discussed in 2-1-1, the public sector had already completed the construction of water service facilities when the project was started. The cross-subsidization is therefore meant to reduce the water charge burden on the poor population. On the other hand, unlike the Paraguayan project in 2-1-2, it is not designed to subsidize the connection or construction cost.

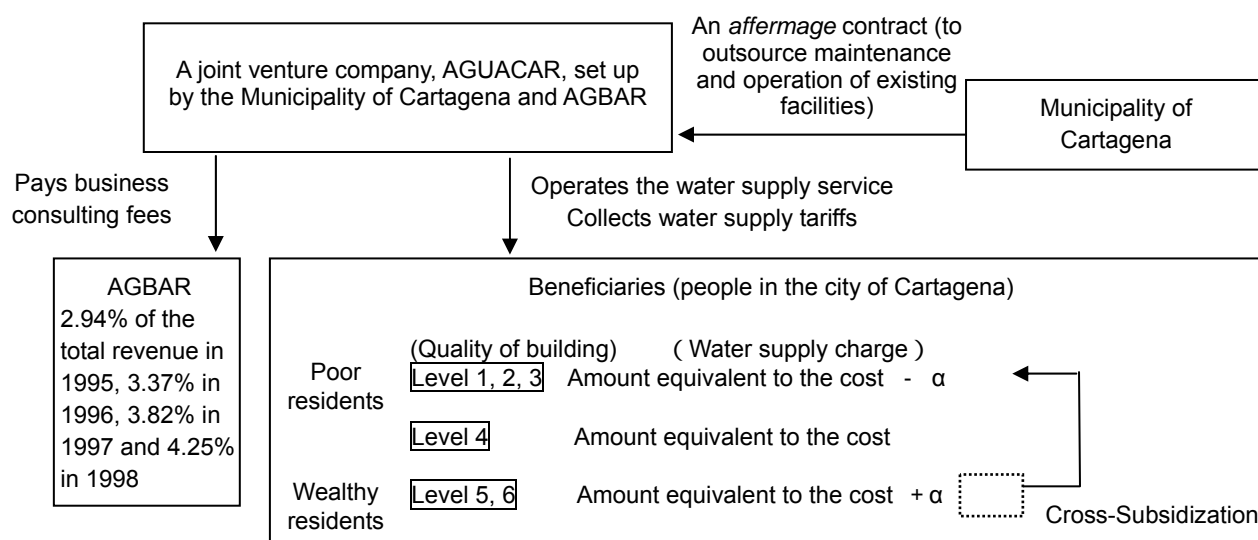
AGUACAR's operations receive consulting services and management advice from AGBAR

(co-founder of AGUACAR), and AGBAR collects fees for the services.

Table 6: Public and Private Actors in the Water PPP in Colombia

<p>Public sector: Municipality of Cartagena</p> <p>Private Sector: Aguas de Cartagena(AGUACAR) AGUACAR is a joint venture set up by the Municipality of Cartagena and Aguas de Barcelona (AGBAR), a Spanish water supply company. The Municipality has a 50% stake, AGBAR 46% and local private investors 4%. AGUACAR is the sole supplier commissioned by the municipality.</p>

Figure 4: Structure of the Water PPP in Colombia



(3) Key points (mechanisms to ensure program efficiency and effectiveness)

The following section outlines institutional and other measures, such as the division of roles and collaboration between the public and private sectors, to upgrade the effectiveness and efficiency of the PPP project.

i. Different water tariff rates in accordance with the housing conditions of beneficiaries

Without recourse to governmental subsidies, the project established a mechanism of cross-subsidization between the wealthier class of residents and the poor, and successfully ensured sustainability of the operation. The municipality of Cartagena surveyed people’s housing conditions that reflected their income levels, and determined the water tariff rates for different levels on the basis of the survey results. In setting the tariff rates, general consideration was given to the poor. The rate for the first 20 m³ of consumption applied to level 1 consumers is just a quarter of that applied to

level 6 beneficiaries.

ii. AGBAR's business consulting

The well-experienced AGBAR provides business consulting services to help bolster AGUACAR's operational efficiency. However, the project does not receive any special incentive extended by the public sector to induce AGUACAR's managerial efforts and enhance efficiency.

(4) Achievements (impact)

This PPP project was initially aimed at improving the deficit-making operations by means of tariff increase; providing the drinking water supply service for 30% of the households in the city who mainly belong to the poor population; and raising the tariff collection ratio. Since the start of the PPP project, water service beneficiaries were charged at six different tariff rates in accordance with the levels and quality of their living. The cross-subsidization mechanism allowed the rates to be set at lower levels for the poorer. The water supply services for households without access to water were expanded in general. AGUACAR's operation is far superior in efficiency to the conventional operation of the public sector. The ratio of water consumed for unknown purposes by unlawful conduct decreased. Table 7 summarizes major achievement indicators in connection with this project.

The joint venture company AGUACAR is in practice run mainly by a private firm, namely AGBAR. There has been some criticism that the affermage contract between the municipality and the private operator obscures the division of risks and responsibilities between the public and private sectors.

Table 7: Major Achievement Indicators of the Water PPP in Colombia

Expansion of service	<ul style="list-style-type: none"> - The water service pipe length increased from 440 km in 1995 to 700 km in 1999. - The connections increased from 65,000 households in 1995 to 95,000 in 1999.
Efficiency of project	<ul style="list-style-type: none"> - AGUACAR's final after-tax profit expanded from 886 million pesos in 1995 to 3,928 million in 1999. - The number of workers engaged in water supply dropped from 494 in 1995 to 262 in 1999. (A management goal of reaching four workers for every 1,000 connections was fulfilled.)
Quality of service	<ul style="list-style-type: none"> - The Municipality of Cartagena and people in the city are generally happy with the service. - Indicators of the water leak ratio, reliability, water quality and customer care were considerably improved from 1995. - The unaccounted for water ratio fell from 60% in 1995 to 40% in 1999. (The water shortfall of 60,000 m³ that was present until around 1995 was eliminated.) - The percentage of beneficiaries who trust the water supply rose from 80% in 1995 to 99% in 1999.
Financial soundness	<ul style="list-style-type: none"> - AGUACAR achieved an overall improvement in its financial position. The joint venture's revenues allocated to dividends to the Municipality increased.
Service charge	<ul style="list-style-type: none"> - The billing system was shifted from the flat-rate system to a six-tier structure.

2-2. Electric power supply

The issue of ensuring stable energy supply and combating global warming is a global one that needs to be tackled through collaboration by developed and developing nations. The MDGs include the targets of reducing poverty and achieving a significant improvement in the lives of slum dwellers. Energy and electric power are indispensable to the enhanced lives of the people and economic development in developing countries. The electric power supply sector has a very significant role to play in the sense that it produces a number of positive effects for attaining the MDGs. In developing countries, energy demand is expected to grow very rapidly. The tight energy supply and growing economic burdens for energy-related investments and fuel imports pose serious problems, especially for these nations. At the same time, they face an urgent need to supply electric power to the non-electrified villages that exist in the poor districts of rural zones. It is therefore increasingly vital for international society to provide continuous assistance in the electric power sector.

Box 2: A Cambodian Case of Private Sector Assistance in the Style of the World Bank's Output-Based Aid

A growing number of private firms are entering the public service markets in Cambodia, although its per-capita national income of only US\$270 places the country among the world's poorest nations. Mr. T, who runs a Cambodia-Singapore joint venture water service operation of Sincam, is an engineer in his forties from the province of Bantey Meanchey near the Thai border. He previously studied electronic engineering in the former Soviet Union. After returning to his hometown, he noted the water shortage problems. With the help of Singaporean investors, he began constructing water treatment facilities with a capacity of 3,600 m³ a day. The water supply commenced in 1998 and today successfully provides approximately 4,000 m³ of fresh water per day. The key to this success in the first private water supply business was the fact that people living in the province were willing and able to pay 2,000 riels per m³ for safe water. It is feasible provided that this tariff is fixed and the construction cost is kept below this.

This project served as a successful model for water supply projects in other rural areas in the country. Interested in this success, the World Bank launched a project in four locations in the Cambodian province of Kampong in the design-build-operate (DBO) form, which is one style of PPP that follows the model (Provincial and Peri-Urban Water and Sanitation Project, 2003-2008). Ultimately, Sincam won all four contracts in the project, which is currently in the building phase. Under the DBO method, the government grants a business license to a private operator and additionally contracts with the business, which is independently run using its own funds, to offer the water supply services to poor people in a certain area. The project adopts the Output-Based Aid (OBA) scheme for payment of the contract amount. In other words, it is paid after the fact of water supply to poor people is verified. An overview of the project is as follows:

Sites: Four locations in the Kampong province, namely Soung, Skun, Chery Vien and Peam Chi Kang

Source of funds: The initial investment is funded by Sincam. For the cost of connections with beneficiary households, the World Bank offers US\$500 per connection after it confirms them.

Water supply volume: 400 to 500 m³ per hour

Service beneficiaries: 300 households

Rate: 2,000 riels per m³ (One US dollar approximately equals 4,000 riels.)

The water rate of 2,000 riels per m³ set for the covered area is more than double the average rate in Phnom Penh, which is 900 riels per m³. This reflects the financial health of the Phnom Penh Water Supply Authority (PPWSA), which enjoys support from donors. The aid from donors is concentrated in the country's capital and other urban areas, although the demand for safe drinking water does not differ between the urban and rural areas. Given that it is difficult for donors to cover rural areas, it is considered effective in the future for a domestic organization with good technical and financial capacities like the PPWSA to provide assistance in the establishment of water services for rural areas.

Source: Report of the on-site survey in Cambodia involved in this basic study

With respect to the electric power system, developing countries have shifted from the age of the managerial crises that faced conventional state-run electric power companies to a new era of deregulation in the electric power sector with private sector participation. In line with this transition, the area of international cooperation in the power supply is changing. In the past, the focus of assistance was on feasibility studies for building electric power facilities and human resource development for operation and maintenance of power equipment for the purpose of accelerating electric power development. Future assistance will be offered in creating institutions and policies that can place private power operators on the right path and in achieving stable power supply at a low cost.

The electric power service mainly consists of three components: power generation, transmission and distribution. Given the network externalities [9], it had been considered difficult to develop power transmission and distribution markets. But a new approach to deregulating the power distribution and retail markets emerged in line with the concept that deregulation should focus on the component where the market structure is likely to allow the emergence of private operators. In the power generation sector, the scope of possible PPP project models is broadening, including privatization of power plants and the transformation of private businesses into Independent Power Producers (IPPs).

This section studies an existing project that made the most of assistance from the international community and the managerial skills of the private sector to successfully maximize business efficiency and expand services in an area with challenging social and economic circumstances.

2-2-1. Tajikistan: a PPP power project to set rates for low income earners and encourage environmental conservation

(1) Background

Following the collapse of the Soviet Union and the rapid subsequent deterioration in economic conditions, the state-run hydro power generation facilities in the eastern Tajik region of Gorno-Badakhshan Autonomous Oblast (GBAO) were virtually defunct after sustained losses. In the GBAO district, more than 80% of the population, which numbers 250,000, were classified as poor. As people consumed wood as an energy source, the region lost 70% of its forested area in a ten-year period. In the mid-winter season, schools, hospitals and other public institutions were obliged to close. The consumption of wood as fuel aggravated indoor air pollution, respiratory ailments and food shortage and produced serious impacts on economic activities.

In response, the International Finance Corporation (IFC) and the Aga Khan Fund for Economic Development (AKFED) jointly set up Pamir Energy to redress the economic conditions in the GBAO by achieving a stable supply of electric power. This project is the country's first case that involves private investments in the power supply sector.

(2) Flow and structure of the system

Table 8 demonstrates the public and private actors in this PPP arrangement. When the PPP was formed, the IFC studied the business structure with the use of the aid and provided the technical assistance required for practical mobilization of the fund. [11] In the study on the business structure, it conducted a socioeconomic baseline survey and preliminary study that could be the foundation for an environmental management plan and legal arrangements with the Tajik state government, in collaboration with AKFED, the International Development Association (IDA) and the Swiss State Secretariat for Economic Affairs (SECO).

Table 8: Public and Private Actors in the Power PPP in Tajikistan

<p>Public sector: The state government of Tajikistan</p>
<p>Private sector: Pamir Energy and Electrowatt-Ekono</p> <p>Pamir Energy is a joint venture company owned 70% by the Aga Khan Fund for Economic Development (AKFED) and 30% by the IFC. It took over the operation and 500 employees of the state-run company, Barki Tajik.</p> <p>Electrowatt-Ekono is a Finnish firm with an excellent track record and expertise in the construction, operation and management of power stations. Its partners include staff from a Swiss electric power company and the Bulgarian electric power public corporation.</p>

Following these past studies, Pamir Energy was founded in 2002 and signed a 25-year concession contract with the Tajik government. The agreement prescribed that the power plant assets would remain under the ownership of the state government after the establishment of Pamir Energy and specified the details of construction and repair work to be performed by the company. It also set out the provisions for the determination of electric power tariffs and operation of the joint venture firm, including power supply services and monitoring. Pursuant to the agreement between the state government and Pamir Energy, the power tariff rate scheme introduced a lifeline tariff block to set a very low rate of 0.25 US cents per kilowatt-hour for the minimum electric power consumption needed to live, specifically 200 kWh per month in winter and 50 kWh per month in summer.

In the light of the problems facing the country, including political uncertainty and financial difficulties, SECO decided to grant aid to the Tajik government for ten years from the inauguration of the project, with the objective of helping the state authorities with welfare benefits to the poor. The profit margin earned by subblending of the IDA borrowing to Pamir Energy is also appropriated to support the social security program.

There are two types of assistance from the public sector for Pamir Energy's power project. The first is to offset the cost of constructing the facilities, which is funded by the IDA lending. The second is to attenuate the power charge burden on beneficiaries, which is enabled by the grant aid from SECO and the margin earned by subblending of the IDA borrowing to Pamir Energy.

Pamir Energy outsourced the restoration and construction work of power plants to Electrowatt-Ekono of Finland. The contract agreement defined the construction period and provided

for bonuses and penalties based on the upper limit of the budget. Electrowatt-Ekono additionally undertook to provide Pamir Energy with operational support.

Fig. 5 describes the structure of the PPP arrangement.

(3) Key points (mechanisms to ensure program efficiency and effectiveness)

Observing the facts above, we consider what institutional policies and what modes of dividing duties and making public-private collaboration helped increase the service efficiency and effectiveness in the PPP projects.

i. Preliminary studies and project implementation driven by the World Bank Group

This project formed a support structure consisting of international donors and financial institutions. Spurred mainly by the IFC and AKFED, the IDA and the Swiss government offered assistance in the project. Their support increased the confidence of parties in Tajikistan and elsewhere with respect to the project. It encouraged the participation of experienced private entities and contributed to stable business operation. Prior revision of the environmental monitoring and control plan for the entire district based on preliminary studies motivated the private sector to think beyond the project and take into consideration the development of the whole district and environmental conservation. It also led to comprehensive regional development. The legal system reform in line with the emerging private operations protects the corporate activities of the private sector and provides guidelines and rules that can serve as criteria for business decision making. It is highly regarded for having increased the potential for the future entry of private operators into the sector.

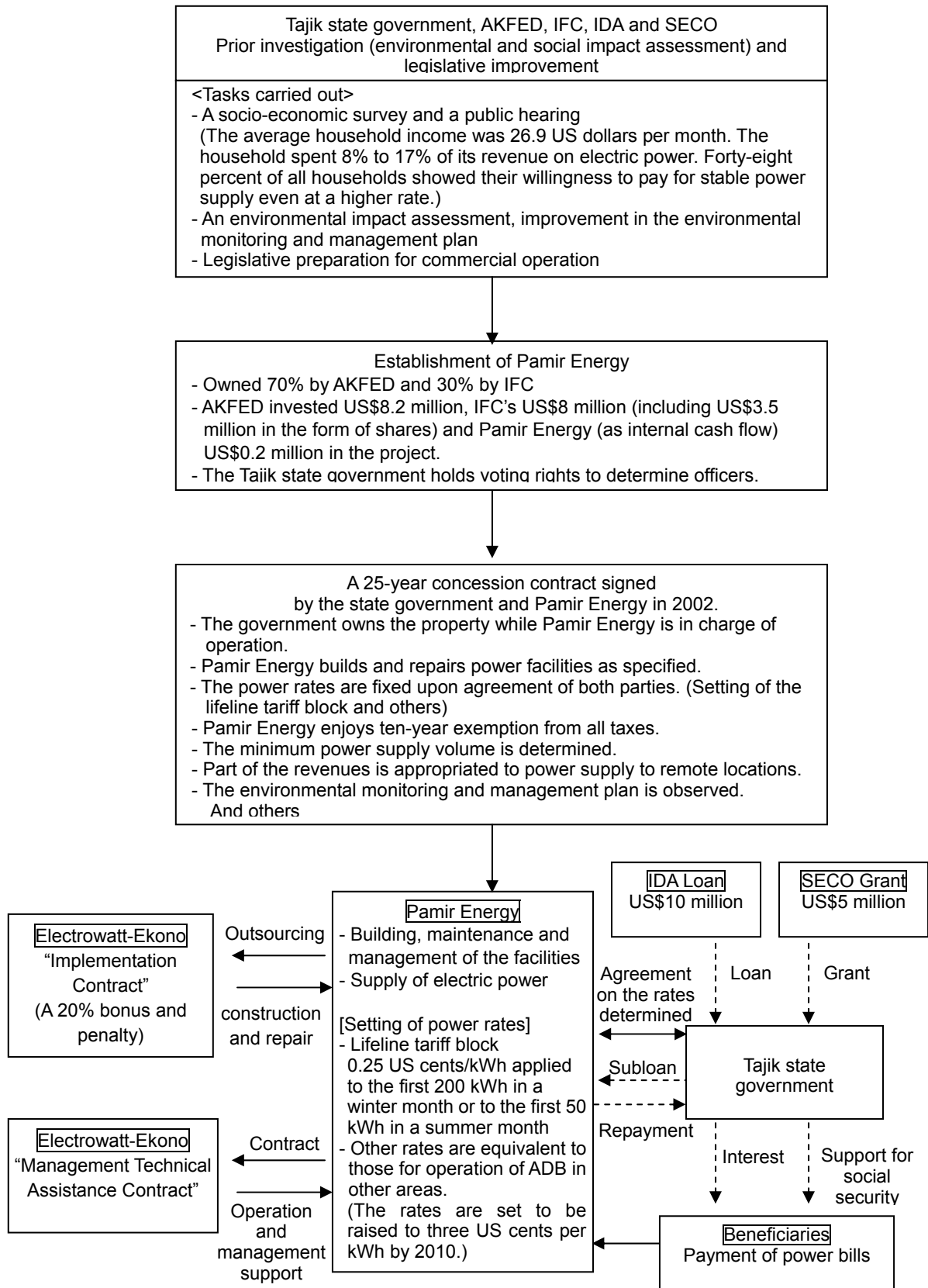
ii. Introduction of the lifeline tariff block

The lifeline tariff block ensures that beneficiaries are charged at low rates unless their power consumption exceeds a certain threshold. Combined with the support of the IDA and SECO, this scheme gives beneficiaries an economic incentive to reduce power consumption. It encourages them towards efficient and waste-free power consumption and facilitates a stable power supply for the poor population as well.

iii. A contract between Pamir Energy and Electrowatt-Ekono

The contract containing a clause on bonuses and penalties in connection with the service implementation leads to effective construction and restoration work within a fixed period and budget. Pamir Energy's effective and efficient operation is achieved through an operational and technical support agreement with an electric power company (Electrowatt-Ekono) that boasts sophisticated expertise.

Figure 5: Structure of the Power PPP in Tajikistan



iv. Improvement and efforts under the environmental monitoring and control plan

The initiatives based on the environmental monitoring and control plan have boosted environmental conservation in the region and further developed local economic activities. For example, a measure to prevent the lake water level from falling by means of hydro power generation eventually preserved the pastures and promoted livestock industry in the lakeshore area.

Table 9: Major Achievement Indicators of the Power PPP in Tajikistan

Expansion of service	- The power output doubled as the Pamir I hydro power plant increased its supply capacity from 14 MW to 28. Other power generation and transmission facilities have been repaired.
Efficiency of project	- With the support of Electrowatt-Ekono, management efficiency was improved considerably. - The power sales revenue in the second quarter of 2003 massively surpassed the level in the former Soviet era and reached a level that is 38% higher than initially forecast.
Quality of service	- A stable power supply service is offered even in winter. - It consequently freed the beneficiaries from wood collection and other chores and reduced the number of people afflicted by diseases caused by indoor consumption of wood.
Financial soundness	- With financial support from the IDA and SECO, the government substantially cut its subsidies to the electric power project. - It is no longer necessary for the government to provide power generators to make up for the power shortage.
Service charge	- The power rate used to be 0.7 US cents per kWh. The life tariff block was introduced to cut the rate down to 0.25 US cents/kWh for the first 200 kWh in winter and the first 50 kWh in summer. (Power tariff rates equivalent to those in other regions of the country are applied to any excess over the limit of the lifeline tariff block. The rates are set to be raised up to 3 US cents per kWh by 2010.)

(4) Achievements (impact)

The original goals of the PPP project were to rebuild the confidence of residents in the power supply services with the help of the private sector; to improve the overall quality of power supply service in the GBAO district; to ensure appropriate tariff rate setting and improvement in the tariff collection practice; and to achieve harmonious coexistence between the community and the natural environment as well as sustainable development in the district. The project has to date achieved a two-fold increase in the power generation capacity of the plant constructed in the former Soviet Union era, improvement in the power transmission and distribution facilities and maintenance of stable power supply. In addition, it established a tariff structure that ensures power affordability for poor beneficiaries. Upgraded facilities are expected to enable control of the lake water level in the winter season. Initiatives to lower pollutant emissions and to prevent the destruction of natural resources are underway. It also brought some jobs to the locality during the facility building period,

helping to redress the economic situation. Table 9 is a summary of the main achievement indicators regarding this project.

2-3. Information and communications

Information and communications technologies do not serve solely as a driving force of economic growth. Widely used in many different social, economic and administrative arenas, including e-government, e-learning, e-commerce, mapping based on Geographical Information System (GIS) and meteorological observation, they serve to expand the economy and enhance services for the public. But those who have no access to these technologies in developing countries are unable to benefit from them. This gap in information access, often called the digital divide, is associated with economic disparities.

The MDGs include a target in the information and communications sector as shown in Table 10. Endorsed by the 2001 G-8 Summit in Genoa, the Genoa Plan of Action provided for support in the development of national e-strategies in developing and transition countries and for establishing a dedicated less-developed-country (LDC) initiative for ICT-inclusion.

This section looks at some initiatives to establish universal access in rural poverty areas with a serious shortage of communication infrastructure. First, we examine a Peruvian project characterized by a least-cost subsidy auction system to foster competition among telecommunications operators and with a detailed public-private concession agreement for a more efficient telecommunications business and for enlarged service coverage areas. Second, we focus on a project in Bangladesh that enriched the communications environment in the rural areas by introducing mobile phones as a private-sector initiative, overcoming the serious impediment resulting from government functions.

Table 10: MDG Target and Indicators Concerned with Information and Communication

Goal and target	Indicators
<p>Goal 8: Develop a global partnership for development</p> <p>Target 18: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications</p>	<p>1. Telephone lines per population of 1000</p> <p>2. Personal computers in use per population of 1000</p>

2-3-1. Peru: a PPP telecommunications project introducing a bidding process and the Output-Based Aid system

(1) Background

In 1992, Peru commenced the telecommunications sector reform. To begin with, it privatized the state-run telecom company and set up the Supervising Agency for Private Investment in

Telecommunications (Osiptel) as an organization independent from the government in 1994. This move triggered the liberalization of the telecom market and expanded the telecom-related services provided by private operators, primarily in urban areas. In contrast, the costly rural areas were left behind. The rural districts are home to nearly 30% of the country's total population and more than 70% of the rural population is poor. The Peruvian government launched the Fund for Investment in Telecommunications (Fitel) to encourage private companies to operate their services in rural areas. It also introduced a bidding process with the aim of improving accessibility to telecom services in these zones. At the inauguration of Fitel, goals were announced. They included the installation of public phones in 5,000 municipalities by 2003 and the provision of Internet access in all 554 district capitals.

(2) Flow and structure of the system

Table 11 shows the public and private actors involved in the PPP project while Fig. 6 illustrates the overall structure of the project.

The sequence of bidding procedures is conducted mainly by Osiptel. The examination criteria have not been revealed but it appears to name the telecom operator that has tendered the lowest amount of governmental subsidies. Actually, the competition is intense with the participation of highly specialized overseas firms in addition to domestic operators. The successful bidder signs a 20-year concession contract with Osiptel.

The main feature of this PPP project lies in the system associated with the subsidies granted to the telecom operator under the concession agreement, especially in terms of the timing, conditions and period of installments. The subsidies are paid from Fitel in three installments. The first installment accounts for 35% of the total amount, the second for 25% and the third for 40%. The first is granted when the operator is confirmed as the successful bidder. It seems to be appropriated to the cost of contractual preparations and construction of telecom facilities. The second installment is made as an availability fee when the construction of telecom equipment reaches completion. For the final installment, Fitel offers the amount in proportion to the operator's performance level. The amount of this final installment is determined in accordance with the detailed penalty standards (See Fig. 6) prescribed in the agreement. The performance assessment is conducted by Osiptel in consideration of the achievements report submitted by the operator. The assessment results are reported to Fitel in conjunction with its advice on the amount of the final installment.

Table 11: Public and Private Actors in the Telecom PPP in Peru

Public sector: Osiptel and Fitel

The Supervising Agency for Private Investment in Telecommunications (or *Organismo Supervisor de la Inversion Privada en Telecomunicaciones*, shortened to "Osiptel" in the local language) is a special governmental agency established in 1994 with the objective of encouraging liberalization of the telecom market as part of administrative reform in the telecom sector.

The Fund for Investment in Telecommunications (*Fondo de Inversion en Telecomunicaciones*, or Fitel) is a fund established in 1992 to help private operators to participate in the market, improving telecom access in rural areas. Fitel is financed by tax revenues, 1% of the total operating income of telecom companies.

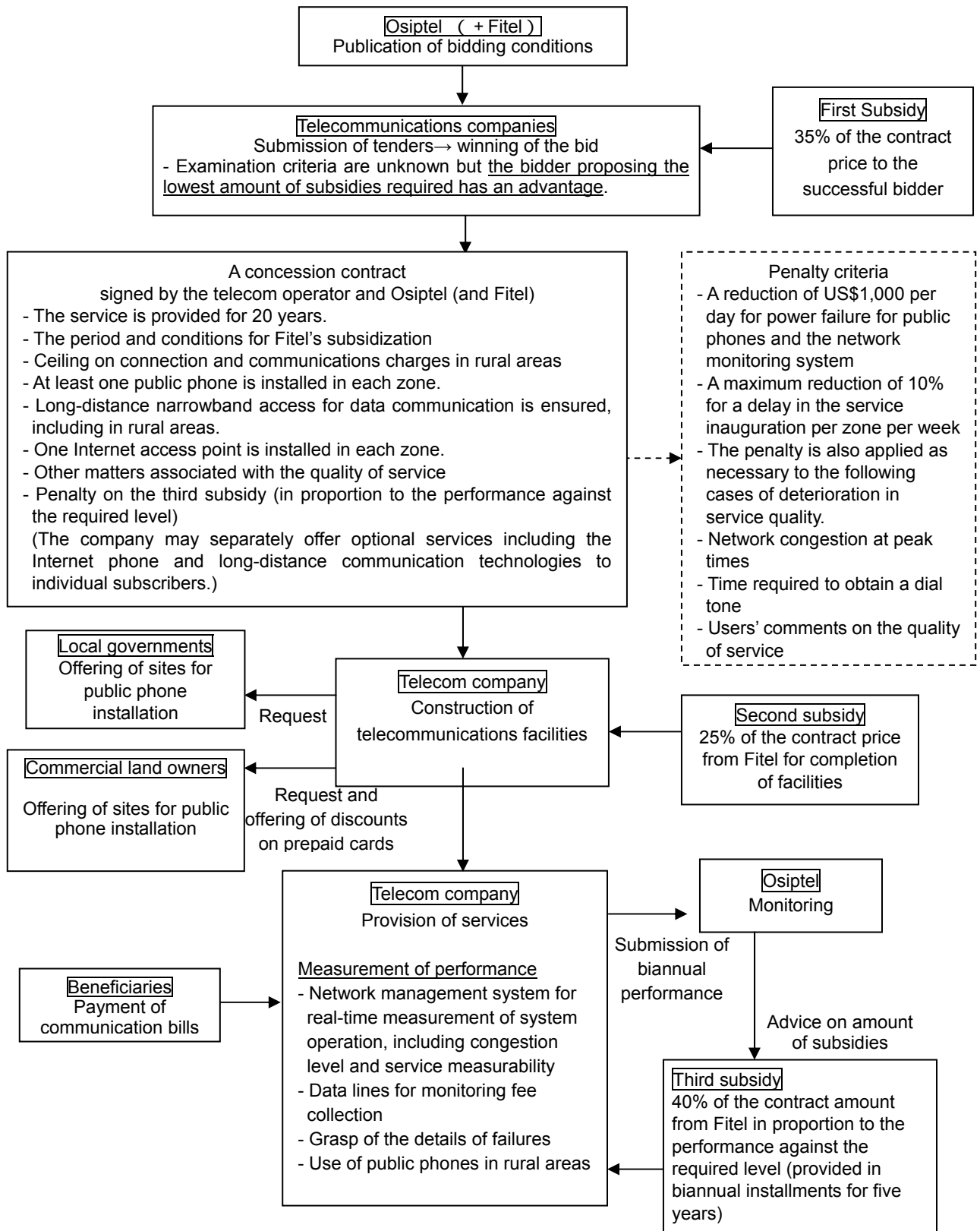
Private sector: Telecommunications companies

Domestic and foreign telecom operators were invited to participate in the least-cost subsidy auction.

The contract also provides for a wide range of conditions, including those on the price cap on service tariffs and standards for the installation of public telephones and Internet access points. Osiptel is defined as a body that offers technical and management support to Fitel and that authorizes Fitel's policies and projects.

This PPP project entitles the telecommunications company to request local governments to provide spaces for installing public phones on the premises of public facilities. It also introduces a scheme under which the operator offers a special advantage, such as a discount for pre-paid cards, to private landowners to ask them for space they own in the commercial and business areas.

Figure 6: Structure of the Telecom PPP in Peru



(3) Key points (mechanisms to ensure program efficiency and effectiveness)

This section sums up the measures introduced to the PPP project in terms of institutions, the division of roles between the public and private sectors and collaboration between them for the purposes of making the project more efficient and effective.

i. Contractual arrangements on standards for installing telecom facilities, tariffs, service quality and others

The public-private allocation of responsibility and performance criteria for the PPP project were clearly presented in the detailed concession agreement between the public sector responsible for opening the telecom market and the telecom operator. Elaboration of standards for installing telecom facilities, tariffs and service quality in the agreement helped the telecom operator to ensure that its services were of good overall quality.

ii, Subsidies in three installments and penalty

The first subsidy installment is aimed at supporting the initial investment of the telecom operator and the second is designed to encourage it to install the facilities in a quick and efficient manner. The final installment is linked with the “stick-and-carrot” system to push the operator to offer quality services. The third installment is offered for five years so that it supports the telecom operator until its operation reaches a break-even point, to ensure sustainability of the service. The granting of subsidies is split into three, in accordance with the project phase. This will serve to strengthen public-private ties in the project and to deliver project transparency.

iii. Special prepaid card discounts offered to owners of commercial land and others

In this project, special discounts are offered to landowners who offer space to install public telephones. This approach enables the installation of many more public phones than in the case of installing them on the premises of public facilities alone.

(4) Achievements (impact)

The initial objective of the PPP project was to proceed with the liberalization of the telecom market in rural areas in Peru, where many of the people are poor, and to expand telecom services. In particular, it was aimed at installing public telephones in 5,000 municipalities and providing Internet access in all 554 district capitals. Its achievements as of 2003 are still unknown, but in 2001, the number of public phones had doubled and Internet access traffic had grown considerably. As service quality improves, the satisfaction of beneficiaries and their knowledge of telecommunications are increasing every day. The winning bidder proposed a subsidy requirement that was much lower than the telecom subsidies that had until then been granted in rural areas. Consequently, Peru’s telecom reform commenced with privatization and enabled a reduction in public spending.

Major achievement indicators with regard to this project are shown in Table 12.

Table 12: Major Achievement Indicators of the Telecom PPP in Peru

Expansion of service	<ul style="list-style-type: none"> - The population in areas where public phones are installed doubled. - The average distance to the nearest public phone was shortened by around 90%. - Line traffic was 7% higher than projected by Osiptel six months after service inauguration and by an additional 32% another six months later.
Efficiency of project	<ul style="list-style-type: none"> - The business operations of the private operator that won the bid led to an overall improvement in management efficiency.
Quality of service	<ul style="list-style-type: none"> - A penalty system applicable to the third subsidy installment was introduced to put the private operator under pressure to improve quality. It is expected to help improve future business operations. [Actual examples of penalty] - US\$27,000 cut in the subsidy following a failure to attain the required level of beneficiary confidence - Suspension of the half-year portion of the subsidy grant as a result of a failure to reach some of the required service levels and the delay in providing pre-paid cards - Service enrichment to suit different needs, including private Internet access and long-distance services - The ratio of beneficiary satisfaction with the overall service soared from 57% to 75%. - The ratio of pre-paid card holders rose from 35-50%. - Elimination of power failure - Enlarged beneficiary knowledge about telecommunications
Financial soundness	<ul style="list-style-type: none"> - The amount of subsidies necessary for business operation presented by the successful bidder was just 41% of the amount initially forecast by Osiptel and only 26% of the subsidies provided for past telecommunications projects in rural districts. (Total private investment is double the subsidies granted to private firms.)
Service charge	<ul style="list-style-type: none"> - No data has been supplied on comparison of rates before and after the project. However, communications rates for public phones and for data transmission are limited to a certain level pursuant to the contract. And user satisfaction is growing. It is therefore presumed that the rates are set at a reasonable level close to conventional communications rates.

2-3-2. Bangladesh: Village Phone Program

(1) Background

For poor households, the cost of connecting to a fixed phone network and setting up the phone equipment at home is extremely high. Provided that there is a phone somewhere in the vicinity of their home that can be used in return for a fee based on frequency and length of use, the majority of phone users are not particularly interested in installing a fixed phone in their own house. Setting up a

regional fixed line network requires the installation of local and long distance stations to connect each other. With the enormous cost of extending backbone transmission lines to sparsely populated rural areas, private telecom operators are unlikely to get involved due mainly to profitability issues. Mobile phone use has been exploding in developing countries at a growth rate faster than fixed phones in recent years, creating an environment conducive to private sector involvement because it is cheaper to install transmission for mobile phone networks and costs less than fixed phone communications. However, there is still insufficient demand for each individual household to subscribe to mobile phone services on a year-round basis, as people in rural areas tend to use phones only for specific purposes such as obtaining information on the price of the agricultural products at a distant market; communicating with husbands and sons working far away from home; or contacting relatives to arrange ceremonial occasions.

In such situations, one possibility is mobile phone-based payphone services along the same lines as fixed-line payphone services. This involves a member of the local community subscribing to a mobile phone and running phone rental services, whereby local phone users pay for the connection charges based on the air time of their calls. As long as it is possible to secure funding for the initial investment in terms of subscribing to the relevant mobile phone service, it is then easy to draw up cash-based repayment plans after the start of service. One actual example of mobile phone rental services is the Village Phone Program (VPP) in Bangladesh, which has been the focus of much attention in recent years. The entrepreneurs at the center of the VPP are local women in rural communities dubbed “Village Phone Ladies.” The masterminds behind this program are the Grameen Bank, a pioneer in the field of micro-credits, GrameenPhone, a joint venture established by the Grameen Bank, and Grameen Telecom, a nonprofit special-purpose company.

(2) Flow and structure of the system

This section will examine the mechanism in greater detail. Mobile phone subscribers borrow approximately US\$350 per person from the Grameen Bank on average, which they use to purchase a mobile phone from GrameenPhone and to pay the required sign-up contract fees. Subscribers then repay the money they borrowed by selling telephone services to members of the local community. In the villages that previously had no phone, Village Phone Ladies effectively serve as a payphone, bringing the benefits of telephone services to local residents. The business model itself is very simple. The structure is exceedingly complicated however when it come to matters such as capital and contracts (see Fig. 7).

Grameen Telecom is responsible for (i) operating and managing the VPP, (ii) training Village Phone Ladies and (iii) all other matters relating to the relevant telephone services. This covers a wide array of operations, from compiling and distributing business manuals written in local languages and providing guidance on how to use them to setting up solar panels in areas without electricity; providing directional antennas in areas with poor reception; and handling complaints and

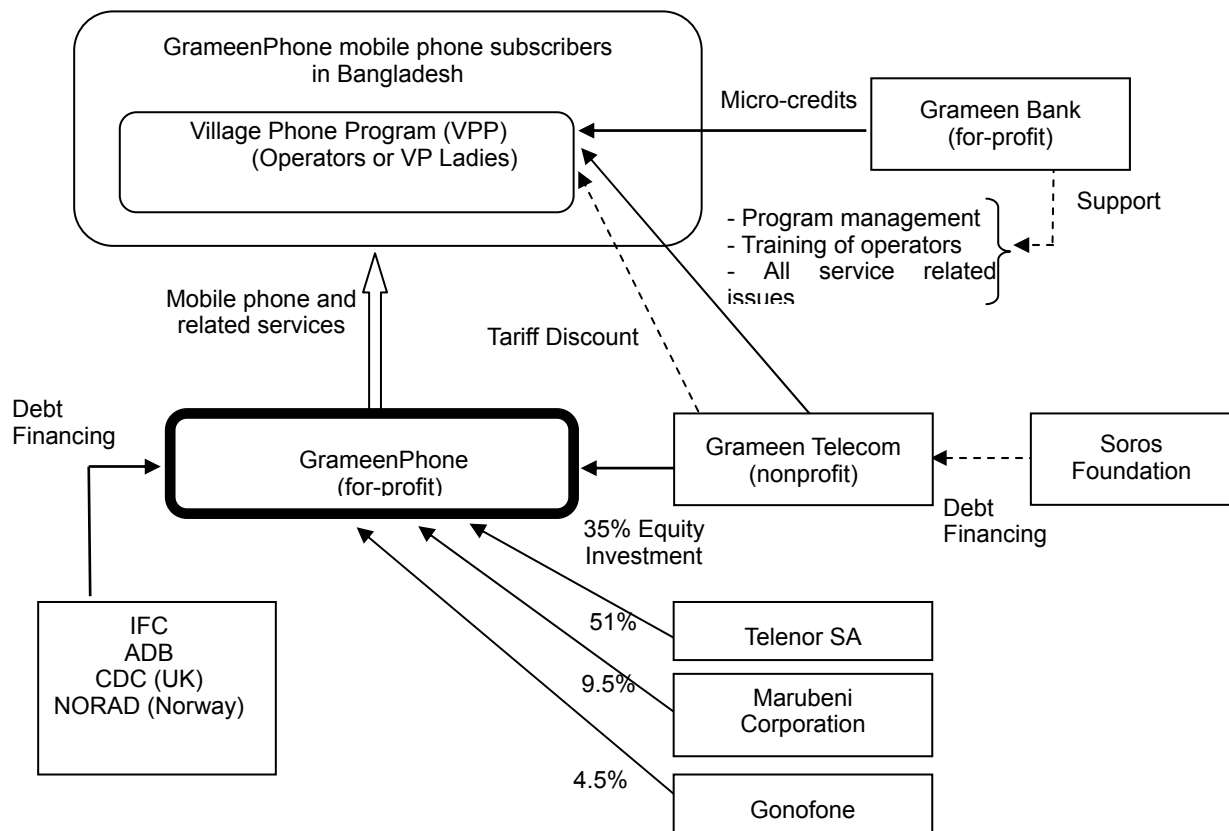
translating phone bills into local languages. These are all handled in conjunction with the Grameen Bank and its affiliated companies.

As a telecommunications carrier, GrameenPhone provides basic mobile phone and other related telecom services (SMS (short message system), etc.). Although it is not directly involved in the running of the VPP, it offers basic telephone services via Grameen Telecom at a 50% discount rate to ensure that the program is viable as a business. This program has helped GrameenPhone to survive competition from rival companies during its initial start-up period and develop as a business by enabling it to establish and improve its corporate image and develop an exclusive customer network in rural areas.

The Grameen Bank offers micro-credits to Village Phone Ladies and provides business support for Grameen Telecom via its domestic network of affiliated companies. The VPP is also expected to enable the Grameen Bank to expand its high-grade financing operations.

These are local community-driven partnerships, with the leadership of Muhammad Yunus, the Managing Director of the Grameen Bank, who took the initiative in selecting partners, securing funding and negotiating with the government. It all started in 1994 when the US-based Bangladeshi executive director of an investment bank explained to Yunus the potential for mobile phone services in rural areas, which was around the same time that the Bangladeshi government unveiled its policy for the deregulation of the telecommunications sector. Sensing the possibilities, Yunus decided to set up GrameenPhone, with the cooperation of Swedish company Telia. However, Telia declined to invest in Bangladesh due to a two-year legal dispute with an existing mobile phone company. After making inquiries with a large number of overseas companies, GrameenPhone was eventually set up as a joint venture with Norwegian company Telenor, thanks in part to Norway's similar focus on socially responsible activities.

Figure 7: Partnership of GrameenPhone Ltd.



As the Grameen Bank is unable to engage in any non-banking operations, it used funds borrowed from the US-based Soros Foundation to set up the nonprofit special-purpose company Grameen Telecom, the managing body behind the VPP and the investment company behind GrameenPhone. The owners of the company are the Village Phone Ladies, meaning that if GrameenPhone goes public in the future, its shares will be controlled by a Grameen mutual aid company whose assets will include the ladies' mutual funds. In addition to US investment firm Gonofone Development Corporation, Marubeni Corporation, which had been looking to form a partnership with the Grameen Bank, has also invested in GrameenPhone in order to ensure balanced corporate governance. The remaining funds not covered by such investments were made up by funding from the IFC, ADB, CDC and NORAD (the Norwegian Agency for Development Cooperation). Thus it was that GrameenPhone was granted a mobile phone business license in November 1996, before going on to commence business in March 1997. The VPP moved into the implementation stages around the same time but, in spite of strong demand, the number of subscribers was restricted to less than 700 during the trial stages, which lasted for the first two years. During this period, empirical research and studies were carried out in 300 villages in cooperation with organizations such as the Canadian International Development Agency (CIDA), covering areas such as the socioeconomic impact of the VPP, user attributes, sustainability and the process of translating experiences into a manual. This

formed the basis for the expansion of the project from the latter part of 1999 onwards.

Under this business structure, there is no apparent government involvement. However, although the role played by the Bangladeshi government in this partnership was relatively minimal, it did contribute to the running of the program in the following two ways. First, the government secured interconnectivity with fixed-line networks belonging to the state-run telecom company, effectively providing access to international telephone lines. Second, the government granted permission for the program to use the approximately 1,800km of optical fiber cables laid alongside railway tracks in Bangladesh. Even with mobile communications it is difficult to ensure full national coverage via wireless networks, not least because long-distance backbone transmission lines require massive capital investment. Although connection to such backbone lines went through the process of international bidding, this was subject to the condition that it did not disadvantage Grameen in any way, which is thought to be the reason why it was possible to expand service areas under this partnership and secure profitability. In the telecom sector, it is easy for private carriers to enter the sector, especially in the area of end-user communication services, and there are frequently cases in which private carriers maximize their ingenuity and enable themselves to secure profitability without government subsidies. The role of the government in cases such as these consists of establishing a regulatory framework to prevent competitive private carriers from being disadvantaged by interconnectivity to the incumbent. The Bangladeshi government is therefore able to provide support for the expansion of the VPP in terms of guaranteeing such interconnectivity. Development assistance agencies have contributed to the program in areas such as funding for GrameenPhone, study and research to examine the viability of the business model, the construction of optical fiber cable networks, improving creditworthiness and brand image and mediating between the relevant parties and the international community.

(3) Key points (mechanisms to ensure program efficiency and effectiveness)

Above all, it should be stressed that the Grameen Bank, a local partner with an in-depth understanding of local business in rural areas of Bangladesh, has taken the initiative. The Grameen Bank's efforts to establish and maintain a network of strategic partnerships that brings together the strengths of all those concerned to complement one another have been fundamental to the success of the program. It may be true that the program relies on the kind of superior, efficient operating capabilities that can only be provided via the private sector. Other specific factors in the program's success include the following:

i. Giving purchasing power to the poor through the provision of micro-credit

The Grameen Bank has made it possible for the poor to purchase equipment and pay mobile phone contract fees through the provision of micro-credit.

ii. Using a special-purpose company (SPC)

The Grameen Bank set up an SPC to operate and manage the program, making full use of knowledge and business expertise accumulated over many years, thus clarifying responsibility for the program. Although the VPP is a joint venture as part of the Grameen Group, this made it clear that it would be financed via its own exclusive cash flow.

iii. Proposing a discount rate system beneficial to all parties

In addition to recovering repayments on micro-credit provided to Village Phone Ladies, the Grameen Bank also handles the tariff collection. As this enables GrameenPhone to save money in terms of investment needed to establish its own sales and tariff collection networks in rural areas, it makes it possible for GrameenPhone to offer basic phone bills at a 50% discount rate while still securing profitability (see Fig. 8 and 9).

Grameen Telecom retains a fixed portion of the basic phone bill as a commission, enabling it to cover operational and management costs without having to rely on government subsidies. Despite having to pay commissions, the Village Phone Ladies have been given the opportunity to start up new businesses thanks to the fact that this system has ensured the sustainability of the program as a whole and enabled them to sell telephone services.

iv. Maintaining brand image by ensuring service quality

The VPP has established a brand image both in Bangladesh and overseas as a provider of telecom services that are accessible for poor people in rural areas. To maintain this brand image, strict operational management and the introduction of competition are thought to be necessary to expand coverage and ensure project sustainability in the future. For example, Village Phone Ladies must meet several selection criteria, including managing a retail outlet that is centrally located in their village and not being behind on any microcredit repayments. Strict operational policies exist, stipulating that, for example, the relevant phone line will be cut off as soon as any misuse of the benefits of VPP services is reported or detected, irrespective of the reasons. There is still another operational guideline: the Village Phone Lady, once she is granted an operational license, enjoys a monopolistic status in her village for a certain period of time, but then licensing to another lady will be considered depending on demand in the village and competition will be gradually introduced.

v. Securing the expansion of service areas through active investment by GrameenPhone

Whilst rival companies only provide services in urban areas, GrameenPhone has continued to contribute to the expansion of service areas through active investment in infrastructure. Specifically, GrameenPhone's efforts include leasing the network of optical fiber cables that run alongside the railway network from the government for use as backbone lines, with the help of grant aid from Norway in the 1980s. It is also expanding networks even in the areas where there is no rail network

by setting up local area microwave networks and actively increasing the number of base stations.

Figure 8: Tariff Discount System

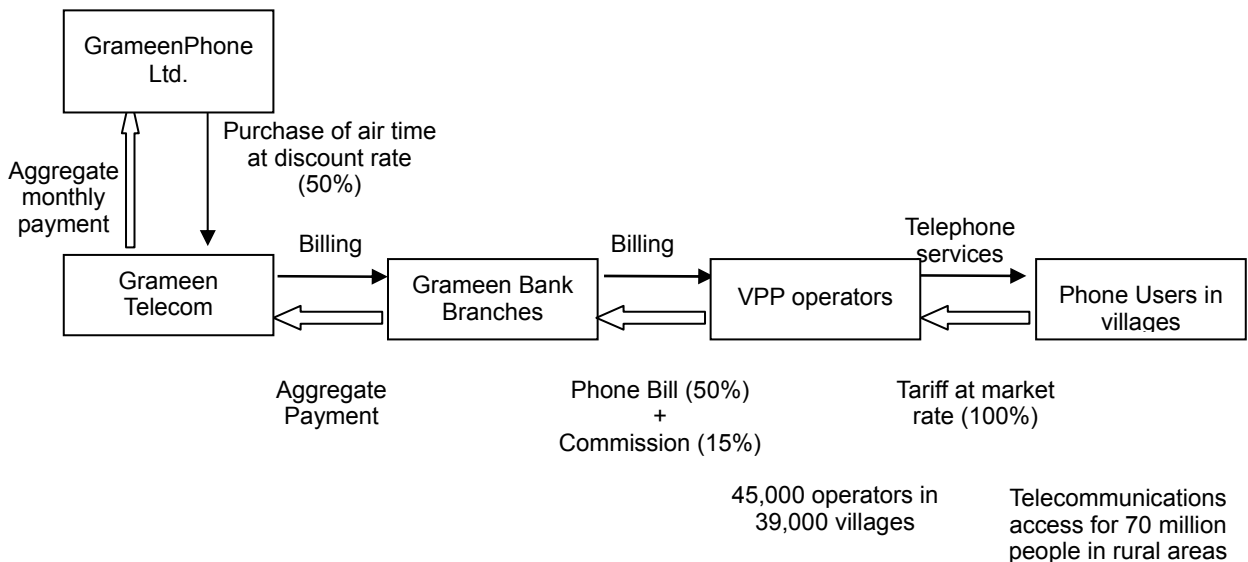


Figure 9: Cost Structure for Village Phone Operators

Cost/Profit	Phone bill paid to Grameen Telecom (50%)	Commission paid to Grameen Telecom (15%)	Marginal Profit (35%)	
			Installment to Grameen Bank	Net profit
Revenue	Telephone Users → Village Phone Operator Tariff at Market Rate (100%)			

(4) Achievements (impact)

The achievements of this program are summarized in Table 13. According to a range of studies and research, the increasingly widespread availability of telephone services in rural areas has had an impact in the following ways.

- Although monthly net income of Village Phone Ladies ranges from US\$50 to \$500 (average annual income per person for 2001: US\$360), the program is providing major business opportunities in rural areas and can be said to have made a significant contribution to improved levels of economic independence and social status for women.

- This has resulted in an increase in entrepreneurial spirit, generating a lot more jobs in rural areas.
- Savings made on travel to and from urban areas are estimated to have generated a consumer surplus of between US\$2.70 and \$10 per phone call. The average household has therefore had an extra 3-10% of their income to channel into other areas.
- The program has helped breathe new life into rural economies that had previously been isolated from the market economy.

Table 13: Major Achievement Indicators of Village Phone Program in Bangladesh

Expansion of service	<ul style="list-style-type: none"> - From the start of the program to the end of 2003, 45,000 telephones were distributed across 39,000 villages, providing 70 million people with access to telephone services. - As of September 2004, GrameenPhone coverage had reached 35% of Bangladesh.
Efficiency of project	<ul style="list-style-type: none"> - Strict criteria have been set out for the selection of Village Phone Ladies and competition has gradually been introduced between ladies to ensure project efficiency.
Quality of service	<ul style="list-style-type: none"> - Every effort is being made to respond to strong demand for telephone services in rural areas through manageable pricing. - The distance that users have to travel to access telephone services has been reduced.
Financial soundness	<ul style="list-style-type: none"> - The project has helped expand services without having to resort to any additional financial burden.
Service charge	<ul style="list-style-type: none"> - Users are charged a standard flat rate throughout the country rather than a basic rate plus a premium.

Box 3: Bangladesh Village Phone Program (VPP): Replicability in Other Countries

Muhammad Yunus, Managing Director of the Grameen Bank, is confident that the VPP business model could be applied in other countries. As the program incorporates elements unique to Bangladesh, however, there has been a great deal of criticism from people who feel that it is not workable in other countries. The US-based Grameen Foundation has set up the company MTN Village Phone in conjunction with MTN Uganda in an attempt to apply the VPP business model in Uganda and has been conducting experimental research since November 2003. Based on its experiences in Uganda, the foundation is also considering the application of the VPP model in Indonesia, the Philippines, Morocco and Nigeria.

According to the technical manager for the Uganda project, the first step is to seek out a local partner that shares the belief that it is possible to run a business at discount rates through carriers with telecommunications infrastructure in the relevant country. The next step is to find a financial institution willing and able to provide micro-credit. To secure its participation, it is important to get the relevant institution to appreciate that a rural cell phone

business is an excellent target for funding. Even without a domestic support network such as the Grameen Bank, it is possible to run the program efficiently by making use of prepaid card technology. Uganda is one of a few African countries to undertake telecommunications sector reforms on its own initiative, and it has been open to the entry of new private operators and has also provided active support to create a good investment climate.

One of the issues that has been singled out in relation to the VPP in Uganda is that of operational manuals. Although a team of consultants from the Grameen Foundation was dispatched to Bangladesh for a period of three months to acquire business expertise and compile a detailed manual, it turned out that there were a number of problems with the manual when it was used for the purpose of actually running operations, as well as parts that were hard to understand and others that were impractical. Eventually, a staff from Grameen Telecom was dispatched to MTN Village Phone to give technical advice regarding the running of the program.

If the program is to be effectively applied in other countries, their governments must also be willing to play a large role. Even in the case of Bangladesh, it has been said that mobile phones would have been adopted more broadly if the government had actively developed regulatory policies. Specifically, governments need to do the following:

Set out deregulation policies to stimulate growth in the telecommunications sector, promote competition in a suitable manner and remove any indirect policies or institutions that could impede growth (duties on imported equipment, value-added tax, etc.)

Facilitate the provision of funding and guarantees on loans in order to prevent funding limitations unduly burdening carriers during the initial planning and implementation stages

Improve the investment climate based on the commonly-held logic that such a program cannot be executed without bringing in technology and expertise from overseas

3. New Areas and Issues for PPP

3-1. Education

3-1-1. Issues in the education sector

As Table 14 shows, the Millennium Development Goals (MDGs) include two education related goals. Ever since the importance of basic education was underlined at the 1990 World Conference on Education for All (EFA) in Jomtien, Thailand, the international community has positioned the task of improving basic education as one of its common goals. The goals set out in the MDGs were also determined based on these EFA goals.

Table 14: MDG Targets and Indicators Concerned with Education

Goal and target	Indicators
Goal 2. Achieve universal primary education Target 3: Ensure that all boys and girls complete a full course of primary schooling	1. Net Enrolment Ratio in Primary Education 2. Proportion of Pupils Starting Grade 1 who Reach 4 th Grade 3. Literacy Rate of 15-24 year-olds
Goal 3. Promote gender equality and empower women Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015	1. Ratio of Girls to Boys in Primary, Secondary, and Tertiary Education 2. Ratio of Literate Women to Men 15-24 years old 3. Share of Women in Wage Employment in the Non-Agricultural Sector 4. Proportion of Seats Held by Women in National Parliaments

At a follow up meeting of the World Conference on EFA in Dakar in 2000, however, and in UNESCO reports monitoring progress with EFA, initiatives to date designed to achieve EFA goals and the MDGs were said to be insufficient, with difficulties reaching targets noted in parts of Africa in particular. According to UNESCO statistics, one in every five people in the world aged 15 or over is illiterate. That makes a total of approximately 860 million people worldwide, two thirds of whom (64%) are women. There are also over 104 million school-age children in the world who are not in school, more than half of whom (57%) are female. Other issues include the problematic high dropout rate affecting primary education in developing countries and the percentage of children dropping out of school due to poverty or other reasons before they reach the fifth grade, which is between 11 and 20%.

Current issues in the field of education in terms of meeting the MDGs can be broadly divided into three categories: (1) promoting school attendance (quantitative expansion), (2) improving quality and (3) improving underlying management. It is widely believed that the issues of promoting attendance and improving quality are inseparable and that an approach that is both quantitative and qualitative is needed. Boosting attendance is not just a case of quantitatively expanding education through steps such as building educational facilities, training teachers and producing teaching materials and aids, but is also thought to require steps to break down financial, cultural and social obstacles in the home preventing children from attending school. Improving the quality of education on the other hand requires improvements in areas such as the capabilities of teaching staff, curriculums, teaching methods and teaching materials. As mentioned previously, the issues of sexual, regional and racial inequalities remain key issues in a lot of countries. To promote school attendance amongst disadvantaged children from groups such as women, the poor, indigenous peoples and ethnic minorities, it is essential to implement policies from an impartial standpoint.

There are also major shortages in terms of the funds needed to achieve this and meet the required goals. For example, one international initiative designed to focus on achieving universal primary education, a goal common to both EFA and the MDGs, is the EFA Fast Track Initiative, which began in 2002. This underlines the fact that there is a major gap between the total funding required to meet

the goal of achieving universal primary education and the total amount of reserve funds incorporated into the budget of each of the 18 countries eligible for support (including anticipated development assistance from donor countries and organizations). Promoting education, particularly basic education, is regarded as one of the government’s key responsibilities in most countries, with governments playing a central role in terms of both providing services and securing funding. In reality however, due to financial crises in many countries, there are currently a large number of governments that are unable to provide sufficient education services alone.

3-1-2. PPP schemes

As shown in Table 15, there are four possible combinations of approaches and financing for services in the education sector, depending on who provides the services and who provides the necessary funding. If the private sector is involved in the provision of services or funding, the arrangement can be called a PPP.

Table 15: Possible Combinations of Services and Funding Provided by the Public and Private Sectors

		Service Provision			
		Private sector		Public sector	
Financing	Private Sector	(3)	<ul style="list-style-type: none"> - Private schools - Community schools - Home schooling 	(1)	<ul style="list-style-type: none"> - User fees - Student loans - Scholarships - Industry link (higher education)
	Public Sector	(2)	<ul style="list-style-type: none"> - Government subsidies for private schools - Contracting-out ----- - Voucher schemes - Student loans - Scholarships 	<ul style="list-style-type: none"> - Traditional public (state-run) schools - Student Loans 	

Source: Created by the author based on IFC (2001)

(1) Government services with private sector funding

Examples of education whereby services are provided by the government and funding by the private sector include scholarships and student loans provided by private organizations for students attending public schools.

(2) Private sector services with government funding

Services provided by the private sector and financed by the government can be classified into different categories depending on whether government funding is targeted at schools (private schools,

etc.) or students. Schemes in which government funding is targeted at schools are very similar to the PPPs discussed previously. Examples of such PPPs include: (i) cases in which the government provides subsidies for private schools or (ii) cases in which the government outsources all or part of the education services or any incidental services provided in public schools to private operators. The latter instance covers a wide range of cases, from comprehensively outsourcing the entire management of a school to partially outsourcing individual services such as the distribution of text books or the management of incidental services such as catering.

Examples of schemes whereby government funding is provided directly to the beneficiaries include the provision of scholarships or student loans to students attending private schools and voucher schemes. The basic mechanism behind voucher schemes involves vouchers (coupons) being issued by the government to school-age children. The children or their guardians are then free to choose which school they attend. Under some schemes, schools can apply to the government for public funding depending on how many coupons they have collected (i.e. the number of students at the school). As they target both public and private schools, introducing schemes such as this makes it possible to promote private sector involvement in the education sector (see Box 4).

Box 4: The Education Voucher Scheme in Colombia

PACES is a voucher scheme that was introduced by the Colombian government in 1991, with the assistance of the World Bank, as part of a framework for decentralization. The aim of the scheme is to increase the percentage of children, particularly those from poor backgrounds, advancing from primary to secondary education and to expand the provision of public secondary education services through the private sector. PACES is a program that targets the poor; it is divided into six socioeconomic levels based on census data, with vouchers issued to the children in the two lowest levels.

Vouchers are issued to children who have finished primary school and have been given permission to advance to secondary school. These children are then issued vouchers for the following year when they advance to the next year in school. It has been confirmed that this program has increased the percentage of poor children advancing to secondary school and has stepped up competition between schools, including public schools.

Source: World Bank (1998b), National Bureau of Economic Research (2001)

Depending on how they are used, there are two more possible reasons for introducing voucher schemes. First, giving children and their families more choice over the schools they attend encourages competition between schools, which in turn results in the provision of higher quality, more efficient education services. Second, by restricting vouchers to specific groups of people, it is possible to improve access to education for such groups in the same way as providing scholarships or loans. In Guatemala, for example, vouchers are issued only to girls from poor backgrounds

between the age of seven and fourteen, in an effort to boost the number of girls in education. Voucher schemes have also been introduced in other countries, including Chile, Colombia, Ivory Coast and Kenya.

(3) Private sector services and funding

In the above two cases, the government generally has some degree of involvement in services provided by the private operator in terms of establishing the necessary licensing and regulatory framework, as well as providing either services or funding itself. As such government involvement is still required in cases in which both services and funding are provided by the private sector, these cases can also be classified as PPPs. It is worth mentioning that, as part of basic education in developing countries, governments are frequently involved in non-formal education (community schools, etc.) in addition to providing the necessary licensing and regulatory framework for private primary and secondary schools and universities. For example, a number of countries are experimenting with schemes whereby legislation is established to grant non-formal schools funded and run by communities or NGOs the same status as formal schools. This would enable children who have attended non-formal schools for a certain number of years to receive the same qualifications as if they had attended a formal primary school, meaning that it is possible for them to be integrated into the formal education system.

3-1-3. The impact of private sector involvement

What sort of an impact can private sector involvement and the formation of public-private partnerships have in terms of enhancing and improving the quality of education? Although the private sector already plays an important role in the education sector in most advanced countries, since the 1990s there has also been increased activity in certain developing countries and regions, with PPPs encouraging private operators to become involved in education as a result of increased demand for education, governments being plagued by financial difficulties and the rise of private operators. The results of what little research has been carried out to date into the impact of trends such as these, with regard to (i) access, (ii) efficiency, (iii) effectiveness and quality, (iv) creativity and (v) equality, are summarized in Table 16. Although PPPs come in a wide range of different forms, the results in this instance focus largely on comparative research into private and public schools, with the aim of examining the characteristics of education services provided by the private sector.

Based on the results outlined in Table 16, experiences to date suggest that private sector involvement in the education sector could potentially have an impact on access to education, as well as efficiency and creativity. It will nevertheless be necessary to continue to analyze individual countries' experiences in the future to fully assess the impact of PPPs. As mentioned below, in order to implement PPPs in an appropriate manner and obtain the desired results, specific approaches need

to be discussed for each individual country, paying special attention to the fact that the role played by their respective governments is extremely important.

Table 16: The Impact of PPPs in the Education Sector

Access	From the standpoint of services, private sector involvement increases the number of private schools. In terms of funding, private sector involvement increases the amount of funding flowing into the education sector, improving access across the board.
Efficiency	The majority of research results show that private schools are more efficient than public schools in terms of the cost of education per student. However, efficiency should ideally be measured based on the effectiveness and quality of education, so it is not yet possible to reach any definitive conclusions without further research [22] .
Effectiveness/quality	It is not yet possible to develop an across-the-board picture because there are both positive and negative research results regarding the effectiveness and quality of education [23] .
Creativity	Operating outside of the public school system, which tends to be somewhat rigid and uniform, private schools are thought to be capable of developing more flexible, creative activities and initiatives. This has been confirmed in a number of cases. For example, private schools were the first to introduce unified secondary education (i.e. upper and lower secondary schooling) in Japan, and the school-based management initiative in Indonesia also began in private schools.
Equity	Private schools are generally considered more likely to be lacking when it comes to equity. This is due to the fact that a lot of private schools are established in urban areas to provide education for wealthy students. Private schools also tend to charge higher fees than public schools, putting them out of reach for the poor. This is thought to contribute to the widening gap between the rich and the poor. In rural parts of Indonesia, on the other hand, where there is a shortage of primary and secondary schools, there are a large number of private religious schools that give the poor an opportunity to receive an education, thus improving equity between urban and rural areas.

3-1-4. The role of the government

The role that individual governments are expected to play can be broadly divided into two areas: (i) providing public funding assistance for private schools and individuals; and (ii) formulating and implementing complementary policies (policies required to minimize any negative impact resulting from PPPs). First, in the interests of equality, governments should provide scholarships, student loans or vouchers or coupons based on public funds to specific target groups that are less likely to benefit from a PPP, such as the poor and people in rural areas. Governments are also expected to provide individual schools with information on school management, which will make it possible to avoid any imbalances in information and ensure fairness and equality.

Second, in order to ensure the quality of the services provided, the government is expected to

establish the necessary licensing and regulatory framework for private schools in relation to matters such as (i) opening schools, (ii) accreditation for certified schools, (iii) school fees, (iv) teaching staff (qualifications, salaries, treatment, etc.) and (v) curriculums. Monitoring and evaluation systems also need to be developed to ensure the quality of education on a continual basis.

3-1-5. Approaches to and possibilities for PPPs in the education sector

As private sector involvement is likely to have an impact on the education sector, there is good reason to further investigate PPPs as an effective means of encouraging private sector involvement to act as an additional essential resource to help meet EFA and MDG targets. However, as there is also a possibility that the entry of private operators into the education sector could have a negative impact in terms of equality or effectiveness and quality, governments are expected to play their part in order to minimize such an impact.

The validity and feasibility of introducing PPPs may depend in large part on the educational level at which they are introduced—whether basic or higher education. Basic education is an important means of ensuring that the people in any one country share the same social norms and values, which is key to the formation of a nation. Also, as there are a lot of external factors affecting investment in basic education, it would hardly be appropriate to proceed with a PPP based purely on efficiency and effectiveness. In addition to this, it is hard to imagine that there are many private companies in developing countries that would be capable of playing a lead role in education services, particularly basic education. A PPP in the field of basic education therefore needs to be focused on previously mentioned initiatives such as community schools and partnerships between governments. Community schools are often the only organizations capable of providing education services to poor people in remote areas beyond the reach of the government and are therefore expected to play a vital role from a pro-poor standpoint. In addition to providing the necessary licensing and regulatory framework, the government can also help rectify inequalities in education by becoming actively involved in efforts to improve the quality of education through the provision of any necessary technical support.

In contrast to basic education, higher education may bring more personal benefits, making it more appropriate to invest personal funds. Also, as there are more private sector operators providing higher education services, even in developing countries, there is thought to be more scope to carry out PPPs. In relation to the MDGs, promoting higher education PPPs can be expected to result in a shift in the distribution of public funding between sub-sectors, with funds being channeled into basic rather than higher education, thus helping to enhance basic education (see Box 5).

Box 5: Education Development in Post-War South Korea

The South Korean government placed a clear priority on basic education as part of public funding for postwar education development. This is reflected in the fact that 83.9% of government spending on education in 1985 was channeled into basic education in contrast to the mere 10.3% that was allocated to higher education. In higher education, the government has actively promoted private sector involvement since the Private School Act of 1963.

Specifically, the government encouraged private sector involvement in higher education by initially introducing tax benefits for private universities and then providing financial support for private universities in the form of research grants and scholarships for both individuals and institutions. At the same time, the government also established standards relating to areas such as teaching qualifications, facilities, resources and libraries in an attempt to control the quality of education.

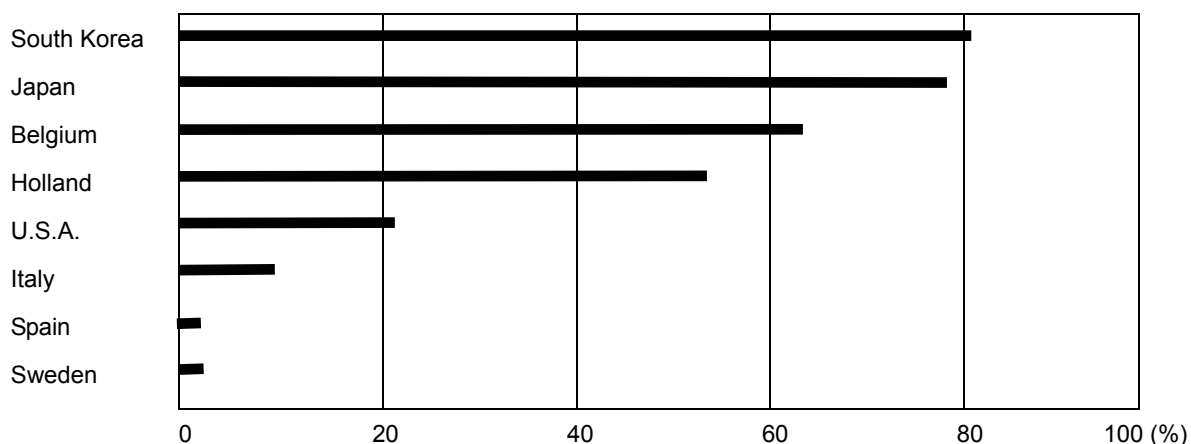
As a result of these efforts, by 1965 89% of junior colleges and 70% of universities were already run by the private sector. This meant that the government could concentrate all the funding that was no longer needed in the higher education sector on basic education, successfully accelerating improvements to basic education.

Source: Yoon (2001)

The basic stance of a country's government, whether it aspires to become a social welfare state or a market-oriented state, for example, also has a major impact on the way in which it will approach PPPs. This is reflected in the fact that the percentage of higher education services provided by the private sector varies considerably across countries, even among advanced countries (see Fig. 10).

The appropriate level of private sector involvement will also depend on the extent of a country's private sector growth. It is therefore impossible to set out a standardized format for PPPs in all countries. In order to find ways to maximize the benefits for both the public and private sectors, PPPs should be examined in the context of individual countries, and governments should play an active role in this process.

Figure 10: Percentage of Students in Higher Education that Attend Private Universities



Source: Created by the author based on World Bank (2000), p.30, Table 4

3-2. Health care

3-2-1. Problems in the health care sector

As shown in Table 17, the Millennium Development Goals (MDGs) include many targets and indicators related to health. The indicators would be directly influenced by improvements in health care services. As many of the indicators call for a focus on individual beneficiaries, they will also have an impact on human security. The World Bank (2003a) has reviewed the preparation process of the twenty-five Poverty Reduction Strategy Papers (PRSP) and found that poorer people tend to have a stronger interest in health care services, especially in terms of accessibility, prices and social distance.

Improvements in the health conditions of beneficiaries improve the lives of the people around them and mitigate health vulnerabilities. This is why it is said that health care services still have strong externalities. Preventive care and treatment of diseases also prevent the spread of diseases to the general public. If private operators are left to provide the prevention and treatment, supply shortage is the usual outcome, because of these externalities. In addition, the menu of available medical care services will depend on the ability of beneficiaries to pay for them, and special attention thus needs to be paid to inequality. Providers and beneficiaries also have different information regarding the quality of the services. These are the reasons why health care services have been provided by the public sector.

MDGs are not considered to be achieved until three types of health care services are effectively provided:²⁴

- i. Individual clinical services at hospitals and clinics
- ii. Outreach services targeting large populations, such as vector control or presumptive intermittent treatment, child immunization and micronutrient supplementation

- iii. Support to self-care with family-oriented programs, such as social marketing of insecticide-treated nets, peer support for breastfeeding, community information for birth spacing, and community mobilization for HIV and tuberculosis control.

Table 17: MDG Health Targets and Indicators

Goal and target	Indicators
Goal 4 Reduce child mortality Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	1. Under-five mortality rate 2. Infant mortality rate 3. Proportion of one-year-old children immunized against measles
Goal 5 Improve maternal health Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	1. Maternal mortality ratio 2. Proportion of births attended by skilled health personnel
Goal 6 Combat HIV/AIDS, malaria, and other diseases Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	1. HIV prevalence among pregnant women ages 15- to 24 2. Contraceptive prevalence rate 3. Ratio of school attendance of orphans to school attendance on non-orphans ages 10-14
Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	1. Prevalence and death rates associated with malaria 2. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures 3. Prevalence and death rates associated with tuberculosis 4. Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS)
Goal 8 Develop a global partnership for development Target 17: In cooperation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries	1. Proportion of population with access to affordable, essential drugs on a sustainable basis

Developing countries usually lack local government capacity and are unlikely to extend their service provision to all beneficiaries via their own organizational and administrative mechanism. It is difficult for the government to provide all the services on its own and it is even more inefficient. Service provision via NGOs and private firms might be more efficient in some cases.

3-2-2. Clinical services for individuals

Patients have a range of needs, including treatment of malaria, tuberculosis and other infectious diseases; obstetrics care; and pneumonia treatment. Accordingly, the diagnoses and procedures doctors need to take may also vary to a great extent. Clinical services for individuals depend largely on the discretion of doctors and this causes an asymmetry of information about the quality of

services provided, which is in most cases to the disadvantage of the poor patients. In general, most developing countries still lack a comprehensive medical insurance system, and they tend to run public hospitals and provide clinical services for free or at unrealistically low rates to cover the cost of the services. These types of clinical service provision are geographically concentrated in urban areas and poor people fail to benefit from them.

When they serve beneficiaries who do not belong to low income households, a PPP is an effective tool for recovering the cost by imposing service charges on beneficiaries that can afford it, as we have seen in the provision of infrastructure services described in the previous sections. We could also expect that the pay-for-service approach might be effective in promoting beneficiaries' understanding of the value of the services they receive (See Table 18). The type of PPP may not be limited to the management contract on existing facilities. We could expect a PPP that involves long-term concession arrangements in which private operators are supposed to invest in facility extension and repair work. For example, Marie Stopes International, a British NGO, has been running reproductive health centers in developing countries, with the financial support of DFID. It has established a new business model to charge for facility-based maternal care services.

Incentive-based subsidies could also be introduced to enhance the pro-poor inclination of clinical services. It may be possible to indirectly subsidize the poor by subsidizing service providers on the condition that the providers do not charge target beneficiaries. We could also directly subsidize the poor by distributing vouchers to the target beneficiaries. It is often pointed out that the voucher scheme has difficulty in targeting low-income families eligible for the subsidies. But it also has the advantage of promoting competition among service providers by providing a broader array of choices for the target beneficiaries, and this will lead to a bolstering of the overall quality of services provided.

Meanwhile, it is said that the impact of health services is slow to be observed, difficult to measure, and often affected by factors other than the health services themselves. This makes Output-Based Aid-type contract arrangements difficult. In particular, information on the quality of clinical services provided is overwhelmingly concentrated on the provider side, and neither monitoring by the government nor supervision by the beneficiaries is implemented well. Possible actions the government may take to address the asymmetry of information include the assignment of services to organizations with special expertise in clinical health care and NPOs that have an altruistic motivation. Beneficiaries may take such actions as joint operations of clinics, drug revolving funds with the government and the introduction of micro-health insurance schemes that offer coverage to the poor. Micro-insurance itself requires a certain degree of public support so that it is designed to be pro-poor. This could be another form of PPP.

Table 18: Options of PPP Introduction for Hospital Management and Role Sharing Between Public and Private Sectors

Option	Private Sector Responsibility	Public Sector Responsibility
Colocation of private wing within or beside public hospital	Operates private wing (for private patients). May provide only accommodation services or may provide clinical services as well.	Manages public hospital for public patients and contracts with private wing for sharing joint costs, staff, and equipment.
Outsourcing nonclinical support services	Provides nonclinical services (cleaning, catering, laundry, security, building maintenance) and employs staff for these services.	Provides all clinical services (and staff) and hospital management.
Outsourcing clinical support services	Provides clinical support services such as radiology and laboratory services.	Manages hospital and provides clinical services.
Outsourcing specialized clinical services	Provides specialized clinical services (such as lithotripsy) or routine procedures (cataract removal).	Manages hospital and provides most clinical services.
Private management of public hospital	Manages public hospital under contract with government or public insurance fund and provides clinical and nonclinical services. May employ all staff. May also be responsible for new capital investment, depending on terms of contract.	Contracts with private firm for provision of public hospital services, pays private operator for services provided, and monitors and regulates services and contract compliance.
Private financing, construction, and leaseback of new public hospital	Finances, constructs, and owns new public hospital and leases it back to government.	Manages hospital and makes phased lease payments to private developer.
Private financing, construction, and operation of new public hospital	Finances, constructs, and operates new public hospital and provides nonclinical or clinical services, or both.	Reimburses operator annually for capital costs and recurrent costs for services provided.
Sale of public hospital as going concern	Purchases facility and continues to operate it as public hospital under contract.	Pays operator for clinical services and monitors and regulates services and contract compliance.
Sale of public hospital for alternative use	Purchases facility and converts it for alternative use, depending on sales agreement.	Monitors conversion to ensure adherence to contractual obligations.

Source: Taylor and Blair (2002)

3-2-3. Outreach services

Some outreach services are already standardized and could be monitored easily once the details of the services are specified. For example, this may be the case in infant vaccination, the polio eradication initiative, micronutrient fortification, and media on malaria prevention. These would be suitable for an OBA-type contract with a private entity. For example, performance indicators such as the percentage of vaccination coverage could be agreed on as a prerequisite for the release of the subsidies. However, the service package would be standardized and remain almost identical among beneficiaries of different income levels. Consequently, such services are usually fully funded by tax-based public spending instead of by collecting fees from the beneficiaries.

3-2-4. Spread of self-care

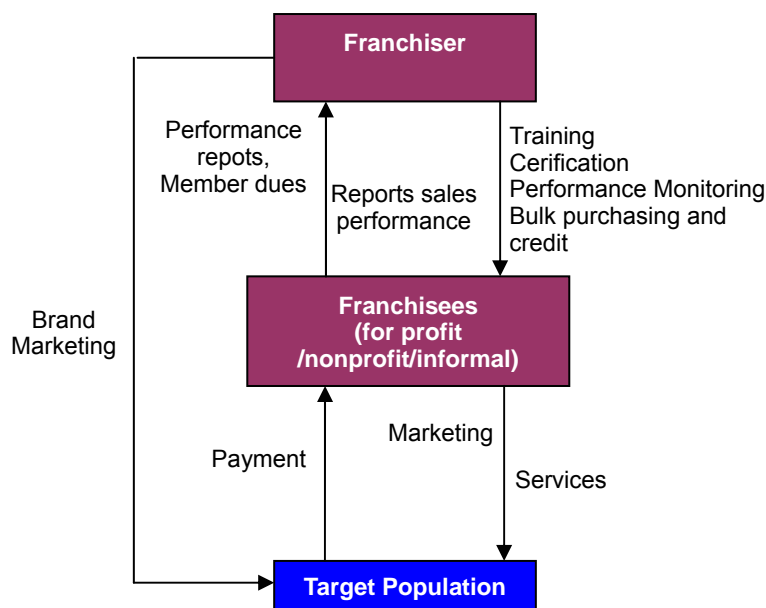
Social marketing of new self-care products, such as insecticide-treated nets, contraceptives and oral rehydration therapy; peer support for breastfeeding and food fortification; peer support for home care for child illnesses; and community information for birth spacing. They all require and community mobilization for HIV and tuberculosis control. All of these require behavioral changes on the part of the beneficiaries including poor families.

Behavioral changes call for some preconditions: They should be acceptable to the cultural precepts of the target areas; the linkage between the new behavior and health/diseases should be understood by the target beneficiaries; and a stable supply of the new products should be assured for the target areas. For this reason, self-care services could be more effective by combining information dissemination with the development of a supply chain. As Civil Society Organizations (CSOs) and small-scale private enterprises are operating closer to poorer families in the target regions, they are in a better position than the government to design and provide appropriate services for the poor. For-profit private suppliers will convey information on new products and new behavioral patterns and distribute products most efficiently. A franchise scheme has drawn attention in recent years and is increasingly considered a promising type of PPP.

In a franchise scheme, as shown in Figure 11, parent companies (franchisers) with exclusive rights to specific products or services give exclusive marketing rights to their affiliates (franchisees) in a specific area and the affiliates make commission payments to the parent companies in accordance with the terms and conditions spelled out in the franchise contract. Parent companies may also provide their franchisees with business skills training, purchasing support, and even financial support. Franchisees are permitted to use their franchisers' product brands and promote their products and services. A franchiser and its franchisees share the same brand image in their respective business operations. This means franchisers expose their brand image to reputation risks by allowing their franchisees to deal in their brands. So franchisers are very sensitive to the quality of services that their franchisees provide. The performance of franchisees is carefully monitored. This strongly motivates the government to use the franchise network to spread public services. Marie Stopes

International, the organization mentioned above, has successfully established its brand image by packaging health clinics with the unique external appearance of its facilities and assigning skilled staff members. In this way, Marie Stopes has adapted the franchise system to its maternal care services.

Figure 11: Typical Franchising Structure in the Health Sector



Source : Ruster et al. (2003)

Social marketing companies (SMC) are an example of the franchise scheme and some SMCs have already been established in developing countries with the assistance of USAID. One good example of an SMC is a private profit-making distributor that promotes the use of contraceptives. Social marketing divides consumers into subgroups, for example by income level, residential area, family make-up and social status. The products that best fit the needs of the subgroups are selected for marketing. For example, the Bangladesh SMC sells contraceptives with a variety of brands, which have little quality differential, but in different packages and at different prices applicable to each subgroup of different income and affordability level. Up-market packaging and high prices are directed at high-income consumers. The profits generated from these consumers cross-subsidize the loss created within the company. Mass marketing using various media to convey product information is contracted out to other private companies and NGOs²⁵. Once established, the SMC network could be used for other purposes, like the distribution and marketing of products other than contraceptives.

An SMC itself is not a pro-poor business model in that it targets beneficiaries of mid to upper income levels. Thus, it may be necessary for the government to subsidize SMCs to the point that their distribution and marketing of low-income merchandise can generate a profit²⁶. Otherwise the government by itself may need to continue to distribute contraceptives to lower-income groups.

As observed above, when we consider the formulation of national development plans for each country with the achievement of the MDGs as overarching guiding principles, health is still a high priority sector, where there is a huge possibility for private-sector participation in the provision of services.

3-2-5. Roles of the government

A number of different forms of PPPs may be appropriate in the health sector. Thus, many of the government roles mentioned elsewhere in this paper may be applicable in the health sector, including: (i) development of a regulatory framework and licensing scheme; (ii) a mechanism to encourage competition between private health service providers; (iii) the design of an incentive mechanism and subsidy system; and (iv) achieving transparency in the process of subcontractor selection and contracting. Role (i) requires a framework for monitoring, sanctions against non-performance of the contract, and dispute-resolution procedures, as well as greater capacity enhancement of the authorities that issue licenses to private enterprises. As in the case of infrastructure, the establishment of an independent regulatory authority has also been cited. Concerning (iii), a key challenge is that the design of the business models and contracts need to highlight a mechanism to ensure the transfer of performance risks to the private provider while assuring universal access to the beneficiaries.

Footnotes

[1] We call them “network utilities” for the following reasons: In the sectors of drinking water supply and power supply, there is a supply chain from the upstream to the downstream. In drinking water supply services, the network consists of water intakes, water pipes, water treatment plants, water lines, water distribution networks, water supply equipment, faucets, sewer lines and sewage treatment facilities. For electric power supply, it consists of power generation, transmission, distribution and retailing. In the telecommunications sector, services cannot be provided without horizontal networks, specifically networks consisting of a subscriber line, a switchboard, intercity transmission lines, another switchboard and another subscriber line for fixed phone services and one with a mobile handset, a base station, another base station and another mobile handset for mobile phone services.

[2] OECD’s research on the outcomes of privatization in developed nations in 2003 roughly classified them into three: (i) attainment of financial soundness, (ii) improvement in business efficiency and profitability and reduced service tariff rates; and (iii) contribution to the cultivation of capital markets. In developing countries, a large majority of projects with the participation of the private sector have been aimed since the 1990s at launching greenfield projects rather than at privatizing state-run companies. Many of the projects covered by the case studies in this paper were small in scale and were considered to essentially make a limited contribution to the development of national securities markets or the

cultivation of personal investors. For these reasons, this aspect was excluded from the analysis.

[3] The Spanish word *aguatero* referred in the era of Spanish colonial rule to a water peddler carrying a water-filled basket on his/her head. Later, its meaning shifted to a group of itinerant water vendors that traveled by truck to sell water in rural areas with a large poor population. Today, it refers to a water supply operator that supplies water through water pipes.

[4] A survey conducted in 2002 of 1,000 households that received water supply from *aguateros* revealed that 90% were satisfied with their services.

[5] A single connection has two possibilities. The first is a connection to a single household usually residing in a detached building and the other is a connection to multiple households in an apartment building.

[6] An availability fee refers to a fixed fee paid from the public sector to private operators with facilities or equipment that meet certain standards as long as they provide principal services.

[7] The term *affermage* is used to refer to the operation of facilities constructed and owned by the public sector outsourced to a private company. In the United Kingdom, the term GOCO, short for “Government Owned Contractor Operated,” is used instead. It is close to Japan’s designated administrator scheme. Some argue that some *affermage* contracts include the private operator’s obligation to maintain, update and invest in the facilities.

[8] Given the variation in the geographical and topographic features, the distance from the water sources and the efficiency of local water treatment facilities among different cities and towns, every municipality has its own criteria for classification into the six building ratings and the criteria are not identical throughout the country.

[9] In a narrow sense, network externalities mean the dependence of beneficiaries’ utility on the scale of the group of beneficiaries.

[10] Independent Power Producer.

[11] The IFC has recently been pioneering a broad array of approaches for private-sector development in Mexico, China, India and elsewhere.

[12] This kind of franchise scheme is examined subsequently in section 3-2.

[13] This section was written with the help of invaluable comments from Yumiko Yokozeki (Senior Advisor, JICA Institute for International Cooperation).

[14] Refer to UNESCO (2003) and the website of the World Education Forum in Dakar (http://www.unesco.org/education/efa/wef_2000/index.shtml) for more details.

[15] UNESCO (2003)

[16] UNICEF (2004)

[17] Institute for International Cooperation, JICA (2002)

[18] According to a Stock Taking Report submitted to the FTI Donor consortium by the World Bank in November 2003, there was a funding gap of approximately US\$65 million in the seven countries initially targeted for FTI during the two-year period from 2004 to 2005 (World Bank (2003b)).

[19] Although the schemes such as academic-industrial research partnerships involving higher education institutions and corporate internships for students involved in vocational or technical education are widely referred to as PPP, such schemes are not included under the discussion of PPP here as the focus of this section is on educational activities.

[20] There are examples of voucher schemes in effect in other sectors apart from education, including the likes of health vouchers in the health care sector and food vouchers (e.g. the US food stamp program).

[21] Countries experimenting with such schemes include Asian countries such as Indonesia and African countries such as Ethiopia. Refer to JICA domain-specific guidelines on non-formal education (September 2004) for more details.

[22] One example of research into the positive impact of private sector involvement in terms of efficiency is Lockheed and Jimenez (1996). Based on a comparative study of education in public and private schools in four developing countries in different parts of the world, this research shows that education in private schools is more effective and costs less.

[23] Examples of research into the positive impact of private sector involvement in terms of effectiveness include Bedi and Gard (2000), which shows that graduates from private schools tend to earn higher wages in the labor market than those who graduated from public schools, and Lockheed and Jimenez (1996) (see above). There are also numerous research results that are skeptical about the notion that private schools provide a higher quality of education (e.g. Benveniste, et al. (2002)).

[24] Strictly speaking, the domestic commitment still leaves something to be desired. In Japan, we need a domestic mechanism for early detection, monitoring and prevention of newer infectious diseases. As shown in MDGs Target 17, there is also a need for an international system to monitor research and development of essential drugs and infectious diseases. For details, refer to Kaul, et al. (1999).

[25] Institute for International Cooperation, JICA (1997)

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