PRIVATIZING MUNICIPAL SOLID WASTE SERVICES IN ASIA

For
Asia

November 1991

Prepared by:
George Sanderlin

for:
U.S. Agency for International Development
and
International City/County Management Association

Contract No. PDC-1008-C-00-0991-00

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Introduction:

Today I will be talking with you about the contracting out or privatization of municipal solid waste services in developing countries in Asia. We will discuss the following topics:

1) Components For Private Sector Involvement
2) Role Of The Informal Waste Control Network
3) Case Study - Hong Kong
4) What Expertise Is Most Important
5) Lessons Learned
6) Conclusion

Background:

The Pacific Rim area of Asia is one of the faster growing areas in the world. Correspondingly, the need for sound waste control services is also growing. The United States has been and will continue to be involved in the development of the waste control infrastructure of Pacific rim countries. This involvement could include: the sale of equipment and/or technology (through license rights), the providing of services and facilities, the design and/or construction of facilities, and consulting services.

The greatest opportunity for waste services in this part of the world is in the newly industrialized countries (NIC), such as Hong Kong,

Taiwan, and South Korea. As privatization unfolds in these and other countries, price competition remains stiff. Pacific area firms (eg. - those from Japan) are starting to gear up for this potential market. However, most Pacific rim countries have little operating experience outside their home country and most do not have the vast human, financial and technical resources of their North American counterparts.

Components for Private Sector Involvement:

There are five major components that can influence the degree of formal involvement of the private sector in waste control in Pacific rim countries. First, pollution, specifically waste control, has to be high on the list of priorities of any political agenda of a particular country. Second, there has to be a workable legislative/regulatory framework to set the standards for waste control. Third, the laws and regulations for proper waste control have to be meaningfully enforced. The fourth ingredient that positively influences the private sector's formal involvement is the proper appropriation of funds to the process of waste control and its enforcement. The fifth component is a mechanism or system to make sure that the funds that are allocated are properly distributed to those private firms executing the work.

Let's examine the first component for successful formal private sector involvement in waste services. There must be a recognized need and desire for improved methods of waste control. Improvements can be: cost reductions, adaptation of the latest technologies related to waste control, improved service levels, decreased system down-time, etc. Many countries in the Pacific rim have a less than adequate waste infrastructure. This is simply due to the fact that they have other problems of a greater magnitude. An example of this is Bangkok, Thailand. That city is struggling with other weighty issues, such as a

high water table and traffic congestion. Better waste control practices would not be as effective as they could be until the issues of a high water table and traffic congestion are first solved. Water and air pollution are also frequently mentioned as issues that currently have a higher priority than waste control. However, proper disposal site management will help minimize both water and air pollution.

Once the political and economic realities move waste control to the top of the action agenda in a particular country, there must me a legislative and regulatory framework in place. The importance of a legislative and regulatory framework is that it: 1) sets the stage for enforcement; 2) sets minimal standards for facilities and operations to adhere to; and 3) provides a systematic review process for new waste handling techniques and technologies. The legislative and regulatory framework can also serve as sort of a referee between the formal and informal private waste service network. It is important that minimal standards are set for the waste control process. This insures a country's citizens that the environment is important and efforts are being made to protect it. The effect of this is that the cost of poor waste control (ie. - pollution) is then borne <u>internally</u> by the generators of waste, <u>rather than externally</u> by those that suffer because of poor ground water, littered streets or cars that constantly need washing because of no air pollution regulations.

Enforcement of laws and regulations are the third critical element that countries in the Pacific rim must achieve, if they are to have successful waste control programs. Enforcement gives teeth to the regulatory statutes and assures that waste is controlled in an effective manner. Enforcement also helps to keep the balance between the informal and the formal private collection network. For example, if a developing country spends large sums of money on a state-of-the-art landfill, and the informal sector is currently scavenging at an environmentally inferior landfill, regulation could be used to control the landfill scavenging which would be a health hazard to a modern landfill.

The proper appropriation of funds to waste control is the also crucial in insuring that the private sector is involved in privatization efforts and that those efforts will succeed. If a Pacific rim country, (or any developing country for that matter) has made waste control a political priority, and has developed regulations which are enforced, but still has no money to pay for the new landfill, waste-to-energy plant or transfer station, then the infrastructure will continue to suffer. If there is not enough money allocated for the upgrading of developing countries' waste control infrastructures by the private sector, then North American companies probably will not be interested in the projects. It takes money for developing countries to develop modern, efficient waste handling facilities. With the financial commitment, these countries will get the best facilities and services

that will enable them to reach their waste control goals and minimize pollution.

Last but not least is the issue of payment to private firms for waste control facilities or services. Even if everything else (political priority, regulations, enforcement, and allocation of funds) is in place, private sector involvement from North America will come much readier if a country has a formalized payment process or the payments are backed or guaranteed by a third party which might have a better debt payment rating than that of the particular country in question.

Role of the Informal Private Network in Waste Control:

Most Pacific rim countries have a very extensive and well developed informal network handling one or more areas of waste control, such as recycling. The majority of this informal network is centered around the collection and sorting of waste paper and metals. Self-employed recyclers go around to the shops and factories and segregate recyclable paper and metals. Then they take their bounty to the local network of recycling warehouses where the materials are further sorted, consolidated, and packaged for shipment to market.

In Seoul, Korea, as in other areas of Asia, some people live in or in very close proximity to the landfills. These people make a subsidence living by scavenging materials before they are buried. If modern waste-to-energy plants were the recipients of the waste, rather than landfills, these people would have to change their method of operation to scavenge during the collection process, rather than during the disposal process. Some of them might even have to develop another way to subsist.

Any comprehensive system to manage wastes must take the strong informal network that already exists into consideration. Otherwise, a new comprehensive system could be open to inefficiency and redundancy.

Case Study - Hong Kong:

Hong Kong is a good case study, simply because it is a fast developing Asian country which has gone about the privatization process in the right way. The Hong Kong government made a commitment to a clean environment and saw proper, modern waste control as one way to do this. Hong Kong also has regulations which are enforced. Money was appropriated to pay for high quality waste services. The most important part is that the money is being paid to private firms for their waste control facilities and services.

Browning-Ferris Industries (BFI) is providing private waste control services under contract to the Hong Kong government. This is being done through a joint venture arrangement with Swire Engineering (Holdings) Ltd. (Swire BFI) to design, build and operate two solid waste transfer stations in Hong Kong. BFI, the company I work for, is a publicly traded firm engaged in waste services including solid waste, recycling and medical waste collection, transportation, processing and disposal in locations throughout the world. The Swire Group is a publicly traded firm based in Hong Kong with interests in transportation, trading, manufacturing and warehousing, engineering and insurance in many parts of the world.

In 1988, Swire BFI was awarded a contract to build and operate a transfer station in Kowloon Bay, Hong Kong. This is a state-of-the-art

facility complete with deodorization, dust collection and filtration, truck washing and water treatment facilities. (Slide presentation of Swire BFI 1,600 TPD Kowloon Bay transfer station). The station opened in April of 1990. The design and construction capital costs were reimbursed to Swire BFI after inspection and start up. The operations and maintenance contract will last for 15 years. Currently, the station is handling approximately 1,600 tons per day of solid waste.

Swire BFI was recently awarded a second transfer station design, construct and operate contract, as well as a barge waste shipment operational contract. This new station, Island East, will handle 1,200 tons per day and transport the waste by barge to the landfill.

Swire BFI has proven to the Hong Kong government that the private sector can and will provide quality, cost effective waste services. The government is so pleased with how their contracting for waste services program is working that they have contracted other services such as tire recovery and temporary waste handling by barge.

The Hong Kong government is in the process of developing tenders for the design, construction and operation of three large modern landfills. The government is assuring that they have private firms that are fully capable of developing state-of-the-art disposal facilities by an extensive tendering process. A pre-qualification submission

will be evaluated by the government. These evaluations will take account of technical competence, experience, and financial resources, as well as previous performance in the waste services industry. It also specifically asks for a firm's civil engineering construction experience in Hong Kong.

After a firm passes the pre-qualification, they will have to submit a more technical cost proposal to the Hong Kong government. Although the tender documents have yet to be released, it is anticipated that they will ask proponents to describe all aspects of their design, construction and operating plan for the landfill. This tender request could call for technical information on leachate collection, groundwater drainage, liner system, borrow and cover material, gas control, site monitoring and closure. The government is also relying on consultants from the private sector to help them develop the tender documents and review proposals.

The reason privatization is working in Hong Kong is that the government realized the importance of the proper control of solid waste and determined that expertise in waste handling was a necessity for the system to work and be environmentally sound. The government did not have this experience, so it was necessary to look to the private sector. Joint venturing with a local firm (Swire) that has the financial and human resources and project management experience, enabled BFI to better deal with the local cultural, political and business situations involved in conducting affairs in an Asian country.

What Expertise Is Most Effective?:

The areas of: 1) consulting; 2) design of facilities; 3) waste service operational experience (especially facilities versus collection); and 4) technology; are areas where the expertise of firms in North America has proven most effective in Asia.

Consultants work with governments such as Hong Kong to advise them on the latest waste control techniques. These consultants can help governments develop a solid waste handling plan. They can also help to develop tender documents and review proposals submitted.

Engineering and waste services firms can work together to design facilities for the efficient handling of solid waste for Asian governments. These facilities can include, solid waste landfills, transfer stations, chemical waste treatment facilities, recycling processing centers and waste-to-energy plants.

The one thing that North American firms, whether they are consultants, engineers, operators or designers, have to offer is experience. A lot of the time, this experience is gathered from their projects or operations around the world. Since the waste handling practices of Asia are just starting to develop and mimic those of the West, most Asian based firms do not have the depth of experience in modern waste control that their North American counterparts have.

Technology is another area where Asian firms do not have the amount of experience that other areas do. An example is waste-to-energy. Waste-to-energy plants have been in existence in Europe for a long time. They are now becoming firmly established in North America. However, since the majority of developing countries don't have extensively developed waste handling systems, the need for this technology will exist in the future. An other area where North American firms can use their technology to foster waste services is in the area of supplying modern equipment. For example, several types of equipment form North American manufacturers were used in the Swire BFI Kowloon Transfer, including transfer trailers and waste compactors.

Lessons Learned:

There is a great need for proper waste control in the rapidly developing countries of the Pacific rim. However, in order for the needs of Asian countries to become a reality for North American firms, the governments of the pacific countries must:

A) Place solid waste control as a top priority on the political agenda

B) Develop rules and regulations and enforce them

C) Allocate funds to accomplish their solid waste control objectives

D) Develop methods to insure the funding and disbursement of funds to pay for the private operation of their waste control system. Project financing, credit guarantees or grants from agencies such as the World Bank would ensure that even if items A through C (on slide) did occur, that North American firms would get paid for their services

In Taiwan, our firm was planning a biomedical waste treatment facility in anticipation of the government's development of stringent regulations (similar to those in North America) for the handling and processing of medical waste. However, the project ran into difficulty when it was found that the regulations were not enforced and may never be enforced.

Another lesson that my company, along with several other firms learned in South America is that a payment mechanism is very important.

BFI and other companies are still providing service to this South American country even though millions of dollars are owed to them by the government and no payments have been received for many months. The government insists they will pay, but to date, they haven't. This is an opportunity for a third party financial or insurance institution to come in and cover some of the financing and/or payment risk.

Conclusion:

Today I have talked with you about the components for successful private sector involvement in Asia's waste control system. We also talked about the role of the informal sector in waste control and how it needs to be taken into consideration. You saw the slides of a real example of the results of how privatization in Asia. In this case, a waste transfer station. We also talked about what expertise is most effective in developing the waste handling system in developing countries in Asia as well as what lessons BFI has learned.

In summary, there are four keys to the successful privatization of waste services in developing Asian countries.:

1) Waste control must be a priority
2) Regulations must be in place and enforced
3) Funds must be allocated and disbursed to ensure payment
4) Know local laws, customs and business practices

If these four steps are taken, Asian countries should be assured of the private involvement of North American firms with vast experience in waste control.