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Knowledge, Innovation and Capacity

Partnerships for Effective Municipal Service Delivery

Thimphu Thromde, Bhutan

Knowledge, Innovation and Capacity: Partnerships for Effective Municipal Service Delivery

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Partnerships for Effective Municipal Service Delivery

Thimphu Thromde¹, Bhutan

¹ Thromde is Bhutanese for municipality.

Acknowledgements

Fostering private sector engagement and public–private partnerships (PPP) for sustainable human development is one of the priorities of the Knowledge, Innovation and Capacity Group (KICG) at the United Nations Development Programme (UNDP) Asia-Pacific Regional Centre in Bangkok.

In view of the increasing relevance of non-state actors and the private sector in the region in terms of economic growth and sustainable development, the KICG, in collaboration with national and local governments, civil society organizations and the private sector has been engaged in the development of policy, partnership and capacities for PPPs, with a particular focus on service delivery.

This case study on Bhutan presents the context of PPP for sustainable (waste) development. We hope that it will help strengthen the policy advocacy efforts on the issue and facilitate South–South learning.

The KICG would like to thank Hendrik Visser (independent consultant), Pema Dorji (Policy Specialist, Climate Change Environment, Energy and Disaster Management, UNDP Bhutan and former project manager at Thimphu Thromde), Tashi Dorji (Programme Analyst, Environment, Energy and Disaster Management, UNDP Bhutan), Lilliana Abarca (Senior Solid Waste Adviser, WASTE, the Netherlands), and Dipa Bagai (Capacity Development Practice Leader, UNDP Asia-Pacific Regional Centre), Diana Brandes-van Dorresteijn (Programme Specialist, Public–Private Partnerships for Local Service Delivery, UNDP Asia-Pacific Regional Centre), Peter van der Pol (Policy Advisor, Project Coordinator PPPSD) and Jayne Musumba (KICG's Global Knowledge Management Specialist) for their reviews.

Foreword

As the first elected Thrompon (Mayor) of the Thimphu municipality, I attach great importance to improving municipality service delivery. One important step that has been undertaken is the institution of the Customer Service Division under Thimphu Thromde to strengthen the relationship between the municipality and its citizens. One of the most notable problems the municipality faces, because of rapid urbanization, is the ever growing problem of solid waste.

Thimphu Thromde is therefore grateful for the support it is receiving from UNDP Bhutan and UNDP PPPSD to strengthen its capacity for service delivery and for partnerships in service delivery. This support, which centres on the development of Public-Private Partnerships (PPPs) for improved solid waste management, is very welcome and timely considering the challenges and capacity limitations the municipality is facing. Over the past two years, because of the sector acts, regulations and stakeholder dialogue the project supported, several businesses have already emerged in the solid waste sector. Moreover, the municipality has been able to engage concretely in PPPs for elements of the new solid waste management system. It is our sincere hope that innovative pro-poor PPPs will greatly reduce the burden on the municipality, improve the efficiency of its waste collection and management system, support local business sectors and generate employment.

We therefore see great promise in further developing partnerships with the private sector, civil society and service beneficiaries for municipal service delivery. It will not only increase the service coverage and make our services more effective and efficient, it will also allow us to structurally engage with citizens to understand their needs and to agree upon mutual responsibilities for results.

As the capital city, Thimphu has a lead role in developing sustainable service modalities which can be scaled up to other municipalities and local governments. Without doubt, service delivery partnerships will be challenging in the absence of appropriate policy frameworks at the national and local levels, a situation that is compounded by the new democratic and institutional context of local governments in Bhutan. We are therefore greatly appreciative of the support of UNDP for documenting the municipal PPP-ISWM pilot through this case study. The lessons and recommendations generated will go a long way to support the municipality in scaling up the pilot and in making PPPs in service delivery a national success.



Kinlay Dorjee
Thrompon
Thimphu Thromde

Contents

Acronyms	1
1. Introduction: Learning from the Rio+20 Summit	2
2. Partnerships for improved service delivery	2
3. The story of waste in Thimphu Thromde	2
4. Capacity development response	3
4.1 Facilitating dialogue for reflection	3
4.2 Assessment of existing solid waste management initiatives and systems.	4
<i>Thimphu Thromde's solid waste collection and disposal system.</i>	<i>4</i>
<i>Informal waste collectors and scrap dealers</i>	<i>6</i>
<i>Independent private sector initiatives.</i>	<i>6</i>
<i>Public education and awareness activities</i>	<i>8</i>
4.3 Capacity self-assessment and municipal capacity development strategy for PPP-ISWM	8
5. Self-empowerment and results through a pilot approach.	10
5.1 Strengthening the enabling environment	10
5.2 The pilot approach to SWM system design.	11
<i>Key lessons on ISWM and PPP design from the pilot stage</i>	<i>12</i>
5.3 Results through multi-stakeholder and partnership approaches	13
<i>Selected achievements.</i>	<i>13</i>
5.4 Consolidating change.	15
6. Conclusions and lessons learned	15
References and organization websites	17
Endnotes	17

Figures

Figure 1– Thimphu Thromde (Solid Waste Master Plan, TT, 2008)	2
Figure 2 – Waste composition Thimphu Thromde (National Solid Waste Survey 2008, DUDES, MoWHS)	3
Figure 3 – Projections of municipal waste generation in Thimphu	3
Figure 4 – New TT Waste Collection Routes Map	11

Textboxes

Textbox 1 – Promoting systems thinking	4
Textbox 2 – Efficiency and effectiveness of the existing solid waste disposal system	5
Textbox 3 – Greener Way	7
Textbox 4 – ReCiTi.	7
Textbox 5 – Druk Waste Collection (Paro)	7
Textbox 6 – Clean Bhutan: Recommendation	8
Textbox 7 – The Integrated Solid Waste Management model	9
Textbox 8 – Waste Prevention and Management Act (2009)	10
Textbox 9 – PPPs' service contracts	12
Textbox 10 – Waste Management Regulation	15

Acronyms

3Rs	Reduce, Reuse and Recycle
4Rs	Refuse, Reduce, Reuse and Recycle
CA	capacity assessment
CD	capacity development
D2D	door-to-door (waste collection)
DUDES	Department of Urban Development and Engineering Services (Bhutan)
GIS	geographic information system
GPS	geographic positioning system
HDPE	high-density polyethylene
ISWM	Integrated Solid Waste Management
JICA	Japan International Cooperation Agency
KICG	Knowledge, Innovation and Capacity Group [UNDP]
MDGs	Millennium Development Goals
MoWHS	Ministry of Works and Human Settlements
NEC	National Environment Commission
NGO	non-governmental organization
Nu	Ngultrum, Bhutanese currency
PET	polyethylene terephthalate (bottles)
PPP	public–private partnership
PPP-ISWM	Public-Private Partnership and Integrated Solid Waste Management [pilot project]
PPPSD	UNDP Public-Private Partnerships for Service Delivery
RGoB	Royal Government of Bhutan
RSPN	Royal Society for Protection of Nature
SWM	solid waste management
TT	Thimphu Thromde
Thromde	Municipality
Thrompon	Mayor
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
VAST	Voluntary Artists' Studio, Thimphu
WASTE	NGO, Advisers on Urban Environment and Development, the Netherlands

1. Introduction: Learning from the Rio+20 Summit

Capacity development and public–private partnerships (PPP) are among the critical issues that the Rio+20 Summit has emphasized as crucial to achieving sustainable development. As reflected in the outcome document of the summit, *The Future We Want*, there is increasing political consensus among world leaders that sustainable development is not just about poverty reduction and closing the gap between the developed and developing countries; but achieving all-round progress that addresses the economic, social and environmental concerns of communities and nations.

The debates around the Millennium Development Goals (MDGs) and the post-2015 development agenda also reflect this need for an integrated and multisectoral approach to sustainable development, which requires concerted efforts not just by national governments, but also several other stakeholders including the private sector.

Additionally, achievements of sustainable development goals and the MDGs are best measured and most relevant at local levels as national averages conceal the development mismatch between different regions of the country and slower progress in certain parts of a country.

In Asia and the Pacific, efforts towards sustainable development, including progress on the MDGs, face complex challenges from rapid urbanization: by 2026, half of the region’s population will live in urban areas and within the region, East Asia will witness the fastest rate of urbanization, followed by South Asia and the Pacific.

2. Partnerships for improved service delivery

Achieving development that is economically, socially and environmentally sustainable cannot be achieved by municipal governments alone. The scale, reach and financial leverage of the private sector make it a critical player for achieving sustainable development objectives. Municipalities are to explore opportunities to create shared value, where businesses and the community benefit from a product or service provided by the private sector. Private sector firms can derive economic benefits by reducing risk, enhancing productivity and expanding markets, while making a substantive contribution to improved and equitable service delivery by municipalities. Such a collaborative interface is broadly referred to as PPPs. In simple terms, PPPs are multi-stakeholder approaches that bring together partners from different sectors with strong interest in service delivery, or sustainable development, for common public goods. PPPs have proven to be remarkably

successful in both accelerating progress in service delivery and areas such as environmental management, including business and value-chain programming.

This case study on Thimphu Thromde’s experiences with developing partnerships for improved service delivery in solid waste management showcases the opportunities and challenges of cross-sector partnerships. Political support, appropriate incentives and social acceptance of private sector involvement are vital since successful PPPs depend on the actual performance and quality of services delivered at reasonable cost. Therefore, mechanisms also need to be developed for accountability of service delivery to the customers within such partnerships. This study also touches on the support from UNDP to Thimphu Thromde in developing collaborative capacities, through advice on policies, regulatory frameworks, contractual arrangements and governance mechanisms for PPPs; strengthening institutional arrangements and leadership capacity; organizational development; fostering innovation; and facilitating knowledge sharing.

As a whole we hope that the study creates a better understanding of the role(s) that the private, public and civil society sectors can together play in creating common value and that it may provide lessons on how to make such PPPs a success.

3. The story of waste in Thimphu Thromde

Thimphu, the capital of Bhutan, faces many environmental problems and service delivery challenges. Drinking water shortages and continuously increasing municipal waste top the list of issues urgently needing attention. The city’s challenges are compounded by a rapid urbanization process in Bhutan, with annual growth rates of 13.5 percent and a doubled projected population of nearly 180,000 by 2030, from the present 90,000 (Figure 1).

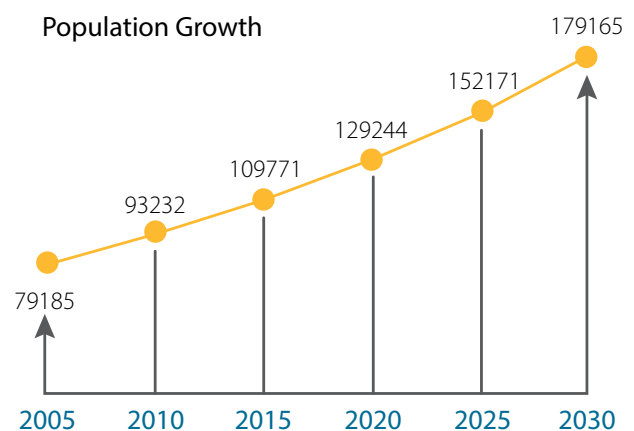


Figure 1– Thimphu Thromde (Solid Waste Master Plan, TT, 2008)

Thimphu Thromde (TT) has identified sustainable waste management (SWM) as the priority area in which to improve service delivery approaches. In 2008, it spent Nu 11 million (about US\$200,000), or 18 percent of the municipal budget, on solid waste collection and disposal, while only six percent of the total costs was recovered through service fees. More recent information from the financial year (July 2011–June 2012) shows that the collection and transport of waste represents about 85 percent, landfill management 10 percent, and the composting plant, 5 per cent, of the Nu 10,163,034 spent on waste management services.

In addition, the salaries of more than 300 labourers working under different divisions of TT to keep the city clean are excluded from this figure. Despite the large investment in the existing waste collection and disposal system over the years, only 80 percent of the city is benefiting from a waste collection service. The service, however, is not yet homogenous in frequency and type of waste collection

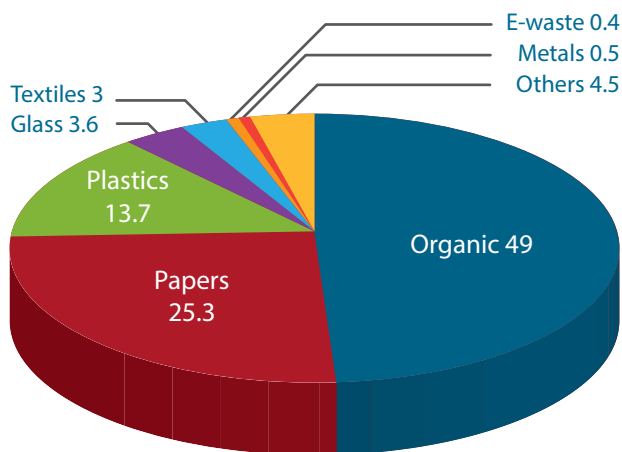


Figure 2 – Waste composition Thimphu Thromde (National Solid Waste Survey 2008, DUDES, MoWHS)

service provided (door-to-door and communal collection). A major constraint in providing an effective service is the poor road conditions in some areas, particularly during the rainy season. As a consequence, significant areas of the city still have inadequate or no waste collection services, which leads to significant health and environmental problems.

Studies of the composition of Thimphu’s waste in 2008 reveal (Figure 2) that around 49 percent is organic, 25 percent paper, 14 percent plastics, four percent glass, three percent textiles, 0.5 percent metals, 0.4 percent electronic waste, and 4.5 percent others. Until recently, there has been very little systematic re-use or recycling of suitable waste, which has led to nearly all waste collected over the years to be dumped at the Memelakha disposal site (known as the ‘landfill’) near Thimphu. This weighs heavily on the municipal waste collection budget. The landfill, built in 1994, receives

around 50 tonnes of waste per day and the per capita waste generation projections up to 2030, as presented in Figure 3, clearly highlight the magnitude of the SWM challenge that TT is facing. In the absence of alternatives, the landfill has long since been overflowing, leading to its instability and environmental problems.

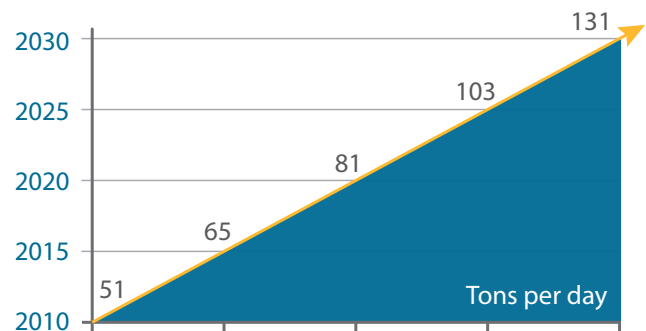


Figure 3 – Projections of municipal waste generation in Thimphu

Considering these challenges, TT has acknowledged that the existing direct service delivery modality was no longer sustainable and that more innovative and sustainable modalities had to be explored. The TT therefore requested the support of UNDP Bhutan in 2008 to identify structural solutions within its service delivery constraints, especially in solid waste management. UNDP’s Knowledge, Innovation and Capacity Group (KICG), PPP for Service Delivery (PPPSD), Bangkok, in partnership with the Dutch NGO, WASTE (Advisers on Urban Environment and Development), designed a support project that started in 2009. The project runs until the end of 2012 and its main focus is on improving municipal service delivery through PPP modalities and an Integrated Sustainable Waste Management system (PPP-ISWM).

4. Capacity development response

4.1 Facilitating dialogue for reflection

The PPP-ISWM project aims to improve the performance and sustainability of Thimphu’s sustainable waste management system, while improving the lives and livelihoods of the poor and creating employment opportunities. The project intends to achieve this through designing and piloting pro-poor PPP models in solid waste management. The UNDP-supported PPP-ISWM project also highlights the requirement for institutional and organization-based capacity development (CD) approaches, which go beyond technical solutions, as imperative for transformational processes in the challenging complexity of new municipal mandates, severe service delivery constraints and high pressures to perform.

At the start of the project, UNDP first engaged TT in a process of extensive dialogue, relationship development and reflection to analyse underlying organizational and institutional constraints, to explore avenues of possible solutions for improved service delivery and to reflect on possible future service delivery scenarios. The latter was important because municipalities will be increasingly required to create capacity to provide adequate services and to react and adapt to rapidly increasing demand, external influences and sudden events. Natural disasters, for example, require an early warning and emergency response capacity for which pre-planning and coordination abilities are essential. Similarly, the consequences of climate change, another 'new' challenge, are highly localized and are still more difficult to determine and adapt to.

Existing mindsets at national and local government levels in Bhutan are traditionally highly geared towards direct service delivery responsibility without necessarily engaging in prior consultations with beneficiaries (citizens) and non-state stakeholders. It was therefore essential to first 'unlock' the existing municipal institution to create space for new ideas, new mindsets and for innovation (see Textbox 1).

Textbox 1 – Promoting systems thinking

The initial CD approach focused on understanding existing perceptions and the history of roles and responsibilities of different actors. Furthermore, there was a crucial need to look at participatory multi-level-actor processes, within which collaboration is an essential means for service provision and for the development of these actors and the service delivery system itself.

Within the system each actor therefore has a different role and responsibility. Because these roles and responsibilities change and evolve over time there will also be a need for renewed negotiations. The capacity for delivering services is therefore embedded in the whole system and is less defined by individual actors because each organization's/individual's role is an integrated part of the total service delivery.

One of the first steps in the project was therefore to create a public–private dialogue platform with TT and key project stakeholders to discuss critical challenges related to sustainable service delivery and the potential benefits of collaboration and partnership models. This allowed for new ideas to be floated and new service delivery concepts and approaches to be understood, owned and internalized. An important contributing factor to this process was the first democratic elections of mayors and local councils in the country during spring 2011. The establishment of these

new democratic institutions generated a clear downward accountability for municipal service delivery and noticeably changed municipal perceptions towards citizens, who are now seen as service beneficiaries with rights, and as waste producers with duties.

Within the new democratic system, TT also started promoting more prominently the responsibility of citizens to positively contribute to improved service delivery and keeping the municipality clean. One of the most important initiatives taken by the elected mayor was the establishment of the customer service division for effective service delivery. This new focus on creating partnerships with citizens to develop sustainable service delivery systems and to instil behaviour change in the municipality has been identified as a critical success factor for PPP-ISWM.

The elections soon provided an additional and important impetus for improved service delivery and the continuing PPP-ISWM project. Furthermore, Thimphu, as the capital, is not only on the frontline for facing environmental and service delivery bottlenecks, it is increasingly called upon to take the lead in finding structural (service delivery) solutions that can be scaled up to other municipalities and indeed, nationwide. This leadership role for TT creates a further incentive for improved performance and innovation.

4.2 Assessment of existing solid waste management initiatives and systems

Thimphu Thromde's solid waste collection and disposal system

The UNDP project supported a rough analysis of the existing (2009) solid waste collection and disposal system of TT, the key findings of which are provided in Textbox 2 below. It is evident from the findings that with adequate waste segregation and better management of equipment to increase efficiency, the existing waste collection and disposal system can be drastically improved and expanded without (major) cost implications. The most noticeable example is that waste collection equipment loses about 40 percent of its efficiency because TT staff is segregating and collecting recyclable waste when residents deposit the waste in the truck. Although this provides a valuable addition to its income, the cost of this practice for TT is estimated at Nu 2 million annually. It was also concluded that further effectiveness and efficiency gains are possible by accessing private sector expertise and generating citizen/beneficiary support through PPPs.

This new awareness in TT created a strong impetus to develop a technically, socially, environmentally and financially sustainable SWM system and to explore the feasibility of different PPP modalities for improved municipal service delivery.

Textbox 2 – Efficiency and effectiveness of the existing solid waste disposal system

As of the beginning of 2010, TT has a basic solid waste collection and disposal system. It runs 13 trucks (compactor and open trucks) on various routes to collect solid waste from households in the municipality. The trucks follow predetermined routes, while service beneficiaries wait along the route to hand over their waste. In addition, two dumper/placer trucks were used for waste collection and transport from more than 15 communal bins (3m³), which are placed mostly in areas where door-to-door services are not provided and in high waste volume areas such as markets.

Most of the waste collection trucks are between eight and 16 years old and because of frequent equipment breakdowns, two of the trucks are continuously on standby as back-ups. Data on running costs of different vehicles and waste volumes transported is insufficiently detailed to make cost calculations and comparisons, but in general terms the following facts and observations can be drawn in relation to the efficiency and effectiveness of the waste collection and disposal system (2009/10):

- 18 percent of the total municipal budget (Nu 11 million) is spent on solid waste collection and disposal, while only six percent of the total cost is recovered through service fees;
- The exact service area and service quality of the collection system is unknown, but around 30 percent of the municipality likely has no service and 40 percent is underserved. This is further complicated by a building boom that is causing significant and dynamic changes in service areas and waste volumes along collection routes, while waste volume monitoring and route adjustment is not systemized;
- Waste segregation is minimal (informal) at the household level; all is transported to the landfill. No separate waste collection is provided for high-risk waste from hospitals, businesses and industries;
- Because of irregular waste volumes along the collection route (due to mixed residential, commercial and institutional establishments), often due to commercial waste with high variability in volumes (for example packaging materials), the timing of the waste collection is very irregular. This leads to difficult route planning, complaints from service beneficiaries, who spend substantial amounts of time waiting for the collection trucks, and in some cases, to illegal dumping;
- About half the trucks do only one route per day, since the remaining time is insufficient for another route. This leaves ample space for efficiency gains through faster collection and better route design;

- Around 40 percent of the collection time is used by TT staff in segregating and collecting recyclable waste when residents deposit waste in trucks. Monthly salaries of Nu 3,000 are supplemented with up to Nu 5,000 informal income by selling reusable and recyclable waste. Based on the total cost for SWM of Nu 11 million, the annual cost to TT of this practice is estimated at Nu 2 million;
- The efficiency of compactor trucks is higher (the volume of waste transported is more than three times compared to open trucks). It is therefore likely the higher investment cost for better quality compactors would easily be compensated for by the resultant lower operational cost compared to the open trucks;
- Running costs, especially for old equipment, are substantial. A reasonable estimate of the economic lifetime of heavy duty compactors and open trucks would be five to seven years, so most of the trucks are operating well past their use-by dates. Replacement would make good economic sense, especially considering the additional cost of breakdowns accounted for in the standby vehicles (two out of 13 trucks or 15 percent) and reduced service quality. At present, TT makes no economic calculations (lifetime costing); the main reason for replacement of equipment is based on technical lifetime because most equipment has been donated and TT has so far developed no real investment strategies;
- Waste handling by service beneficiaries and TT staff poses substantial health risks due to inadequate personal protective gear and lack of training and awareness. Furthermore, uncollected waste and waste lost during transport causes significant environmental problems.

Some **lessons** can be drawn from the analysis above:

1. The existing waste collection and disposal system is input driven, with little monitoring of (changing) service demand, (expanding) service area, service quality and costs. Roughly 30 percent of beneficiaries receive adequate services, 40 percent are underserved and 30 percent are unserved;
2. If all organic and paper waste were segregated before transport, the waste volume for transport and disposal would be reduced 75 percent. Furthermore, the existing efficiency of the collection system is – considering equipment breakdowns, inefficient routing and waste-segregation time loss – roughly only 50 percent. An eight-fold efficiency gain can easily be achieved;
3. No economic calculations exist for equipment management and its efficient use. Substantial savings can be made with investment in new equipment (compactors), especially when the old equipment's very high running costs are taken into account.

Informal waste collectors and scrap dealers

The informal sector is playing an important role in recycling initiatives, although its role has still to be properly documented and appreciated. A growing number of budding young entrepreneurs, in many cases with relatively low levels of education, are involved in waste-picking and scrap dealing. Their activities, however, do not reflect a structural approach in service delivery, but rather a pragmatic approach to generating both self-employment and a primary or secondary income through the collection of marketable waste.

Based on information collected in 2009 at the Memelakha disposal site, on average, more than 100 truckloads of recyclable waste per month are transported to the Indian border town of Jaigaon for further dispatch to recycling centres in India. Also, various scrap dealers in Thimphu collect re-usable and recyclable waste, which is also sent to India for sale (accurate data is now being collected). Plastic bottles, scrap metal, e-waste, aluminium cans and glass bottles require a relatively large amount of sorting and processing before they can be transported to India, while paper/carton products and larger objects require less preparation.

Experience shows that the informal sector will play an increasingly important role in waste management as long as TT can provide the necessary structure to link it to the municipal solid waste management system and can develop an enabling environment for these small informal entrepreneurs. Already some promising independent private sector businesses have emerged with more systematic, service-oriented approaches. The potential of establishing PPPs with the informal businesses is foreseen to expand beyond 2012.

Independent private sector initiatives

Besides the common waste recycling practices, the emergence of more structured recycling businesses is notable. While the project engaged young Bhutanese entrepreneurs' from the project's inception and early CD initiatives, the young people sensed that the urgency of the waste management issue in urban centres spurred new business opportunities, and they sometimes preceded TT in initiating concrete waste management solutions. The small- and medium-sized businesses' entrepreneurs are involved in collecting and segregating paper, glass bottles, plastics, metals, PET bottles and other recyclables, either directly or in combination with purchasing these from other waste collectors, and in transporting them to recycling plants in India.

Greener Way, ReCiti and Druk Waste Collection are valuable examples of emerging independent private sector businesses with potential for up-scaling and collaboration with TT under PPPs.

Greener Way has been formally operating in Thimphu since March 2010. It first started collecting paper waste, especially from large government institutions, after which it expanded to door-to-door (D2D) waste collection services in selected areas, where it collects many recyclables (paper, plastic and metal). Greener Way also started to provide large collection bags to households to enable pre-segregation of waste. The collection system operated on a schedule-per-area basis and on subscription (once or twice a week or daily). However, apart from the collection of larger quantities on call, Greener Way recently stopped the D2D system because it was unable to cover the costs with the fees charged, in part because of its inability to enforce payment for services delivered.

It is however growing steadily and presently collects, processes and sells a significant amount of recyclable waste from premises in Thimphu. Most informal traders in the capital have started routing recyclable waste through Greener Way instead of organising transport to India. It handles, on average, 20–22 tonnes of PET bottles, 40–45 tonnes of waste paper and 18–20 tonnes of HDPE (mixed waste) per month. Its ability to provide competitive prices to waste collectors is in part because of its lease of the TT PET crushing plant, under a PPP contract (see below), and other pressure equipment it has installed for metals and paper/carton. This allows it to significantly increase waste densities and so decrease transport costs.



Greener Way staff at their waste segregation facility in Thimphu

It also engages in awareness activities in schools and, with TT, mass-clean-up campaigns. In the November 2011 issue of Business Bhutan magazine, chief executive Karma Yonten said: "Besides being involved in the public service of creating a greener and cleaner Bhutan, we are also generating employment opportunities for our youth and currently we have 31 employees".

Textbox 3 – Greener Way

“As of now, we are involved in collection, segregation and disposal of wastes. Along with our pursuit of a clean Bhutan, we are striving to promote the concept of 4Rs (Refuse, Reduce, Reuse and Recycle). We also try to participate during national disasters like forest fire[s] and other environmental related cause[s] and activities. Our goal is to help our government in combating the environmental issues to the best of our abilities by participating in public–private partnerships in future.”

Source: www.greenerwaybhutan.com

Because of its success, the Bhutanese Prime Minister invited Yonten to attend the UN Happiness Summit in New York in March 2012, as an example of socially responsible entrepreneurship in service of a sustainable and happy future.

ReCiTi started operations in 2010 and is an example of business initiative that did not succeed. The owner had a background in waste-related activities, as both a landfill and scrap-metal worker, who decided to initiate a business with a more streamlined system of waste collection and disposal. In its first year, ReCiTi received around five collection calls from small businesses daily as well as from larger businesses, such as the city centre’s Hotel Druk, and the Sheri Square Mall. It collected roughly 300–400 kg of paper and 12,000–13,000 kg of plastic per week (7–8 tonnes per month). ReCiTi employed 17 people, all of whom were in the 18–24 age bracket. Of those, seven waste segregators on the landfill site collected a rough total of 30–40 kg in waste per day. ReCiTi’s primary source of income was from plastics processed in its PET bottle shredder before being sold monthly along with other marketable wastes at the border town of Phuentsholing in southern Bhutan adjacent to Jaigaon.

TT awarded ReCiTi the contract to manage the Memelakha landfill, based on a PPP modality (see below) from 15 June 2011 to 15 June 2012. The main income in the PPP was to be derived from collection of marketable waste, and in turn, ReCiTi was to ensure proper management of the landfill. However, it discontinued the PPP after the first year because it was unable to generate sufficient income from collection of marketable waste from the landfill. This was primarily because TT was unable to enforce exclusivity of the collection right and prevent city staff from collecting recyclable waste directly from dumper trucks before they reached the landfill.

ReCiTi closed down its business a few months ago, also because of internal organizational and management problems, and a lack of business acumen, which led to poor levels of liquidity and insufficient rates of return to cover the running cost of the business and the investment

in time its founders had made. Opportunistic business engagement based on perceived incomes, without much understanding of costs, is quite common in Bhutan. This therefore shows that providing entrepreneurial skills development, including the writing of business plans, is critical for success, especially in a context where such competencies are traditionally scarce.

Textbox 4 – ReCiTi

“[Sic] ReCiTi: Waste Recycle Enterprise ‘We Value Ur Waste’ is a green business first introduced in Bhutan by a group of youths with the dreams of solving the problems of solid waste in Bhutan ... Usually we say that there are ‘3R’ but ReCiTi, now has introduced many ‘Re’ concept to solve the problems of waste in our country. Currently, ReCiTi is focusing on recycling; soon it will work on Reusing or for the concept of how to reduce the waste.

Source: [ReCiTi Facebook page](#)

Druk Waste Collection is another emerging entrepreneur. The organization was set up in Paro in late 2009 and collects both biodegradable and recyclable materials, which are then segregated in its “waste-recovery centre”, before transport to India. Its D2D waste collection operates three times a week, mainly in areas not serviced by Paro Thromde, and targets hotels, businesses and private homes in the town for a nominal monthly fee. Druk Waste Collection also manages cleaning services and waste collection at Paro Airport.

To date, Druk Waste Collection has been able to sustain its operations in Paro, but would benefit from similar support and PPPs with Paro Thromde as Greener Way has with the TT. Without a more structured approach to the support of emerging entrepreneurs in the waste sector, it will have difficulty surviving let alone expanding. A more structured approach would be essential for adequate service delivery, considering the still very limited private capacity in Bhutan.

Textbox 5 – Druk Waste Collection (Paro)

“[Sic] As Paro city is developing every year with number of buildings and hotels, it has become a problem with the waste management system. With rising of solid waste, our municipal is finding hard time to manage these wastes. However, we the young youth of Bhutan has come up with the new initiative organization called Druk Waste Collection. ‘Door to Door service’ to solve above mentioned problems in the management way.”

Source: [Druk Waste Collection website](#)

As private sector initiatives emerge in Bhutan to complement or lighten the SWM burden of other municipalities, inter-municipality consultations should also be developed to share experience and best practice for potential replication and up-scaling. The collaboration of public and private sector through public–private dialogue mechanisms and PPP arrangements could certainly prove a powerful means of leveraging complementarities and improving the efficiency of waste management services such as reduction, segregation, collection and disposal. But dialogue alone is not enough.

Public education and awareness activities

The Clean Bhutan Initiative (2008–2009) was conceived by RSPN after implementing a UNDP-supported project entitled Public–Private Partnership for Urban Environment in 2006. Other than ad hoc cleaning campaigns conducted by various government, agencies, educational institutions, or informal youth groups over the years, there has been a lack of sustained public awareness programmes in Bhutan. The initiative therefore identified public education, awareness and advocacy programmes as a national priority, especially in terms of solid waste management. Cleaning campaigns were conducted in cooperation with TT and other stakeholders. Waste management demonstrations were organized in educational institutions and various awareness materials were developed for dissemination.

Textbox 6 – Clean Bhutan: Recommendation

“[Sic] It may take a long time to bring behavioural changes in the public. Therefore, awareness on waste issues should remain a priority in the years to come and this has to be carried out regularly throughout the country until such time when people could at least practice basic waste management principles in their day-to-day activities.

Source: UNDP GEF Small Grants Programme website

VAST Bhutan, a group of local artists, is among those who have been active in promoting positive environmental behaviour change in Bhutan. Over the years it has conducted numerous clean-up campaigns and engaged young people in tackling some of the issues surrounding garbage disposal. Ultimately, it contributes to society through artistic endeavours. In 2010, in cooperation with TT, it organized “Young Zoom on Garbage”, an art exhibition of creations made from waste, displayed in central Thimphu. During another waste management awareness campaign in 2010, TT also took 50 business owners from the vegetable market to the Memelakha landfill to show them the damage caused to the environment by waste generated by their businesses.

The TT has also been organizing waste management programmes in schools in Thimphu, where about 70 students and teachers from one school were given waste management awareness talks and were also taken to waste management facilities such as the landfill and compost plant.

These selected examples illustrate both the diversity of public awareness initiatives and the recent increase in awareness campaigns and activities. While these campaigns are useful they are not yet fully linked to a systematic waste collection system. The existing capacity in civil society and the



A PPP-ISWM Project Manager explains the TT waste management system to visiting students at the Memelakha landfill.

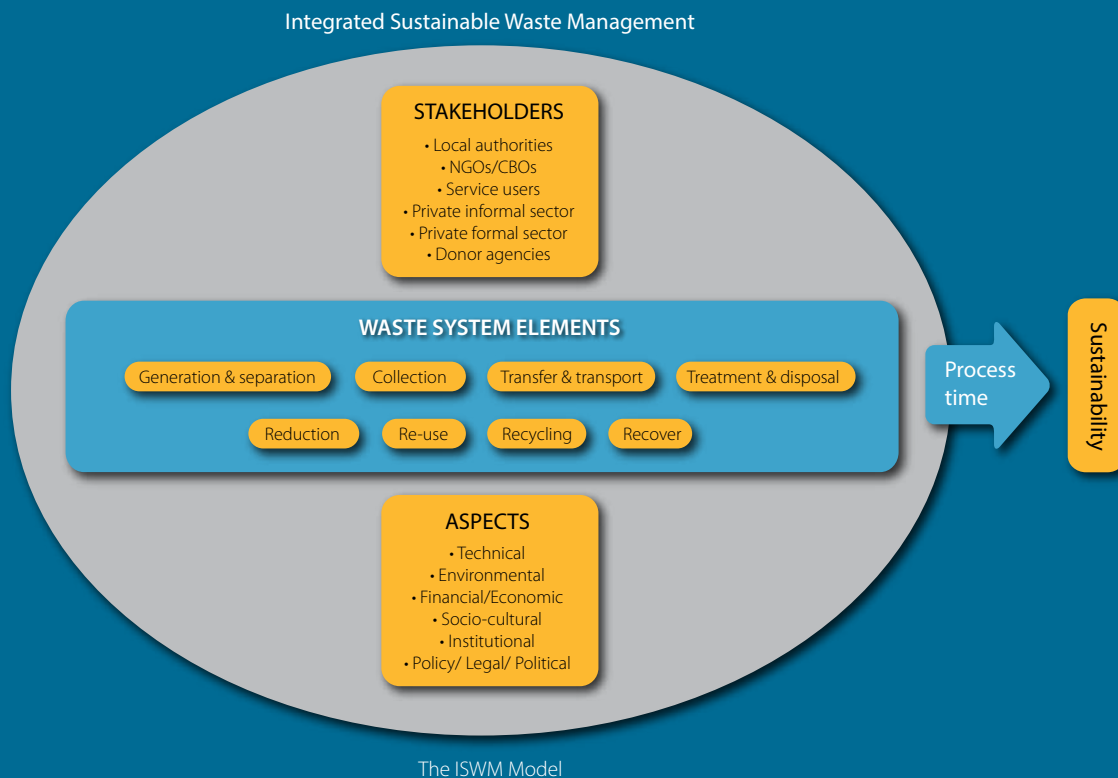
private sector provides, however, a fertile ground for taking awareness programmes to a higher level for the benefit of municipal SWM systems. While the media could also play a crucial supporting role in disseminating public information and strengthening environmental awareness and waste management messages, more efforts will be undertaken to collaborate with journalists and publishers beyond 2012.

4.3 Capacity self-assessment and municipal capacity development strategy for PPP-ISWM

UNDP used several tools and approaches to support TT and the PPP-ISWM project implementation. First was investment in external professional facilitation of the multi-stakeholder process to support reflection, listening, questioning and joint learning for trust and relationship development. Another useful tool introduced in the start-up phase of the project by UNDP and WASTE was the Integrated Solid Waste Management (ISWM) approach (see Textbox 7) developed by WASTE. This tool highlights the need for an integrated approach to designing different interdependent SWM system elements and promotes a reflective learning approach to system design, which fits in well with the UNDP’s PPPSD approach.

Textbox 7 – The Integrated Solid Waste Management model

The ISWM model was developed to reflect the complex reality of underlying causes of waste problems in municipalities, such as organizational capacity, technical or financial constraints, managerial capacities, or institutional weaknesses. The model supports analyses of an enabling environment and the articulation of a system that is technically appropriate, economically viable and socially acceptable.



The ISWM model emphasizes the following three major ISWM system dimensions:

1. The ISWM system comprises interrelated Elements, which reflect the different stages of the flow of waste materials and after that the waste management process. The system's design and its elements are based on an integrated materials management strategy, in which the municipality makes deliberate and normative decisions about how materials should flow;
2. The second dimension comprises the Stakeholders involved in waste management, as identified in the specific local context. Key is to acknowledge the varying roles and interests of stakeholders in the waste management process and the system's elements. The municipality, with overall responsibility for adequate provision of SWM services to citizens, is the 'owner' of the ISWM system and is therefore the lead stakeholder. However, because of the interdependency between stakeholders for success, the municipality is to lead a multistakeholder process towards common goals and joint action;
3. The third dimension comprises six Aspects (or lenses) of the local context that should be taken into account when assessing and planning a waste management system: 1) Technical, 2) Environmental, 3) Financial/Economic, 4) Socio-cultural, 5) Institutional and organizational, and 6) Policy/Legal/Political.

The PPPSD CD methodology and framework also proved to be a very useful discussion tool. The tool supported the creation of a broader understanding of the multi-level stakeholder and partnership approaches in service delivery, provided more insight in detailed 'technical' PPP issues and highlighted the wider range of capacities required by TT and stakeholders for successful PPPSD. The CD methodology addresses capacities at the institutional and enabling environment, the organization and the individual level, which was found very useful in identifying interdependencies and areas for joint action among TT and other stakeholders.

Based on the extensive dialogue with TT and other stakeholders it was decided to conduct a capacity assessment of TT towards the end of 2010, with a particular focus on the organizational core issues "Coordination, Networking and Partnership building". For these core issues all five TT functional capacities were assessed, i.e., the municipality's capacity to: 1) Engage stakeholders; 2) Assess a situation and define a shared vision and mandate; 3) Formulate policies, regulations and strategies; 4) Financing, contracting, management and implementation; and, 5) Monitoring, evaluation and learning. During a multi-stakeholder self-assessment workshop, PPPSD capacity strengths and needs were identified and simultaneously understanding on the importance of CD, strengthened. In support of the capacity assessment process and the development of the CD strategy for TT, UNDP engaged an (in-country) international consultant with knowledge and experience of organizational and change management.

5. Self-empowerment and results through a pilot approach

5.1 Strengthening the enabling environment

For an ISWM model to succeed, an enabling environment is necessary for a technically appropriate, economically viable and socially acceptable waste management system. Both the UNDP tools and the ISWM approach emphasize the need to create a conducive enabling environment that also allows for private sector development and PPPs in the delivery of services.

Textbox 8 – Waste Prevention and Management Act (2009)

Chapter II: Principles Applicable To Waste Prevention And Management

Article 4. The purpose of the Act shall be to protect and sustain human health through protection of the environment by:

- a) reducing the generation of waste at source;
- b) promoting the segregation, reuse and recycling of wastes;
- c) disposal of waste in an environmentally sound manner; and,
- d) effective functioning and coordination among implementing agencies.

The Royal Government of Bhutan (RGoB) has a strong commitment to the preservation of its environment and has enacted legislation such as the Waste Prevention and Management Act (2009), developed with support from UNDP, and the Water Act of Bhutan (2011). Enforcement of the legislation remains, however, a distinct challenge. Institutionally, the National Environment Commission (NEC) is a high-level autonomous agency of the RGoB mandated to look after all issues related to environment in Bhutan. Its responsibilities include the overall formulation and monitoring of environmental policy and legislation. Line ministries, Dzongkhags and Gewogs (roughly, provinces and districts respectively). Private companies are responsible for the implementation of environmental assessments and ensuring compliance with environmental regulations. Additional policies and mechanisms are still needed to be envisaged for instance to strengthen CD at the community level for recycling, organic composting and for possible national industrial development for recycling, among other programmes.

While TT may have the required technology, financial resources, management structure and legislative framework to establish an effective ISWM, successful implementation depends also on external factors that need to be taken into account, such as private sector and civil society's willingness and capacity for collaboration and partnerships, and public awareness and support for waste reduction and segregation at source.

5.2 The pilot approach to SWM system design

With a broader understanding of the complexity and interdependencies of the ISWM system design and the wide range of PPP modalities, TT decided on its own account to recruit additional project staff and to first develop a more manageable pilot approach. Considering its relatively weak capacity and the complexity of the yet unfamiliar PPP-ISWM design process, this was a pragmatic way forward while minimizing risks. TT developed a two-stage pilot approach. First, it identified Chubachu (central district of Thimphu) as the pilot area for the development of the PPP-ISWM model. This area is representative in terms of waste volume, composition complexities and waste collection challenges. Thereafter, the TT designed and up-scaled the new ISWM model to three locations, namely the lower market (covering the vegetable market area), the ministry enclave in Motithang district and Chanjiji housing colony, to learn further lessons and to identify constraints before full up-scaling to the city's entire area.



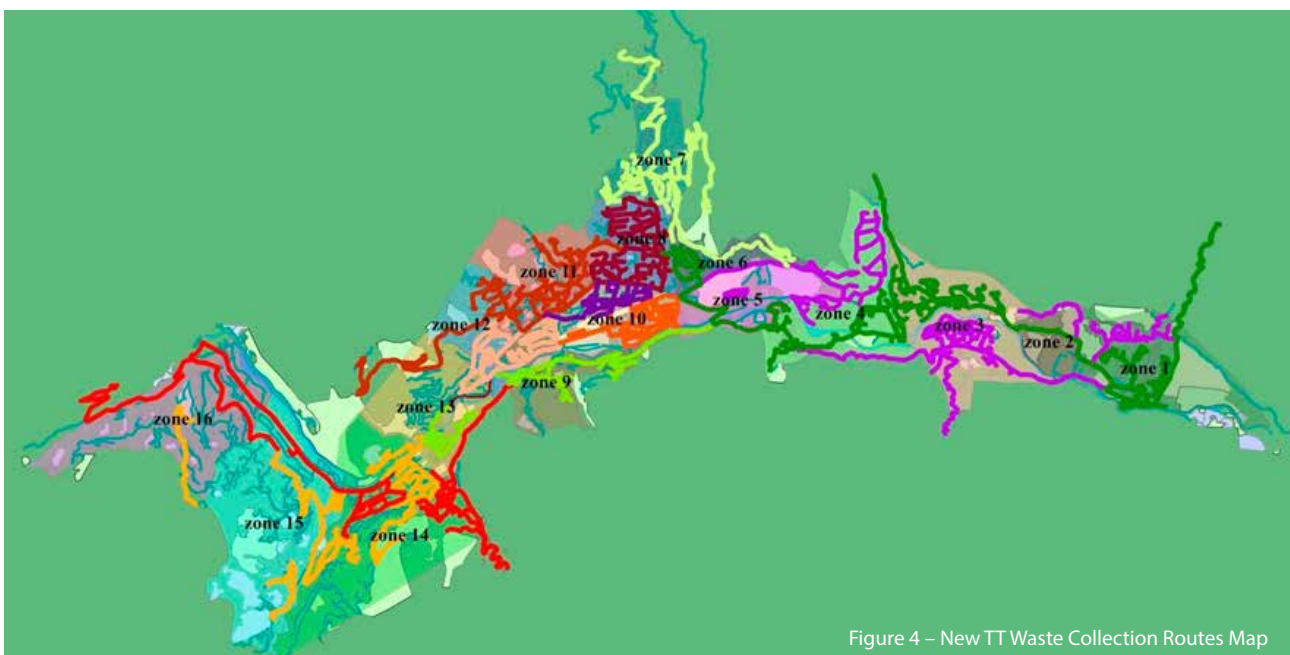
Multiple surveys were also initiated as part of the pilot to acquire vital information such as whether people were willing to segregate waste at home and more importantly whether residents were willing to pay a nominal fee to meet the cost of waste management. The results were

encouraging with around 95 percent of respondent households stating they were willing to pay a minimum monthly fee of Nu 50 for improved services and 85 percent indicating willingness to segregate waste if facilities were made available.

Within the project pilot areas, TT therefore decided to provide, on a cost-sharing basis, separate bins for biodegradable and non-biodegradable waste to encourage waste segregation at source. The content of the bins for wet (organic) waste is brought to the existing compost plant and dry waste, comprising all non-organics, is as before brought to the landfill. A successful example of improved organic waste collection is at the Centenary Farmers' Market in Thimphu, which produces about three truckloads of organic waste every week. This would normally be disposed of at the landfill site but it is now transported to the composting plant just outside the capital, as is the organic waste segregated at source in the pilot areas. TT now produces manure from the organic waste, which is for sale at the vegetable market.

A GIS/GPS route optimization exercise was also completed in the second half of 2012, although part of the pilot design is already used for the existing collection system as well. This has already led to more efficient use of equipment and has also allowed an expansion of waste collection service coverage. The digitized route mapping allows for data collection on costs and time allocations, for fast monitoring and adjustment of the routing as required. The map of the new routing is shown in Figure 4. The printing of the new waste collection route map and collection timings will be completed by the end of 2012, after which an awareness campaign will be conducted on the new collection routes and schedule. The new route design will be implemented in January 2013.

TT also identified a location for a new transfer station to further allow waste to be segregated and minimized before transport and final disposal at the landfill.



Textbox 9 – PPPs' service contracts

ReCiTi: Management of Memelakha landfill from 15 June 2011 to 15 June 2012

Point 7 of the agreement between TT and ReCiTi states that "ReCiTi has the absolute right to recover the recyclable waste from the landfill".

Point 9 refers to TT monitoring: "The ReCiTi should provide details of the work, waste collected and even maintain the records of the number of trucks coming to the landfill (both government and private) and report to Environment Division on monthly basis." The contract with ReCiTi was nullified because it was unable to sustain the collection of recyclable waste from the landfill. This was primarily because the TT was unable to guarantee exclusivity of the collection right by preventing municipality staff from collecting and selling of recyclable waste directly from the collection trucks.

Greener Way: Operation and Maintenance of PET Bottle Crushing Unit in Thimphu

From 1 April 2011 for 1 year, with a 2-year renewal

Among the items provided by TT and listed under Point 14 are: "a PET crusher machine, and a glass waste crushing machine".

Point 10 refers to the reporting of data to TT: "It is the responsibility of the private firm to maintain records of the amount (kg) of PET bottles collected, shredded and transported for recycling and report to TCC on a monthly basis."

As mentioned, the TT also engaged in small PPP contracts for specific services within the existing SWM system, to generate some quick wins and to gain experience with PPP contracting.

Where waste segregation and collection are concerned, some private sector initiatives present a significant potential for further scaling up of PPPs. Greener Way was running a promising recyclable waste collection system in the Motithang area of Thimphu, where people segregate at source. If the fee payment enforcement can be designed differently, maybe in combination with the collection service frequency, such an initiative could be revived across a larger area. PPPs for other elements of the SWM system had also been initiated, not all of them successfully, as for the management of the Memelakha disposal site, where ReCiTi had obtained the exclusive right to all valuable waste in return for managing the site adequately (See Textbox 9). Another PPP was set up with Greener Way for managing the PET bottle crushing plant, for which PET shredding equipment was purchased by RSPN and the machine and office space was developed by TT. In the first 10 months of the partnership between TT and GreenerWay, more than 21.5 tonnes of PET bottle waste was already purchased at the PET bottle facility.



However, to expand such PPPs further and complement or lighten the municipal SWM burden, such private sector enterprises will definitely require tangible government support. The need for strengthened collaboration between the public and private sectors is essential to ensure adequate municipal service delivery for waste collection and segregation in all areas of the municipality. PPPs thus provide an opportunity for scaling up of these private initiatives through service contracts with the municipality; even in such a short period, the current PPPs have showed successes. The experiences show that some specific elements of SWM systems can thus be managed directly through PPPs. However, there is still a need to look at the SWM system as a whole to understand and have an integrated approach to PPP models for separate elements or all elements combined.

The public-private dialogue facilitated by the PPP-ISWM project generated ample publicity in newspapers and among decision-makers in 2011. The pilot also contributed to and facilitated a joint learning process beyond the municipality, which substantively ensured the interest and trust of the private sector in possible PPP arrangements and contributed to strengthened collaboration between key, and potentially new, stakeholders.

Key lessons on ISWM and PPP design from the pilot stage

- Significance of awareness creation on the importance of waste reduction and support for waste segregation at source using the new collection system with separate bins for wet and dry waste among waste producers (households, businesses and institutions).
- The initial experience of waste segregation into wet and dry waste has been very successful, although it requires a substantial investment in meeting the building owners and tenants. The public consultation forum has been insufficient to convince building owners to purchase the bins. Also, a D2D awareness campaign for building owners was required.

- Waste producers are favouring D2D collection with bins, which lessens waiting times for collection trucks and also allows for the convenience to empty waste bins from households into common bins kept outside homes. Beneficiaries are willing to pay a service fee of Nu 50 per household per month for quality services, although difficulties in enforcement of fee payment by the private sector is a potential, and critical risk.
- Requirement to strengthen the capacity of the emerging private sector to ensure sound and sustainable business models and operations. Recognition of the importance of engaging with the informal sector and recycling businesses to increase the amount of reusable and recyclable waste collected before disposal in dry bins.
- Difficulties to get the new collection system accepted without approved and enforceable Municipal Waste Regulations. This is especially challenging for introducing the mandatory purchase of bins by building owners and applying penalties for failing to follow waste-segregation rules, and for littering.
- There were and are not many private sector organizations in Bhutan in the waste sector, although new businesses are slowly emerging. Initial finance and investments in ISWM equipment are too high for the private sector and TT needs to ensure that PPP design modalities consider necessary investments and that incentives are provided by either the public sector or financial institutions with, for example, public sector guarantees.
- PPPs need to be designed with sufficient flexibility to address changes in waste flows and value and allow for renegotiations based on changing circumstances, while providing an optimal mix of incentives and benefits.
- The interdependence between ISWM elements and different PPPs became very clear and were understood over time through learning-by-doing. Additional backstopping and external expertise to ensure an integrated PPP-ISWM design for the larger pilot area is required, and a well-designed pilot monitoring system has to be developed to allow for successful municipal-wide scale-up.
- With regular media coverage on the pilot waste segregation and collection system, residents from other areas in Thimphu have started enquiring about the project and a possible scaling-up strategy from TT.

The first stage of the PPP-ISWM pilot was completed in November 2011. The improved ISWM model was then expanded to include other areas within the municipality. This second stage will run until the end of 2012, after which TT has committed itself to a municipality-wide up-scaling. Preparation for a final ISWM design and the most suitable (other) PPP modalities will be decided on in the beginning

of 2013, after which PPP-ISWM contracts for the whole TT area will then be tendered out to allow for municipality-wide scaling up of the PPP-ISWM approach. TT has requested continued support from UNDP and WASTE for support of the full design and up-scaling of the ISWM and the PPP modalities.

The pilot has also generated lessons for the feasibility of the PPP modality for other municipal service delivery areas such as energy, water and sanitation to eventually inform nationwide scaling up of PPPSD to all local governments. Phuentsholing and Wangdue Phodrang municipalities have already indicated interest in replicating the TT experiences and Wangdue has already secured funding from the Bhutan Trust Fund for the introduction of a waste management system and lessons learned from TT are already being incorporated.

5.3 Results through multi-stakeholder and partnership approaches

The municipality-led pilot design and implementation shows that strong leadership and ownership for solution finding and learning is critical in developing sustainable SWM systems and PPPs. With active backstopping support of UNDP/PPPSP, the TT has done an excellent job in linking with potential private sector organizations and in leading the multi-stakeholder pilot approach. The case recognizes the importance for strong, proactive advisory services for the project team, as provided by UNDP on multiple fronts. This ensures all relevant stakeholders participate, support mutual understanding and that trust is engendered, as well as provides adequate technical SWM design and PPPs design, negotiating, contracting and implementation support.

Selected achievements

Solid waste management system and public-private partnerships

- Capacity created for understanding waste flows as well as economic and other benefits of ISWM systems, including the linkages between service quality, cost, fees and tariff setting, sustainability and performance monitoring.
- Feasible waste collection system designed and piloted, additional waste compactor trucks acquired (through donation) and waste bins for the SWM pilot purchased.
- Land acquired and transfer station under established with private sector players contracted through the PPP modality.
- Investment in equipment for a PET bottle-crushing plant made by RSPN and TT and management outsourced through a PPP arrangement in April 2011, resulted in the collection of more than 21.5 tonnes of PET bottles at the end of October 2011, which otherwise would have gone to the landfill.

- Composting plant in Serbithang established; formulation of PPP is continuing. A separate collection system for organic waste was initiated at high volume locations, such as the vegetable market and large hotels. To date, 770 bags (each weighing 10 kg) of compost waste manufactured from the plant. The gardener's shop at Centenary Farmers' Market has been identified as the compost distribution agent, and PPP contracting is being investigated.
- Major landfill site rehabilitation has been conducted. Through regular public-private dialogue mechanisms, relationships and collaboration with private sector has been strengthened to design (potential) PPPs within the ISWM and other service delivery systems.
- Private sector is being supported with idea generation and the initiation of paper/carton collection to maximize waste segregation and minimize waste flows to the transfer station and landfill.
- Employment generated in the formal private sector has reached around 60 people. The increased access to waste collection and purchase centres has resulted in a substantial increase in informal waste collectors.
- Inventory of the informal sector is being conducted and a clear understanding obtained on how to increase its capacity for reusable/recyclable waste collection and to improve its working conditions. An intern has been hired and supported with methodologies and questionnaires to identify concrete areas of collaboration with the informal sector.
- Multiple household surveys have been designed and conducted to engage citizens and to seek perceptions on SWM issues, such as willingness to segregate waste and to pay service fees. The reports and analysed data has been used for the pilot SWM design and to determine a tariff-setting structure.
- Broad citizen awareness has been created on existing waste problems, the new PPP-ISWM pilot and the importance of reducing and segregating waste communicated through multiple and frequent reports in national newspapers and via public consultations.
- A GIS-based improved waste collection routing plan has been developed to increase service coverage and efficiency. The routing plan can easily be adjusted in future based on changing demand and municipal expansion.
- A case study entitled "Partnership for Effective Municipal Service Delivery" was developed. Official publication and dissemination is planned for the end of 2012.

Thimphu Thromde

- Importance of PPP-ISWM and PPPSD has been acknowledged and supported by the prime minister, the new mayor and the TT council.
- Leadership, confidence and ownership of TT (and its partners) has been strengthened for the multi-stakeholder process of developing a sustainable PPP-ISWM system.
- Additional staff have been assigned to the PPP-ISWM project by TT (one full-time environmental officer, an intern and two TT officers are providing substantive support to the project and the project manager as part of their leadership development).
- A Capacity Development Strategy for PPP-ISWM has been designed.
- Key stakeholders, including those who participated in the 2010 workshops, has led to strengthened relationships, provided clarity on joint objectives and ensured strong TT leadership. Private sector organizations with whom collaboration was sought in 2010 are still closely linked to TT and interested in the delivery of services. Some of these organizations are now contracted through formal PPPs but require capacity development support and access to finance, which is particularly important for scaling up.
- Co-funded by the World Bank and the Royal Government of Bhutan, 20 representatives of ministries and local authorities travelled to Thailand to learn from Klang and Nonthaburi municipal experiences in waste reuse and recycling, how to strengthen community partnerships and improve local systems of waste management, including the use of bio-fertilizer and transfer plants, recycle depots and renewable energy (solar cells). The exchange was coordinated by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and supported by UNDP, which resulted in new ideas and motivation for PPP-ISWM and planning for scaling up the ISWM programme to Phuentsholing and Wangdue municipalities and integration of PPP in other municipal services, such as energy, water and sanitation.
- Other municipalities in Bhutan have expressed interest in designing and implementing PPP-ISWM programmes but unfortunately resources are as yet unavailable to design a scaled-up (national) programme. Municipalities have been invited to related meetings and events and some interactions have taken place to share experiences so far.
- ISWM and PPP models were promoted and approved by the Prime Minister and Cabinet, and PPPs are therewith accepted as an important means to strengthen municipal service delivery. TT is recognized as the lead municipality for PPP-ISWM. In other sectors (such as transport, water and sanitation), PPPs are emerging and are being explored but the current programme is not able to fulfil all demands. A new (national) programme is foreseen to be developed in 2013.

- The Waste Prevention and Management Regulation (2012) was developed by TT for municipalities and overall rules and regulations prepared by the National Environment Commission, which have been in force since April 2012.
- Support for TT SWM has been obtained and coordinated with the Asian Development Bank, the World Bank, the Japan International Cooperation Agency (JICA) and UNESCAP.
- A proposal for the introduction of a service fee system including tariff setting and recovery mechanisms (linked to water or electricity charges) for SWM is being explored, which will feature in the PPP model.

5.4 Consolidating change

The urgency for change towards PPPSD is generated by the inadequate existing service delivery systems, the continuously increasing demand and the unsustainable expenditure on SWM by the TT. In addition, the elections for new democratic municipal bodies and the emerging vision of the RGoB that increasingly acknowledges PPPs as a feasible solution for future service delivery have emerged as strong drivers for change. Further support to act was generated by TT through capitalizing on some identified quick wins in the existing SWM system, such as removing organic and paper and cardboard waste from the waste flow. Both initiatives have already substantially reduced waste volumes collected and transported to the landfill, which is creating a significant cost reduction for TT.

Textbox 10 – Waste Management Regulation

Although the Waste Management and Prevention Act has already been enacted, implementation has been difficult in the absence of further regulations. With a view to put in place a common set of regulations to address all categories of waste, the drafting of sectoral provisions is underway to have a regulatory framework in place by the end of June. This will provide ways and means to prevent use of plastics while promoting alternatives. It will also provide directions and ideas on conversion of waste into organic material. In the meantime, the government has been exploring and sourcing appropriate technologies and best practices at the international level as well as funding options so that it is able to acquire and install state of the art eco-friendly plant in our cities.

Source: Third Annual Report of the State of the Nation – July 2011

The TT has been able, based on its strong leadership in developing PPPSD, to acquire direct support from the Cabinet and the Prime Minister for introducing PPP modalities that allowed for a strong supportive coalition for the change process, which TT embarked on, as well as substantial commitment and accountability of TT management and staff to make PPPSD for SWM a success. Reform in an enabling environment such as the new Waste Rules and Regulations developed by TT and which have been finalized in April 2012 by the NEC, will guide future implementation of the Waste Prevention and Management Act (2009). These new regulations stipulate the use of holistic integrated approaches to waste management, adopt the concept of the “3Rs” (Reduce, Reuse, Recycle) and promote the use of PPPs with clearly defined stakeholder responsibilities. Under these new rules, it is foreseen that TT will introduce a household-based waste collection and disposal service fee that will be collected as part of the water bill, and which will generate municipal revenues. These additional financial resources will then allow for much needed investment in improved municipal service delivery.

The strong support of the new mayor and the City Council and the excellent leadership of TT’s project manager will further guarantee consolidation and institutionalization of the PPP-ISWM approach while nationwide scaling up of successful ISWM and PPPSD approaches is foreseen from the end of 2013.

6. Conclusions and lessons learned

PPPs are now broadly accepted as a valuable approach to solving Thimphu’s SWM problems and its different modalities to enhance access to service and improve service delivery, and this approach is seen as a viable and important modality to improve efficiency and strengthen municipal service delivery. As such, the successful scaling up of the continuing PPP-ISWM pilot is critical for Thimphu and for Bhutan as a whole. The significance of PPPSD became widely recognized for its potential to support acceleration and scaling up of broader MDG objectives, particularly those at the local government level. Considering the initial unfamiliarity with the new concept of PPP-ISWM, this represents an enormous accomplishment by TT. With all signals on ‘green’, the expectations from TT to ensure a successful pilot implementation and municipality-wide scale-up are high.

Important lessons from the PPP-ISWM project on capacity development and changing 'institutions' are:

- It is important to **integrate capacity development investment and approaches as well as change management theory into project designs** from the start. This will allow for broader discussions within institutions and among organizations and individuals on which underlying constraints are to be resolved. And it will support the planning and envisioning of future requirements in a broader context beyond quick technical fixes and often stand-alone, activity-led approaches. Holistically designed capacity development approaches can also support thinking and idea generation about multi-level stakeholder processes, public-private engagements and results that go well beyond the responsibility and capacity of a single organization or institution.
- It is imperative to allow **time for reflection and 'sense-making'**, especially within complex situations where several new concepts and approaches, such as PPP, ISWM, CD, and CA, are introduced simultaneously.
- The **UNDP PPPSD capacity development methodology and capacity assessment framework** proved to be a useful discussion tool, which created a broader understanding of the multi-stakeholder and partnership approach in service delivery and more insight in detailed 'technical' PPP issues and the capacities required by TT and stakeholders for successful PPPSD.
- The **Integrated Solid Waste Management (ISWM) model** is a useful tool since it highlights the need for an integrated approach to the design of different interdependent SWM system elements and also promotes a reflective learning approach to system design. This tool fits very well into the UNDP PPPSD approach.
- Making the **costs of existing service delivery systems** explicit and analysing economic benefits of new approaches are powerful motivators for change. Although these need to be understood within the context of sustainability, making explicit the economic as well as service quality benefits of the new ISWM system was important to gain commitment of TT.
- The decision of TT to first establish a **two-stage pilot** before municipal introduction of the PPP-ISWM allowed for testing and learning on the PPP-ISWM design, was a pragmatic and low-risk strategy that worked well considering the relatively weak capacity of TT and the complexity of the PPP-ISWM design process.
- At the beginning of the project, it proved important that TT created a **sense of urgency** (poor service coverage, rapid urbanization, election promises, public dissatisfaction and negative media coverage) and a new service delivery vision to kick-start the project and maintain the change momentum.
- To broaden the support base for the PPP-ISW introduction it was important for TT to capitalize on some identified **quick wins** (waste segregation, service fees, improved equipment efficiency, pilot PPPs), which showed the immediate potential benefit of the new approach.
- The **scaling-up objective** of new service delivery approaches needs to be embedded and made explicit in project designs right from the start. This will create a broader awareness and support for such projects as they will thus be seen as valuable for up-scaling solutions to achieve national development results, such as the MDGs. Promoting such higher level contributions creates higher visibility and accountability for the projects to achieve results and success.
- Within the **new democratic system**, TT promoted the responsibility of citizens to positively contribute to improved service delivery and keeping the municipality clean. Creating partnerships with citizens to develop a sustainable SWM system and in instilling behaviour to prevent pollution of the municipality is and remains a critical success factor for PPP-ISWM.
- A critical success factor related to institutional reform was, for example, the new **Waste Rules and Regulations** within the Waste Prevention and Management Act (2009), which created space and legitimacy for the new PPP-ISWM model, and enabled TT to exercise leadership on the national stage.
- **Pro-poor service delivery** needs to be based on an adequate understanding of how service delivery (improvements) can be designed to benefit the poor and ensure gender equity. As is often the case with technical projects implemented largely by technical departments, the centre of attention is habitually on technical design, with less natural affinity for creating space for dialogue with, and the participation of, non-state actors, the informal sector and service beneficiaries, and particularly the poor and marginalized.

References and organization websites

National Environment Commission (NEC) and Legislation

<http://www.nec.gov.bt/> and <http://www.nec.gov.bt/legislation/lesgislation.htm>

Thimphu Thromde (Thimphu Municipality), formerly Thimphu City Corporation (TCC)

<http://www.tcc.gov.bt/>

UNDP Bhutan

<http://www.undp.org.bt/>

UNDP PPPSD

<http://www.undp.org/pppsd/whatareppps.html>

WASTE–Dutch NGO, Advisers on Urban Environment and Development <http://www.waste.nl/>

Private Sector:

Druk Waste Collection (Paro)

<http://www.dwc.bt> (*under construction*)

Greener Way (Thimphu)

<http://www.greenerwaybhutan.com/>

ReCiTi (Thimphu)

<http://www.facebook.com/pages/ReCiTi-Waste-Recycle-Enterprise/250900194925224>

Endnotes

- i The UN Conference on Sustainable Development (UNCSD) held in Brazil from 20 to 22 June 2012 to mark the 20th anniversary of the 1992 United Nations Conference on Environment and Development (UNCED), in Rio de Janeiro; and the 10th anniversary of the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg.
- ii United Nations, General Assembly Resolution A/RES/66/288, The Future We Want, 2012, http://www.un.org/ga/search/view_doc.asp?symbol=%20A/RES/66/288
- iii In September 2000, the leaders of 189 countries met at the United Nations in New York and endorsed the Millennium Declaration (<http://www.un.org/millennium/declaration/ares552e.pdf>), a commitment to work together to build a safer, more prosperous and equitable world. The Declaration was translated into a roadmap of eight time-bound and measurable goals to be reached by 2015, known as the Millennium Development Goals.
See: <http://www.undp.org/content/undp/en/home/mdgoverview.html>
- iv UNESCAP and UN-HABITAT, The State of Asian Cities 2010/11, 2010, p. 32.
- v Ibid, pp. 38-44.



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