Information Disclosure from textile companies for the prevention of Pollutant Release

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Abstract. Although it may not be widely known, there are currently twenty textile companies in Indonesia that have voluntarily disclosed information about the release of hazardous chemicals from their production facilities on an internet page. The disclosure is carried out using the PRTR system approach, and individually by the twenty companies. In the period of 2013 to 2018, together, 42 information disclosures were recorded. The disclosure includes at least eleven groups of hazardous chemicals that must be disclosed in the scheme, and conventional parameters according to the Indonesian government's effluent standards. Disclosures are done voluntarily, hence without a legal umbrella in Indonesia. Study is conducted to analyze how it is differed with Indonesia's policy. Comparison is done on Indonesia’s relevant public information disclosure policy, which is PROPER, using OECD’s guidance on PRTR as a base. From this study, it was found out that the voluntary disclosure exceeds what Indonesian regulations require.

Keywords: Hazardous Chemicals; Information Disclosure; PRTR; Textile Industry; Water Pollution; PROPER.

1. Introduction
The public information disclosure approach primarily collects and disseminates information about the company that generate pollution’s environmental performance. There are two types of information disclosure programs, namely emissions inventory and environmental performance ratings [1]. The first type, commonly called pollutant release and transfer register, only reports emissions or disposal data without using it to assess or describe environmental performance [2]. An example of this first type is the United States Toxic Release Inventory (TRI) managed by the United States Environmental Protection Agency (EPA) which focuses on toxic pollutants which may not be regulated in conventional regulations.

The second type is an information disclosure program that reports emissions or disposal data, and uses it to assess the environmental performance of a company. This type is used limited to developing countries and focuses on conventional pollutants. An example of this second type is the Indonesian Company Environmental Performance Assessment and Rating Program (PROPER).
The first type of environmental information disclosure, PRTR, has been shown to be effective in reducing the release of hazardous chemicals. TRI, for example, which collects data from more than 20,000 industrial facilities and covers more than 650 hazardous chemicals [3], has helped reduce the release of chemicals listed by 46 percent in the period 1988–1999 [4]. In addition, Japan’s PRTR system, which includes 450 chemicals from more than 25 industrial sectors, has helped reduce the release of hazardous chemicals by almost 25 percent in the 2001–2008 period [5].

The United Nations Institute for Training and Research (UNITAR) defines PRTR as a catalog or database of the release and transfer of potentially hazardous chemicals into various media (air, water and soil), including information about the nature and quantity of such releases and transfers. In line with this, the Organization for Economic Development (OECD) states that PRTR presents together information about what chemicals are released, where, how much, and by whom.

PROPER was officially started in 1995. In its first phase it was only focused on aspects of water pollution control. PROPER acknowledged as the first large-scale information disclosure program in developing countries [6]. PROPER was built on the premise that the mechanism for public disclosure and accountability, transparency of operations, and community participation would strengthen local communities in achieving effective and sustainable pollution control practices [7]. But in its journey, PROPER received various criticisms of its ineffectiveness in overcoming industrial pollution, especially because it did not disclose data on the pollution details of its participating companies to the public.

A study states that PROPER only provides new information to plant managers, without making the information open to the public [8]. This was later stated as not enough to motivate companies to make significant pollution reductions. Another study also showed that PROPER was indeed effective in improving the performance of companies that previously did not meet existing regulations, but not for those who had met the regulations [9].

Arguably the opposite of that, although it may not be widely known, there are twenty textile companies in Indonesia that have voluntarily disclosed information about the release of hazardous chemicals from their production facilities on an internet page. The disclosure of information is carried out using the PRTR system approach, and individually by the twenty companies. In the period of 2013 to 2018, together, 42 information disclosures were recorded. The internet site where the twenty companies uploaded information on the release of pollutants was managed by an institution in China called the Institute of Public and Environmental Affairs (IPE).

Though it does not or does not yet include disclosure of information of pollutant transfers, the disclosure of information includes at least 11 groups of hazardous chemicals that must be disclosed in the scheme. The company was also facilitated to reveal more releases of other hazardous chemicals to water bodies, which might not have been included in the 11 groups. This practice could be considered as a breakthrough in terms of environmental information disclosure, although impacts is yet to be seen.

Given all that, the presence of this practice in Indonesia is an interesting subject to be studied, especially because it is done voluntarily and that it could be considered as the first of its kind in Indonesia. Moreover, so far, the author has not been able to find studies on the implementation of PRTR in Indonesia. The study would be timely, amidst increasingly severe industrial pollution and ineffective pollution control approaches in Indonesia. Study is first conducted to analyze how it is differed with Indonesia’s relevant policy-PROPER.

2. Methodology

To analyze the difference between voluntary disclosure practice by the twenty textile companies in Indonesia with PROPER, a set of matrixes with several comparation criteria is developed. Comparison criteria are derived from PRTR basic characteristics as mentioned by the OECD. Common characteristics between PRTR programs from country to country which make the backbone of a PRTR system [10] are as follows:

1. Listing potentially hazardous chemicals;
2. Multi-media reporting (or integrated reporting) of release to (air, water and land) and transfers;
3. Reporting data by source or facility;
4. Reporting on a periodic basis (usually annually);
5. Making data and information available to the public, normally on site-by-site basis.

To achieve a fair comparison of the voluntary disclosure and PROPER, authors made a process-oriented derived comparation criteria from the PRTR common characteristics. Categorization in terms of process is used to derived the criteria.

**Figure 1.** Process-Oriented Comparation Criteria Derivation

In the same matrixes, qualitative conclusion from comparations are also drawn for each criterion. General conclusion is then made based on qualitative conclusion from each criteria comparation.

3. Result and Discussion

Comparation is done particularly in the field of water pollution control for textile industry. This step was taken to be able to make a fair comparation between PROPER and the voluntary disclosure by the twenty textile companies which focuses on disclosure of unconventional pollutant release as well as the conventional pollutant release to the water body. PROPER evaluation is conducted based on Environmental Ministry of Indonesia Regulation No. 3 year 2014 about PROPER and Environmental Ministry of Indonesia Regulation No. 5 year 2014 about Waste Water Standard, particularly standard for textile industry. Voluntary disclosure by the twenty textiles company’s evaluation is conducted based on information that is available on the disclosure platform. Comparation exercise along with the results is as outlined in table 1.

**Table 1.** Comparation of PROPER and The Voluntary Disclosure

| Criteria | PROPER | Voluntary Disclosure | Conclusion |
|----------|--------|----------------------|------------|
| Intake data or information | Intake data based on effluent standard for textile industry: BOD₅, COD, TSS, Total Phenol, Total Chrom (Cr), Total Ammonia (NH₃-N), Sulfide (as S), Oil and Grease, pH, and Waste water debit. | 11 hazardous chemicals groups, 1) Alklyphenols (APEOs), 2) Phthalates, 3) Brominated and chlorinated flame retardants (BFRs, CFRs), 4) Azo dyes, 5) Organotin compounds, 6) Per- and polyfluorinated chemicals (PFCs), 7) Chlorobenzenes, 8) Chlorinated solvents, 9) Chlorophenols, 10) Short chain chlorinated paraffins, 11) Heavy | Voluntary disclosure intake data or information includes unconventional pollutants based on Indonesia’s textile industry effluent standard, as well as details of 11 hazardous chemical groups. The scope of intake data or information of the voluntary disclosure, in terms of water pollutant |
From the comparation exercise, it can be confirmed that PROPER and the voluntary disclosure by the twenty textile companies is indeed two different type of environmental information disclosure. PROPER could be considered as the type which rank environmental performance and the voluntary disclosure is one that conduct an inventory emission [1]. Although the voluntary disclosure’s scope is also including the disclosure of the conventional pollutants release regulated by the Indonesia government, it is still consistent with PRTR type characteristic which is focused on toxic pollutants [2]. While PROPER is only concentrated on conventional pollutants [11].

The principal different is in what is disclosed, at what level (e.g. company or facility level), and in what level of detail. PRTR is disclosing information at facility level [12], detailed chemical by chemical and where it released to what and by whom [13]. Although it could be explained by their principal objectives
of disclosing the information. It is fair to say that the voluntary disclosure by the twenty textile companies is exceeding PROPER in terms of depth of information disclosed. What could trigger it, the possible motives to disclose information an interesting topic to be further studied.

4. Conclusion
The voluntary disclosure of pollutant release register by the twenty textile companies in Indonesia could be considered as a breakthrough, mainly because it was the first of its kind in Indonesia. It is different with relevant regulation which exists in Indonesia, PROPER, mainly on what information disclosed and in what depth of disclosure.

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