Public-Private Partnerships as a Means to Consolidate Integrated Solid Waste Management Initiatives in Tourism Destinations: the Case of the Mexican Caribbean.

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EXECUTIVE SUMMARY

The Mexican Caribbean, located in the state of Quintana Roo, Mexico, receives over seven million visitors each year. Waste generation per capita is nearly 60% higher in the region than in the entire country. Waste generation in the main tourism destinations, Cancún, Riviera Maya and Cozumel, is approximately 1,200 ton/day; tourism sector-generated waste is one third of that amount, reaching approximately 400 ton/day. The pristine characteristics of local ecosystems, which include mangroves, coral reefs, white sand beaches and fresh water underground canal systems are under threat from poorly managed waste, among other environmental problems.

There are some local initiatives in the region that aim to tackle the waste problematic at different levels. For instance, the non-governmental organization Amigos de Sian Ka’an has at least four distinct waste management programs. One is directed at the urban population of Cancún, and consists of established recyclables collection points. Another program is a region-wide beach cleaning campaign. Two other projects have as their objective the establishment of working relationships between hotels and waste collection companies and advise on good environmental practices, which include integrated solid waste management (ISWM) at the hotel level. The government of Quintana Roo, on its part, with the help of the German Technical Cooperation (GTZ) is developing the state’s regulatory framework related to integrated waste management.

In October 2008, a public-private partnership (PPP) was formed among the Swiss tour operator Kuoni Travel Holding, Amigos de Sian Ka’an (with financial support from the Travel Foundation Netherlands), the GTZ and the state government to articulate efforts to promote integrated solid waste management (ISWM). Activities include the testing and promotion of regulatory instruments
in the tourism industry (waste management plans), building strategies to strengthen the local waste collection industry, and awareness-raising via promotional campaigns geared towards tourists and hotel management. We will assess the effectiveness of PPPs for ISWM in tourism destinations as a means to complement resources and know-how, create local synergies and tailor specific projects in individual tourism establishments. As an assessment methodology, we will use the success criteria for cooperation of the private sector of the GTZ which include the following factors: complementarity, quality of private sector contributions, market neutrality and subsidiarity.

We conclude that alliances of this nature can be a means to articulate several initiatives by way of creating shared responsibility, pooling know-how and resources and covering several angles of ISWM within one single project (regulatory mechanisms, citizen participation, waste separation and treatment, among other items). However, promoting ISWM in tourism establishments is no small feat. Many different enterprises are involved in the tourism industry, which poses difficulties in harmonizing criteria. Successful ISWM programs at the hotel level require management initiative, existence of adequate physical space for waste separation and treatment activities and a permanent capacity building program for hotel personnel. Waste management is still perceived as an additional cost instead of as an income earning opportunity and an investment in the long-term attractiveness of the region. Finally, tourist visits usually last only short periods of time -one to two weeks in the case of the Mexican Caribbean- which poses a challenge for awareness raising purposes.

INTRODUCTION

Public-private partnerships (PPP) have been identified as effective tools for promoting integrated solid waste management (ISWM) (Nyachhyon, 2006; Rathi, 2005). Generally, in the area of public service delivery, such as waste management, water or electricity, PPPs are promoted to achieve a better provision of services or to improve infrastructure through a contractual relationship between private and public entities. In the case of waste management, such mechanisms provide private companies with competitive advantages via exclusive temporal rights for waste collection or operation of landfills (Dohrman y Aiello, 1999). However, PPPs may also serve as a means to promote sustainable development in areas not directly related to commercial activities of enterprises. Alliances of such nature enable companies to fulfill corporate social and environmental responsibility objectives, by making contributions as “good citizens” to the development of local communities (Office of the Global Compact, 2005). As for the public sector, these partnerships enable it to access greater resources in order to carry out activities related to ISWM, such as diagnostics, public participation, awareness raising activities, provision of infrastructure and promotional strategies. Basic principles of PPPs are complementarity to reduce costs and achieve greater project effectiveness as well as subsidiarity, which means that neither side would undertake project activities without the others’ contributions (GTZ, 2004). In developing countries, such as Mexico, where public bodies responsible for environmental issues suffer from chronic budgetary constraints, adding resources and efforts acquires even greater relevance.

The German Technical Cooperation, Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ), commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), promotes PPP worldwide as one of its tools to stimulate sustainable development. Among other areas, the GTZ in Mexico promotes PPP in the field of ISWM. In October 2008, an alliance of five partners interested in fostering ISWM in the tourism sector of Mexican Caribbean was established. The partners are: Secretaries of Urban Development and Environment (SEDUMA) and Tourism (SEDETUR) of the state of Quintana Roo, Mexico, the Swiss tour operator Kuoni Travel Holding, the non-governmental organization (NGO) Amigos de Sian Ka’an (with the assistance of Travel Foundation Netherlands) and the GTZ. The objective of the partnership is the promotion of
environmental responsibility with regards to solid waste management in the tourism sector of the Mexican Caribbean.

This paper develops a discussion about the effectiveness of the PPP among GTZ and its partners in the Mexican Caribbean as a tool for enhancing ISWM in the tourism sector. The central analytical framework is based on success factors for the cooperation with the private sector, presented in GTZ’s guidebook for partnerships with the private sector (GTZ, 2004). Criteria include the degree of complementarity, subsidiarity, neutrality with regards to competition and quality of private sector contributions (GTZ, 2004). This evaluation provides lessons and recommendations on PPPs as a means to promote ISWM, which may serve as guidelines for the implementation of PPPs in other related fields.

THE CASE

The Mexican Caribbean, located in the state of Quintana Roo, receives more than seven million visitors per year. The state’s tourism infrastructure includes approximately 740 hotels with more than a 73,000 room supply. In the destinations with greatest tourism affluence -Cancun, Riviera Maya and Cozumel- the sector is responsible for one third (approx. 400 ton/day) of total waste generation (approx. 1275 ton/day) (Cuellar, 2008). Guests in one single room can generate up to 7 kg of waste per day. The region’s main attraction is its natural beauty, with a great variety of coastal ecosystems, such as mangrove forests, coral reefs, white-sand beaches and a unique underground river system. The quality of these ecosystems is under threat due to various factors which include, among others, the impact of inadequate waste management. Open-air waste dumps, uncontrolled burning of waste and lixiviates which can rapidly contaminate water sources, due to the high permeability of the region’s karstic soils, are some of the problems related to improper waste management.

There are some local initiatives which aim at improving integrated waste management in the tourism sector of the Mexican Caribbean. For instance, municipalities with high tourism affluence, and therefore, those with higher urbanization and growth rates, conduct regular events for the collection of recyclables in squares and other public areas. In turn, the NGO Amigos de Sian Ka’an has been promoting partnerships between local waste collectors and hotels in Cancun. The same institution, in association with Conservation International formed the Mesoamerican Reef Tourism Initiative (MARTI), which promotes good environmental practices in the hotels of the Riviera Maya. Currently MARTI works with 25 hotels which together add up to approximately 8,500 rooms. The initiative offers information and advice in the areas of integrated waste management, energy and water savings. Some theme-parks and hotels have already established composting facilities and advanced systems of waste management. There is a small but booming local waste collection industry which offers recyclable material collection services to tourism establishments. However, this industry faces important challenges. Lack of local recycling capacities implies sending materials to plants in other Mexican regions, hundreds of kilometers away. This translates into additional costs. Similarly, the distance between hotels is relatively long, making waste transportation to the collection centers expensive. For instance, in the Riviera Maya hotels are scattered along a total distance of approximately 140 km.

SEDUMA, on its part, with the support of the GTZ, has been working in improving the regulatory framework for ISWM since 2007. In December of that same year, the State Law for the Prevention and Integrated Management of Solid Waste (SLPISWM, 2007) was approved by the State of Quintana Roo’s legislature. At present, the State Program for the Prevention and Integrated Management of Solid Waste (SPPISWM) is being developed. The new regulatory framework
includes provisions for large waste generators, such as hotels and restaurants. These establishments are required to develop waste management plans, which may include recycling and reuse strategies as well as environmental education programs directed towards clients and staff.

On October 1st, 2008 a public-private partnership among the Secretaries of Urban Development and Environment (SEDUMA) and Tourism (SEDETUR) of the State of Quintana Roo, the Swiss tour operator Kuoni Travel Holding, the NGO Amigos de Sian Ka’an, through its MARTI initiative (with support of the Travel Foundation Netherlands) and GTZ was signed. Through the integration of efforts of various institutions, the alliance seeks to promote environmental responsibility concerning integrated solid waste management in the tourism sector of the Mexican Caribbean. Figure 1 presents the alliance’s banner which was displayed during kick-off workshops.

**Figure 1: The alliance banner**

![The alliance banner](image)

The alliance’s strategic orientation is based on three pillars: awareness-raising among hoteliers and tourists, development of integrated waste management plans in hotels and the design of mechanisms to strengthen the local recyclables treatment capacity. Activities include:

1) Awareness-raising workshops directed towards hoteliers, tour operators and other tourism establishments (theme-parks, restaurants).
2) Awareness-raising campaign geared towards tourists.
3) Strategies to strengthen the local waste collection and recycling industries.
4) Integrated waste management pilot plans in three resorts of the region. Pilot projects serve as the basis for the design of the normative instrument for the elaboration of waste management plans by large waste generators.

**METHODOLOGY**

The evaluation methodology for the case presented here is based on GTZ’s success criteria for the implementation of integrated PPPs. These criteria, described in table 1, refer to the institutional
arrangements among project partners that can contribute or limit the possibilities of attaining project goals. The ultimate aim of a PPP is to add efforts and resources to reach developmental objectives in the most effective, efficient and fair way possible.

Table 1: GTZ’s Success criteria for the implementation of public-private partnerships

<table>
<thead>
<tr>
<th>Success Criteria</th>
<th>Description</th>
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<tbody>
<tr>
<td>Complementarity</td>
<td>The public and private contributions must complement each other such that both partners achieve their objectives at a lower cost, more effectively and more quickly as a result of their cooperation.</td>
</tr>
<tr>
<td>Subsidiarity</td>
<td>Participation is only possible if the private partner would not undertake the measure without the public partner. The contribution of the private partner to the PPP includes only those inputs that go beyond the company’s normal business activities.</td>
</tr>
<tr>
<td>Market neutrality</td>
<td>The GTZ must be open to cooperation with all firms, without any restrictions. The possibility of PPPs must be made public and brought to the attention of as many firms as possible. The process of selecting the private partners must be transparent, and the decisions must be objectively clear. Companies have no automatic entitlement to PPP cooperation.</td>
</tr>
<tr>
<td>Contribution of the</td>
<td>The firm must make a substantial financial, human-resource and/or in-kind contribution to the PPP measure. The resources and contributions that the private sector brings to a development partnership may take many different forms, including consultancy and training services, know-how and technology transfer, infrastructure and the procurement of equipment for the partner-country institutions receiving support. The important factor is that the impacts generated by the contributions go beyond the original business interests of the firm and serve general interests. The aim is to have a 50-50 split between public and private contributions.</td>
</tr>
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<td>private sector</td>
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Source: GTZ (2004)

As discussed before, project objectives fall within the area of integrated solid waste management, which is one of the thematic approaches of the bilateral cooperation among Mexico and Germany. Integrated solid waste management is based on the strategy of the “3Rs”: reduce the amount of waste directed to final disposal; reuse materials and recycle. This is possible through increased capacities to provide a high-quality public service, institutional strengthening, public participation (Tchobanoglous, et al., 1993) and joint responsibility in waste management (SLPISWM, 2007). This means that both waste generators and institutions responsible for collection, treatment and disposal share the responsibility to reach a more environmentally, economically and socially appropriate waste management.

RESULTS
Project Achievements
The PPP presented in this paper has a relatively short time of existence. It started in October 2008 and will have a total duration of approximately one year. As of May 2009, the awareness raising workshops for hoteliers and the market analysis for solid waste recycling and reuse (Cuellar, 2008) have been completed; pilot plans in three hotels are under way and the final format for the presentation of waste management plans is under final revisions by the competent authority (the SEDUMA). Awareness raising workshops were carried out in two different locations along the Riviera Maya, in the North and South respectively. Assistance was adequate; representatives of a total of 32 tourism enterprises took part, in addition to 28 representatives from civil society associations and the public sector (state and municipal authorities). The workshops covered diverse topics, including the prevailing solid waste management situation in the state and the relationship between waste and climate change. In addition, state authorities presented the basic principles for developing waste management plans (in conceptual terms, as the regulatory instrument is not yet published). Workshop participants also had the opportunity to go on field trips to operational composting plants and waste collection centers in the Riviera Maya.
The market analysis for solid waste recycling and reuse, which has been completed, suggests the following recommendations: a) in order to increase recycling potential, waste management plans should be developed in as many tourism enterprises as possible, b) consolidate transportation of recyclable materials in order to reduce costs, c) create incentives for waste generators and collectors, d) strengthen municipalities in the area of ISWM, e) develop regional collection centers, f) improve of organic residues. This study will serve as the basis to plan activities related to strengthening the industry and other related areas of solid waste management during future phases.

In general terms, hotels feature multiple points of waste generation (kitchens, hotel rooms, public zones, such as pools and recreational areas) as well as a complicated set of intermediate waste collection and concentration points. Cooperation with three hotels in designing and implementation of pilot integrated solid waste management plans has started. The three hotels are Gran Bahia Principe with 2,500 rooms, Mayan Palace with 1,250 rooms, and Club Akumal Caribe with 60 rooms and 20 bungalows. Hotel selection is related to the type of waste management that is carried out in each, since the three hotels have different sizes and offer different services. This affects their waste management operational structures. The first two hotels are fairly large and the third is relatively small. Two are all-inclusives and one is a timeshare. The main results of such cooperation include, 1) the improvement of planning for ISWM at the hotel level, 2) gather experience to serve as input for the design of the format to present waste management plans –the state regulatory instrument to promote ISWM with large waste generators-, and 3) the strengthening of the institutional capacity of the state authority, SEDUMA, which is the public entity responsible for waste management policy in the state. The state government is performing final revisions to the format. It intends to publish the final version by the third trimester of 2009. In addition, the experience of the state of Quintana Roo has served as a building block for the federal norm in the field of ISWM for large waste generators nation-wide, as well as for similar formats in the state of Guerrero and the state of Mexico. GTZ also cooperates with the governments of the latter two states in the field of ISWM.

The awareness raising campaign directed at tourists is in development stages. Diverse promotional instruments are being contemplated. For instance, awareness raising videos can be broadcasted in hotels’ closed TV circuits, or in planes and buses transporting tourists from the airport to the resorts. The possibility of placing posters in the hotel public areas is also being evaluated. The principle of this campaign is to raise awareness among tourists in a proactive manner, as a way to encourage guests to partake in waste management solutions (such as taking batteries back home or disposing of garbage in separate containers). The messages will be formulated using regional examples of achievements in the areas of waste separation, reduction and reuse. In this way, excessive concern on waste problems will be avoided, as this could have adverse effects on the popularity of Mexican Caribbean as a prime holiday destination.

Analysis of the Success Factors
Following is a discussion of the institutional arrangements of this PPP based on GTZ success factors for cooperation with the private sector (GTZ, 2004).

Contributions of the Private Sector and Complementarity
The PPP discussed here has become an effective instrument for complementing financial resources in order to promote ISWM activities in the tourism sector of the state of Quintana Roo. A budget of a total of €80,015 is contemplated, with private contributions reaching €43,580 (55%), while public counterparts have agreed to provide the remaining €36,435 (45%). Private contributions focus on covering costs for workshop venues, financing of awareness raising campaigns and surveys as well as local accommodation for experts. Public contribution on the part of GTZ consists of appointing
experts for the elaboration of studies, aid hotels in tailoring their waste management pilot plans and produces the official format to present waste management plans. State ministries contribute with the provision of workshop materials, logistics and local transportation services for experts. The actual amount spent is greater if we consider the contributions of the three pilot hotels, which have provided accommodation for experts and have assigned staff for the development of plans and projects. Altogether, this allows for the implementation of actions that otherwise would be hardly possible if partners worked individually. Private contributions in this specific PPP are greater than the minimum share indicated in GTZ success factors, which contemplate a 50-50 division of contributions between public and private counterparts.

Partners have had the opportunity to share their knowledge, experience and ideas in order to strengthen the implementation of the activities covered in the PPP. On the one hand, the combination of technical expertise and private sector’s vision on the process of format tailoring have resulted in the design of a simple but highly efficient instrument for the planning of ISWM activities in highly complex waste management environments. On the other hand, the awareness raising campaign is being designed with the input of all project partners. This has enabled the integration of perspectives of tour operators and other experts in resolving the issue of presenting messages that promote action by tourists without damaging the image of the Mexican Caribbean as a prime tourism destination.

**Neutrality in Terms of Competition**

GTZ and other public partners, SEDUMA and SEDETUR, started searching for associates from the private sector at least one year before signing the final PPP agreement. The principles of the search were ample. The objective was to identify tourism enterprises interested in improving environmental conditions in the Mexican Caribbean, be them tour operators, hotel managers or real estate developers. The conceptual orientation of the entire project allowed for the engagement of private partners in topics not directly related with central business activities, allowing enterprises to take part in the PPP without threatening their market interests. The project promoters had an initial round of meetings with various companies. The Swiss tour operator Kuoni showed interest from the start. Kuoni has an established program of corporate social responsibility and this project enables the company to contribute to the sustainable development of one of the most popular locations in its portfolio of destinations. The Travel Foundation Netherlands, on its part, decided to join the alliance once a way was found to provide its contributions via Amigos de Sian Ka’an/MARTI. Due to internal policies, it was necessary for TFNL to channel its resources through a non-governmental institution. Amigos de Sian Ka’an/MARTI was willing to implement the awareness-raising activities on behalf of TFNL. This NGO was already willing to join the alliance as the responsible party for technical issues related to best practices in water, waste and energy management in hotels and also plays the role of the main point of contact with resorts of the region. Participants continue looking for possible new partners within the industry to be able to broaden the PPP’s activities in future phases of implementation.

**Subsidiarity**

This PPP has acted as a means to combine regional initiatives related to ISWM. GTZ and SEDUMA had already collaborated closely in the creation of the regulatory framework in the area of ISWM in the state of Quintana Roo. Amigos de Sian Ka’an/MARTI has an operational program to promote best practices in environmental management in hotels. In turn, Kuoni and TFNL continuously look for new opportunities for social investments in the tourism destinations preferred by their clients. Existing ISWM-related initiatives in the Mexican Caribbean have offered an unprecedented opportunity for private enterprises. They have had the opportunity to invest their resources in running projects, which has contributed to reducing risks and increasing the potential
of success. Public and non-governmental organizations were attracted by the prospect of implementing more activities to reach a win-win situation, where institutional synergies lead to attainment of broader results than would have been possible if each entity acted individually.

Challenges
Despite the fact that the PPP presented here provides a path to start solving pressing environmental problems, ISWM promotion in the tourism sector faces important challenges. These are related to the wide variety of stakeholders in the sector, operational dynamics of tourism establishments and tourists’ ability to contribute to improving waste management.

In general, there are many companies involved in the design, construction and operation of a single resort. They include project developers and constructors, real estate brokers, hotel managers and tour operators. Harmonization of ISWM criteria implies significant challenges that start from hotel design stages, as attention needs to be placed in providing sufficient space and infrastructure for waste separation and collection. To improve the chances of success in the implementation of ISWM programs in hotels, solid waste management should be among the priorities of the involved parties. Financial and human resources should be available both during construction and for the implementation of waste management programs.

The tourism infrastructure of the Mexican Caribbean has had a scaled development over time and different degrees of environmental criteria have been incorporated during the various stages. The first tourism center of worldwide importance in the region was Cancun, located in the extreme Northern part of the state of Quintana Roo. Large-scale real estate development began in the 1970s and during that time, environmental criteria were not fully considered. Nowadays, hotels in Cancun face the challenge of adapting existing installations to improve waste management practices within relatively small lots. The Riviera Maya, which stretches for over 140 km starting just south of Cancun, began to experience a development boom in the mid 1990s which continues to this date. Hotels there face a different scenario, as pieces of land are larger, providing more possibilities for development of ISWM infrastructure and equipment, such as composting plants, collection centers and cold chambers. Additionally, environmental criteria are gradually gaining in importance, both within the private and public policy realms. An important challenge in this area is to ensure that construction plans include ISWM concepts. Sustainable construction concepts are not included in the activities of the PPP described in this paper, but various possibilities are being considered for future project phases.

The two key elements for a successful implementation of ISWM program in hotels are management’s initiative and personnel training. For an ISWM program to be successful, it is necessary for hotel management to be convinced of the importance of improved waste management. With the support of top management, the necessary resources can be allocated for process improvement. However, waste management is usually still perceived as a cost rather than an opportunity to improve environmental quality (with the long-term benefits of preserving the attractiveness of the region) or even generate additional income through the sale of recyclables or the use of compost for soil enrichment. Continuous capacity building of hotel staff is required. Staff who come into contact with waste are usually in the lower echelons of an organization. Rotation and attrition rates at this particular level are usually extremely high. Hence, capacity building programs for staff should be of a permanent nature.

According to the experience presented in this paper, tourism companies that have shown more interest in the project are already involved in improving environmental management on their premises. Though current activities present opportunities for the improvement of processes and
planning of future actions, both the Mayan Palace and Gran Bahía Principe have already been implementing programs for the improvement of solid waste management. Attracting the attention of resorts that have not yet been involved in any ISWM-related activities requires continuous efforts.

Regarding Mexican Caribbean visitors’ participation in ISWM, the challenge is to find time for awareness building that does not interfere with guests’ leisure time, as their stay is usually relatively short (from one to two weeks). Additionally, it is difficult to find a balance in sending a positive message about activities that could be performed by tourists while at the same time avoid damaging the image of Mexican Caribbean as a place with an unparalleled natural beauty.

CONCLUSION

The main goal of the public-private partnership among the Swiss tour operator Kuoni, Amigos de Sian Ka’an, Secretaries of Urban Development and Environment (SEDUMA) and Tourism (SEDETUR) of the State of Quintana Roo, Mexico, and German Technical Cooperation (GTZ) is to promote environmental responsibility in the field of integrated solid waste management in the tourism sector of the Mexican Caribbean. Tourism is the main industry in Quintana Roo and is responsible for one third of total waste generated in the most visited destinations. Though still having a short time of existence, the partnership has made progress in attaining some of its objectives. Hotelier assistance at awareness raising workshops was adequate, and three regional hotels (Gran Bahía Principe, Mayan Palace and Club Akumal Caribe) are working on their waste management plans. The goal of the cooperation with hotels in the region is to provide advice, while at the same time identify improvements for the design of the format to present waste management plans to the state authority. These formats will become the main regulatory instrument for large waste generators. The awareness raising campaign for tourists is being planned and options for strengthening local waste collection and recycling industries are being evaluated.

The main attribute of this partnership is that it provides the means to complement initiatives, resources, knowledge and institutional experience within a common strategy. Consequently, private enterprises may fulfill their goals of social and environmental responsibility, while public institutions can access greater resources for the implementation of ISWM activities. Nevertheless, ISWM promotion in the tourism sector faces important challenges. Firstly, management motivation and adequate infrastructure are required. Secondly, finding ways to involve tourists is a complex issue, as a balance needs to be struck between raising awareness and avoid scaring visitors away. Involvement of tourism establishments that do not yet have improved waste management programs is not a simple task, as many still perceive environmental management as an additional cost, rather than a way to sustain the region’s natural attractiveness and a raise extra cash. In addition, waste collection and recycling in the region of the Mexican Caribbean is costly, mainly due to long transportation distances between generation points and recycling facilities in other parts of the country.

ACKNOWLEDGMENTS

Authors express their sincere gratitude to all the participating institutions: Secretaries of Urban Development and Environment (SEDUMA) and Tourism (SEDETUR) of the State of Quintana Roo, Kuoni Travel Holding, Amigos de Sian Ka’an/MARTI, The Travel Foundation Netherlands, Mayan Palace, Gran Bahía Príncipe and Club Akumal Caribe. Special thanks are due to the German Federal Ministry for Economic Cooperation and Development (BMZ). The authors wish to thank Ilona Valeikaite for help with translation.
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