



Economy and Environment Program
for Southeast Asia
22 Cross Street #02-55
South Bridge Court
Singapore 048421

Phone: (65) 6438 7877
Fax: (65) 6438 4844
E-mail: hfrancisco@idrc.org.sg
Web site: www.eepsea.org

The Economy and Environment Program for Southeast Asia (EEPSEA) was established in May 1993 to support training and research in environmental and resource economics across its 9 member countries: Cambodia, China, Indonesia, Laos, Malaysia, Papua New Guinea, the Philippines, Thailand, and Viet Nam. Its goal is to strengthen local capacity for the economic analysis of environmental problems so that researchers can provide sound advice to policymakers.

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Paying Too Much for Pollution? – An Assessment of an Environmental User Fee from the Philippines

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The 'polluter pays' principle is one of the bedrocks of environmental policy.

However, implementing this approach in a way that does not unduly handicap businesses is a challenge for policy makers across Southeast Asia. A new study from the Philippines has looked at the commercial implications of pollution abatement charges to see what impact they are ➡

A summary of EEPSEA research technical report, 'Impact Evaluation of the Environmental User Fee System: A Stakeholder Perspective' by Maria Angeles Catelo, Asa Jose Sajise, Bernice Anne Darvin and Paul Joseph Ramirez, c/o Dept. of Economics, College of Economics and Management, University of the Philippines Los Baños, +63 49 536 2505. Email: maria080962@yahoo.com

"firms have responded positively to the

→ having on businesses and to see if it can be made more 'business friendly'. The pollution charge system under assessment is part of a strategy to help clean up wastewater discharges into the Laguna de Bay, the second largest fresh water lake in Southeast Asia.

The study, by a team from the University of the Philippines Los Baños, led by Maria Angeles O. Catelo, found that, although firms have responded positively to the charge system, they have found it costly to do so and have become less competitive as a result. There is, however, good reason to believe that, if wastewater analysis procedures can be revamped and the charge system reviewed and revised, then water pollution rates could be improved and firms' compliance costs reduced.

A Lake in Crisis

Laguna de Bay is the largest lake in the Philippines, with a surface area of 900 sq. kms. It is an important source of both fresh water and fish and millions of people depend on it for their livelihoods. The lake is, however, threatened by water pollution from households and factories in its hinterland. This water pollution is a long-term problem and has been steadily getting worse with rapid urbanisation and

industrialisation.

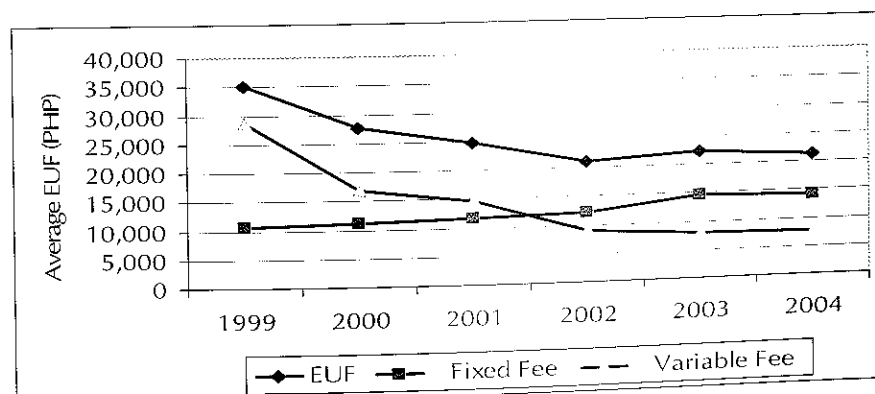
To improve the environmental quality of the lake, the Laguna Lake Development Authority (LLDA) implemented an Environmental User Fee System (EUFS) in the Laguna de Bay Region in 1997. The EUFS takes the form of user fees based on the levels of pollution that firms produce. These fees incorporate both fixed and variable payment elements. The EUFS' main objective is to encourage companies to install and operate pollution prevention and abatement systems. At present, the EUFS covers all enterprises within the administrative jurisdiction of the LLDA that discharge wastewater into Laguna de Bay. These include commercial and industrial establishments, agricultural enterprises (such as

swine farms and slaughterhouses) and clustered dwellings.

Long-term Perspective

Since implementation of the EUFS in the Laguna de Bay Region, there has been no comprehensive evaluation of its impact on the firms that have to pay the user fees. Past surveys have only looked at refining and expanding the coverage of the scheme and at strengthening the LLDA's policy and planning functions. However, it is clear that an analysis at the 'firm' level is crucial, since the involvement of polluting firms in the EUFS spells the difference between its success and failure.

To get a comprehensive picture of the commercial impact of the EUFS, the impact of the fees on industries' environmental



Average EUF Paid by 89 Firms, 1999-2004.

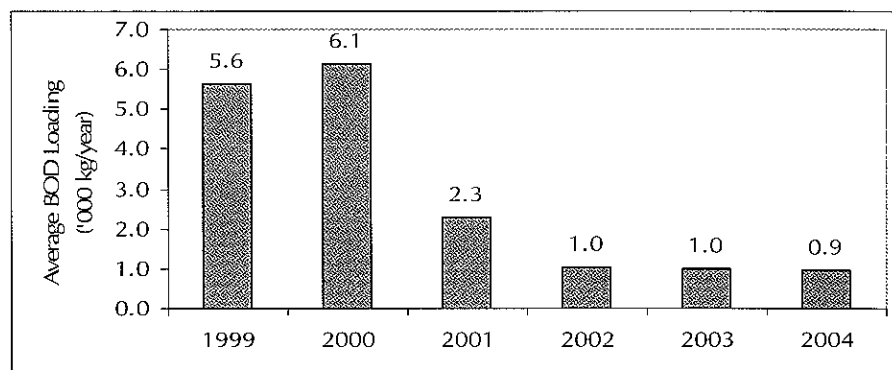
system, but have found it costly.”

performance was analysed. Most importantly, the researchers assessed the rates at which companies have complied with the 50 mg/li Biological Oxygen Demand (BOD) regulatory standard. The factors that enhance or limit firms' environmental performance were also assessed to suggest how best to support firms in their pollution cleanup.

More than a thousand firms are currently monitored by the LLDA. However, to get the most useful results, the survey focused on firms not connected to communal water treatment systems that were regularly monitored for six years between 1999 and 2004. Eighty-nine of these firms were directly surveyed. Self-monitoring reports and data on environmental indicators were also obtained from the LLDA on eighty-eight other companies. Further information and feedback was also obtained through seminars run by the research team for both surveyed firms and the LLDA regulators.

Pros and Cons of the EUF

Statistical analysis and data trends show that, in general, the EUFS has been successful in motivating firms to improve their environmental performance. The



Average BOD Loading (kg/year) of 89 Firms, 1999-2004

average EUF paid by firms has been steadily declining — showing that pollution levels have been dropping. Moreover, levels of BOD loading have also been decreasing. More importantly, 75% of the eighty-nine surveyed firms have not simply been complying with the BOD standard but have actually, on average, performed 80% better than what the standard demands. The majority of firms have reduced the volume of wastewater they discharge. The number of wastewater treatment facilities installed by firms has increased and well over 20% of firms have either reduced, substituted or eliminated harmful chemicals from their operations.

Most firms perceived the EUFS as a good thing because it has motivated them to control waste and pollution. However, most also said that complying with the EUFS has created a heavy financial

burden that has made them less competitive. In particular, firms pointed to the expensive set up and operating costs of wastewater treatment facilities. Companies felt that the levels of expenditures they have had to bear have had too great an impact on profits. They feel that the EUFS has put them into an un-competitive position relative to firms outside the LLDA jurisdiction and favour equal implementation of environmental standards across the country. Moreover, most firms felt that the LLDA should give incentives to firms that perform significantly better than standards require.

Training and Support Needed

Firms involved in the EUFS have incurred unnecessary costs because they did not have the necessary technological know-how and therefore invested in the wrong clean-up technology. Because of this, many firms suggested that the

regulating agency help them by providing information on cost-effective pollution abatement technology. Firms also recommended that the scale, scope, and quality of environmental training should be improved, particularly, regarding abatement technology.

Another way for firms to improve their monitoring capabilities and clean-up technological know-how is to connect with research institutions. However, when this suggestion was put to firms directly, their response highlighted another problem with the EUFS. Many firms reported that the LLDA only honours the test results of its own laboratories and will not accept results from other accredited laboratories. This highlights a lack of trust between regulated firms and the regulator. To resolve this problem, the procedures for handling and analyzing wastewater samples need to be standardized.

This would pave the way for third-party LLDA-accredited laboratories to assist both the polluting companies and LLDA itself.

A Role for Financial Incentives?

Given the perception that the EUF places a financial burden on participating firms, financial incentives might be needed to help firms improve their environmental performance. In the current EUF, the fixed fee dominates the variable fee. This does not provide encouragement to those firms that are improving their environmental performance. This is because polluting firms have to pay the fixed fee regardless of whether they reduce the amount of pollution they produce or not. Thus, pollution abatement is seen as mainly an additional cost, rather than an opportunity to significantly reduce the amount of money paid under the EUFS. It is

therefore suggested that LLDA look into the possibility of restructuring the EUF. This should be done in such a way that the variable fee dominates the fixed fee.

Given these findings, a number of things can be done to build on the success of the EUF and, at the same time, reduce the financial burden it places on participating firms. Opportunities for policy intervention include a restructuring of the user fees, provision of information on appropriate abatement technologies and the harmonization of laboratory testing processes and procedures. If these ideas are implemented, compliance rates might be further improved and compliance costs reduced.

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