



## **CEM WORKING PAPER SERIES**

### **TRANSACTION-COST POLITICS AND LOCAL GOVERNMENT PARTICIPATION IN PHILIPPINE ENVIRONMENTAL REGULATION**

*by*

Anna Floresca F. Abrina

Working Paper No. 2009-14

College of Economics and Management  
University of the Philippines Los Baños  
College, Laguna  
Philippines  
February 2009

The studies in the CEM Working Paper Series are preliminary and designed solely for the purpose of eliciting comments and suggestions. These do not necessarily reflect the opinions and views of the college and/or university.

# **Transaction-Cost Politics and Local Government Participation in Philippine Environmental Regulation<sup>1</sup>**

**Anna Floresca F. Abrina**

Assistant Professor  
Department of Economics  
College of Economics and Management  
University of the Philippines Los Baños

**Keywords:** transaction costs, transaction-cost politics, local government units, environmental regulation

## **ABSTRACT**

A previously developed analytical framework, which attempted a conceptual unification of the works on transaction-cost politics (TCP) and transaction costs as applied to the political and administrative processes of making and implementing environmental regulatory policies, is presented. This is used to analyze the case of solid waste management in the Philippines, with special attention given to illustrations of local government participation in environmental regulation. Institutional arrangements are first documented before patterns are identified in these arrangements and then explained in light of the TCP framework.

## **INTRODUCTION**

Philippine environmental regulation has long been a rich source of researchable subject matter concerned with mechanisms that have evolved out of the institutional arrangements developed in the making and implementation of such policies. As government devolution in environmental regulation can be considered to still be in its early stages, numerous conflicts still

---

<sup>1</sup> With portions from the MS thesis of the author supported by SEARCA.

arise among the economic agents involved in the process, many choices pitting national concerns against local level consequences. Earlier studies have been concerned with the rationales for and effects of specific intervention activities rather than with finding a general framework with which to analyze the regulatory dynamics for a wider variety of conflicts that impose costs on society.

The social costs mentioned here are not those concerned only with monetary considerations but are rather of a more general nature termed as “transaction costs”. Using the term in a very broad and generalized sense, a transaction cost is anything that impedes the specification, monitoring, or enforcement of a transaction.

To outline a perspective on the study of environmental regulatory policy, the discussion will be cast mainly within the transaction–cost politics (TCP) framework developed by Avinash Dixit (1996, 2003). In contrast with “transaction cost economics” (see, for example, Williamson 1999), “transaction-cost politics” examines the transaction costs that exist in the political process of making and implementing economic policies and the major problems they create that may hinder the success of these policies (see North 1990b; Dixit 1996, 2003).

The opening section provides a conceptual unification of literature on the Coase theorem and transaction costs as applied to the political economy of regulation. To take account of the several concepts and relationships inherent in policymaking and implementation, a previously developed framework is presented with some revisions, cast in the context of TCP, depicting a system of interlinkages. A short discussion regarding the choice between national involvement and local intervention follows to provide an indication of the significance of local government units in environmental regulation.

A case study examining the making and implementation of solid waste policy in the Philippines through a transaction-cost politics lens is then discussed to show how the framework can be used to analyze specific interventions. This focuses on the key points of political tension, combining a narrative of the making and implementation of Philippine regulatory policy with some conceptual discussion of the role played by transaction costs in the story and how the actors in the drama attempted to cope with these costs.

Finally, some suggestions are made as to the implications of the present analysis. These are intended only to present areas for further study and not as policy recommendations.

## **TRANSACTION COSTS IN A POLITICAL ECONOMY**

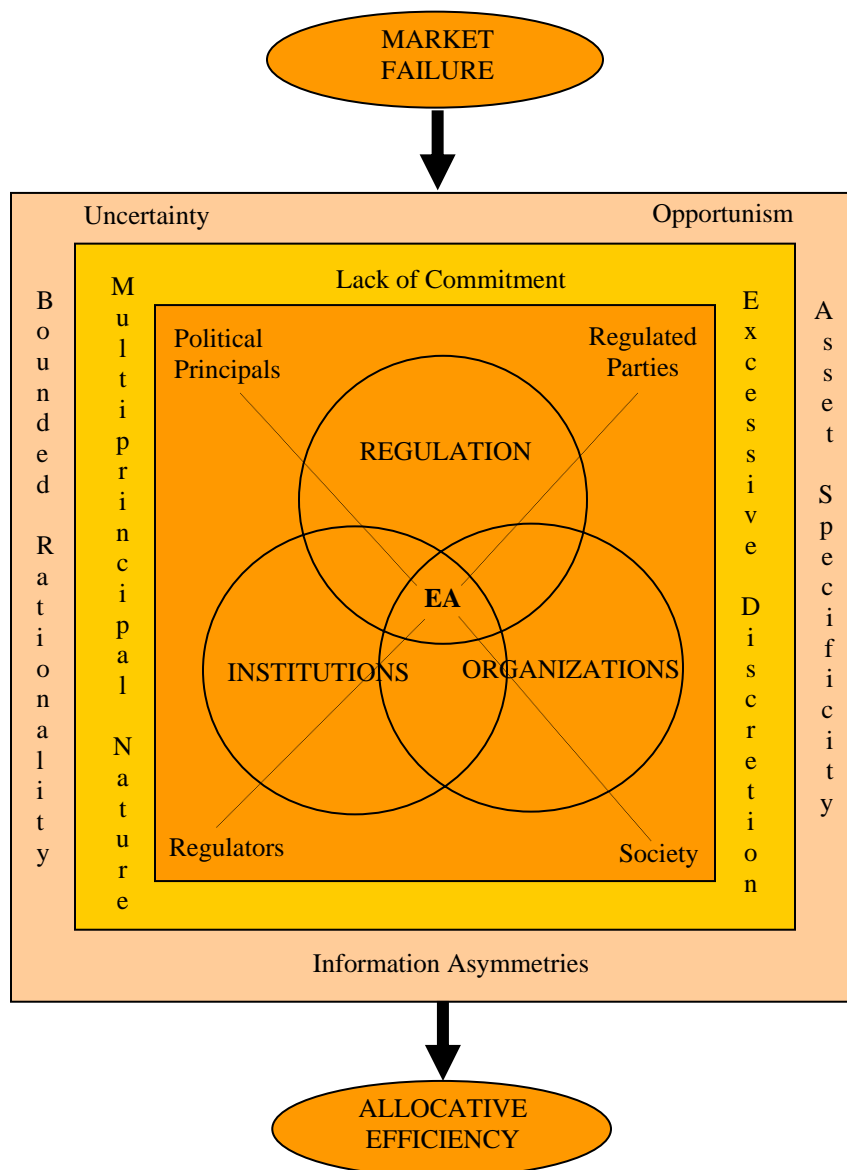
Coase (1960) argued that, given precise allocation of property rights and the absence of any costs of information or negotiation, two parties would arrive at a bargain that would internalize any externalities between them. The Coase theorem can be fairly stated as follows: “If transaction costs are zero, rational parties will necessarily achieve a Pareto-efficient allocation through voluntary transactions or bargaining.”

The most basic claim of the theorem is that only transaction (or bargaining) costs can prevent voluntary bargaining from attaining Pareto-efficient outcomes. Dixit (1996) broadly defines transaction costs as departures from the conditions of the Coase theorem. Although other researchers may define transaction costs differently, their importance in various facets of contractual choice and evolved institutions is gradually being recognized.

### **Transaction-Cost Politics Framework**

Under the transaction-cost politics (TCP) framework, economic policy is viewed as an “equilibrium outcome of a political process” (Dixit 2003, p. 108). Thus the main theme of the

development of the following framework centers on an investigation of the political causes of regulatory policy. Focusing on concerns arising from the interaction of multiple tasks and multiple interests, environmental regulatory policy in the Philippines can be analyzed in the context of TCP as a system of interlinkages depicted in Figure 1 (Abrina 2004).



**Figure 1. Framework depicting through a Transaction-Cost Politics Lens the Interlinkages in Regulatory Policy**

The presence of market failures is considered the fundamental rationale for government intervention, which in this case is environmental regulation. As Portney and Stavins (2000) argue, the need for government intervention in environmental protection arises from the presence of externalities that are unlikely to be borne by producers in the absence of regulation and would thus distort prices and resource allocation.

Regulation, or regulatory approaches, involves among others the promulgation of laws and implementing rules and regulations, the establishment of meaningful instruments whether market-based or not, and the creation and implementation of enforcement mechanisms.

Institutions comprise the rules of the game (North 1990a). These would include formal and informal constraints on the allowable actions of economic agents. On the other hand, organizations or organizational arrangements, established among and within economic agents, refer to the governance structure that would determine duties and responsibilities of the individual agents, monitoring and enforcement systems, and feedback mechanisms.

These three components of regulation, institutions and organizations may be affected or would affect developments in one or both of the remaining elements, the common point of coincidence being the functioning of the economic agents. Economic agents are defined here as the: (a) political principals; (b) regulators; (c) regulated parties; and, (d) society.

Political principals would refer to the legislature, the judiciary to some extent, and other local government politicians while regulators refer to the executive branch or the specific agencies that implement the pertinent regulation. To differentiate the regulated parties from society, the former is considered to include entities that produce the externality and are directly affected by the provisions of specific regulation while society is deemed to consist of the interest groups and other individuals who would be affected by the externalities produced.

The interaction among these agents as mediated by institutional and organizational frameworks determines the effectiveness of regulatory approaches. At the same time, these three components also influence the dynamics among these agents and further create the environment in which they operate. As illustrated in the framework, the design of these components allow for the existence of transaction costs that stem from government failures classified generally as: (a) lack of government commitment; (b) the multi-principal nature of government; and, (c) the excessive discretion of decision-makers (Estache and Martimort 1999).

The lack of government commitment raises the possibility of renegotiation that may increase costs of transacting. The multi-principal nature of government gives rise to costs of policy coordination and that of playing off one principal against another. Excessive discretion as given to the decision-makers affects government transactions since internal and external influences play significant roles in the decision-making process.

All the preceding government failures and the transaction costs they generate arise mainly because of features of the economic and political world. As Williamson (1999) enumerates, these salient attributes can be defined generally as: (a) uncertainty; (b) bounded rationality; (c) information asymmetries; (d) opportunism; and, (e) asset specificity.

Uncertainty is inescapable and leads to incomplete contracts that are difficult to develop and administer. Bounded rationality<sup>2</sup> recognizes the limits to the resources that can be spent in acquiring information, which prevents complete contingent claims contracts as not all future contingencies can be specified, in turn engendering the prevalence of high costs of renegotiation, informational costs, and the like. Information asymmetries encompass situations where one party does not have as much information as another with whom transactions are to be made. As

---

<sup>2</sup> Bounded rationality can best be described in the context of individuals making what can be considered their best judgment based on limited information.

seen under TCP, these can cause problems of adverse selection and moral hazard as well as those of nonverifiability of information to outsiders. Opportunism also leads to moral hazard concerns although here it arises mainly in the context of agency problems. Asset specificity, referring to the spatial limitations of the availability and/or usability of resources, also produces similar dynamic inconsistencies that affect not only the political process but the economy as well. In any event, greater than the inefficiency it will likely produce, the cost of asset specificity is that it may preclude changes that would be demanded by future conditions.

### **National versus Local Intervention**

Cooperation or consolidation is an oft-mentioned provision in local environmental management plans required by national environmental laws. Previous studies supporting this practice mention harmonization of environmental objectives and scale economies as rationales.

In her study of local environmental programs in Metro Manila, Mendoza (1997) made the case for national government intervention on the basis of efficiency, equity, and stabilization considerations. Following the logic of Shah (1991), the study provided the specific economic rationale for national financing of local projects as “benefit spillover, minimum standards for services, and fiscal equalization” (Mendoza 1997, p. 146).

Since there may be differences in the priorities or importance of environmental objectives between the national and local governments, national cohesion may require some centralization of policymaking and regulation. In addition, if environmental programs are undertaken at the national level, lower transaction costs and avoidance of research replication can result in more effective government responses redounding to greater national benefit (Mendoza 1997).

Furthermore, Probst and Beierle (1999) have observed that some other important consequences of decentralizing environmental policy are differences in the quality and effectiveness of local programs resulting from disparities in waste definitions, permitting requirements, and treatment and disposal standards. In the countries examined in their investigation, greater harmonization of the design and implementation of hazardous waste programs at the national level were sought. Moreover, Mendoza (1997, p. 146) also determined that “the scientific nature, technical requirement, and cost of equipment for monitoring environmental projects constrain the LGUs’ monitoring capacity.”

However, these may not be the only considerations in the consolidation decision. In a study of environmental remediation, Boyd (2001) established that ideal standards usually reflect site-specific costs and benefits and thus implies that these standards should themselves be site-specific. Although “site-specific approaches create institutional costs associated with monitoring, enforcement, and conflict resolution” (Boyd 2001, p. 10), Mendoza (1997) argued that the decentralized approach provides better adaptability to local conditions and greater incentives for efficient service provision.

Furthermore, since environmental concerns and their spillover effects may at most affect only a cluster of localities together with disparate preferences, local differentiation in environmental programs may prove to be optimal. Nevertheless, local government units still have to overcome certain difficulties, several of which however have been shown to be surmountable. These have been catalogued as:

the financing problem, the lack of technical capability at the local level, rent-seeking by local officials, the operational nature of having an environment and natural resource officer (ENRO), and the problems of accessing the technical resources of the DENR by the LGUs. (Mendoza 1997, p. 145)

Despite these concerns, many LGUs are averse to regionalizing their provision of environmental services such as in waste disposal systems. Although benefits may be reaped from the scale economies resulting from regionalization, these LGUs are reluctant to cede their autonomy (Halstead and Park 1996). Tiller (2001) suggested that leadership qualities, personal relationships among leaders and historical experiences, among other factors difficult to quantify, play an important role (as cited in Tiller and Jakus 2005).

Therefore, it is clear that any analysis of economic effectiveness cannot be undertaken without recognizing the social, political, and legal systems that also affect the regulatory mechanism. Consequently, understanding the differences of the advantages and disadvantages of programs implemented at the national level from site-specific costs and benefits would provide better rationales for either closer harmonization or wider decentralization.

## **THE CASE OF SOLID WASTE MANAGEMENT IN THE PHILIPPINES**

Reversing the order of conventional analysis, institutional arrangements are first documented before patterns are identified in these arrangements and then explained in light of the TCP framework presented.

In describing the case of solid waste management in the Philippines, secondary sources provided much of the background relevant to the issue. These would include internet sources as well as printed material at both the central office and certain regional offices of the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR). On the other hand, the Philippine Constitution of 1987 provided much in the way of describing the workings of the three branches of government while the Local

Government Code of 1991 offered the technical aspects of the devolution of authority to local officials.

Open-ended interviews with key informants – consisting of personnel at the Philippine House of Representatives Committee on Ecology (PHR-CE), officers of the DENR, local government officials, and environmental advocates – also supplied many insights on the internal organization of the legislature and implementing agencies and on the intricacies and interrelationships of processes that contribute to make up the overall situation.

### **Institutional Framework Regulating Solid Wastes in the Philippines**

#### *Legislative and Judicial Involvement*

In the Philippines, policymaking is shared among the three branches of government: the executive, the legislature, and the judiciary. The President of the Republic is vested with the executive powers as she directs the institutions of implementation while judicial powers lie with the Supreme Court and other lower courts. Legislative power rests with Congress composed of the House of Representatives or the Lower House and the Senate or the Upper House.

As mentioned above, the legislature is composed of the two houses of Congress who as a whole are entitled to make laws. As regards to the environment and its regulation, both Houses draft their own individual versions of environmental regulatory bills and in due course reconcile the bills into an act for approval of the President.

In the House of Representatives, environmental regulations pass through one of two committees. The Committee on Natural Resources exercises jurisdiction over issues of utilization and exploitation of the resources of the country such as activities involving mining

and forestry. The Committee on Ecology, established in 1992, concerns itself with the “brown environment” or matters of pollution control and ecosystems management.

On the other hand, the Senate has only one committee focused on environmental concerns. The Committee on Environment and Natural Resources in the Upper House exercises sole jurisdiction over the concerns of both its counterpart committees in the Lower House.

Judicial power lies in the hands of the courts of the country with the definitive word on law situated with the Supreme Court. The importance of this judicial power becomes particularly important in the interpretation of the spirit of individual laws and what would constitute unlawful practices.

#### *Regulation and the Executive Branch*

With the Cabinet secretaries acting as the President’s alter egos, the DENR acts as the caretaker of the environment for the country. The Department thus executes activities supporting the environmental thrusts of the government.

As a line bureau of the DENR, the EMB acts as the lead agency in implementing the provisions of all laws in relation to, among others, the “brown environment”, that is, matters of pollution control and ecosystems management.

The EMB went through reorganization from being a staff sectoral bureau of the DENR Office of the Secretary supervised by the DENR Undersecretary for Environment and Programs to operating as a line bureau reporting directly to the DENR Secretary, as provided by RA 8749. The bureau is currently composed of its central office and 15 regional offices.

More importantly, regional offices of the bureau are now in place. This would signify the appointment of EMB Regional Directors with greater authority over environmental management. With the devolution of enforcement authority to the Regional Offices, these offices also

underwent a transformation. These changes primarily illustrate the almost complete independence of the EMB from the DENR Regional Offices arising from the conversion.

### *Environmental Policy and Local Government Units*

In Republic Act No. 9003 (RA 9003), known as the Ecological Solid Waste Management Act of 2000, Chapter II specifically deals with the roles of the various governmental units involved in the implementation of the Act. According to Section 10 of the chapter, LGUs are held primarily responsible for the implementation and enforcement of the provisions of RA 9003 in their respective jurisdictions. Moreover, it calls for the segregation and collection of solid waste at the barangay level in the case of biodegradable, compostable and reusable wastes with the provision that that the municipality or city oversees the collection of non-recyclable and special wastes.

More importantly, Chapter III sets down the general provisions for comprehensive solid waste management in the country. Aside from providing the guidelines for the preparation of solid waste management plans both by the national government and LGUs, this chapter outlines the primary requirements for mandatory waste segregation; the processes of collecting, transporting, recycling and composting; and, the operation of waste management facilities. Moreover, the final article requires the practicable identification of areas with common solid waste management problems that are appropriate for clustered solid waste management services and mandates the establishment of common waste treatment and disposal facilities.

Furthermore, Republic Act No. 7160 (RA 7160), known as the Local Government Code of 1991, defines devolution as that referring “to the act by which the national government confers power and authority upon the various local government units to perform specific functions and responsibilities” (Section 17 (e), Chapter 2, RA 7160). Thus, the Code, which sets down the responsibilities and limits of local government units (LGUs) with regard to, among other

concerns, protecting their individual ecosystems, does have its own implications on environmental protection and regulation at different levels of implementation.

In the specific case of solid waste management, the powers and responsibilities of LGUs laid down by the Code include, but are not limited to, the following:

- a. Provision of services and facilities related to general hygiene and sanitation, beautification, and solid waste collection at the barangay level (Chapter II Section 17 Part b1);
- b. Provision of solid waste disposal system or environmental management system and services or facilities related to general hygiene and sanitation at the municipal or city level (Chapter II Section 17 Part b2);
- c. Enforcement of pollution control law and other laws on the protection of the environment as well as control and review of the DENR at the city or provincial level (Chapter II Section 17 Part b3iii);
- d. Assurance of consultations by the national government regarding any project or program that may cause pollution, climactic change and the like with concerned sectors (Chapter III Article 1 Section 26); and,
- e. Entry into joint ventures and other cooperative arrangements with people's and non-governmental organizations to promote ecological balance (Chapter IV Section 36).

### **Regulatory Policymaking and Implementation in the Light of Transaction-Cost Politics**

The following section provides a sample evaluation specifically concerned with society and political principals as the key players and the relationships that exist between them. This presents a venue to discuss the problems inherent in the making and implementation of environmental regulation in the light of transaction-cost politics.

Society in this context would embody both interest groups such as environmental advocacies and the general voting public. Political principals on the other hand consist of elected local officials.

With environment seemingly not being much of an immediate concern of the majority of voters and thus of politicians, most candidates do not ask for support from environmental groups

and thus do not see the need to ingratiate themselves to these groups. Instead, political aspirants approach big businesses and other influential members of the society for support in their campaigns. In effect, aside from serving their constituencies alone, the legislators have to curry favor with these private concerns and may act on behalf of these interests in promulgating action.

There are also cases where conflicts can arise even among the political principals themselves. In reference to the provisions of RA 9003, the recent controversy over the Rodriguez landfill is a prime case in point.

Among the sanitary landfills operated by local governments after the closure deadlines provided by RA 9003 was the 14-hectare facility located in San Isidro, Rodriguez (formerly Montalban), Rizal province. This facility formerly addressed a large proportion of the garbage disposal needs of Metro Manila cities and municipalities.

On October 8, 2007, Rizal Governor Casimiro Ynares III ordered the closure of this 14-hectare landfill based on the resolution passed by the Sangguniang Panlalawigan, citing that the facility had already reached its full capacity and that it posed risks to the residents and properties surrounding it. At the same time, he also ordered the opening of a new landfill site composed of 19 hectares of land adjacent to the old site for the dumping of garbage produced only within Rizal province. These resolutions set off the rift between Gov. Ynares and Rodriguez Mayor Pedro Cuerpo, who took a vehement stand against the closure of the 14-hectare facility and the subsequent opening of the 19-hectare site.

According to Mayor Cuerpo, the facility did not have the documentation necessary for it to operate, a stand supported by the EMB. In addition, he cited the need to consider the welfare of his constituents as they would be the population directly affected by whatever decision was made. Moreover, the mayor challenged the findings of the provincial council stating that the old

facility was exceeding its capacity, calling on the provincial officials to make personal visits to the site to confirm that there was enough space for it to continue operating. Although the town falls under the jurisdiction of the provisional government, the mayor cited his prerogative to make this call as provided by local governance regulations.

The case attracted much media attention especially when Metro Manila (MM) mayors voiced their concerns regarding an impending garbage crisis in their localities. Since MM cities and municipalities made use of the old landfill, with no alternative site for their waste disposal, the MM leaders were anxious over the closure of the former facility. Eventually, the dispute was settled. The 19-hectare landfill facility was fully opened on October 12 and Metro Manila garbage continued to be dumped in Rizal.

Thus, contracts between the voting public and the elected officials can be considered as usually vague and often difficult to enforce. Although promises made by campaigning candidates may get them into office, non-compliance with these campaign mouthing does not burden the officials much, especially if these legislators are on their third and last consecutive term in office, given the mandated length of their term. Moreover, much uncertainty exists regarding the reasons for such a result; that is, whether the politician reneged on the promises on his own volition or whether other circumstances may have made it better policy not to see these promises through.

On the other hand, public participation has its own mitigating effect. According to most interviewees who had occasions to dwell on this issue, public perception does seem to propel incumbent legislators into action especially in the case of environmental issues that have become hazardous or especially detrimental.

An illustration of one such incident where public outrage resulted in faster-than-usual action on the part of legislators is the tragic landslide at the Payatas dumpsite in Quezon City that killed scores of resident waste pickers and their families. According to one resource person<sup>3</sup>, the outcry following the tragedy brought to light the dangers of open dumpsites and the burgeoning waste problem of Metro Manila. In effect, RA 9003 was passed in one congress instead of the customary two to three congresses that other environmental policies had to go through.

Transaction cost economics recognizes that the possible states of the world are very complex, and individual's knowledge of the workings of the world is very imperfect. As a result all feasible contracts are necessarily incomplete. Therefore, ex post institutions (dispute-settlement mechanisms) are very important. But the very complexity of nature makes these mechanisms less than perfect—the state of the world may not be observable ex post, or even if observed by the parties to the contract, may not be verifiable to an outsider whose job is to enforce it.

In transaction cost politics such complexity and uncertainty is even more pronounced, partly because political promises are contingent upon various international developments, domestic shifts of opinion, and so forth. Dispute-settlement mechanisms are even less effective because they must be internal to the process (e.g., election or impeachment). For all these reasons, political contracts are even less complete than economic ones, and bounded rationality has more serious bite.

In terms of waste management at the local level, one area where society plays a primary role is in the issuance of Environmental Compliance Certificates (ECCs), which companies must obtain to be able to build or operate waste facilities. These ECCs are required under the Environmental Impact Statement (EIS) system mandated by PD 1586 of 1978.

---

<sup>3</sup> From the interview with Ms. Rosielita Paloma, Head, Secretariat, Philippine House of Representatives - Committee on Ecology. Interview with Author. Quezon City. 9 June 2004.

Under the EIS system, consultations should be conducted with the communities in and around proposed sites of waste facilities that may be affected by their operation. In these fora, ideally, society can voice their concerns regarding these operations and have their questions answered. Moreover, be they private individuals or environmental advocacy groups, society can express either their support for or objection to the proposed facilities. This critical social component of this system affects not only the EMB's decision to issue an ECC for a proposed facility but also the decision of local officials to issue permits to build and/or operate.

One incident that clearly illustrates the importance of this social component of the EIS system involves the proposals for the construction and operation of sanitary landfills in Pililia, Rizal and Semirara Island, Antique. In these cases, the proposals were forwarded to provide dumping sites for the increasing volume of Metro Manila wastes and to answer the need for alternatives to open and controlled dumpsites that must be phased-out by February 2005 and February 2007, respectively. Although the rationales for the projects were fairly sound, based on expert evaluations, protests by the affected communities as well as environmental groups and advocates in the media prevented local officials from approving the proposals and the EMB from issuing ECCs for the proposed facilities.

Regarding this social component of the EIS system, consultations with concerned communities are depicted as an integral consideration to the approval of proposed projects. In the case of the proposed sanitary landfills, these communities had varying reasons for objecting to the projects. The environmental advocacies protested presumably on the basis of the possible adverse effects of the projects on the environment in general (such as problems of seepage) while the residents objected additionally on the grounds of the undesirable aesthetic and public relation effects the projects would have on their locales by way of their being identified as dumping sites,

a harking to the NIMBY (“not in my backyard”) syndrome. Although somewhat distinct in their intentions, by working cooperatively with vigilant monitoring of the progress of the situations, these two primary agents achieved their objectives of preventing the projects’ approvals.

Aside from this role that society plays in the approval of proposed projects, the general public and environmental groups also play a significant role in another facet of environmental regulation, that of monitoring the activities of existing facilities.

An important disadvantage of the investigative oversight process is its cost. The time of political officials and their staffs is a valuable resource, and normal oversight consumes it. An alternative is to set up a system in which someone else (that is, a third party outside of the principal-agent diad) monitors the agent and reports acts of noncompliance.

Although the EMB does have staff tasked to check on the compliance of industries to mandated environmental requirements in their operation, officials of the agency acknowledge the insufficiency of their personnel to constantly conduct on-site checks and monitor compliance. This has led to a reliance on reports made by affected or interested individuals regarding non-complying facilities or what may be considered as “fire alarms”.

In political processes, the object of legislation is to deliver benefits to the policy's target group. If politicians make it easy for this group to detect and report noncompliance, they need not use their own resources in monitoring the agency. Instead, a politician who was a member of the coalition that enacted a program can rely on "fire alarms" sounded by the targeted beneficiaries as a mechanism to trigger formal investigations and/or legislative responses to noncompliance.

A fire alarm converts the oversight job of a politician from active monitor to reactive servant of affected constituencies, and fits nicely with the observation that the role of a modern legislator

is more like that of an ombudsman than a policymaker. In this discussion, existing fire alarms come in the form of private efforts to broadcast the noncompliance of firms and.

These observations bring to light the central problem of a representative democracy, that of how to ensure that policy decisions are responsive to the interests or preferences of citizens. With the delegation of authority from elected officials to unelected bureaucrats, the question of how – or, indeed, whether – elected political officials can reasonably effectively ensure that their policy intentions will be carried out arises. This highlights the fact that the choice of administrative structure and process is vitally important.

As the accounts above illustrate, the fulfillment of campaign promises can seldom be relied upon. On the other hand, extreme public pressure seems to be able to motivate legislators to act upon society's concerns, whether these were part of their election declarations or not. The impression that these observations create is one of a lack of commitment on the part of government. The incidence of such behavior raises the possibility of frequent renegotiation of the incomplete contracts that the country's leaders have with their constituents. This in turn limits the options available to the political principals and increases the possibility that inefficient mechanisms.

All these cases seem to evince multi-principal or common agency (politicians beholden to multiple interest groups whose interests may not be perfectly aligned). Getting the principals (multiple interest groups) to act cooperatively is hard in the realm of politics. There are good reasons for their failure to cooperate — they have to arrange to share the resulting aggregate gains, and find it difficult to make credible commitments needed for this, especially when they have widely divergent interests and regard one another with enmity and distrust.

In the case of local implementation, the outcomes of the illustrative examples provide support for either side of the argument on requiring collaboration. Some depict outcomes contemplating the wishes of the larger unit contrary to the intentions of local officials while others recognize the possibility of local units retaining control over provision decisions in spite of collaboration with a wider community in a larger production effort.

Since individual agents are beholden to different interests or supportive of varying concerns, policymakers must take into account the possibly competing stakeholders when enacting legislation. As a consequence, political compromises are commonplace and may result in the lock-in of policy. Due to uncertain political circumstances, special interests will try to incorporate commitments as well as constraints to prevent policy reversals. These actions, rooted in the asset specificity presumably inherent in the decision-making process of policymakers from different locales and of varying interests, may not only cause inefficiency but also result in policies unable to make adjustments demanded by future conditions.

## **IMPLICATIONS**

In light of these themes, some implications for regulatory reform and the design of environmental regulatory agency can now be stated. One very important resource in an environmental management program is information. In addition to the general lack of resources for monitoring and enforcement, authorities must deal with the asymmetric nature of the information and multiple nonpoint sources of pollution.

Reducing the error of observation is a long-term task, requiring improvements in auditing and enforcement capabilities. Drawing from the literature on theory of incentives, these must

come from better education, improved information and communication; there may also be some scope to improve the incentive structures in public service careers.

Moreover, in terms of local government participation in environmental regulation, improved understanding of the distinction between provision and production of public services is essential. In a nutshell, provision refers to the choice of the types of services to provide and the levels at which to provide them; production has to do with the purely technical issues of providing the service. Regionalization of environmental management should be understood as a productive exercise, wherein local officials may still maintain control over the provision decision.

The facts create an impression that the quality of administration (relevant to environmental regulation) in the Philippines is poor. In the context of agency problems, this implies large errors of observation. This means even weaker incentives. Thus, there may be considered three forces weakening incentives — large errors of observation, multiple non-cooperating principals, and multiple substitute tasks such as those involving duties in both policymaking and enforcement.

Still, these declarations do not mean to brush aside the evident shortcomings of the government in relation to environmental protection. Essentially, this examination tried to point out the more important shortcomings of the government in the area of environmental regulation in the Philippines. The main purpose was simply to recognize the significance of transaction costs in environmental policymaking and implementation and to incorporate this recognition in the evaluation of policy performance. In all, the presumptions of the present study impose a new burden on economists: rather than soar “above politics”, economists need instead to understand politics and factor this into their analyses.

### **Areas For Future Research**

This work should be regarded as suggestive, not definitive. Future studies may try to identify other constraints and costs to the processes of environmental regulation or to empirically measure the extent of the transaction costs that have been identified in this analysis. Moreover, improvements to the framework may be made along the lines of specifying a criterion by which problems encountered in regulatory policymaking or implementation may be classified into separate categories of transaction costs.

The present study does not tackle the difficult problem of using the transaction-cost politics framework to develop verifiable predictions of the outcomes of specific changes in policy and political processes related to environmental regulation or a tool that can provide a definitive answer to whether specific environmental regulatory decisions should be made at the local level or not. Given the vast array of different approaches to environmental regulation, it is only natural to ask how their selection might be explained or rationalized. Further research is needed to provide simple rationales for many of the patterns that are observed in environmental policy in the Philippines.

Fundamentally, the goal of an effective environmental management program is changing the behavior of those organizations (both public and private) that create externalities. The key components of meeting this goal are, first, building an effective regulatory program and, second, developing adequate management facilities. Several important issues therefore warrant further study. Most important is the question of what can be done to create a culture of compliance. It is clear that such a culture plays an important role in environmental policy, yet the steps to building such a culture are poorly understood.

## ACKNOWLEDGEMENT

The author wishes to thank:

Dr. Gideon P. Carnaje and Prof. Amelia L. Bello of the Department of Economics at U.P. Los Baños for the guidance;

The staff at the various offices of the EMB and the DENR and all the interviewees for the honesty, candor, and invaluable information; and,

The officers and staff of SEAMEO SEARCA, especially at the Graduate Scholarship Division, for the moral support and especially for funding the previous work cited here.

## LITERATURE CITED

- Abrina, A.F.F. 2004. "Transaction-Cost Politics in Environmental Regulation and the Case of Hazardous Wastes in the Philippines." Unpublished M.S. thesis, University of the Philippines Los Banos, Philippines.
- Boyd, J.W. 2001. "Show Me the Money: Environmental Regulation Demands More, Not Less, Financial Assurance." *Resources* (Summer 2001) Issue 144:20-23.  
<http://www.rff.org/Documents/RFF-Resources-144-showme.pdf>
- Coase, R.H. 1960. "The Problem of Social Cost." *The Journal of Law and Economics* 3(1): 19-33.
- Dixit, A. 1996. *The Making of Economic Policy: A Transaction-Cost Politics Perspective*. Cambridge and London: MIT Press.
- \_\_\_\_\_. 2003. "Some Lessons from Transaction-Cost Politics for Less-Developed Countries." *Economics and Politics*, 15 (2):107-133.
- Estache, A., and D. Martimort. 1999. "Politics, Transaction Costs, and the Design of Regulatory Institutions." World Bank Policy Research Working Paper 2073.
- Halstead, J.M., and W.M. Park. 1996. "The Role of Economic Analysis in Local Government Decisions: The Case of Solid Waste Management." *Agricultural and Resource Economics Review* ? :76-82.
- Mendoza, M. N. F. 1997. "National Government Intervention in Financing LGU Projects with Environmental Objectives." *Philippine Review of Economics and Business*, 34 (2):143-189.

North, D.C. 1990a. *Institutions, Institutional Change and Economic Performance*. New York: Cambridge University Press.

\_\_\_\_\_. 1990b. "A Transaction Cost Theory of Politics." *Journal of Theoretical Politics* 2 (4): 355-367.

Portney, P.R., and R.N. Stavins. 2000. *Public Policies for Environmental Protection*. 2<sup>nd</sup> edition. Washington, DC: Resources for the Future.

Probst, K.N., and T.C. Beierle. 1999. "The Evolution of Hazardous Waste Programs: Lessons from Eight Countries." RFF Report. Washington, D.C.: Resources for the Future.  
<http://www.rff.org/Documents/RFF-RPT-hazwaste.pdf>

Tiller, K.J., and P.M. Jakus. 2005. "Applying the Miceli Model to Explain Cooperation in Municipal Solid Waste Management." *Agricultural and Resource Economics Review* 34 (2):217-225.

Williamson, O.E. 1999. "Human Actors and Economic Organization." *Universita degli Studi di Siena Quaderni* 247.