PHILIPPINES

Environmental tax

The Laguna de Bay Region covers an area of about 3,800 square kilometers and includes the Philippines' capital Manila as well as many smaller cities and around 360 square kilometers of urban and industrial area that spread outward from Manila. Twenty-one major rivers flow into the 90,000-hectare lake, which is the second largest inland water body in Southeast Asia. Laguna de Bay is the receiving water body for the entire watershed and of great importance for inland fish production (aquaculture in from of fish pens occupy a major part of the lake's generally shallow surface area), irrigation uses, power generation and industrial cooling. Rapid urban and industrial growth has led to considerable environmental degradation, and continues to be an important threat to the lake's ecosystem.

At the end-nineties, an industrial wastewater effluent fee programme was developed in order to create economic incentives for industry to reduce discharges and to raise revenues for financing the management of the programme and for environmental activities by local governments. The Environment User Fees System (EUFS) was designed to complement the dominant command-and-control approach to environmental policy. Reflecting the quantity of discharges, the costs of environmental externalities created by industrial discharges, and the budget requirements to administer the program, the fee comprises a fixed fee – designed to cover the administrative cost of running the programme – and a two-tiered variable fee based on the unit load of pollution of BOD (biological oxygen demand – an indicator for biological pollution). Covering around 900 companies at the end of the pilot phase in 2002, the programme is implemented by the Laguna Lake Development Authority (LLDA), the government agency responsible for protecting and managing the watershed. As in other cases, the introduction of disincentives through taxes or fees was combined with the provision of positive incentives on the expenditure side. In the EUFS case, twenty percent of the fee revenue are earmarked for local environmental projects such as the establishment of sewage plants, while eighty percent are used for monitoring and enforcement of the programme by the LLDA.

Impact on biodiversity

The pilot test of the EUFS programme resulted in a 88 percent reduction of BOD from direct discharges between 1997 and 1999 of affected companies. The regulatory monitoring and enforcement components of the programme led to closure of around 50 companies by LLDA between 1998 and 1999 for significant violations. Despite these successes, the ongoing and dynamic immigration to the Manila agglomeration continues, with a considerable degree of uncontrolled human settlement along river banks and the lakeshore areas, and the rapid development of economic activities. Consequently, the degradation of the lake's ecosystem through pollution and siltation – including solid and liquid wastes from households, nutrient loading from agricultural and aquaculture activities, and industrial pollution – remains a major and ongoing challenge.

Replicability

The EUFS is planned to eventually cover all water pollution sources from industrial, commercial, domestic and even agricultural sources. In light of the competing interest of a multitude of stakeholders, as a matter of strategy, LLDA seeks to implement the EUFS cautiously and by stages – for instance, a fee on fish pens was subsequently introduced and covers a significant part of the LLDA's budget.

Lessons learnt

Adaptive management is critical when introducing measures that are highly innovative against the pre-dominant regulatory style. In the EUFS case, some perverse incentives for dilution were detected because the variable fee rate was designed to also rely on concentration levels. Applying total pollution load management principles or the pricing of input water were suggested as possible responses.

Managing a lake basin in a highly dynamic socio-economic environment is an ongoing challenge. Keeping pace with rapid demographic growth and economic development requires continued work with the different stakeholders.

Sources: Manila, A. (2009); Nepomuceno D. (2004); Santos-Borja, A. and D. Nepomuceno (2004); UNESCAP and KOICA (w.d.).