

The Polluter-Pays Principle: So Who Pays?

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The Polluter-Pays Principle has found its way into Thailand's environmental conservation efforts. The Principle is simple—those who pollute the environment must pay for the damages they have caused. The idea originated in the 1970's when members of OECD countries introduced a payment method where pollution control costs are to be financed by the polluters and not the public in general. Hence, this method of environmental financing gets its name the Polluter-Pays Principle. It was not until 1985 when economic instruments such as pollution taxes, user charges and subsidies were added to the OECD's environmental guidelines.

The Thai environmental authority must have been convinced that as the Polluter-Pays Principle has been adopted in many developed countries, it must also be an appropriate strategy for Thailand's environmental efforts. In 1992, the Polluter-Pays Principle was introduced as part of the Environmental Act B.E. 2535. In addition, the Polluter-Pays Principle will also be part of the environmental conservation strategies of the 8th Economic and Social Development Plan.

The Thai authority seems to be unaware that when the Polluter-Pays Principle is adopted in a country with higher levels of poverty and income inequality, such as Thailand, there is a tendency that low income families will end up paying the cost of environmental protection, while the wealthy are the major beneficiaries of the improved environment.

Furthermore, as the Polluter-Pays Principle is only a payment method designed to finance pollution control activities, it cannot guarantee efficiency or cost effectiveness in environmental protection.

THE POLLUTER-PAYS PRINCIPLE CAN HURT THE POOR AND WORSEN INCOME INEQUALITY

Environmental conservation, or an improved environment, is often regarded as a luxury for the rich. After the wealthy have attained most of their material goods and services, the next item on their agenda is usually a better environment, such as cleaner air, quieter neighborhoods and greener forests for their children.

There are products which carry the *green label* to inform the buyers that the manufacturing process is not harmful to the environment. These products are usually sold at a relatively higher price to reflect the premium or the cost of environmental conservation or environmentally-friendly product processing. Since these green label products are more expensive, they usually attract higher income consumers, namely, the urban professionals who may regard such products as fashionable. For instance, insecticide-free vegetables are generally more expensive and are sold at supermarkets instead of local fresh markets. Cheap clone computers usually come in ordinary cardboard boxes while the more expensive Apple machines are packaged in brown recyclable containers. Higher-end luxurious automobiles are now equipped with CFC-free air conditioners. The examples are endless.

In contrast, the poor value increased consumption of material goods before the environment or pricey "environmentally-friendly" products. To the poor, affordable food, shelter, clothing, medicine and minimum education for their children receive higher priority, while the environment is often ranked lower on their agenda. It is important to realize that this preference ordering does not indicate sub-optimality in their consumption. To the poor, 100 baht spent on food or medicine yields higher benefits than 100 baht spent on improved environment. When a person earns 150 baht per day or less, they simply cannot afford to

practice the environmental conservation strategies used by the rich.

Furthermore, some poor families also rely on environmental exploitation as a means to generate income, in cash or in kind. Landless farmers encroach watershed areas in search of insecure cultivated area suitable for growing cash crops. It is also economically sensible for cash crop farmers to use insecticides to save their valuable crops. Poor businesspeople cannot afford the additional costs of installing a new engine in their pick-up trucks in order to improve exhaust emission, hence these people exploit clean air in order to save money and survive. Slums are another example of how the urban poor have chosen to pollute the environment as they cannot afford proper waste treatment.

Due to budget limitations, the poor are indirectly forced to purchase products belonging to a lower price range. Being cheaper, these products are often made from manufacturing processes where proper pollution control devices are lacking. When the poor purchase these cheap products, they indirectly contribute to environmental degradation.

These examples demonstrate that poverty is one of the causes of environmental deterioration and a clean environment is beyond the reach of the poor. Given the tendency for poor families to pollute, the Polluter-Pays Principle will burden the poor in order to create a better environment for the rich to enjoy. This unintended affect of the Polluter-Pays Principle will certainly widen the real income gap and can even be interpreted as socially undesirable or morally unjust. In this regard, the environmental authority must be aware that the Polluter-Pays Principle may not be appropriate for Thailand due to extreme income inequalities.

The proponents of the Polluter-Pays Principle would argue that it will only force the polluting factories to pay for environmental damage and it will encourage the factories to install treatment devices and hence pollute less. Unfortunately, this is not the end of the story.

Factories which lack proper pollution control devices usually produce cheap products for lower income consumers. When the costs of production increase due to additional investment in pollution treatment facilities, the price of these cheap products will also increase. If these products are sold to the poor they will, in turn, be paying the cost of pollution control. This suggests that even if the Polluter-Pays Principle is targeted at the factory owners, the poor will eventually end up paying for part of pollution charges through price increases.

The intent of this article is not to downplay the importance of pollution control measures, nor are we advocating that the poor be exempt from attempts to curb pollution. Pollution reduction, environmental conservation, and sustainable development must continue. The point is that the environmental authority needs to reconsider how pollution control should be financed with greater consideration given to circumstances in Thailand, namely, income inequality. Basically, the authorities have two choices: the Polluter-Pays Principle or the Beneficiary-Pays Principle.

The Polluter-Pays Principle argues that polluters should be responsible for the damages and hence pay the costs of pollution control. The Beneficiary-Pays Principle, on the other hand, argues that whoever benefits from a clean environment should be responsible for pollution control costs. Choosing among these two methods depends on how the society determines who should have the right to **use** the environment.

The Polluter-Pays Principle assigns environmental rights to those who benefit from environmental improvement, hence anyone who pollutes must pay. The Beneficiary-Pays Principle, on the other hand, assigns environmental rights to the polluters, hence those who benefit from a better environment will have to pay the pollution control costs. The Beneficiary-Pays Principle can be convincing when it is used in the context of a developing country. When the polluters are the low income families who use the environment as a supplement to their tiny income and when pollution control tends to benefit the rich more than the poor, it then seems appropriate and socially just to ask the rich to pay for environmental protection.

THE BENEFICIARY-PAYS PRINCIPLE: AN ALTERNATIVE OFTEN NEGLECTED

In a country where poverty and income inequality exist, the alternative payment method of pollution control should be considered, that is, the Beneficiary-Pays Principle. Here are some examples of how the Beneficiary-Pays Principle differs from the Polluter-Pays Principle. The Polluter-Pays Principle requires that those who encroach the forests and hence cause flooding, and soil sedimentation in irrigation and/or hydro-power dams be responsible for the damages. If forest encroachment is conducted by the poor landless farmers then, according to the Polluter-Pays Principle, they will be liable for these damages. The Beneficiary-Pays Principle argues the opposite by stating that as the wealthy Bangkok residents or factory owners will benefit from keeping the forests intact, namely in terms of water supply or hydro-power electricity, or as a recreation site, they should pay for the cost of forest conservation. For instance, Bangkok residents should pay a higher price for water and electricity so that this additional revenue can be used for forest conservation which includes enhancing job opportunities for landless farmers, hence broadening their career choices so as to reduce the pressures on forest encroachment.

The Polluter-Pays Principle requires the poor commuters on public buses to pay a higher fee in order to finance cleaner and less smoky bus exhaust emission so that everyone can enjoy cleaner air. The alternative Beneficiary-Pays Principle argues that cleaner and less smoky buses should, instead, be financed by all Bangkok residents and not just bus commuters since, after all, everyone will benefit from clean air.

In the case of preserving valuable biodiversity, the costs of park conservation may be financed by public borrowing so that the debt burden (load and interest payments) will fall on future generations as they stand to benefit from future scientific benefits of biodiversity. This is again the concept of the Beneficiary-Pays Principle.

Even though pollution may result from the practices of the poor, the government should not expect to obtain sufficient funding from these people to finance environmental improvement. If a sizable fund is needed to finance environmental improvement, substantial taxes or pollution charges will have to be imposed. This will result in a cumbersome burden on poor polluters, which will deteriorate their living standards and worsen income inequality.

The Beneficiary-Pays Principle suggests that funding for environmental improvement should be obtained from those who benefit, namely, the rich. This method of financing will probably generate larger revenue for environmental improvement since higher income families are more willing and more able to pay for environmental improvement than low income families. Furthermore, a given amount of revenue generated from pollution charges will constitute a larger percentage of family income if obtained from the poor but will be a smaller fraction of income when obtained from the rich. In other words, a million baht obtained from the poor will be more detrimental to human lives than a million baht obtained from the rich.

These examples illustrate the validity of the Beneficiary-Pays Principle as a method of financing environmental improvement in the context of a developing country. The choice among these two payment methods depends on considerations over fairness and social justice; there is no ready-made formula to dictate which principle should be adopted. Thus, before Thailand decides to fully implement the Polluter-Pays Principle, an alternative method of financing pollution control—the Beneficiary-Pays Principle—certainly deserves a fair trial.

One factor which may prevent the authorities from adopting the Beneficiary-Pays Principle is the political bias toward wealthier families. In societies where politicians and policy makers lack integrity, public policies often fail to benefit the general public and are often bias toward wealthier families. In this situation, it is unlikely that these politicians and policy makers will exercise the Beneficiary-Pays Principle as the principle tends to benefit the poor at the expense of the rich.

It is also important to realize that neither one of these two payment methods (the Polluter-Pays or the Beneficiary-Pays) can efficiently solve pollution problems. Choosing the right payment method will make pollution control efforts morally just and socially civilized, however, sustainable development will be realized only when pollution control and environmental conservation are carried out efficiently and cost

effectively.

THE POLLUTER-PAYS PRINCIPLE WILL NOT ENSURE EFFICIENCY OR COST EFFECTIVENESS IN POLLUTION CONTROL

In addition to adopting an appropriate method of payment, successful environmental conservation will also need to achieve efficiency and cost effectiveness objectives in order to promote sustainable development.

The efficiency objective refers to the idea that there is an optimal level of resources to be allocated to environmental protection. This is an important decision as resources, both private and public, have opportunity costs. For instance, in addition to environmental conservation, resources can also be used for other purposes, such as education, health care, infrastructure or economic growth in general.

Efficient resource allocation claims that if the social benefit from investing resources in pollution control is higher than that from investing resources in other development activities then more resources should be allocated for pollution control, while investment in other activities should be reduced. The opposite is also true. While too little investment in pollution control may be inefficient, too much investment in pollution control may also be inefficient if the resources will yield higher social benefits elsewhere. Economic efficiency is attained when pollution is controlled at an optimum level, where the marginal social benefits from pollution control are equal to the marginal social benefits from other development activities.

The Polluter-Pays Principle cannot ensure this efficiency objective. The Polluter-Pays Principle alone will only determine who will pay for environmental protection. It does not determine how much the payment should be, i.e., how much society should invest in pollution control. Even if the Polluter-Pays Principle is adopted, policy makers still need to regulate the level of pollution, for instance, by setting ambient standards or by determining the size of public waste treatment facilities so as to ensure efficiency in environmental conservation or maximum social benefit from resource utilization.

Cost effectiveness refers to how pollution should be treated or who should treat the pollution so that environmental improvement can be achieved at minimum cost to society. As different economic agents employ different treatment technologies and thus have different pollution control costs, one needs to ensure that pollution control is carried out by those with the lowest treatment costs. In some cases, small firms using low cost, local technology may be able to treat pollution cheaper than larger firms with expensive modern technology. In this case, the cost effectiveness objective will be realized when policy makers can design an appropriate set of incentives where pollution is treated by those with low pollution treatment costs.

The Polluter-Pays Principle cannot ensure the cost effectiveness objective either. The Polluter-Pays Principle will only determine who will pay for pollution control but it does not determine who should be conducting pollution control activities. Although the Polluter-Pays Principle requires that those who pollute be liable and pay for damages, the environmental authority still needs to decide who will treat the pollution—the actual polluters or a public agency able to treat pollution cheaper through large scale treatment facilities.

There are economic instruments which can be used to achieve the dual goals of efficiency and cost effectiveness, while ensuring sustainable development. They include pollution tax, tax differentiation, product tax, investment credit, user charges, soft loans, deposit & refund systems, assignment of user rights/licensing and tradable emission permits. Some of these instruments belong to the Polluter-Pays Principle and others belong to the Beneficiary-Pays Principle. Discussing the operation of these instruments is beyond the scope of this article. These economic instruments will result in an integration between environmental and economic objectives, hence allowing economic development to progress in a sustainable manner.

At this point, it should not come as a surprise to conclude that the Polluter-Pays Principle will have very little to do with successful environmental conservation. The Polluter-Pays Principle is only a system which determines who should pay for pollution control and environmental conservation.

In a society where poverty and income inequality exist, the Polluter-Pays Principle tends to benefit the rich at the expense of the poor. Making the polluters pay, per se, seems justifiable. But when these polluters are the poor, making them pay for pollution control will add a substantial burden to low income families. In this context, the Polluter-Pays Principle may constitute an act considered socially undesirable and morally unjust, particularly when it is usually the better-off families who are the prime beneficiaries of environmental improvement.

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