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Risk and chances for PPP in waste management

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Abstract

Public-Private-Partnership (PPP) is a valuable and perspective instrument to enable infrastructure investments. They require cost efficient approaches, reliable fee collection structures with sufficient revenues and an effective and cooperative institutional set-up at the public side. If those conditions are not ensured the private sector will consider the shortcoming as project risks, what is reflected in the price offers. In this regard poor areas with very little existing infrastructure and corresponding large investment demands do not provide favourable conditions for private investors. Those cases still require assistance by donors or central government.

Keywords

PPP, landfill, fee collection, institutional set-up, investments

1 Overall status of PPP

In various sectors of infrastructure PPP and PSP has become a story of success. Primarily those kinds of projects with high investment demand, solid financial and legal framework and a related reliable market situation are regularly established as PPP. These conditions apply to water supply, electricity and communication as well as partly to waste water treatment. In particular the degraded infrastructure in transformation countries provides a good environment for private investments. However in the sector of waste management the starting conditions are different and cause significant constraints and risks for PPP projects. The following presentation will provide some general experiences with PPP in solid waste management as well as a case study for a specific project located in Berane (Montenegro).

2 General PPP experiences in solid waste management

Due to various reasons solid waste management is a rather complex field for developing PPP. In poorer countries the starting point is close to zero with nothing in place but an outdated and fragmented collection system and a dumpsite, thus the required investments are huge compared to other fields. In many cases investments cannot be stemmed by the institutions in charge without donor support. In correspondence investments placed by the private sector, which could potentially provide the financial means, are hard to be financially recovered. The necessary increase in waste fees is not affordable for the consumers in those locations.

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In short words: the step from the scratch to a state of the art solid waste management is too big to be achieved even with private money coming in.

The conditions are more favourable in locations where the SWM infrastructure needs improvements rather than an entire new set-up. This may be the case for municipalities which would like to introduce a specific SWM element such as a sanitary landfill, a recycling facility (MRF) or a waste treatment plant. Successful PPPs can be mentioned here like the VEOLIA landfill operation in Alexandria (Egypt).

Nevertheless, even those projects suffer from gaps in legal, financial and institutional framework. It seems to be a general attitude of public stakeholders that they expect the private sector to provide better service without increasing existing waste tariffs, simply by improving the efficiency of the systems and increasing revenues from the waste. On the other hand the private operator is requested not to contribute to unemployment. Apparently this “making a square of a circle” shall be solved by generating revenues out of the waste. It is an endemic problem that for years the public authorities were told by various parties that solid waste management could be a self financing system, because high profits may be generated from recyclables, compost, electricity etc. The basic message that advanced SWM systems are more expensive than simple ones has not been understood well.

Moreover, even if public and private sector cooperate viably, the legal and institutional framework can harm the partnership. Instead of realizing that the private sector can provide investment funds, experience and efficiency, but requires sustainable revenues in exchange, some public stakeholders consider them rather as cash cows. There are numerous examples where the private investor does not receive adequate support from public stakeholders. For instance the price for recycled metals in the Republic of Moldova is fixed to 70 €/t (1000 MDL/t), because it is mandatory to hand over all materials to a state owned corporation for marketing. Local operators are not allowed to sell the recyclables on their own account. All service providers are concerned, but public sector does not run metal recycling at all. For private investors from western countries revenues from metal recycling are an essential source of revenues regularly utilized to subsidy proper MRF operation, what exactly means the progress in waste management which is expected from them. Finally they struggle while stripped of this source of revenue. The Austrian company AVE, which cooperates in a PPP with the Moldovan municipality of Ungheni, has currently no option but to store the metals waiting for a turn of tide in national marketing policy.

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3 PPP from the scratch – case study Berane

3.1 Project lay out

The Strategic Master Plan on Waste Management of Montenegro divides the country into 8 sub-regions and encourages municipalities in these sub-regions to cooperate and develop modern regional solid waste management facilities and services. As a result, in 2008 the four municipalities *Berane, Rozaje, Plav and Andrijevica* located in the Northern part of Montenegro signed an inter-municipal agreement to improve solid waste collection in the region and to construct and operate a regional sanitary landfill. Figure 1 shows the location of Berane and the cooperating municipalities.

Figure 1 Location of Berane (Montenegro)

The Municipality of Berane on behalf of the four municipalities in the region asked the International Finance Corporation IFC, the “private arm” of the World Bank, as lead financial transaction advisor to assist in attracting a private partner to develop and operate the new sanitary landfill on the selected site, in compliance with EU directive on sanitary landfill and applicable local regulation.

The project should include the construction and operation of an integrated solid waste management system (ISWMS) for the region with the following components:

- Improvement of the municipal solid waste (MSW) collection services
- Operation of the network for the transportation of the MSW to the regional landfill with 2 transfer stations and equipment

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- Construction of a material recovery facility (MRF) for segregation of recyclables
- Construction and operation of a regional landfill

The feasibility of the project was assessed in a feasibility study (MEDIX, 2008). The total land area is 1.918 km^2 and has a population of 77.351 out of which 50.062 is rural and 27.289 is urban . The quantity of the MSW was expected to be approximately 25.300 tons per year with a potential increase to 31.300 tons per year due to improvements in waste collection. Aside this amount of waste approximately 4,400 tons per year biomass as remainings from timbering were expected to be delivered to the site. The composition of the MSW is presented in the figure 2.

Figure 2 Waste composition

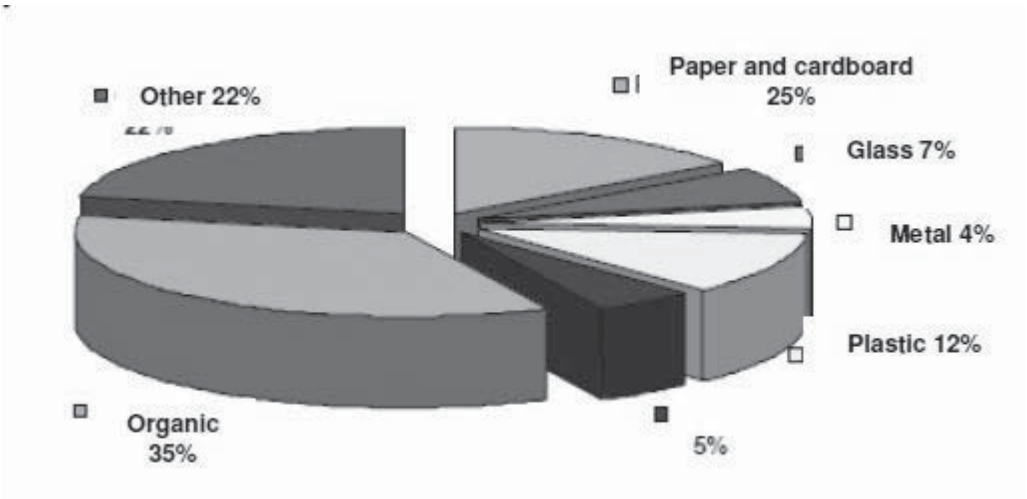

Figure 3: Future location of the regional landfill Berane

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The future landfill site was selected after completion of a technical study and approved by local assembly. The new regional landfill should be located approximately 5 km north-west of downtown of Berane. The total landfill site area was planned for 68.000 m^2 with a capacity for disposal of 790,000 m^3 MSW. The land was purchased by municipality Berane in 2007. The landfill site is well connected with the region via existing roads, electro transmission network is 1,5 km, water supply 2.3 km and sewerage system 2.5 km far away from the future regional landfill site.

3.2 Financial key data

The preliminary estimated investments of the various improvement measures for collection, recycling and disposal are summarized in table 1. The total estimated value adds up to 9,31 Million Euro.

Table 1 Estimated investments

Investment item	*Estimated value Million Euros*
Improvement of the MSW collection system in the region, establishment regional MSW transportation network	7,40
Construction of a recycling facility and regional landfill	7,44
Total investment	14,84

Total annual operation costs have been estimated to 482.000 € for the landfill and MRF and 745.000 € for the collection and transportation system not including cost of finance (O & M costs only). The waste management system is currently financed by user fees for private residents and commercial companies. In the feasibility study rates were estimated to 0.80 €/month/capita for residents and 0.10 €/m^2 for businesses, what is slightly higher than the tariffs which were previously in place. As in many locations the financing suffers from incomplete billing and a lack of willingness to pay, but this effect was not considered in the feasibility study. The overall fee potential amounts to 1,15 million € per year (including about 40 % collected from commercial and trade), what corresponds to a tonnage revenue of 36,5 €/ton. Theoretically, the building and operation of the system could almost be financially recovered by fees with revenues from the recycling not yet considered. However, the costs of financing are not included; hence the project could be implemented by either receiving grant money from donors or subsidy from the central government or by generating significant revenues from the recycling and further increasing the waste fees.

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3.3 Risks

The consideration of potential risks has a significant impact on the offers of the private sector. Mainly two aspects are taken into account:

- Reliability of fee collection
- Sustainability of institutional set-up (customers relation)

Those two aspects are generally more important than the technical issues due to the fact that experienced private companies trust in their expertise to solve those problems and they do not need much support by the public partner for implementation. With fee collection it is a different story. Generally, improvements in waste management require an increase in fees, what requires the acceptance of the residents. Depending on the scale of improvements fee increase may become hard for the residents. For good reason the private operators are skeptic that the required fees can be collected. Moreover, in former socialistic transformation countries people are still not familiar with paying for waste services at all, since for long it was delivered for free. The pessimistic considerations of the bidders are reflected in the financial offers. Regularly, the private sector tends to shift the responsibility for fee collection to the public partner aiming on having a contract which foresees payments from the municipality and not from the consumers. However, in cases where a high fee collection rate is needed for financial viability the bidders understand that the problem does not disappear by simply keeping it to the public administration. For good reason they are afraid that the administration may struggle in fee collection and finally cannot pay the contract bills. The risk can be significantly reduced if the fee enforcement looks reliable or if grant money (for example from central government) is available for those special cases.

Various fee collection schemes are available. It is currently popular to link the waste fees to other service provisions such as electricity or water. It seems that this works out well in urban areas with reliable services, willingness and affordability to pay, and well functioning collection procedures. In Tirana (Albania) fee collections scheme was changed in early 2011 by adding the waste fees to the water bill. Immediately fee collection increased by 400 %. Nevertheless, changing the fee collection scheme sounds easier than it is. Other service providers may be reluctant to do the fee collection on behalf of the waste management entities (as in Durres/Albania), because it does not deliver profit for them. If they are not in house enterprises (what is the case for many electricity providers, which are national level companies), there is no way to enforce them to cooperate. And even if they agree, the cooperation may be terminated on short notice.
It should also be noted that legally the billing through third party is not in line with general civilian law, unless a specific law is in place. For example: In case a resident is not happy with the waste service and reduces the combined fee, which is due to the elec-

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tricity provider, by the part which refers to waste services, the electricity company is not eligible to shut down the electricity, because this would harm an separate contract the customer has fulfilled. The main question is, where the electricity provider gets the right from to use this (previously existing) contract for the purpose of fee enforcement for contract between different parties. Without having a specific national law in place it is very questionable whether this configuration would survive a court trial. Definitely, it is not sufficient to simply regulate this by means of by laws, since higher rights are touched. The above mentioned aspects prove that fee collection is a tricky story. It is understandable that the private sector includes those risks into his financial offers, because they are regularly out of his hands.

Same applies to the institutional risks. In case that the private sector has placed significant immobile investments such as facilities or a landfill, it is difficult for the companies to get out of the deal, because they cannot avoid painful losses. Hence, it is commonly the public partner who is not fulfilling his contract obligations. A frequent case is that the public partner does not deliver the waste to the private operated facility or does not pay the gate fee. For the private operator it is difficult to enforce the contract unless taking legal action (which may be time consuming). Situation becomes somehow easier for him when operating the entire system including waste collection. Suspending waste collection can be used to enforce contract obligations. When designing the PPP project lay out and the concession agreement it should be considered to balance the rights and obligation between the parties. Potential conflict scenarios should be assessed and appropriate mitigation action should be part of the contract.

The variety of institutional borne conflicts is huge. Frequently the public administration lures on PSP as an instrument to solve political problems. For example, in Tanzania the Daressalam City Council (DCC) operates a regional dumpsite, where the three local municipalities (MCs) of the metro region dump their waste. The MCs are requested to pay a gate fee of 0,9 $/t of waste. In fact, the local governments refuse to pay. In some areas waste collection is carried out by private companies, which are similarly charged at the dumpsite. Other than the MCs, they pay. Now, the DCC aims on transact the dumpsite operation to the private sector with the expectation that the MCs would then pay the gate fees. It is a popular move to switch public-public business relations into private-public in order to enforce payments. However, it should be understood that this may be a side effect, but should not be the major intention of a PSP. There may be reasons behind the fact that the local governments do not pay such as limited financial resources etc. If this is not solved they will try to find other ways to avoid payments, for instance disposing at irregular places, establishing own dumpsites etc. A PPP project must not be misused to solve political or institutional problems.

The number of potential conflict issues is large. It includes the performance of services, the value of remaining assets in case of contract termination etc. As a simple example:

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How to make sure that the private operator is frequently replacing outdated and degraded equipment such as bins and containers? How to make sure that by the end of the contract the equipment and vehicles still can be used? Even in well developed countries such as Germany the public service providers have no exact number what the lifetime of a 240 l is and what the criteria are that the bins need replacement. The warranty period ranges between 5-10 years, but some bins are in use for 25 years. It is likely that by the end of the contract prior to transferring the equipment both parties will hardly agree on the condition and the remaining value of the equipment. On the other hand, enforcing the private operator to frequently replace the bins (once in 10 years) will result in higher costs what then drives the bidding price.

4 Conclusion

PPP can be a valuable instrument to attract investments, to bring in knowledge and expertise and to improve the performance of services. Compared to other sectors of public services waste management systems show a large number of potential risks. In order to mitigate those risks, the concession contract should be well balanced in terms of rights and obligation of the parties. The lower the risks and the easier they are to mitigate the better the private offer will be. Fee collection and viability of partnership are the most critical points in this regard. Hence, the larger the potential reserves from fees compared to the costs of the system, the less becomes the risk for the private concessionaire. As a consequence the design of the facilities and the system should be as cost effective as possible. In fact, in poor regions with limited consumers' affordability of fees as well as weak markets for recyclables and other sellable products a PPP hardly becomes profitable. In those cases investments need to be placed by donors and central governments.

5 Literature

Medix 2008 The feasibility study for the construction of a regional landfill in the municipality of Berane

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