
INFORMATION SHARING AS AN ENVIRONMENTAL POLICY TOOL: THE INDONESIAN EXPERIENCE

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SUMMARY

Indonesia has recently launched a program to report to the public on the environmental performance of its businesses. Under its Business Performance Rating system, called PROPER, the Government of Indonesia's Environmental Impact Agency (BAPEDAL), reports business performance with the use of color codes (from gold to black). While the program is new, with the first round of business ratings published as recently as December 1995, results as indicated by the response of Indonesian businesses have been very promising. Further, this scheme has proven to be easy to understand by both the public and business.

1 PUBLIC INFORMATION AS AN ENVIRONMENTAL POLICY TOOL

Environmental authorities throughout the world are increasingly recognizing the positive potential of policies that take into account the relationships of business with their communities and their markets. Reputation is critical to these relationships, and policies directed toward the environmental reputation of firms can be a powerful tool for improving their environmental performance.

The use of reputational incentives as embodied in public information policies is a recent environmental policy development, and experience around the globe is fairly limited. Although there are many ways that information on industrial environmental performance can be shared with the public, much of the experience to date is in implementing pollutant release and transfer registries (PRTRs) which are catalogues of pollutants introduced to air, water, and land from a variety of sources. For example, the U.S. Toxic Release Inventory, instituted in the mid-1980s, provides information to the public about releases of toxic chemicals into the environment from nearly 23,000 facilities. Since 1988, total releases have declined by 44.1 percent.¹

Alternatively, information on environmental performance can be provided to the community through product labeling. For example, Taiwan has conducted a Green Mark program since 1993. To qualify products for green labeling, manufacturers must meet a set of criteria that includes consideration of their compliance with environmental standards and their success in reducing wastes.²

The Government of Indonesia has recently followed yet another approach to informing the public about the environmental performance of the country's industries. Under Indonesia's PROPER program, businesses are rated by the Environmental Impact Agency, BAPEDAL, based on clearly articulated criteria; the results of this rating are reflected in a single index that is widely publicized.

2 THE ENVIRONMENTAL PERFORMANCE RATING OF BUSINESSES (PROPER) IN INDONESIA

2.1 Background - the need for innovative environmental policies in Indonesia

With a population of about 200 million, Indonesia is the fourth most populous country in the world. The country has experienced remarkable economic growth, rising from one of the poorest countries in the world in 1967 (with per capita income of US \$50) to current per capita income rapidly approaching US \$1,000. During the 1970s and 1980s, Indonesia's manufacturing output doubled in volume every six to seven years. Thus, by 1990, manufacturing value added was approximately eight times its 1970 level in real terms. According to World Bank staff estimates, it is likely to expand another 13-fold by the year 2020. Manufacturing, which contributed only about 13% of total GDP growth in the 1970s, and 23% in the 1980s, is expected to contribute more than 33% in the 1990s and nearly 45% in the following decade.³

However, Indonesia's industrial expansion has brought with it largely uncontrolled industrial wastes and pollution leading to severe environmental degradation. The total pollution load contributed by the industrial sector has grown exponentially. World Bank estimates indicate that emissions of SO_x, NO_x, and total suspended particulates (TSP) increased by factors of five between 1975 and 1988.

In response to Indonesia's rapidly increasing environmental problems, the Government of Indonesia created BAPEDAL in 1990 as an independent agency whose mandate is to:

- Develop its own institutional capacity for environmental protection, management, training and education as well as those of provincial and municipal governments and put into place an information system for environmental protection.
- Create and enforce environmental protection regulations.
- Develop market mechanisms and economic incentives for environmental protection.
- Develop a tripartite system of enforcement which emphasizes strategy-sharing with nongovernmental organizations (NGOs).

Unfortunately, it has been extremely difficult to achieve this mandate. The new agency, while growing, still lacks experience in monitoring, and responding to Indonesia's mounting pollution problems. Further, according to the Presidential Decree establishing BAPEDAL, the agency has the mandate to control pollution and environmental degradation. However, this mandate was not followed by clear authority. As such, this could be seen as a restriction on the agency but on the other hand it may provide an opportunity for larger authorities. Consequently, the new agency has had to be creative and to pursue innovative policies that transcend traditional command-and-control approaches. In this light, public information has been a key policy tool in the new agency's efforts to combat Indonesia's rapidly mounting industrial pollution problems.⁴

2.2 Indonesia's experience with reputational incentives prior to PROPER

Two reputational programs that have leveraged additional resources to further BAPEDAL's goals: ADIPURA (Presidential award for cleanest cities) and the PROKASIH (clean rivers program). Both programs ingeniously skirt the constraints of BAPEDAL's institutional capacity.

ADIPURA is awarded annually by the President of Indonesia to the cleanest cities in the country. Under this program, a national-level review committee is put together with representatives from provincial governments, nongovernmental organizations, academia and line ministries. This committee meets to review applications from each town and city competing for the award. In 1993, 58 towns and cities participated; the number was significantly larger in 1994 and 1995. Mayors are reputed to be competing for these awards under strong encouragement from their governors, thus providing strong incentives for the actions. Citizens also take great pride in winning this award and hold parades and other special events to celebrate the award.

The PROKASIH program targets all factories discharging waste water into a specific river. In essence, the program enlists industry to sign an agreement with the local mayor and BAPEDAL on waste water management and specific levels of discharge. Under PROKASIH, each provincial governor is responsible for program implementation within their province. The operational responsibility is delegated to the Vice Governor who chairs a team, with representatives from the provincial-level offices of the Department of Environment, Development Planning Board (BAPPEDA), universities, research laboratories, NGOs, local officials, and other relevant sectorial agencies that monitor the factories' adherence to the agreement. If they are found to be in violation, factories are prosecuted on the specific standards set in the agreement instead of national and provincial regulations. The involvement of NGOs and other stakeholders in this program has broadened the support base for enforcement, which has in turn created greater pressure on businesses to comply with their agreements. From 1989 to 1994, PROKASIH activities have dealt with 31 rivers in 13 provinces; the program now encompasses more than 50 rivers in 17 (of Indonesia's total 27) provinces.⁵

2.3 Introduction to PROPER

Building on the success of ADIPURA and PROKASIH, BAPEDAL has recently added public information as another key ingredient of its policies to improve the environmental performance of Indonesian businesses. Under PROPER, BAPEDAL has implemented a system for rating the environmental performance of industries and for publicly announcing the ratings. Unlike PRTRs, the PROPER system is based on publishing a single indicator of environmental performance. The program is expected to serve two objectives: (1) promote compliance with existing regulations; and (2) reward firms whose performance exceeds regulatory standards. BAPEDAL announced the results of its first rating cycle in June 1995.

Like ADIPURA and PROKASIH before it, PROPER works in parallel with, not as an alternative to environmental regulations and enforcement. Given BAPEDAL's current limited institutional and technical capacity the strategy to develop PROPER has been very careful and conservative. Foremost in the development of PROPER was to ensure that it was well articulated to all stakeholders to ensure that everyone understood them. Further, the program needed to be accurate and its evaluation and the rating process had to be transparent to lend it credibility. To ensure this, BAPEDAL chose to rate only 187 companies in the program's first year. As technical capacity develops, so too will the number of businesses in the program. BAPEDAL expects to have about 5000 companies participating in PROPER by the turn of the century.

Table 1. Listing of the ratings and their requirements:

Exceed Compliance	Gold	All requirements of Green , plus similar levels of pollution control for air and hazardous waste. Polluter reaches high international standards by making extensive use of clean technology, waste minimization, pollution prevention, recycling, etc.
	Green	Pollution level is lower than the discharge standards by at least 50 percent. Factory also ensures proper disposal of sludge, good housekeeping, accurate pollution records, and reasonable maintenance of the waste water treatment system.
In Compliance	Blue	Factory only applies sufficient effort to meet the minimum discharge standards.
Not In Compliance	Red	Factory makes some effort to control pollution, but it is not sufficient to achieve compliance.
	Black	Factory makes no effort to control pollution, or causes serious environmental damage.

To keep the program simple in its first year, the initial set of ratings only measured business performance vis-à-vis the management and discharge of waste water. Although Indonesia's existing environmental regulations cover waste water, as well as air pollution and hazardous waste, the regulations on hazardous waste and air pollution are recent, with a Presidential Decree issued in 1994 for hazardous waste and a 1995 Ministerial Decree specifying air emissions standards for stationary sources. On the other hand, regulations on water pollution have a significantly longer record of development and implementation. Further, PROPER currently uses the national water pollution regulations as there are both national and provincial water pollution regulations. In some cases the provincial regulations differ significantly from their national counterparts.⁶ To simplify matters and to ensure that ratings criteria are uniform throughout the country, it was decided that national standards would be used. Eventually, PROPER is expected to be a multimedia program and will include toxic waste and air pollution. It is possible that the methodology will be adapted to include provincial regulations.

For its first year, PROPER included three groups of companies in the program: those already in PROKASIH; those volunteering for the PROPER program; and selected "special cases."

To be rated **Blue** the plant has to comply with the minimum standards for waste water management and discharge. As such, the criteria for a blue rating becomes the minimum baseline from which factories exceed compliance or do not meet compliance.

To move from **Blue** to **Green** the factory must meet all the requirements for the Blue rating and:

- Pass an inspection by BAPEDAL inspectors to prove that the factory's pollution is at least 50 percent less than the relevant discharge standard in the most recent six months of pollution reports prior to the rating.
- Pass an inspection by BAPEDAL inspectors to show that the factory manages and disposes of its sludge in an environmentally responsible manner.
- Demonstrate to BAPEDAL inspectors that it practices good housekeeping.
- Submit accurate and up-to-date pollution records monthly to BAPEDAL.
- Show BAPEDAL inspectors that its waste water treatment systems are in good operational condition and well maintained.

BAPEDAL designed the **Green** rating to exceed all the requirements for ISO 14000 certification. By pinning this rating-level to an international standard, it lends credibility to the program and encourages companies interested in ISO certification to participate in PROPER by providing a pre-certification check point against which they can measure their preparedness for ISO 14000 certification.

To move from **Green** to **Gold**, the factory must meet all the requirements of the **Green** rating and undertake a special audit by recognized experts. For the first cycle of ratings, no companies were able to achieve this rating. The special audit will judge whether the plant:

- Shows BAPEDAL inspectors that its waste water treatment systems are in good operational condition and well maintained.
- Demonstrates excellent performance in the adoption of cleaner production.
- Uses recyclable products and environmentally friendly inputs.
- Recycles/reuses its materials.

In an attempt to include some assessment of air and hazardous waste performance and to place a marker for future inclusion of standards for these mediums, several decision rules have been established. However, they were done in recognition that reliable plant-level data on air and hazardous waste data are still scarce.

- If a plant that produces hazardous waste meets the criteria for a **Green** rating based on its water pollution, but does not have the operating permit required by the hazardous waste regulation, its rating remains **Blue**.
- For a **Gold** rating, a plant that produces hazardous waste must have the operating permit required by the hazardous waste regulation and be determined by the special audit team to be handling and managing its hazardous waste in an environmentally responsible manner.

The difference between a **Blue**- and a **Red**-rated plant is that the **Blue** plant meets the minimum standards of waste water management and discharge while the **Red** plant has shown an effort to meet the standards, but has not succeeded. These efforts are judged by:

- An observable investment in end-of-pipe treatment or at least partial installation of a primary treatment system.
- Credible demonstration of a pollution reducing process or input change.

The difference between a **Red** and a **Black** rated plant is that the latter has neither a primary treatment system for its waste water nor can it demonstrate that it has instituted a process or input change to reduce pollution. In addition, if BAPEDAL receives a complaint from a neighboring community that a plant is polluting, it is immediately considered for a **Black** rating. BAPEDAL staff then follow-up with an environmental audit of the plant and an assessment of damage from discharges to air, water and land.

The PROPER process is kept relatively simple. The most time involved steps are the data gathering required of the company for the self reporting of data and the verification and compliance analysis by BAPEDAL. Figure 1 represents the PROPER process.

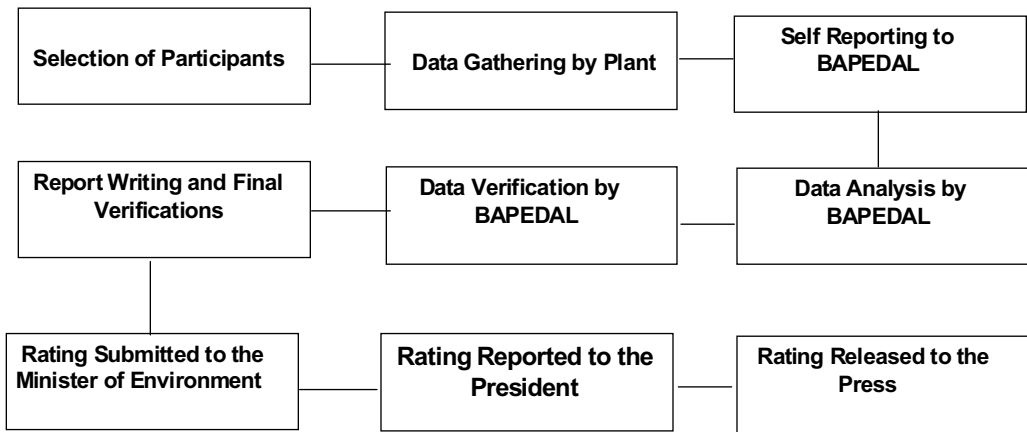
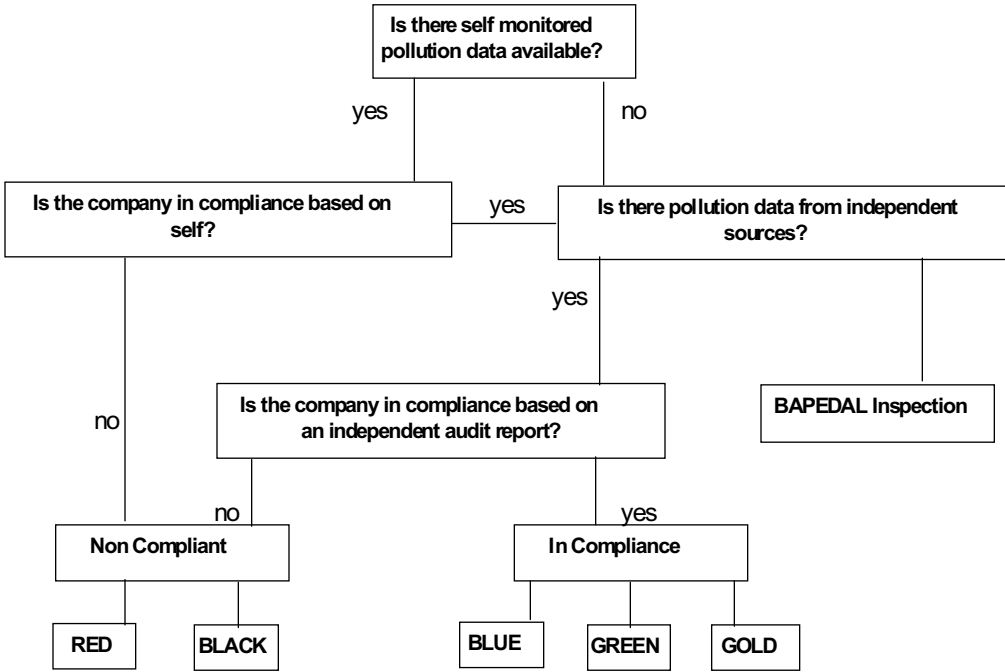


Figure 1. The PROPER process

Figure 2 presents the process for compliance analysis (the “Data Analysis by BAPEDAL” and “Data Verification by BAPEDAL” boxes in the above diagram). The compliance level of a plant is first assessed based on data that is self-reported by the plan (Appendix 1 presents a summary of the requirements for pollution and production data that plants have to self-report on - suffice to say, they are quite demanding). If the plant does not meet the minimum requirements then it is judged non-compliant and rated **Red** or **Black** accordingly. If the self-reported data shows no violation of the standards, an independent assessment by BAPEDAL inspectors and a review of the plant’s monthly monitoring reports is then undertaken. Because data is not always reliable, BAPEDAL acts as a final filter in this three-step process. Since **Gold**, **Green**, and **Black** rated companies are extraordinary, they have to go through this final process. During this step, BAPEDAL staff from all divisions discuss any ambiguities, and additional information from staff members may be used to improve the accuracy of the rating. In some cases, the final ratings have been changed as a result of these proceedings.⁷

Figure 2. The process for compliance data analysis and verification by BAPEDAL



2.4 Results of PROPER's First Rating Cycle

The results of the first round of PROPER were announced in June 1995 with 187 companies being rated. However, only the names of the 66 plants rated **Green** and **Blue** were initially announced. The 121 plants rated **Red** and **Black** were privately notified of their rating and given until December to comply before their names were publicly announced.

In December, 1995, the results of a midterm review were announced: 26 additional companies had joined the program, and the companies that were originally rated **Red** and **Black** and whose names were not announced in July, were also made public.

Table 2. Results of PROPER - June and December 1995

Type of Rating	June Number of Plants	December Number of Plants
Gold	0	0
Green	5	4
Blue	61	72
Red	115	108
Black	6	3

It is interesting to contrast the percentages of companies compliant in June and December. This comparison indicates the seriousness with which companies view their PROPER rating. Table 2 above shows that, in just six months, the percentage of companies with a blue rating (compliant) increased by 18 percent, with the six poorest ratings dropping from six to three. Table 3 summarizes the final ratings by industry ownership.

Table 3. 1995 Results of PROPER by ownership in each category (percentage)

Rating	Locally-Owned	Foreign-Owned	State-Owned
Gold	0.0	0.0	0.0
Green	0.8	7.4	2.8
Blue	30.3	70.7	50.0
Red	65.9	19.5	47.2
Black	3.0	2.4	0.0
Total	100.0	100.0	100.0

2.5 Impact of PROPER

Both public announcements of PROPER's first rating cycle resulted in a wave of reporting on industrial pollution and its impact on Indonesia. Both the local and international media covered the story intensively with many articles on PROPER and other environmental issues. The announcements also activated many communities and nongovernmental organizations as they became aware of the environmental performance of plants around them.

BAPEDAL was initially wary of potential litigation from plants unhappy with their rating. On the contrary, they received phone calls from plant owners and managers asking for assistance on how they could improve the environmental performance of their company. Even companies that were rated **Green** called to see how they could improve their rating to **Gold**.

By the December announcements, more than 20 new companies had joined the program. Of the original 187 companies rated in June, the number of companies rated **Black** had dropped from six to three, a decrease of 50 percent for the most serious offenders.

3 THE FUTURE FOR ENVIRONMENTAL PROTECTION POLICIES BASED ON PUBLIC INFORMATION

Although PROPER is still in its infancy, it is an excellent example of how public information can be a powerful policy tool for environmental protection. PROPER demonstrates that environmental agencies should rethink their role, and consider moving beyond policies based solely on command-and-control or economic incentives. Rather, environmental authorities can gain leverage through nontraditional programs that harness the power of communities and markets. Further, there is ample room for other information-oriented approaches, including voluntary participation/compliance programs such as Indonesia's ADIPURA and PROKASIH.

The number of PROPER-rated firms that moved from Black and Red to Blue indicates the effectiveness of the PROPER approach as a policy tool for improving environmental compliance. But the fact that firms have shown a strong interest in improving their ratings to at least Green suggests that this approach can also be an important policy tool for encouraging firms to move beyond compliance to adopting clean production programs. Adoption of pollution prevention and clean production has often occurred in developed countries largely by default, i.e., companies have often gone beyond minimum compliance in order to get ahead of increasingly stringent regulations and mounting public pressure. In contrast, PROPER is a public policy tool that provides an explicit incentive to adopt clean technologies and production methods.

For environmental agencies in developing countries that are struggling to build their institutional capacity in the face of rapid industrialization, an approach such as PROPER deserves serious examination. Indeed, countries as geographically dispersed as Mexico and the Philippines have expressed interest in establishing a business rating system, and the World Bank has recently announced that it is sending an expert to the Philippines to assist the government in establishing such a program.⁸

The United States - Asia Environmental Partnership (US-AEP) is also working to promote policies that use public information to leverage more responsible environmental behavior by producers. The program, led by the United States Agency for International Development (USAID), supports the efforts of Asian countries to improve business reporting on their environmental performance and provide meaningful channels to share this information with the public.

The experience of PROPER and other similar programs elsewhere in the developing world lend credibility to the idea that environmental policy should not be directed solely to the relationship between regulators and the regulated. Rather, it is the inclusion of all stakeholders in a process that is well articulated, transparent and that provides both positive and negative incentives that has produced a program that is both innovative and, so far, shows every sign of success.

ENDNOTES

1. 1996. 1994 Toxic Release Inventory. Public Data Release. Executive Summary. Washington, D.C.: US Environmental Protection Agency.
2. 1995. Environmental Regulations (1), Environmental Protection Administration, Government of the Republic of China.
3. 1994. Indonesia: Environment and Development. Washington, D.C.: The World Bank.
4. See Makarim, Nabiel. 1992. "Environmental Impact Management in Indonesia", pp 33-35 in T.E. Chua and L.R. Graces (eds) ICLARM Conference Proceedings, Ministry of Environment and Canada-ASEAN Center, Singapore; Asian Development Bank and International Center for Living Aquatic Resources, Philippines.

5. Ibid.
6. Afsah, Shakeb, B. Laplant, and D. Wheeler, 1995. "What is Proper? Reputational Incentives for Pollution Control in Indonesia." World Bank, Washington, D.C.
7. Ibid
8. 1996. *Public Opinion, Markets are New Weapons in Pollution Fight*, Press Release No. 97/S004, Washington, D.C.: The World Bank (August 21).

Appendix 1. Summary of the Requirements for Pollution and Production Data

Key Questions	Information Needs	Nature of Information
1. Does the plant meet the effluent standards as specified in Appendix I to IV of the regulation Kep/MEN/03/1991?	1. What is the pollution per unit of the plant? 2. What is the standard applicable to the plant?	1. Average monthly pollution concentration? 2. Average monthly flow rate? 3. Monthly output in units as specified in KEP-03/MENKLH/II/1991? 4. KEP-03/MENKLH/II/1991 standard?
2. Does the plant comply with the requirements of Articles 3.1, 5.1 and 5.2 of the regulation Kep/MEN/03/1991?	3. Is there a flow meter? 4. Is the flow rate measured and recorded daily? 5. Is the effluent sampled and analyzed once a month?	5. Type of flow meter? 6. Number of observations on flow rate per month? 7. Number of observations of parameter concentration for the month?
3. How reliable are the data used to measure questions (1) and (2)?	6. Are pollution concentration data reliable? 7. Are flow rate data reliable? 8. Are production data reliable?	8. Is there an operational waste water treatment system in the plant? 9. What is the sampling method? 10. How frequently are effluents sampled and analyzed? 11. Is the production process batch or continuous? 12. Are data reported for all outlets in the plant? 13. Is the flow continuous? 14. Is the flow meter reliable? 15. Is the flow meter well maintained? 16. Is the flow measurement taken? daily and recorded? 17. Is the production process batch or continuous? 18. Are the units of production consistent with KEP-03/MENKLH/II/1991? 19. Are the production data correct for intermediate products and by-products? 20. Are production data consistent with the reported capacity of the plant?