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Studies
*Surian sa mga Pag-aaral
Pangkaunlaran
ng Pilipinas*

Economic Issue of the Day

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A law of nature

The command-and-control approach

Environmental degradation has become one adverse effect of development brought about by urbanization and industrialization. In the Philippines, domestic and industry sewage have contributed about 52 and 48 percent of pollution load, respectively (EMB 1996). If not abated, this pollution load could compromise the country's natural resources and jeopardize the economy and people's quality of life.

In addressing environmental management concerns, the Philippines has, for a long time, adopted the command-and-control principle. This is evident in most of its environmental policies such as the National Pollution Control Decree of 1976, Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990, Philippine Mining Act of 1995 and Clean Air Act of 1999. It is only in the 1990s that other policy innovations such as market-based instruments, i.e., pollution charges or the polluter pays principle, have been considered and put in place.

What is this command-and-control approach? And how is it imposed as part of the country's environment policy?

Command-and-control approach and environment standards

Command-and-control approach (CAC) is one where political authorities mandate people, by enacting a law, to bring about a behavior and use an enforcement machinery to get people to obey the law. In environmental policy, the CAC approach basically involves the setting of standards to protect or improve environmental quality.

A standard is generally the tool used in the CAC approach. It is a mandated level of performance enforced through a piece of legislation. A few examples are the limits set on the volume of timber that could be harvested, bans on the cutting of trees, and maximum levels legally allowed for pollution emissions.

There are three types of environmental quality standards, namely, ambient, emission and technology.

Ambient standards . These refer to "never-exceed" levels for some pollutants in a particular environment. The Philippine Clean Air Act, which repeals the National Pollution Control Act, for instance, establishes ambient air quality standards for source-specific air pollutants such as sulfur oxide and carbon monoxide from mobile and stationary sources. For water quality, meanwhile, the ambient standards refer to minimum levels needed to be maintained for dissolved oxygen, pH or acidity level, biochemical oxygen demand (BOD), and total coliform organisms, etc. Dropping beyond this minimum level would lead to a harmful situation. And while ambient standards cannot be directly enforced, legal measures could nonetheless be imposed on polluters to regulate their emission-producing activities.

Command-and-control approach

The principle is to command people or firms not to do something by enacting a law that makes it illegal and by delegating authorities to enforce such law through the imposition of fines or penalty to violators.

vs.

Polluter pays principle

This principle ensures that the costs of environmental control fall, in the first place, on the polluters. Thus, market forces take these costs into account and resources are allocated accordingly in production and consumption.

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This *Issue* was written by Dulce D. Elazegui, University Extension Specialist at the Institute of Strategic Planning and Policy Studies (ISPPS) of the University of the Philippines at Los Baños (UPLB) and recast by Jennifer P. T. Liguton. It was originally written as part of the workplan for the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program for Southeast Asia (SANREM-CRSP/SEA)

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Philippine Institute for Development Studies

NEDA sa Makati Building,
106 Amorsolo Street
Legaspi Village, Makati City
Telephone Nos: 8924059
and 8935705
Fax Nos: 8939589
and 8161091

URL: <http://www.pids.gov.ph>

Emission standards . Emission or effluent standards are also "never-exceed" levels applied directly to the quantities of emissions from pollution sources per unit of time. For example, the Philippine Clean Air Act of 1999 allows maximum emission of specific pollutants from vehicles. The Act also allows the Department of Environment and Natural Resources (DENR) to designate each regional industrial center to allocate emission quotas within its jurisdiction. In effect, emission standards set a limit or constraint to the level of performance that has to be observed by the polluters, as highway speed limit does. Since emission standard only sets the maximum limit of emission, however, the polluters are left with the decision on how to achieve it.

Setting emission standards does not necessarily mean meeting ambient standards. Even if emission standards are imposed on firms but no control on the number of polluting firms is established, then the aggregate environment quality in terms of ambient standards is not directly checked. The recent phenomenon in Bolinao, Pangasinan illustrates this point as the unabated proliferation of fish pens and cages caused the accumulation of fish feeds and other wastes in the water. This then reduced the dissolved oxygen content, eventually resulting in fish kill.

Technology standards . These standards specify the technologies or practices, including design, engineering, input and output standards, that polluters must adopt or meet to protect the environment. In contrast to emission standards, technology standards impose on polluters certain decisions and technologies to be used. This is some form of "technology forcing" for polluting industries to adopt technological change in order to meet environment standards.

Concerns on environment standards

Standards are popular because they appear simple and specific in targets. However, in reality, there are complications and other considerations that have to be addressed such as the level of standards, uniformity of standards, equity effects and enforcement. While standards under the CAC approach may appear to directly put restraints on pollution, it has a number of limitations, particularly in the incentive it offers polluters to comply with environment standards. CAC is like a "one-size-fits-all" approach (World Bank 1999) that does not categorically consider varying performance of polluters, thereby ignoring the efficiency principle. This constraint has thus encouraged the use of other policy alternatives for environmental management, one of which is the "polluter pays" principle.¹ This is an incentive-based strategy where taxes or charges are estimated according to the level of emission. The incentive system adopted by the Laguna Lake Development Authority (LLDA) in the 1990s illustrates how it restored the lake that has become a basin of industrial wastes from surrounding industries. The LLDA imposed a charge per unit of emission within the legally permissible standard and a higher unit charge for emissions above the standard. In two years' time, the scheme brought about an 88 percent reduction in BOD discharges from the pilot plants covered in the initial implementation (World Bank 1999). *

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¹Please refer to *PIDS Economic Issue of the Day* Vol. II, No. 3 (December 2001).