



Building deliberative public–private partnerships for waste management in Asia

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Abstract

Public–private partnerships in environmental policy should not simply be viewed in instrumental terms as means of providing environmental infrastructure and services, but also as sites where norms of environmental concern and political accountability are formulated and replicated. Deliberative public–private partnerships—or partnerships that allow greater public participation in the formulation of these norms—may therefore become an important new form of local environmental governance and help make partnerships more relevant to local environmental needs. This paper examines case studies of public–private partnerships in waste-to-energy projects in the Philippines and India to identify how principles of institutional design may enhance the deliberative nature of public–private partnerships in environmental policy. The paper argues that current approaches to deliberative, or cooperative environmental governance concerning public–private partnerships need to acknowledge insights from network theory concerning the communication of environmental and political norms before they can be successfully transferred to developing countries.

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1. Introduction

Partnerships between private investors, citizens and states are a topical theme in debates about environmental governance in developing countries. For years, public–private partnerships between private companies and states have formed a common means of providing environmental infrastructure or services where state funds or expertise are lacking. More recently, however, the concept of ‘partnerships’ has diversified, and now may include broader collaborations between states, companies and civil organizations, and for a wider range of policy initiatives. Indeed, the United Nations has called for a greater adoption of partnerships in development policy through the Global Compact, Millennium Development Goals, and ‘Type 2’ partnerships proposed at

the World Summit on Sustainable Development in Johannesburg in 2002. As a result of these trends, public–private partnerships are increasingly not just short-term instrumental agreements between states and private contractors, but are new political arenas involving various actors where norms of environmental and developmental policy are formulated and replicated. Developing new means of environmental governance must therefore acknowledge the roles played by public–private partnerships, and increase public deliberation about these norms.

This paper identifies lessons for making public–private partnerships more deliberative. Deliberative public–private partnerships may be defined as partnerships that maximize public debate about the purpose and inclusivity of collaboration between state, civil, and market actors, as well as achieve the economic purposes of collaboration. Deliberative partnerships may benefit all parties, i.e. investors, state, and citizens, by reducing

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the costs of and possible resistance to new investment, and by allowing citizens the chance to make partnerships more relevant to local needs. But making partnerships more deliberative will also mean giving more attention to how norms are created or cemented by the act of partnering between different actors.

The paper is divided into three main sections. First, the paper reviews debates about public–private partnerships in environmental policy and the means to make them more deliberative. This section draws upon the concept of cooperative environmental governance (Glasbergen, 1998) as a framework to analyze the deliberative nature of public–private partnerships. Secondly, the paper analyzes case studies of local partnerships relating to waste management in India and the Philippines. Waste management is a good example as it is an urgent local environmental need in many cities, and is often achieved through public–private partnerships. Waste management is also multi-faceted, involving opportunities for local livelihoods for so-called waste pickers who profit from recycling material, as well as chances to implement global climate change policy by reducing methane and carbon emissions. Finally, the third section then draws lessons from the case studies for debates about environmental governance and making partnerships more deliberative.

2. Public–private partnerships and cooperative environmental governance

2.1. *The arguments for partnerships*

Public–private partnerships between private companies and states are a well-established means of providing infrastructure and services that states have neither the resources nor expertise to supply alone. In such cases, partnerships may commonly take the form of build–operate–transfer (BOT) or related schemes, which allow companies to construct infrastructure and operate it profitably until a time when it is transferred to state ownership (see French, 1998; Labonne, 1998; Lee, 1997; Osbourne, 2000; Rosenau, 2000).

In recent years, however, the remit of public–private partnerships has increased widely following the diversification of actors that collaborate with foreign investors, and the growing use of partnerships to allow local participation in environmental and developmental policies in general. Rather than simply seeking to provide badly needed infrastructure at the cheapest cost to the state, such new approaches to partnerships may also occur with sub-state actors such as municipalities and citizen groups, and may be designed to allow greater participation of all non-state actors in shaping development policy (e.g. Plummer, 2002). Such initiatives have been encouraged by the United Nation's Global Compact,

and Millennium Development Goals. And at the World Summit on Sustainable Development in Johannesburg in 2002, the importance of international partnerships involving non-state actors was discussed in so-called 'Type 2' partnerships.¹ Speaking in 1998, United Nations Secretary General, Kofi Annan explained the basis for integrating business and social development by saying, 'Thriving markets and human security go hand in hand; without one, we will not have the other'.²

Local involvement in public–private partnerships has also been urged as a means of overcoming some of the political standoffs in implementing global environmental agreements, such as the UN Framework Convention on Climate Change (1992) and its Kyoto Protocol (1997). Under the Kyoto Protocol, the Clean Development Mechanism (CDM) was established to allow countries with specific greenhouse gas reduction targets (the so-called Annex I countries) to achieve some of these targets by investing in climate-friendly activities in countries that do not have these targets (non-Annex I countries, which are usually developing countries). In recent debates, however, some developing countries have criticized the CDM for allegedly encouraging projects such as plantation forestry that may assist global climate change policy simply by sequestering greenhouse gas emissions, but which offer little immediate developmental benefit for people in host countries. Yet, alternative projects that may maximize local benefits, such as investment in industrial technology, or new forms of renewable energy, are commonly considered expensive by investors. Such concerns have worked against the achievement of successful, long-term technology transfer from Annex I countries to non-Annex I countries (Forsyth, 1999, p. 51).

Localized, public–private partnerships have been proposed as a means of reducing these problems with international investment in climate-friendly technologies. Collaboration with local citizens may reduce the costs of technology transfer by them to participate in the shaping of technologies implemented, or in identifying local needs. Moreover, economic cost sharing with citizens may offset costs if local civil groups perform certain tasks such as providing maintenance or financial management, or if the new investment provides complementary functions alongside local activities such as the collection local waste products for fuel for certain types of renewable energy. Indeed, such 'civic environmentalism,' or local cooperation with investors may lead to classic 'win–win' situations where investors can success-

¹ 'Type 2' partnerships involve collaboration between states and large non-state collaborators such as transnational corporations and NGOs. They are so-called to distinguish them from traditional 'Type 1' partnerships between states alone.

² Speech at World Economic Forum, Davos, Switzerland, January 1998.

fully transfer a new technology to a new location, and local people can influence the nature and purposes of the investment and technology (John, 1994; Stiglitz and Wallsten, 2000). In eastern Indonesia, for example, the development agency Winrock has established new forms of decentralized electrification using wind turbines imported from the US, but where local non-governmental organizations and community-based organizations administer the projects by creating new institutions for financial and technical management (see Forsyth, 1999, p. 159).

2.2. *Making partnerships deliberative*

The optimistic approaches to public–private partnerships in environmental policy, however, have been met with skepticism from a variety of critics, and particularly from political scientists who have argued that the political implications of partnerships outweigh the potential benefits of enacting environmental policy in this manner (see Osbourne, 2000; Rosenau, 2000).

First, and most fundamentally, some analysts of ecological modernization have argued that environmental policy allied with business poses important contradictions for modern society. The more ecocentric³ critics have argued that using business to enact environmental protection only strengthens the causes of environmental degradation and anthropogenic climate change. (For example, Beck's concept of reflexive modernization makes this conclusion; see Blowers, 1998). Others have pointed more pragmatically to the weakening of environmental regulation, by processes such as regulatory capture (where policymakers represent the interests of investors) (Gouldson and Murphy, 1998; Singleton, 2000). Other critics have suggested that public–private partnerships may contribute to the reshaping of environmental discourses towards business objectives, and hence delineate discursive patterns about the nature of environmental problems; how these may be solved; and with whose expertise and participation (Hajer, 1995).

Secondly, debates within environmental governance have argued that the use of public–private partnerships as a functional means of implementing policy represents a neo-liberal hollowing-out of the state, or trend towards so-called New Public Management. These trends have been criticized for effectively reducing the public space for governing the provision of social services, and hence eroding democratic accountability of local governments (Rhodes, 1996; Skelcher et al., 2003). Such critics have consequently questioned the claims of neo-liberal theorists that partnerships reflect a 'new plural-

ism' in environmental politics because they actually reduce the active participation of diverse actors in governing decisions (Imrie and Raco, 1999; Fung and Wright, 2001).

Thirdly, critics from development studies have also suggested that implementing partnerships without critical attention to questions of participation and governance may result in policy that is not pro-poor, and may result in the continued influence of political elites. Indeed, Evans (1996) has argued that accountability of partnerships between state and non-state actors may be undermined by 'embeddedness'—or the existence of influential leaders who are members of both state and 'local' groups, or businesses and public collaborators. Norms of participation and democracy transferred from different contexts may also result in overlooking how far such norms may not operate in new contexts if the rights or access to participation for different citizens are restricted (Fischer, 2003). In this paper, the case of waste pickers—or the people living around waste dumps or collecting waste on the streets—may be considered examples of such marginalized poor (Cornwall, 2002). The suggestion that greenhouse gas mitigation by any means—including plantation forestry—must necessarily be beneficial to all might also be considered an example of proposing an environmental solution at a global level without sufficient local consultation.

In response to these criticisms, scholars have proposed a number of ways to increase the local deliberative capacity of partnerships in order to enhance both local accountability, yet still achieve the functional objectives of business operations and technology transfer. Jänicke (1992, p. 80) called for 'consensual capacity' as a means to ensure public contentment with incoming investment. Weber (1998) urged attention to 'assurance mechanisms' as means of reducing risks to investors through local guarantees, such as local participation in cost-reducing measures. Together, such terms may be summarized under the concept of 'cooperative environmental governance', which Meadowcroft defines as:

A cooperative management regime is a form of social regulation in which groups originating in different spheres of social life, and reflecting distinct perspectives and interests, participate in debate and negotiation to achieve a common understanding of a specific problem, and then implements a collective plan for its resolution (Meadowcroft, 1998, p. 22).

Glasbergen (1998) defines cooperative environmental governance as an alternative to the existing four dominant options of state-led regulation, voluntary agreements from companies, the operation of the free market, and activism from civil society. The purpose of cooperative environmental governance is to overcome the necessarily conflictual nature of negotiations, and

³ Ecocentric thinkers believe nature to be fragile, and see themselves subject to nature rather than in control of it. The term is usually held in distinction to technocentric thinkers, who believe adequate levels of technological adaptation can solve environmental problems.

instead seek a positive negotiating space between investors and citizen groups. Such governance may be deliberative in that it allows local actors to participate in the identification and implementation of norms of environmental concern and political accountability, and hence overcome the problems of misrepresentation or domination described above (see also Klausen and Sweeting, 2003). In terms of climate change policy, cooperative environmental governance may make CDM-related investment less functional and oriented only to the output of reducing atmospheric greenhouse gas concentrations, but to increase the numbers of options by which this objective is achieved, primarily by increasing local participation in deciding how investment is made.

Meadowcroft (1998) listed six potential advantages of this approach, which are listed in Table 1. Yet, these advantages have mainly been identified in the contexts of North America and Europe where mechanisms of civil society participation in environmental regulation are more advanced, and where state capacity for formulating and implementing policy is greater than in developing countries. These advantages may be criticized if applied in rapidly industrializing countries, for reasons briefly also summarized in Table 1. Some of these are worth describing in more detail. First, much discussion of cooperative environmental governance assumes the ability for negotiations to take place in empowered ways with investors or representatives of the state, which may not always be possible in developing societies (see Evans, 1996). Secondly, much of the discourse of cooperative environmental governance implies negotiations with the state, and a division within civil society between a participatory style (of collaboration) and so-called rejectionists (who seek confrontation) (Glasbergen, 1998, pp. 8–9). In developing countries, the state may not be as omnipresent nor omnipotent, and citizens and investors may form institutions themselves without negotiation with the state (indeed Winrock's coordi-

nated investment in eastern Indonesia is largely in the absence of state actors). Thirdly, environmental and technical expertise may not be extended in a uniform and progressive way via partnerships, but may lead to the extension of diverse and contested networks of expertise and environmental evaluation. Indeed, policy discourse debates about environmental expertise in developing countries have pointed to the divisions between social class and different objectives such as 'green' (wilderness) or 'brown' (housing and industrial) agendas, and the impacts of political bureaucracies and advocacy coalitions with NGOs in maintaining specific narratives of environmental concern. Indeed, Hajer (1995, p. 64) has argued that different political actors may subscribe to overriding narratives or environmental storylines as a means of empowering their political negotiating stance, rather than actors reshaping environmental norms.

There are two implications of these potential problems in implementing cooperative environmental governance as a way of making public–private partnerships more deliberative in developing countries. Firstly, negotiations may not take place in a clearly defined public sphere where actors have clearly defined rights of access, but instead in diverse arenas with varying legitimacy. Arenas may include formal debating chambers such as city halls, within the media, or via street demonstrations. Secondly, the norms of environmental concern, expertise, and accountability for partnerships may not be forged within partnerships as freestanding institutions of deliberative governance. Instead, local public–private partnerships may form effective associations that are not uniformly governed or transparent, and which become sites where wider networks, political alliances, and norms of environmentalism or environmental policy are replicated locally. Achieving deliberative public–private partnerships in rapidly developing countries may therefore require viewing governance as

Table 1
Advantages of cooperative environmental governance, and potential problems in rapidly industrializing countries

Advantages of collaborative environmental management (after Meadowcroft, 1998)	Potential problems under rapid industrialization (source: the author)
Structured framework for pluralist inputs to environmental policymaking	Collaboration may still exclude less powerful voices, or those without rights of access to negotiations
Mechanism for building consensus and especially for transforming interests towards more communal objectives	Consensus may be only apparent, and overlook social divisions within definitions of 'community'
Flexible between different contexts and participants	Institutional designs may not be as transferable as thought if rights of access to political arenas not equally developed
More stable and legitimate policy outcomes	Legitimacy of governance structures may reflect structures of political debate, rather than the full opinions of all citizens
Allow introduction of expert scientific and technical advice	Expertise may not be representative of local environmental concerns and framings, nor take into account constructivist critiques of science and technical knowledge
Encourages environmental learning within social contexts	Local forms of learning may be inhibited if institutional designs, norms and networks of expertise are seen to be rigid; governance should seek to empower local determination of norms through enhancing communication

the local manipulation of powerful networks, rather than as the existence of comparatively powerful and transparent institutions with clearly defined arenas, actors, and boundaries (Dowding, 1995; Goss, 2001; Fischer, 2000, 2003).

The following case studies consider the deliberative capacity of public–private partnerships in investment in waste-to-energy projects in the Philippines and India, and explore the means to increase local governance of climate change-related investment.

3. The controversies of waste-to-energy investment

The case studies in this paper focus on waste management, and especially waste-to-energy investment. In many locations, waste-to-energy projects are considered controversial, and illustrate a classic divide between so-called technocentric environmentalists, who seek managerial or technological solutions to environmental problems, and ecocentrics, who instead search for a more fundamental avoidance of environmental degradation. For many technocentrics, the principle of using agricultural or municipal solid waste to generate energy (or electricity) seems a pragmatic solution to rising amounts of waste production, and the reliance on fossil fuels for energy. For ecocentrics, however, waste-to-energy projects provide an unacceptable legitimization of the production of waste, and hence remove attention from the more radical solution of a zero-waste society.

In addition, there are also specific criticisms of waste-to-energy as a source of pollution. Environmentalists have claimed incineration of municipal waste, especially plastics, may create dangerous dioxins, and add to atmospheric pollution. Moreover, experience has also shown that some incinerators may only succeed in burning waste if diesel fuel is added, thus contradicting the energy efficiency arguments. In response, technologists have argued that such concerns are increasingly irrelevant if new forms of incineration—notably pyrolysis⁴—are used, because these are not aerobic forms of combustion, and dangerous emissions are reduced. Moreover, incinerators are bound by local environmental regulations that can specify emission levels.

An alternative form of waste-to-energy to incineration or pyrolysis is biomethanation or anaerobic digestion, which involves no combustion, and instead breaks down organic waste by using bacteria in confined spaces. Biomethanation only uses the organic fraction of waste, and allows the recovery of methane from waste

material while leaving a residual sludge that can be used for compost. The remaining inorganic material (papers, plastics, metals, etc.) need to be removed, but can also be used for recycling. Biomethanation is frequently preferred by organizations working with poor people in urban areas, as biomethanation allows poor people to sift through waste to collect recyclables to sell. Such participation by waste collectors (or ‘waste pickers’) is sometimes not feasible with pyrolysis because the pyrolysis procedure requires the inclusion of recyclable paper and plastics in order to achieve an adequate calorific value for the waste. Companies investing in pyrolysis therefore usually want to gain ownership of the entire waste stream, whereas investors in biomethanation normally only want the organic matter.

Waste-to-energy projects raise a number of opportunities and dilemmas for climate change policy. For many developing countries, foreign investment in waste management represents an ideal ‘win–win’ solution to the Clean Development Mechanism because foreign investors can gain climate change credits for mitigating methane emissions and providing electricity from non-fossil fuel sources, while local citizens can benefit from the treatment of municipal waste and the generation of electricity. But investment in waste-to-energy has been resisted in many countries by concerns that it may add to pollution, or work against long-term solutions to the generation of waste. Furthermore, investment requires the availability of local actors willing to work cooperatively with investors, and such local partnerships may not be forthcoming. Some newer waste-to-energy technologies are not well understood either, and may be confused with orthodox incineration.

At present, investors are using both incineration and biomethanation of waste-to-energy projects to claim financial rewards for climate change mitigation, although some critics have alleged that incineration should not be included as a ‘climate-friendly’ technology. Biomethanation, however, is particularly attractive for climate change policy because methane has 23 times the global warming potential of carbon dioxide, and hence may result in high levels of financial compensation from the Clean Development Mechanism in addition to addressing problems of waste in developing countries.

The following two sections describe case studies of waste-to-energy projects in the Philippines and India that show varying levels of deliberative public–private partnerships. In both cases, research was conducted by on-site interviews with key actors from local government, citizen groups and investors, plus detailed documentary and newspaper research for background information. The examples were selected because they were all topical examples of new investment in waste-to-energy where collaboration with citizen groups was sought.

⁴ Pyrolysis is a form of incineration that chemically decomposes organic materials by heat in the absence of oxygen. Pyrolysis typically occurs under pressure and at operating temperatures above 430°C (800°F).

4. Waste-to-energy projects in the Philippines

In the Philippines, two important steps have been taken at the national level to shaping forms of waste-to-energy projects by the passing of a national ban on incineration in 2001, and national waste management legislation that makes it mandatory for all waste to be segregated between organic and inorganic types within households and firms. Both units of legislation were inspired by growing concern at the rising level of municipal solid waste in the Philippines, and the shocking event in 2000 when some 200 waste pickers were killed in a ‘landslide’ of garbage at the Payatas waste dump outside Manila. The ban on incineration of waste was particularly influenced by the campaign of the NGO, Greenpeace, which had set up an office in Manila in 1999.

The ban on incineration effectively put an official end to waste-to-energy projects involving incineration. However, campaigners were still concerned that waste-to-energy projects might still be allowed by informal means, and Greenpeace actively campaigned against them after the ban. Perhaps curiously, campaigners also sought to ban biomethanation, and—under interview—claimed to have no knowledge of this technology as a means of capturing methane (interviews dating from 2001). Moreover, the mandatory segregation of solid waste has proved difficult to implement, largely because of the diversity of sources of municipal waste. Furthermore, local municipalities and truck drivers have resisted segregation because it may reduce the total amount of waste to be transported each day to waste dumps, and hence may reduce their income in performing transportation. Segregation may also reduce opportunities for truck drivers to perform their own sorting of unsegregated waste, and hence the chance to collect profitable recyclable items for themselves.⁵

Despite these problems, some locations have sought to introduce waste-to-energy projects using biomethanation technologies, and involving local partnerships with citizen groups. The case studies described here were selected because they were topical examples of disputes about waste-to-energy projects, in which local collaboration between investors and citizen groups were important.⁶

4.1. Ayala Alabang

During the late 1990s, a US-based investor in biomethanation sought to establish a waste-to-energy power plant in the town of Ayala Alabang, 30 km south of Pasig City in greater Manila. The town is considered

a wealthy suburb of Manila. The power plant sought to use animal waste from pigs and cows in local farms, including the possibility for human sewage too. The crucial element of public–private collaboration was in an agreement with a local women’s NGO who agreed to conduct the waste collection for the power plant. It was not in the investor’s interests to increase its costs by collecting waste, as this represented additional investment costs with low commercial return. However, the local government and the NGO were happy to provide the labor and training necessary to collect waste, as this coincided with local environmental objectives of waste management and keeping water clean.

This agreement with the NGO, and the power purchasing agreement (PPA) with the local government effectively provided the assurance mechanisms necessary for the investor to proceed with this project. However, the project reached an impasse in 2000 for a variety of reasons. Most importantly, the company was unable to get offers of cheap land rent from local landowners because landowners mistakenly believed the power plant would create high profit margins because the waste came from a relatively wealthy neighborhood. Secondly, the investing company also made an error by trying to gain control over the entire municipality waste stream (i.e. both organic and inorganic material) in order to profit from both biomethanation of organic material and recycling of inorganic material. Experience quickly showed, however, that very little of the valuable recyclable material reached the sorting site because waste collectors and truck drivers performed their own unauthorized sorting of waste on the way to the sorting site. As a result, the company could not achieve cost recovery for inorganic waste because it was unable to stop other people removing the valuable fractions. Together, these factors made the new project unprofitable, and it had to close. The project’s initial ‘win–win’ appearance based on the agreement between the investor and one local civic group had been undermined by the actions of other civil actors who had felt unrepresented in the agreement, and who could not be effectively regulated by the company, NGO, or municipality.

4.2. Baguio

Baguio is a large town in the north of the Philippine island of Luzon, and is famous for being the historic summer capital of the Philippines. The town is situated in a mountainous area, and its waste dump risks causing water pollution for lowland settlements. During 2000–2001, the same US-based investor sought to establish a biomethanation plant that would process organic waste, and allow recycling of other waste. This time, the proposed project would employ existing waste pickers at the Baguio dump in order to segregate waste, and provide the separation of organic and inorganic waste nec-

⁵ Source: Interviews with environmental NGOs, Foundation for a Sustainable Future, and Preferred Energy Incorporated, Manila.

⁶ The names of investors and NGOs in specific case studies are kept confidential in order to protect privacy.

essary for biomethanation. The investor did not attempt to control the inorganic waste stream in Baguio. Indeed, the employment of the local waste collectors was seen by the investor to be a shrewd way to reduce their own costs (by using the collectors to segregate waste), and to gain support of the local government by demonstrating the local developmental benefits of the project.

The proposal was well received by the local municipality, who then began a long process of agreeing rents with the investor. Unexpectedly, however, the project received criticism from a national NGO with a local office in Baguio. The NGO argued that waste-to-energy projects—in principle—were unwelcome because they legitimized the creation of waste, and—specifically in Baguio—threatened the livelihoods of some 150 waste collectors who lived in and around the waste dumps, and many of whom would not be employed at the waste-to-energy plant. In addition, the NGO claimed that the waste-to-energy project would prevent the manufacture of compost, which they considered a main part of local livelihoods. Such statements were made in protest to the local municipality, and were disseminated in local newspapers and newsletters.

The investor responded by explaining to the NGO and municipality that the waste-to-energy plant would not use all waste at the dump, and that they did not seek to control the inorganic recyclable section of the waste. The company also challenged the claims about compost by saying compost resulting from anaerobic digestion was of better quality than that made from traditional aerobic means. In effect, this statement shifted the debate from defining whether compost would be made, and by which means, towards who would own the compost once it was made. Under the waste-to-energy plant, the compost would be a by-product of biomethanation, and hence would be owned by the company, a situation the NGO considered unhelpful for local livelihoods. As a result, the NGO urged a return to a system of waste segregation at dumps (i.e. prior to the national household waste legislation urging segregation into organic and inorganic within households and firms), because it saw segregation at the dump to be in the best interests of waste pickers.

It is also worth noting that the company did not highlight the potential benefits of climate change mitigation from biomethanation in this dispute because it feared these aspects may not be understood, or—even worse—that the prospect of earning carbon credits may cause resentment that the company create profits in this way. Yet, in an interview, a representative of the NGO explained that climate change policy was not perceived to be a relevant issue at all, saying, “*When we talk of solid waste management we see no connection with climate change*”. Instead, the main concerns were to protect the livelihoods of waste pickers; a lack of trust of waste-to-energy technologies; and worry that a

foreign investor may influence local politics too strongly.

Other actors also voiced the desire to protect the autonomy of local actors against decision making by outsiders. In a separate interview with a middle-class organization that trains waste pickers to collect recyclable waste from households in Manila, a spokesperson voiced concern at biomethanation as a new and complicated way of making compost. The statement seems to indicate a sense of intrusion against the traditional means of composting:

...you do not have to use complicated methods in converting organic waste back to compost to the soil, you don't need complicated, ur, state of the art, you don't need that, because the Philipinos have been converting waste to compost for many, many thousands of years now.

By 2003, the proposal to build a biomethanation plant in Baguio was still awaiting approval from the municipality. The investor claimed the main barrier was that the city councilors were awaiting informal financial payments to help the project proceed, and the investor was unwilling to make such payments. Meanwhile, the waste pickers' own concerns (according to an interview with their local leader⁷) were that any changes to the waste dump would threaten livelihoods by removing the land the pickers were informally holding as houses, and as areas to raise pigs. The waste picker leader claimed that working for the investor in the waste-to-energy plant was attractive if jobs could be guaranteed. But there was concern that jobs could not be secured for all workers, and that having just one family member working in the plant would not be enough to provide income for all. Yet the status quo was not totally attractive either: the interview also revealed that living near the dump also had its disadvantages, by encouraging illnesses such as asthma, bronchitis and influenza.

5. Waste-to-energy projects in India

India may be considered a valid country to consider in tandem with the Philippines because they both have large markets for waste-to-energy projects, a large urban poor population, and both countries are industrializing quickly. Unlike the Philippines, however, India has not yet passed any national legislation making household segregation of waste mandatory, or making incineration of waste illegal.

⁷ The waste picker representative was a male in his 50s who was also the acting head of the local *barangay*, or municipal sub-district. He was a retired administrator whose family had conducted waste recycling for years in order to earn supplemental incomes.

Waste-to-energy projects in India, however, are commonly associated with a few historic catastrophic failures in technology transfer. For example, in 1984, the Ministry of Non-Conventional Energy Sources (MNES) installed a waste incinerator using Danish technology as a pilot project to demonstrate waste-to-energy in Timarpur, Delhi. Unfortunately, the project miscalculated the moisture content of the available waste in Delhi, and consequently was unable to burn waste unless diesel was added. According to reports, the incinerator operated for less than a month, and its last day of operation was when the project was visited by the then—Prime Minister, Rajiv Gandhi, after which the incinerator was closed down, and the Danish suppliers issued a law suit for failure to implement the agreed contract.⁸ This experience seriously damaged the popular image of waste-to-energy as a suitable source of energy.

There are, of course, very many examples of waste-to-energy investments in India, but the following cases provided means to analyze collaboration between citizen groups and international investors.

5.1. Lucknow

Perhaps the most apparently successful Indian example of a plant using biomethanation to process municipal waste is in the town of Lucknow, in Uttar Pradesh province. The plant opened in 2003, generating some 5 MW of electricity from between 400–500 ton of municipal organic waste per day, and is operated by an Asian-based company with a variety of international shareholders. The company, however, supports local waste pickers by allowing pickers to segregate waste before it comes to the plant, in order to remove the valuable recyclable non-organic sections such as papers and plastics, as well as inorganic material that needs to be removed before biomethanation. The company works collaboratively with an NGO, Exnora, which specializes in working on waste management issues, and even assists the NGO by buying bicycles for waste pickers working for the organization.

When asked why the company adopts this philanthropic attitude to waste pickers, the company representative said:

we don't want to upset the existing social system. Our main income comes from power, fertilizer and carbon credits. The recyclable income is not significant to us, but it is significant to society.

The company representative also discussed the public perception that waste-to-energy for municipal waste is problematic. The representative was keen to point out

that biomethanation was not as polluting as incineration, and that it offered opportunities for integrating methane production with income for waste pickers:

Everyone knows biogas is a clean fuel, we are not burning plastics or depriving people of livelihoods, and we are working with other groups to achieve segregation at source.

The company had achieved assurance mechanisms for different sources of profit. It had negotiated a 10-year purchase agreement with an environmental broking company for 10 years. It also had arranged to convert the sludge remaining after biomethanation into fertilizer, and not simply compost, because it judged there to be a surplus of compost from aerobic sources. The company's biggest problem was in achieving a guarantee of a regular stream of organic waste to its plant. Agreeing to let waste pickers segregate waste by removing recyclables may therefore reduce the company's costs in ensuring that the organic waste supply is forthcoming.

In other interviews in various locations in India, some NGOs criticized this plant in Lucknow on the grounds that it was still a highly centralized and high-cost investment, which made the plant still largely controlled by the investor and which may also make some of the recycling and electricity less financially attractive than commonly thought. These concerns, of course, may be unsurprising for India's first major municipal waste biomethanation plant. But, despite these concerns, the project in Lucknow illustrates a case where waste pickers were actively invited to take part in the production process with the backing of the local state. Indeed, the government of Lucknow has achieved a recent reputation for working to assist urban poor people, especially of low caste who commonly comprise waste pickers.

5.2. Chennai

The city of Chennai (Madras) presents an example of a more conflictual collaboration on waste-to-energy. Ironically, Chennai also shows examples of successful community action for waste management that have been undermined by recent decisions by the local government. In the 1980s, a group of concerned middle-class citizens created an NGO, Exnora (standing for 'Excellent, Novel, Radical') as a way to hire waste pickers (or so-called 'street beautifiers') to collect household waste and take it to collecting points at the end of each street. Streets could be up to a kilometer long, and hence transporting waste was appreciated, and paid for, by citizens. In time, the Exnora concept had spread to other cities in India and other countries. The Exnora model allowed waste pickers to profit from recycling material as well as contribute to the provision of street cleaning on an organized basis (Anand, 2003).

⁸ Source: Interviews with environmental NGOs, the Centre for Science and Environment, Delhi, and Toxics Link, Delhi.

In 2000, however, the local Chennai government replaced municipal services for waste collection with a new private-sector contract with the multinational waste collecting company, Onyx. Unfortunately, many of the roads chosen as Onyx's territory were those already serviced by Exnora, and hence made much of Exnora's services redundant, even though the Onyx service—to date—did not involve transporting waste from households to the street collection points. A coordinator of Exnora commented:

I would like to give the benefit of doubt to them and I would really not want to say it was deliberate, I would rather like to say lack of foresight.

At the same time, the local government of Chennai was approached by an Australian investor seeking to establish a pyrolysis waste-to-energy plant at one of the city's larger waste dumps. The proposal was opposed by a national NGO, Toxics Link, because this technology may still emit dioxins and damage the livelihoods of waste pickers by burning recyclable material. The NGO also alleged that the investor concerned had yet to fully demonstrate a pilot project of the technology. For its part, the investor claims that the recycling achieved by pickers only removes the most valuable of waste products, rather than all inorganic particles, and hence the pyrolysis technology—with associated segregation and cleaning of waste—may be a faster and healthier solution for waste management. Indeed, the investor argued that pyrolysis offered the most immediate solution for Chennai's burgeoning waste dumps.

Furthermore, to support its case, the investor invoked a new discourse of stating that it was unacceptable in modern society to allow waste pickers to continue sorting waste on streets or in dumps. A company representative said in 2003:

...there is no manual handling of raw garbage under [this technology]. I am proud of that, and the company is proud to say that we have no handling of raw garbage. Use people to hand garbage? Like hell! Not on my watch. If you want to perpetuate the system where human beings handle other people's raw garbage then I refuse.

Such statements of course deserve consideration, yet it is also fair to say that the company needs the calorific value of paper and plastic in its waste supply in order to burn it without the addition of inflammable materials. By using this argument, the investor, however, was also disempowering the justification used in Lucknow and in Baguio by investors in biomethanation that waste pickers should be used in the production process.

The case also caused controversy within the local government. Acting on its own judgments, the Pollution Control Board of Chennai formally recommended that the pyrolysis project be rejected on grounds of air pollu-

tion, and concerns about the company's ability to demonstrate the technology working. Yet, after consultation with the company, in February 2003, the local governor decided that the project should continue. Some activists alleged, informally, that such a decision might have reflected a personal agreement between the governor and the company. For some campaigners, this decision was only a short-term setback, and the chances of reversing the decision were still high. That said, no rival biomethanation project had yet been proposed in Chennai, thus making the pyrolysis project the main contender for addressing the problem of municipal waste.

6. Discussion and conclusions

The case studies here of course are selective, but are examples of public–private partnerships currently under negotiation that attempt to provide collaboration between investors and citizen groups. As such, the cases present reasonable examples of attempts at deliberative partnerships, or cooperative environmental governance.

The cases show that participation and governance are not uniform processes. It is clear, as indicated in Table 1, that the optimistic proposed advantages of cooperative environmental governance are indeed difficult to reproduce under the political conditions of the Philippines and India. Open access to political debates by different social groups is not always possible, and hence partnerships may not easily be called forms of political pluralism. Poor sectors of society—perhaps most typically the waste pickers in these cases—were often co-opted (as predicted by *Hajer, 1995*) to support wider political arguments from more powerful actors, such as the adoption or rejection of a particular technology or institutional structure. (For example, the Australian investor in pyrolysis sought to exclude waste pickers from dumps in Chennai for their own sake, in the same way that the Lucknow biomethanation investor sought to involve pickers in segregation because it was good for them.) Environmental expertise was not established by the attempts at collaboration, but instead reflected wider networks of environmental norms such as ecocentric principles of seeking zero waste, or the technocentric management of waste and health risks through incineration. Indeed, the attitude of Greenpeace in Manila (at the time of interviewing) suggested that their knowledge about the impacts of biomethanation was misinformed and secondary to their wider ecocentric objectives of achieving a waste-free society.

The problems of achieving deliberative partnerships raise a number of implications. First, the institutions formed by public–private partnerships of the kind discussed here do not stand alone as new discursive arenas (or public spheres) to formulate new and locally

representative norms about environmental protection and governance. Instead, they replicate and—to some extent—co-opt existing norms, which are frequently communicated by networks of actors who are not local, such as national and international NGOs. Indeed, this problem was well expressed by a representative of the national Indian NGO, Toxics Link, who openly discussed the problems of allying with Greenpeace:

Historically Greenpeace has had problems around the world when it starts working with local groups. Because it is the way it is constructed, it needs to occupy space of all sorts in order to justify its funding and its programs. So, it needs to be a dominant player. Now this is not always well taken by local players. . . . I don't think the Greenpeace ur, the, Greenpeace ur, as an organization will be able to justify visibility or very little visibility, or equal visibility of a local partner.

Second, it is also clear that the norms of legitimacy and accountability of public–private partnerships as institutions are not always determined by the local poor, but by other actors who themselves are responding to other arenas. (For example, the investors in biomethanation wanted to respond to local norms about employing waste pickers, and the investor in pyrolysis wanted to appeal to wider norms about waste picking in general). However, when actors do attempt to address the needs of local poor people, then partnerships seem to work well, as in the biomethanation cases in Lucknow, or potentially in Baguio. This finding suggests the rather obvious conclusion that a willingness to incorporate the views of other partners is important in making collaboration work. Yet, more pertinently, it also implies that partnerships create new boundaries defining the ownership of resources (such as waste), which allow different levels of access to the poor. For example, in Ayala Alabang, the attempt of the investor to achieve its own segregation of waste failed because truck drivers informally removed the most valuable waste before it was delivered. Yet, in Lucknow the company openly allowed waste pickers to segregate waste as a means to access the inorganic fraction while the company was assuming ownership of organic fraction.

Thirdly, nonetheless, the case studies suggest that successful partnerships result from occasions when collaboration between investors and citizen groups is allowed without overt interference from local governments. In Baguio, Ayala Alabang, and Chennai, actions by local states have—knowingly or otherwise—undermined attempts at deliberative partnerships. Similarly, the cases have also shown unwillingness of other actors, such as the Philippine NGOs in Baguio and Manila, to treat both climate change and Western technologies with distrust, and hence not work cooperatively towards public–private partnerships.

The implications of these points are to confirm that deliberative public–private partnerships work most effectively when investors, local governments and citizen groups are willing to work together to implement new technologies, and produce arenas to discuss these technologies that are locally inclusive. Yet, making such partnerships deliberative requires—as Fischer (2003) urges—moving beyond the search for transferable principles of institutional design, but to ensure the ability of different actors to communicate locally relevant norms of environmental concern and political accountability. Building capacity for deliberative partnerships that address both global concerns such as climate change policy and local environment and livelihood concerns does not simply mean educating local people about predefined institutional structures or environmental risks. Instead, it means creating a deliberative space between investors and citizen groups that allow open communication between all parties, an act that frequently requires actors to define their own spaces (or negotiating arenas) rather than accept usual models such as public consultations with the local government. Yet, perhaps most importantly, establishing such arenas also implies the need to be wary of allowing these spaces to become dominated by norms about environmental concern and accountability imposed by powerful actors both inside and beyond that space.

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