UNDERSTANDING THE LEVEL OF NATURAL ENVIRONMENT DISCLOSURES BY INDONESIAN LISTED COMPANIES

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Introduction

There has been considerable interest in natural environmental disclosures (NED) across many countries in the business literature (Choi, 1999; Gray *et al.,* 2001; Solomon and Lewis, 2002; Cormier and Magnan, 2003; Lodhia, 2004). This study is important in that it contributes to the developing accounting literature (Barako, *et al.,* 2006; Thompson and Zakaria, 2004; Belal, 2000; and Williams, 1999) by focusing on the NED practices of Indonesian listed entities.

Indonesia faces numerous important environmental problems: (1) mining and industrial pollution affecting all levels of the food chain on oceans and water systems; (2) chronic air pollution, especially in industrial areas and large cities, causing respiratory problems for millions of people; (3) inadequate waste management contributing to poor hygiene conditions and health problems; (4) smoke hazards frequently spreading to neighbouring countries, such as Malaysia and Singapore, that cause acid rain and diplomacy problems; and (5) deforestation, at the rate of 3.4 million hectares per year (WALHI, 2004). These complexities make clear and comprehensive environmental reporting even more important if they are to facilitate critical scrutiny of environmental practices by commercial entities.

On the surface, the Indonesian accounting regulatory structures appears robust and sound (IASB, 2006). However, even though there are standards for regulating 'sensitive' industries such as forestry (Financial Accounting Standards (PSAK) No. 32) and mining (PSAK No. 33), there are no specific requirements to disclose natural environmental information. In fact, no NED requirements are mandated by the Indonesian Capital Market Executive Agency (BAPEPAM) as a prerequisite for entities publicly listing on the Jakarta Stock Exchange (JSX). Consequently, environmental disclosure practices in Indonesia are voluntary. This study seeks to explain the extent of such disclosures.

This study makes important contributions to the research literature. Firstly, it increases the knowledge of NED practices in Indonesia and developing countries in general. Secondly, it views natural environmental disclosure practices from economic, social and political perspectives (Gray *et al.,* 1995a). Such wide-ranging perspectives help in explaining corporate social (and environmental) practices carried out as voluntarily disclosures (Gray *et al.,* 1996). Thirdly, this study incorporates corporate governance characteristics as a

basis for assessing the quantitative NED made in annual reports. Studying corporate governance is useful since unique characteristics (e.g. weak disclosure and concentrated ownership) of corporate governance in Indonesia may differ from those of the western world (Rosser, 2003).

Literature Review and Hypotheses

Legitimacy theory focuses on societal recognition of the adequacy of corporate social behaviour (Nasi *et al.,* 1997). It means that society judges entities based on the image they create for themselves. According to legitimacy theory, the only way for entities to survive is "if the society in which they are based perceives the organization to be operating to a value system which is commensurate with the society" (Gray *et al.,* 1996, p. 46). Thus, entities can establish their legitimacy by matching the corporation's performance with public expectations or perceptions (Henderson *et al.,* 2004).

In line with previous studies (see for example Brown *et al.,* 2004; Brown, 2006), it is argued that corporate specific factors help in explaining entities' disclosure practices. Past studies on the corporate governance-disclosure relationship (see for example Haniffa and Cooke, 2002; Eng and Mak, 2003) also suggest that corporate governance characteristics, such as ownership structure and board composition, influence the voluntary disclosures made by entities. These can be framed into six hypotheses (size, economic performance, industry type, managerial ownership, block-holder ownership and board composition). The dependent variable is the extent of natural environmental disclosures (NED). Overall, these six hypotheses are tested as possible predictors for natural environmental disclosures by Indonesian companies.

Research Methods

A sample of 100 publicly listed entities was chosen out the population of 347 companies of the Jakarta Stock Exchange (JSX) for the year ending 2003 (Fact Book, 2004). Stratified random sampling was adopted to achieve sufficient sample size for each group (high and low profile industries) to make a valid statistical comparison between groups (Cooke, 1989).

This study utilizes a disclosure indices technique to measure quantitative NED. The main advantage of utilizing disclosure indices is that the measurement allows the researcher to adjust disclosures that are not responsive to other more direct measures (Marston and Shrives, 1991). This measurement technique is more suitable for developing countries that generally have poor quality and quantity of environmental information disclosed in annual reports. It adopts a checklist to observe disclosure/nondisclosure of environmental information by selecting eight key categories of NED, namely: General Environment Conditions, Environmental Policy, Environmental Audit, Environmental-Product and Process Related, Environmentally Financial Related Data, Sustainability, Environmental Aesthetics, and Environmental Other. This simplified NED index is argued to be more appropriate for an emerging region because of different reporting practices between developed and developing nations (Brown, 2006). In measuring corporations' quantitative NED practices, this study counts up and treats the eight NED elements without differential weights. The unweighted approach arguably is better in that it reduces subjectivity in

assigning weights on each NED element. This study utilizes ANOVA and multiple regression to test hypotheses on possible predictors of natural environmental disclosures (NED).

Results

The sample has a range of company sizes, as measured by market capitalization, is wide ranging from less than four billion Rupiahs to over twenty thousand billion Rupiahs, with a mean market value of almost 1,500 billon Rupiahs. Seventeen percent of companies in the sample had a negative return on assets (ROA). The very low mean ROA (2%) shows that many entities have not fully recovered from the tremendous effects of economic crisis that occurred in mid 1997. The striking feature of the sample is a high level of block-holder ownership structure (65%). A similar finding is documented by Kusumo (1998) and the tendency for heavy ownership concentration is widely found in developing world settings (La Porta *et al.,* 1999). Only 17% of the companies have ownership concentration of less than 50%. There were only 30% independent directors in the sample. Moreover, 20% (twenty entities) of the sample have zero independent directors on the board.

Descriptive analysis of the 100 listed entities sampled indicates that only 37 companies disclosed any information about the natural environment in their annual reports. Table 1 shows that the overall sample mean disclosure was 9%; rising to 24% for those companies that had any environmental disclosures.

Environmental Policy and Sustainability was the most disclosed category with 18% of companies providing such narratives in their annual reports. Seventeen percent of entities disclosed Environmental - Other information that covers environmental issues such as environmental protection, environmental education and awards received, and not captured by the other seven categories. The other three categories namely General Environmental Conditions, Environmental Product and Process, Environmentally Financial and Environmental Aesthetics were seldom disclosed with only 5% of the companies revealing such information. None of the sample companies disclosed Environmental Audit information, although this is highly recommended by the Government especially for industries with a high potential to damage the environment.

Table 1: Quantitative Natural Environmental Disclosures by Sample

Sample	Minimum	Maximum	Mean	Standard Deviation
NED practices of all 100 entities	0	0.75	0.09	0.16
NED practices of 37 disclosing entities	0.125	0.75	0.24	0.18

One-Way ANOVA tests (not shown here for brevity) revealed that there was a highly significant difference for the mean of Natural Environmental Disclosures practices between high and low profile industries. Of note is that managerial ownership structure was not a predictor of overall Natural Environmental Disclosure.

Table 2 shows that the multiple regression model is highly significant and has approximately 21% predictive power (Adjusted R-squared). Two firm specific variables, namely size of the company and type of industry, are highly significant at the 1% level of confidence. However, economic performance is not a statistically significant predictor of the NED practices of the sample of listed Indonesian entities. Surprisingly, none of the corporate governance variables help explain the variation of NED practices of publicly listed entities in Indonesia.

Conclusion and Implications

In summary, there is a very low level of NED practice in the sample of listed Indonesian entities and a relatively small number of the entities provided any NED information. This finding indicates that environmental issues are not regarded as a key disclosure.

The two firm specific characteristics (i.e. size of company and type of industry) help explain the level of NED practices. Intriguingly, none of the proposed corporate governance variables (i.e. board composition, managerial and block-holder ownership structures) or economic performance, have predictive power in explaining the variability of NED practices in Indonesia.

Size of company is confirmed as a determinant of NED. One possible reason is larger entities receive greater scrutiny and pressures from the public particularly from independent environmental organizations such as the Indonesian Forum for Environment (WALHI). As the largest environment organization in Indonesia (Aiken, 2004), WALHI openly criticizes the larger companies (e.g. resources and manufacturing) for their operations which potentially, or already, damage the natural environment. In addition, the tendency for

Table 2: Multiple Regression Results for Tests of Hypotheses

Variables	**NED Complete Regression (Sig.)**
Overall Model Significance	0.000*
R-Squared	0.264
Adjusted R-Squared	0.216
Size of Company	0.001*
Economic Performance	0.519
Type of Industry	0.000*
Managerial Ownership Structure	0.712
Block-holder Ownership Structure	0.553
Board Composition	0.839

*Significant at the 1% level

larger entities voluntary to disclose more environmental information could stem from their intrinsic interest in winning over the public's perceptions in order to raise financial capital in the market. The financial market of the JSX is both newly emerging and increasingly globalized. Larger entities, therefore, may disclose more Natural Environmental Disclosures in order to impress both domestic and international stakeholders, particularly potential investors seeking relatively environmentally risk-free investments.

This study found an insignificant relationship between economic performance and the level of Natural Environmental Disclosure practices - a finding which is consistent with a number of past studies NED such as Hackston and Milne (1996), Kusumo (1998), Choi (1999) and Williams (1999). One possible explanation could be that entities, regardless of their profit or loss situation, devote their efforts to generate other information that can be used to justify their current financial circumstances. For example, a considerable number of listed Indonesian entities (over 75%) disclose the effects of economic crisis on their businesses that stop them generating significant profits, growing faster and delivering higher value to shareholders. In other words, it would appear that entities concentrate on explaining their financial results rather than on explaining their environmental records.

Type of industry was also found to be a strong predictor of the level of Natural Environmental Disclosure. Entities in high profile industries disclose more environmental information than entities in lower profile industries. One possible reason is that high profile industry entities (mining and forestry entities) receive greater scrutiny from government regulations and receive greater pressure from the public to fulfil certain environmental expectations. Such pressures, arguably, encourage entities in higher profile industries voluntarily to disclose more environmental information than that provided by entities belonging to lower profile industries in order to minimize such tensions and gain public and government approval for continuing their activities. This is consistent with the tenets of legitimacy theory, which suggest that social, political and economic pressures are brought to bear on key entities.

Past studies have found a significant negative relationship between managerial ownership structure and the level of voluntary disclosure (e.g. Ruland ***et al.,*** 1990; Eng and Mak, 2003). Such a relationship was not confirmed in this study. The lack of predictive power of managerial ownership structure could stem from the inherent managerial ownership structure of Indonesian listed entities which tend to be very small in size (less than 0.3% of ordinary shares are owned by management) and only 33% of the entities that have any such structure.

This study further found an insignificant result for the association between block-holder ownership structure and the level of NED practices. Such a result might signal the insignificant role of block-holder institutions or individual owners in directing and dictating disclose of a greater amount of environmental information to the public. Another possible reason could be that Indonesian owners in general do not consider environmental matters as critical issues that have to be extensively disclosed in corporate annual reports.

Past studies suggest the presence of independent directors on the board of directors encourages the management to provide a larger volume of voluntary information to the stakeholders. However, this study found an insignificant result for the relationship between board composition and the level of Natural Environmental Disclosure. This finding could stem from the traditionally less activist supervisory role of the Indonesian board of directors that is claimed to have less power than in the Anglo-American system (ICMD, 2004).

Overall, based on the sample results, a low level of Natural Environmental Disclosures is reported by listed Indonesian companies. This study finds that legitimacy theory partially explains the variability of NED practices of Indonesian listed entities. The confirmation of size and industry type as determinants adds to body of knowledge of Natural Environmental Disclosures in this developing country.

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PRODUCT LIFE CYCLE ANALYSIS IN THE AIRLINE INDUSTRY

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Introduction

The paper focuses attention on life cycle analysis and how this product-orientated approach reflects an understanding of the embedding of products in a chain of relationships extending both backwards and forwards. Moreover, it illustrates how life cycle techniques might be applied in practice in an airline industry context and, equally significantly, identifies the types of difficulties that might be encountered in identifying and treating relationships.

At the outset it is reasonable to acknowledge the appeal of adopting a product focus as it is potentially the appropriate level of disaggregation at which to assess, measure and manage sustainability impacts. Moreover, it is quite reasonable to suggest that a product perspective is the most valid means by which there can be capture of sustainability orientated competitive advantage. Reporting that focuses on the economic, environmental and social impacts of each product is nonetheless not considered as an alternative to triple bottom line reporting at the entity level. Rather, product reporting can serve as a supplement to entity level reporting. Additionally, it can form the basis for reporting, relevant to different users and product-related decision contexts, such as monitoring of eco-efficiency [1] by management, and also for stakeholders who are users of end products.

What is meant by life cycle and life cycle analysis?

In this discussion the life cycle of a product refers to all steps from the transformation of raw materials, to product use and subsequent waste disposal. [2] The concept of life cycle

[1] For a discussion of eco-efficiency measurement, refer to Schaltegger and Burritt (2000), pp. 238-246 and Schaltegger *et al.* (2003, pp. 62-93).

[2] The meaning of product life cycle should be clearly distinguished from the use of that term to refer to the stages of a product's life over the