

Positive influences of corporate environmental disclosure on environmental education and consumer education and related issues to be tackled: how to make a greater number of ordinary consumers understand the content of “environmental reports”¹

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1. Introduction

The publication by corporations of information relating to the environment is becoming more and more widespread. In particular, there has been a rapid increase in the number of companies which disclose information in the form of environmental reports. An environmental report is a document for public consumption which sets out a company's efforts to get to grips with environmental issues as well as its actual achievements in this area. In the survey by this research center 284 out of 1474 companies listed on the first section of the Tokyo Stock Exchange replied that they had published an environmental report during 2001 while 91 of the companies which had not yet published such a report replied that they had plans to compile one (as of January 2002). Environmental reports are becoming a more generally-accepted means for environmental information disclosure.

Environmental reports contain data which are indispensable in enabling consumers and investors, as people who want to lead healthy, civilized lives, to make judgments about corporations. Up till now, as an information disclosure means which is used to assess companies' attitude towards environmental issues and select companies which are concerned about the environment, the contents of the disclosed information have been analyzed, and discussions held about the possibility of comparing the information provided by different companies, and ways of guaranteeing

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the reliability of this information.²

On the other hand, to date there has been little discussion about how environmental reports are regarded by ordinary citizens/consumers.

For ordinary citizens/consumers, environmental reports have not yet become part of their everyday experience. For example, an Internet survey, “goo research,” carried out in 2001, revealed that among the survey monitors only 8.5 percent replied, “Yes, I have,” when asked if they had ever read an environmental report.

The aim of this study was to discover, by looking into the conditions required for environmental reports to be used in environmental education and consumer education, what is necessary in order for such reports to be read by more citizens and consumers. With this aim in view, the survey was conducted by means of questionnaires and interviews on the following analysis themes. In the course of our study, we tried to discover what the issues were by allowing our subjects to state their opinions freely as far as possible.

[Analysis themes]

- (1) If corporate environmental reports are difficult for ordinary citizens/consumers to read, why should this be the case? What can be done to make them easier for ordinary citizens/consumers to read?
- (2) What are the conditions required for environmental reports to be used as educational materials in environmental or consumer education?
- (3) What sort of measures to make environmental reports easier to read will companies actually be able to put into practice?

For the first theme, we asked persons taking part in a seminar on environmental reports organized by a certain non-profit organization to respond to a questionnaire.

For the second theme, we interviewed persons involved in environmental education and consumer education. There were two reasons for proposing this as a theme for our analysis. One was that under present circumstances, when ordinary citizens/consumers have little opportunity of coming directly into contact with corporate environmental reports, it seemed that using these as an educational material would be

² Details are provided in publications such as “The Theory and Practice of Environmental Reporting” edited by Katsuhiko Kokubu, Kazuhiko Tomimasu and Resource Recycling System Center (the Energy Conservation Center, Japan, 2000) and “Network for Environmental Reporting (NER) Research Activity Report for Fiscal 2000” (NER, 2001).

a good opportunity to let ordinary citizens/consumers discover the existence of environmental reports, and learn how to read them and use them for various purposes. The second reason was that we felt that the very conditions which would make environmental reports easier to use as an educational material would coincide in most cases with the conditions under which the reports would also be easier for ordinary citizens/consumers to read.

Finally, for the third theme, we interviewed corporate personnel in charge of compiling environmental reports.

In this study we hoped, by conducting a survey which would clarify what was required in order for the information contained in environmental reports to be understood by a greater number of consumers, to obtain tips for “positive influences of corporate environmental disclosure on environmental education and consumer education and related issues to be tackled.”

Questionnaire and interview forms are appended at the end of this paper.

2. Survey results from participants in the seminar about reading environmental reports

Fifteen participants in the Fifth Workshop of the “Global Environment Course” of the Citizen’s College for the Global Environment (Western Japan) (implemented by the Aozora Foundation) were asked to reply to a questionnaire.³ The Workshop was entitled “Communication between corporations and citizens in terms of environmental information,” (December 9, 2000). The results of the questionnaire are set out below.

Effect of the workshop

We asked first of all about the effect of the workshop. To our question about whether, after taking part in the workshop, there had been any change in the frequency with which participants attempted to access environmental reports or looked up web pages, there were six replies each of “no change” and “more frequent.” Nobody replied “less frequent.” In particular, of the four who, prior to the workshop, “knew that corporations had published environmental reports, but had never actually read one,”

³ The period of the survey was October 2001, questionnaires were mailed, and there were 12 responses (80 percent response rate). Moreover, the fifteen participants included one person belonging to the public administration, five belonging to corporations, four belonging to NGOs, and five ordinary citizens.

three now replied that their reading of such reports had become “more frequent.” It would appear that the workshop was effective for people who had some interest in environmental reports.

When we asked about the effectiveness of the workshop in concrete terms, we obtained the following replies: as far as environmental reports were concerned ten people now “wanted to read them,” nine felt that they were now “easier to read,” eight that they were now “easier to understand,” eight that they now “read them in a comparative way, comparing the reports of different companies,” and eleven that they now “read them with an awareness of environmental issues.”

How easy is it to read an environmental report?

Next, we asked about how easy it was to read an environmental report. Six of those questioned replied “hard to read” and six “easy to read.”

Concerning the issue of how to compile environmental reports to make them easier to read, the results were: four people “the implications of the disclosed numerical data relating to the environment are difficult to understand” and two felt that “technical terms were used and some background knowledge was required.” In relation to content, five people replied that there were “too many items or too much information,” four that “there was little in the report which was directly useful to ordinary citizens/consumers,” and four that “not covering the expected items sufficiently.”

Usefulness of contents

The usefulness of contents was listed in the following order: nine respondents chose “environmental impact record and efforts to reduce the impact,” eight, “social contribution in environmental field,” eight, “management policy on environmental preservation,” and two, “environmental management system.” Nobody mentioned “general commentaries” on the environmental issues related to the disclosed information.

Tips for environmentally friendly lifestyles

Asked whether or not tips for environmentally friendly lifestyles should be included, opinions were split three ways with four people replying that doing this would make environmental reports “easier to read,” four, “more difficult to read,” and four, “depends on the type of business and the type of such information.” Those who chose “easier to read,” gave as their reasons: “because it makes clear the intentions of the company compiling the environmental report” and “because it is only when all the

disclosed information relates closely to people's lives that they can become useful information." Those who chose "more difficult to read" commented that it was "a waste of time and money for every company to record the same contents. An easily comprehensible booklet published by a specialist organization is all that is needed." Another comment was that it would be "preferable to include information about a company's product scrapping methods." Among those who chose "depends on the type of business and the type of such information" there were even those who mentioned that "mutual information exchanges between corporations and the public are not only a service to the customer, but are also vital for the sake of improvements in the quality of goods and services."

Reliability

To a question about reliability guarantees for environmental reports, ten people replied that third party certification was "indispensable to ensure the reliability" since the reports are to be read by ordinary citizens/consumers while one person replied that "ordinary citizens/consumers, by becoming more skilled at understanding the information contained, should be able to cope even with environmental reports whose reliability had not necessarily been corroborated by a third party."

Guidebook

When we enquired about what information they would expect a guidebook to contain if one were to be compiled about reading environmental reports, ten people replied "knowledge about technical terms and units of measurement," eight, "general explanations of environmental issues related to disclosed information (commentaries on data)," eight, "considerations for comparison with competitors' data," seven, "how to distinguish between factual information and commercial information, and six, "how to obtain a broad grasp of what is written.

Stance which ordinary citizens/consumers should take

Asked about the stance which ordinary citizens/consumers should take towards environmental reports, five people replied that it was necessary to read the environmental reports not just of companies with which one had a deep relationship, but of as many companies as possible, two, that it was necessary to read the environmental reports of companies with which one had a deep relationship, and two, that it was desirable for ordinary citizens/consumers to read environmental reports if

they could, but there was no need to go out of their way to read them.”

The next question concerned people’s reasons for reading environmental reports. Here the answers were as follows: “for an environmentally friendly lifestyle, people need to consider what sort of companies manufacture and sell the products they use” (seven people), “citizens/consumers need to consider data on environmental impact of individual products in the whole process from procurement of materials through manufacture and distribution to disposal,” (five), “the number of companies publishing environmental reports is increasing and environmental reports will become an important medium in the future” (four), “in seeking employment or investing in stocks, companies’ environmental efforts and achievements are important factors to consider” (one). There was also the comment: “The way to read an environmental report varies depending on the purpose. For example, someone who works for a company will read the reports of other companies in the same industry and use these as reference materials for environmental preservation activities. Ordinary citizens will read the reports of companies with whom they are familiar on a day-to-day basis and use these in order to do environmentally friendly shopping.

Free responses

“Important for individual investors assessing companies since they can determine whether or not a company is fulfilling its social responsibility and is concerned about the environment.” (female in her thirties)

“Environmental reports are still difficult to read for most people. But even that doesn’t matter. A third party should read and assess these reports and publish the results via the media. Consumers want such information, but don’t know how to obtain it.” (male in his thirties)

“If the contents of a company’s environmental report, i.e. the extent of a company’s environmental awareness, could be understood at a glance when goods are actually being purchased, this would be beneficial both to the company and to the consumer.” (male in his thirties)

“The environment is a wide-ranging subject and while things like reducing waste and recycling are easy enough to understand, most people probably don’t see any clear targets as far as what to do apart from that is concerned. For that reason I think one way would be to start by reading the environmental reports of companies with which

one is familiar (place of work, or companies which manufacture the goods one uses on a daily basis).” (male in his sixties)

”The reports of some companies have too strong a PR flavor.” (female in her fifties)

”Most members of the general public don’t understand the criteria on which numerical data are based. For example, to what extent has progress been made with the recycling of CFC12, used in air conditioners in cars? Companies must assume their responsibility and disclose such information. It’s essential for individual companies to explain, by means of numerical data, how far improvements have been made in things they used to do which were bad for the environment. If this became the general rule then corporate environmental reports would gain the reliability. I also think it would be good if companies competed with each other in terms of how concerned they are about the environment.” (male in his fifties)

”Good and bad results should both be mentioned. Then, in the case of bad results, stating publicly what was going to be done to improve things would give a boost to a company’s reliability.” (male in his fifties)

”It’s important to have reliability corroborated by a third party. Without that, these reports will end up as just another PR tool.” (female in her thirties)

From the above free responses we may gather that even though there is some anxiety that environmental reports might become another tool for a company’s PR, much is also expected of them as a means for assessment and for that reason some guarantee of the reliability of the disclosed information is desirable.

Summary of results of the survey on the participants in the seminar about reading environmental reports

First of all, the reasons for the perception, by ordinary citizens/consumers, that environmental reports are difficult to read include the fact that there are many items or an enormous quantity of information, the numerical data are incomprehensible, and little of the information contained is useful to ordinary citizens/consumers. In order to make environmental reports easier to read, the company which compiles the report must endeavor to deal with these problems. Seminars, led by people involved in environmental or consumer education, to teach people about reading environmental

reports, and the publication of guidebooks would also be effective. Seminars would be particularly meaningful for people who are interested, but who do not know how to grasp the essential points in reading reports. As far as inclusion of tips for environmentally friendly lifestyles in environmental reports is concerned, there would be support for including tips which relate to the business activities of the company. In terms of content, people felt that information about a company's environmental impact record was most desirable, followed by information about a company's environmental activities which made a social contribution. Any guidebook should also contain general commentaries on environmental issues. In addition, from the point of view of ordinary citizens/consumers, it would be better if the reliability of environmental reports could be confirmed.

3. Results of interviews with people involved in environmental or consumer education

The results of interviews with people involved in environmental or consumer education are shown below.⁴ Interviewees included two researchers from an NPO which deals with environmental issues (their comments are referred to below as "NPO"), one high school teacher, one local government employee, one researcher from a consumer education aid organization (referred to below as "CEAO"), the president of an environmental education center (referred to below as "EEC") and one university professor, making a total of seven.

Educational usefulness of environmental reports

First, when we asked whether our interviewees had ever used environmental information issued by companies (or economic organizations) in their educational activities, all replied "Yes." More specifically, five people had used "environmental reports," five, "how-to guide for consumers," four, "information which products bear," two, "handling instructions, user manuals, etc supplied with products." Those who used environmental reports as educational materials in particular used them in the following ways: "as part of a program about assessing companies through choosing eco-friendly products," (CEAO), "an environmental report which we received after a study visit to a company was used by our local government body in compiling our own environmental report" (local government employee), "by quoting data contained in a particular company's environmental report in the course of a lecture," (university

⁴ Survey was carried out between November 2001 and January 2002, by means of individual interviews.

professor).

As educational materials for environmental or consumer education, three people felt that environmental reports were helpful, and four, that some of them were helpful. There was a particular perception that familiar and easy-to-understood reports were helpful (EEC), information about products themselves or the manufacturing process was particularly helpful, (local government employee), and the type of environmental report required should vary depending on the educational purpose, (NPO).

The following reasons were given as to why environmental reports were perceived as helpful as educational materials: “because ordinary citizens/consumers should consider what sort of efforts a company is making on the environmental front and how much success it has had in the context of its overall business activities,” (three people), “because ordinary citizens/consumers need to consider, for individual products, data about environmental impact in the whole process from procurement of materials through manufacture and distribution to disposal,” (three), “because in seeking employment or investing in stocks, companies’ environmental efforts and achievements are important factors for ordinary citizens/consumers to consider,” (two), “because the number of companies publishing environmental reports is increasing and environmental reports will become more important as a means for corporate environmental disclosure,” (one).

Reasons for difficulty in using environmental reports as an educational material

Nevertheless, when asked whether environmental reports were easy to use as a material for environmental or consumer education, all seven interviewees replied that they were not easy to use. Comments were “they are not easy to use at the present stage at least,” (EEC), “they will remain difficult to use unless they are revised for educational purposes. The letters are so small and close together that they can hardly be deciphered. It is also hard to know for whom a report was intended when it was compiled,” (high school teacher), “for a teacher to use an environmental report in a class, some additional explanation is required. A guide which sets out concrete instructions about how to use environmental reports is also needed.” (CEAO), “they are still difficult to use. That’s because the people who compile these reports do not realize that they will be used in environmental education,” (local government employee), “in the first place, environmental reports are hard to get hold of. A good idea would be for these reports to be available for anyone to read in, for example, an environmental study room. Environmental reports from as many companies as possible are needed if they are to be

used as an educational material,” (NPO).

As reasons for the difficulty in using environmental reports as a material for environmental or consumer education, the following were mentioned: “the reliability of disclosed information is not confirmed,” (four people), “technical jargon is used and some background knowledge is required,” (four), “implications of disclosed environmental data are difficult to understand,” (three), “too many items or too much information,” (two), “not covering the expected items sufficiently to be used as an educational material,” (two). Nobody supported the option that “there is little information which is useful to ordinary citizens/consumers.” Those who chose “implications of disclosed environmental data are difficult to understand,” added the comments, “High school students and the general public tend to be reluctant to read figures. Some visual presentation, for example, in the form of graphs is required,” (CEAO), and “even if we are shown a graph which tells us that the environmental impact has been reduced by X percent over the years, that still does not help us understand just what that means for the environment,” (NPO). In addition, the following opinions were also put forward: “the data which can be used are limited. There are even reports which smack too strongly of company PR,” (local government employee), “as an educational material for elementary education, notes should be included in the margins. Matsushita Electric’s environmental report for 2001 is a good example: it is in the form of a scenario, information about its own recycling efforts are arranged clearly, the addresses of web sites where related information can be found are included, and the whole thing can easily be turned into an educational material,” (EEC), “as an educational material, schools prefer the textbook format to wads of raw data. Teachers are put off by material which they have to spend time revising for the classroom,” (high school teacher).

Reliability

Opinions were divided about the relationship between the reliability of environmental reports and the requirements for an environmental or consumer educational material. Two people thought, “only reliable information should be used for educational purposes,” four that “even unconfirmed information may be used to help consumers learn how to read data.” Those who gave the latter response also commented, “the ability to read and comprehend can be fostered by any type of material whatsoever. However, the majority of school teachers want information which is reliable and can be made public,” (high school teacher) and “in order to clarify what the problems are in terms of information disclosure by corporations, even reports whose

reliability has not been confirmed can be useful as an educational material,” (NPO). The following opinions were also mentioned as free responses: “reliable information is desirable, but as an educational material comprehensibility is more important. Diagrams and comments showing how a company’s environmental philosophy is reflected can be used as an educational material,” (EEC).

When we asked, in connection with the reliability of the disclosed information, whether environmental reports which had been carefully checked by an external third party would be used as a material for environmental or consumer education, six people replied “would be used.” The CEO commented, “it’s better to have some corroboration than none,” the local government employee, “the record of what the third party had to say could itself be used as an educational material,” and the NPO, “environmental reports are worth using for educational purposes.”

Tips for environmentally friendly lifestyles

Opinions were again divided about the desirability of including, in environmental reports, information which would be useful to ordinary citizens/consumers, such as tips for environmentally friendly lifestyles, with five people in favor of and two against. Among those who were in favor of the idea, the comment from the CEO was that “a different type of information might seem out of place, but should be included in order to make people feel more at ease with the report,” from the high school teacher, that “the problem is that it would become difficult to distinguish between information which is useful to the consumer and advertising.” Among those who were against the idea the NPO added: “environmental reports are an information disclosure tool. Tips for lifestyles should be mentioned via another medium. A condensed version of their environmental report should be edited in a way that their efforts on the environmental front in the course of their business activities can be understood at a glance,” and the university professor that “tips for lifestyles belong to a different category of information from the category of information contained in an environmental report. Still, it might be a good idea to include such tips in a condensed version.”

Guidebook

Five people replied that a guidebook explaining how to read environmental reports was “necessary” and one, “unnecessary.” There were the following comments from those who thought a guidebook was necessary: “because of the difficulties involved in reediting environmental reports for educational purposes,” (high school teacher), “the

teachers who will be using the guidebook should be involved in its compilation,” (CEAO), “the first step is to promote the popularization of environmental reports. The guidebook should be something which increases the number of readers,” (local government employee), “a company’s environmental report should appear on its web pages. Any guidebook should ideally have the function of a database for what is contained in the environmental reports of various companies,” (EEC). The reason that the person who thought that a guidebook was unnecessary gave was that “if environmental reports which had been corroborated by a third party organization became the general rule, then a guidebook would be needed, but it is not necessary yet. At the present stage there are few people who wish to be able to understand and analyze environmental reports, while the reports are not intended for ordinary citizens,” (university professor).

People had a variety of expectations about the contents of the guidebook. These included “how to distinguish between factual information and commercial information,” (four people), “knowledge about technical terms and measurement units of scientific data,” (three), “commentaries on environment issues related to disclosed information (explanation of implications of data), (three), “considerations for comparison with competitors’ data,” (three), “how to roughly grasp what is written,” (one). We also heard the following opinions: ideally, a guidebook should be a reference material which can link the activities of a company associated with the reader’s own consumption with his/her environmental behavior,” (local government employee) and “it should be an introduction to ways of making use of environmental reports. It should also contain information about where environmental reports can be obtained, who teaches people how to read them, and reference books. Some explanation of the implications and appropriateness of numerical data is also required,” (NPO), “what is wanted is a database covering the information contained in the environmental reports of all companies, which can be looked up under key words,” (EEC).

Two people expressed the opinion that “considerations for comparison with competitors’ data” was not a suitable item to include in a guidebook. The reasons given were “what each company is doing to get to grips with environmental issues is important in terms of the contents of its report, while numerical data for making comparisons with competitors is meaningless,” (EEC) and “impossible the way things are at present. Now is the time to expand the number of environmental reports issued,” (local government employee).

Free responses

“We would like environmental reports to contain details about the environmental performance of products with which we are familiar in our daily lives,” (EEC), “sustainable consumption means fulfilling the needs without harming the potential of future generations by providing as many people as possible with choice and creative freedom. For this reason environmental reports are important as a disclosure means for a company’s activities,” (high school teacher).

“We would like them to show comparative indicators between various companies in each industry. In that way they would also become an educational tool for investors. Comparisons of data which have no reliability are meaningless, so third party certification is required. Reports must be read not just at schools but by as many people as possible. And we would like the condensed version too to contain plenty of diagrams and charts in order to make it easier to read,” (CEAO).

“If mention were made of the relationship between the company and a particular region, then a report could easily be used for environmental study about that region. However, there are some educational materials issued by companies which arouse some suspicion that they might provide only information of benefit to themselves,” (local government employee).

“Probably there are a lot of people who don’t read all the items in an environmental report, but compare items of interest to themselves in the environmental reports of different companies. Environmental reports in booklet form, with site reports inserted, would be a good idea. For ordinary people to understand how a company is tackling environmental issues, they must have the ability to read environmental reports perceptively. NPOs should be powerful enough to have arguments with companies evenly. Companies after all want to hide their problems so people must be taught to read between the lines of environmental reports. Also, when a concrete problem arises, it is the environmental report which is sent for. Before we go any further, the public at large must be told about the existence of environmental reports,” (NPO).

“We would like to see mentioned, in a way that is easy to understand, specialized information about efforts unique to a particular company (for example, recycling of that company’s products). We would also like companies to clarify the current situation and the outlook for the future with regard to problems on the environmental front.

Factories which have a close relationship with a particular region should also disclose data by means other than an environmental report (site report, for example),” (NPO).

“It is important to ensure objectivity. NPOs by themselves do not have the power to carry out third party certification so a joint effort with academics is required. Moreover, unless reliability is ensured and conditions, such as background data, are set out clearly, comparisons between companies are impossible. An environmental report is a means for disclosing objective data. Its primary purpose is not to provide information to the people within the company. Data should be provided for all businesses in which the company is involved. To facilitate comparisons, it is necessary to follow the guidelines in making descriptions,” (university professor).

The following conclusions may be drawn from the free responses above. While people involved in education hope that environmental reports will become a means for building a sustainable society, they also fear that corporations will include only information which suits them. These educators particularly anticipate for inclusion of environmental information related to a company’s business activities, which is closely bound up with people’s daily lives. They also hope that the reliability in the contents of environmental reports will be increased not only through third party certification, but also by direct disclosure of data relating to each business site, and it will become possible to make comparisons between different companies.

Summary of the results of the interviews with people involved in environmental or consumer education

Although people recognize that environmental reports are helpful as an educational tool, the feeling is that they are difficult to use. To make environmental reports easier to use as an educational tool, they should be easy to get hold of, graphs and other diagrams should be used to make them more visually approachable, explanations should be given for technical terms and numerical data, and goods with which people are familiar as well as their manufacturing process should be included among the disclosed information. Several educators favored the idea of including tips for environmentally friendly lifestyles and corroboration of reliability, but such information would not necessarily have much effect on a report’s usefulness as an educational material. There is demand for a guidebook about how to read environmental reports which should include explanations of technical terms and measurement units of numerical data, as well as commentaries on environmental

issues related to the information contained in the environmental report.

4. Results of interviews with the personnel in charge of environmental reporting

The results of interviews with the personnel in charge of environmental reporting are set out below.⁵ Interviewees included one deputy head of the environmental division of a food company (this person's comments are referred to below as "food"), one head and one deputy manager of the environmental division of an insurance company (referred to below as "insurance"), one section leader of the environmental division of an electric appliance company (referred to below as "electric appliance"), the head of the environmental section of a cooperative association (referred to below as "co-op"), making a total of five. The cooperative association is not a corporation, but since it communicates enthusiastically with stakeholders through its environmental reports and is also positive in environmental education, we requested an interview.

Our questions mainly concerned the "environmental reports" issued by the corporations whose representatives we interviewed.

How easy to read are environmental reports?

Interviewees recognized that for ordinary citizens/consumers, environmental reports "used to be difficult to read, but have become easier," (two people), "we compile a special version for ordinary citizens/consumers which is easy to read," (one), "difficult to read," (one). As for why they are easy to read, reasons given were: "we attach to our environmental report a CD-ROM containing an internal company video. We distribute a condensed version of our environmental report to visitors to the plant," (food), "we have added an explanation of technical terms," (insurance)." On the other hand the following opinions were also put forward: "ordinary citizens/consumers are not expected to read environmental reports. In order to encourage the popularization of environmental reports, we should think about directing them at a particular stratum of readers," (insurance), "an environmental report is something which is hard for so-called ordinary citizens/consumers to read in the first place," (co-op), "since environmental reports are directed at as many stakeholders as possible, they inevitably end up being hard to read. Again, it depends on the industry, but things like performance data and

⁵ Survey was carried out between December 2001 and January 2002, by means of individual interviews.

a list of comments by a third party would tend to be information with little relevance to the lives of ordinary people,” (electric appliance).

Reasons given as to why environmental reports are difficult to read included the following: “because the implications of disclosed environmental numerical data are hard for ordinary citizens/consumers to understand,” (three people), “because there are too many items or too much information for ordinary citizens/consumers,” (two), “because the terms used are too specialized for ordinary citizens/consumers and requires background knowledge,” (two), “because there is little information in the reports which is useful to ordinary citizens/consumers,” (two). There were also these comments: “an environmental report is a database and should be a tool which is easy to use. Despite everything, parts of them remain incomprehensible,” (electric appliance), “we can’t necessarily tell what would be useful to ordinary citizens/consumers,” (insurance).

How to make reading them easier

The following were supported, respectively, as steps which would have to be taken if environmental reports were to become more comprehensible to ordinary citizens/consumers: “adding an explanation of technical terms (web page linking, or a glossary at the end of a report in booklet form, for example),” (two people), “including useful information for ordinary citizens/consumers such as tips for environmentally friendly lifestyles),” (two), “issuing a condensed version (digest),” (one), “including commentaries on implications of numerical data to make the contents more comprehensible,” (one).

Asked about measures which were already in place in order to make reading easier, the replies were: “adding an explanation of technical terms,” (three people), “including commentaries on implications of numerical data to make the contents more comprehensible,” (two), “including useful information for ordinary citizens/consumers such as tips for environmentally friendly lifestyles,” (two), “issuing a condensed version (digest),” (one). Concrete examples given were: “we provided a page containing replies to readers’ questions,” (insurance); and “in the condensed version we added explanations, not included in the actual environmental report, couched in terms which would be more familiar to consumers” (food).

The following were selected as measures whose future implementation is under debate: “issuing a condensed version (digest),” (two people), “adding an explanation of technical terms,” (one), “including useful information for ordinary citizens/consumers such as tips for environmentally friendly lifestyles),” (one).

Tips for environmentally friendly lifestyles

The following opinion was put forward about inclusion of useful information for ordinary citizens/consumers such as tips for environmentally friendly lifestyles: “such information should be included since environmental reports are places where corporations communicate their messages about new lifestyles. Such information is not at odds with the objective of environmental reports,” (electric appliance). Other interviewees held different opinions: “tips for lifestyles should be communicated to as many people as possible, but these should be included in a medium other than an environmental report. Still, depending on purpose and application, it is all right to mention them in an environmental report,” (co-op), “tips for lifestyles do not fit in with the nature of an environmental report, which is a means for disclosing facts about a corporation’s environmental efforts, and should in principle be included in a separate publication. However, one possibility would be to hyperlink such information to corporate web pages,” (insurance).

Asked about what they thought, assuming tips for environmentally friendly lifestyles were included in an environmental report, should contain, interviewees gave the following replies: “how to sort out containers into different categories and recycling of bottles and cans,” (food), “what consideration the company is giving to the energy problem and the resource problem as part of its business,” (electric appliance), “lifestyles to prevent global warming, effects of recycling, effects of new eco-friendly products, etc.,” (co-op).

The following are currently-provided examples of this type of information: “our attempts to tackle the issue of environmentally friendly lifestyles for consumers in the course of our business activities are set out in our environmental report,” (co-op), “we issue an information sheet, separate from our environmental report, dealing with matters such as how to make the transition to a more eco-friendly family life and how to eco-drive the car,” (insurance).

Environmental reports and stakeholders

All four interviewees approved the opinion that an environmental report which takes into account all stakeholders is something which is impossible from the outset. ‘Food’ added the comment, “that applies to a paper report. A report on the web could reach everybody with the exception of children,” and ‘electric appliance’ that, “since the quantity and quality of information demanded varies among stakeholders, a report set out in a single booklet could not meet everyone’s needs.”

When asked what they thought about the idea that “different types of environmental reports should be issued for different stakeholder categories,” three people replied, “there’s no need to go as far as that,” one, “ideally, yes, but that would put up the cost so it wouldn’t be feasible,” one, “ideally, yes, and in actual fact that’s what we do.” The people who thought “there’s no need to go as far as that,” gave as their reasons: “An environmental report is a method of disclosure for stakeholders who are interested. However, no matter who the person, the information they want is the same so there is no need to go as far as to compile different versions of reports for different categories of stakeholders,” (insurance), “There is no need for environmental reports to be the only medium through which the various stakeholders can be reached. ‘Environmental report reading clubs,’ and factory visits are other possible channels,” (electric appliance), “There should be a variety of methods of disclosing information in addition to environmental reports. How about including information about the environment in product pamphlets and instruction manuals? Even if the environmental report is put on the web, only people who are interested will bother to read it,” (co-op).

Reliability

We received the following replies to our question about what ordinary citizens/consumers were likely to think about environmental reports receiving third party certification: “since this would be effective as a means for assessing reports specifically and objectively, which would confirm their reliability, the number of readers would increase,” (electric appliance), “it’s unlikely that the general public takes the matter as seriously as that,” (insurance), “ since the range and the direction in which reliability is to be guaranteed by a third party inspection hasn’t been properly established, it is doubtful whether confirming the report’s reliability would increase the number of readers. If the results of the inspection were set out more clearly, the report’s reliability could be more easily grasped,” (food), “obtaining third party certification and making the report easier to read are unrelated matters,” (co-op).

Guidebook

When we asked about what a guidebook about environmental reports for ordinary citizens/consumers should be like, there was substantial support for the following ideas: “it should enhance understanding of the information contained in the environmental report of one’s own company,” “it should deepen awareness of environmental activities of companies in general.” In connection with clarifying in

which points comparison with data disclosed by competitors should be made, we received the following comment in favor: “important because socially it is a good thing that people select the products of companies with a high degree of environmental efficiency,” (food), but others came out against this : “probably not feasible at the present stage. First, more people must be made aware of the existence of environmental reports,” (insurance), “making comparisons with other companies and using these as a tool for making investment and consumption decisions is a very thorny issue,” (electric appliance).

Environmental reports and environmental/consumer education

To our question about whether environmental reports had been compiled with the intention of having them more or less used in future as materials for environmental or consumer education we received the following replies: “parts of the report were compiled with this intention,” (two people), “the report was compiled with this intention,” (one), “no such intention in compiling the booklet form of the environmental report, but in the web version we did give this some consideration by hyperlinks,” (one). Comments were: “Information is vital for environmentally friendly behavior. By including information about the environmental impact of a company’s activities and the progress of its environmental preservation measures, an environmental report can become a tool to raise the environmental awareness of all readers. There are accounts to that effect in the reader questionnaire,” (electric appliance), “first of all, we distribute the report to all divisions and branch offices to give all employees a chance to read it. We also use it as a sales promotion tool,” (insurance).

Next, when we asked whether environmental reports should become educational materials for environmental or consumer education, three people replied that they should, and one that it didn’t matter one way or the other. There were the following comments: “Environmental education activities currently carried out tend to be separate from economic activities. There is considerable significance in getting involved in environmental education from the corporate point of view,” (food), “that’s the way things will go in reality. Let’s hope readers study the information contained. However, we must stay calm and not forget that in the last analysis an environmental report is no more than one type of material,” (insurance), “They should become so in the present situation where environmental reports are the only medium through which most companies explain their environmental activities. However, it should be noted that other media such as instruction manuals and pamphlets can also be used as educational materials,” (co-op), “environmental reports should continue to set out facts

and corporate intentions and should be used in many different ways,” (electric appliance).

Free responses

“The environmental problem is a theme which affects all stakeholders, and environmental reports should be a means for communication with everybody including ordinary citizens and consumers, as well as an educational tool and a way of building cooperative relationships. For this reason, environmental reports should be standardized (and made obligatory) and as many companies as possible should disclose their environmental data,” (electric appliance).

“People living in today’s society must have the ability to see clearly what constitutes important information for various industries,” (food).

“The primary concern for most people is performance data relating to each region respectively and environmental data in relation to products. Disclosure of such information may be done by means other than environmental reports, through site reports, for example, or by including environmental specifications on product pamphlets. How many people want to get hold of environmental data on an entire company in the first place? Isn’t this the time to urge as many companies as possible to issue environmental reports, not to worry about the accuracy of the data and whether the disclosed data can be compared between companies?” (co-op)

From the above free responses it would seem that the personnel in charge of environmental reporting hope that the publication of environmental reports will become more widespread and that the number of readers will increase.

Summary of the results of interviews with the personnel in charge of environmental reporting

The personnel in charge of environmental reporting recognize that there can be no such thing as an environmental report which takes into account all stakeholders. On the other hand, they do intend to add a simple explanation of technical terms as a means for making environmental reports easier to read. As far as tips for environmentally friendly lifestyles are concerned, some companies tended to favor including information about their own activities, but most felt that such information was at odds with the nature of an environmental report and were considering its

inclusion in another type of medium. If there were a guidebook about reading environmental reports, our interviewees hoped that this would promote understanding of the contents of their own companies' environmental reports. Some also wanted some mention of considerations for comparison with their competitors while others thought that at the present stage any such mention should be postponed. There is recognition that environmental reports should be used as a material for environmental or consumer education and reports are compiled with this in mind.

5. Conclusion

Concerning analysis themes (1) through (3) in "1. Introduction," the above survey results reveal the following points.

Now, it can hardly be said that in this study the sample size was sufficient nor that there was sufficient examination of the various points at issue. Nevertheless, in the interviews in particular we encouraged free responses as far as possible and many valuable points were made. If we summarize again the results of the questionnaires and interviews taken as a whole, including the free responses, we may deduce as follows:

Ordinary citizens/consumers seem to have difficulty in reading corporate environmental reports because of the large number of items and the vast quantity of information, and because they do not understand the technical terms and the implications of numerical data.

To make environmental reports easier for ordinary citizens/consumers to read, companies must first of all deal seriously with the above points. Meanwhile, there is a danger that limiting the number of items might impair the report's comprehensiveness as an information disclosure medium. Ideally, a condensed version should be published separately from the environmental report itself. Including information about environmental activities which make a social contribution and tips for environmentally friendly lifestyles in relation to a company's business activities would make environmental reports easier to read.

In addition, seminars about reading environmental reports given by people involved in environmental or consumer education, as well as the publication of guidebooks, are probably effective ways of bringing environmental reports closer to the

everyday experience of ordinary citizens/consumers. Seminars in particular are likely to be of considerable use to people with some interest in environmental reports. Commentaries on environmental issues related to information in an environmental report should ideally be included in a guidebook.

If environmental reports are going to be used as educational materials for environmental education and consumer education, the first condition required of them is that they be easily available. They will be more readily adaptable for use in education if they deal with familiar products and their production processes, and if they are visually designed to make them easier to understand.

Companies have the intention of explaining technical terms in a simple way as one means for making environmental reports more comprehensible. Some companies would include information about their own activities in connection with tips for environmentally friendly lifestyles, but most companies consider such information as at odds with the nature of environmental reports and have a plan to use a different medium for it. They think that environmental reports should be used in environmental or consumer education; in fact they compile their environmental reports with this potential use in mind.

Those involved in environmental or consumer education and those involved in compilation of environmental reports mentioned the opinions respectively that environmental reports are not written for ordinary citizens/consumers and that there are few consumers and citizens who would want to read and analyze them.

On the basis of the above, we can propose the following as essential approaches “for enabling a greater number of ordinary consumers to understand the contents of environmental reports.”

- The company which compiles the environmental report should add a gloss of technical terms, explain numerical data in a simple manner, and try to make the report visually pleasing by using diagrams and graphs. It should include information about its environmental activities which make a social contribution along with its environmental impact record. If it includes tips for environmentally friendly lifestyles, these should be limited to ones related to its own business.
- People involved in environmental or consumer education should hold seminars about reading environmental reports and guidebooks should also be issued. Seminars and guidebooks should mention where environmental reports can be obtained, explain the contents of the information contained in them, and also deal with ways of putting this information into practice and related environmental

issues.

Next, inferences to be drawn for our title, “Positive influences of corporate environmental disclosure on environmental education and consumer education and related issues to be tackled,” are set out below.

First, the following may be suggested as “positive influences.” As the interviews conducted with people involved in environmental or consumer education also made plain, people recognize that environmental reports are worth using as educational materials and the more companies publish reports, the more educational materials will be available. Furthermore, the fact that there is a demand for seminars about reading environmental reports like the one in which the respondents to our questionnaire participated and also for guidebooks about reading environmental reports means that the sphere of environmental or consumer education will be able to expand and this can be regarded as a “positive influence.”

On the other hand, “issues” to be tackled include how environmental reports will be dealt with in educational activities and what sort of seminars and guidebooks should be prepared. In particular, those involved in environmental or consumer education perceive environmental reports as being difficult to use as educational materials. To be useful as educational materials, they will have to be revised in some way.

Corporations assume that the readers of their environmental reports will be ordinary consumers as well as, or even to a greater extent than, shareholders and investors. Moreover, from the nature of the information contained in environmental reports, it would seem that everybody is a stakeholder, regardless of whether or not they have a direct relationship with a particular company. If that is indeed the case, then environmental reports will have to be read by even more consumers and ordinary citizens than at present. For that to happen, in the current situation, where a general awareness of the very existence of environmental reports is perhaps lacking, educators have an extremely important role to play. Yet, as far as the author is aware, the only seminar about reading environmental reports to have been held is the one in which the participants were asked to reply to our questionnaire, while no guidebook about reading environmental reports has been published to date. Overcoming this sorry state of affairs is surely the most important “issue.”

Nevertheless, in this study we obtained the result that elements assumed to be required in environmental reports from the point of view of environmental or consumer

education such as “tips for environmentally friendly lifestyles,” guarantees of reliability, and the possibility of making comparisons in disclosed environmental information between companies did not necessarily raise the value as educational materials of environmental reports. However, there is the possibility that a different result may emerge as the publication of environmental reports becomes more widespread, so this is a point which needs to be continually checked.

Finally, this study was to discover what the issues were and the interviewees were not necessarily chosen to reflect the characteristics of the population accurately. Put another way, since random sampling from citizens, students and educators, the majority of whom might be assumed to know nothing at all about corporate environmental reports, would require a survey on an enormous scale in order to obtain meaningful data, we could not afford this type of survey on this occasion. However, in future when we come to conduct a survey on needs for corporate environmental reports, we will have to adopt samples which better reflect the characteristics of the population.

<Questionnaire for the participants in the seminar about reading environmental reports>

Request for your cooperation in our survey on environmental reports

October 2001

Greetings

We conduct research in measures to familiarize citizens and consumers with companies' environmental reports which publicize their environmental preservation efforts and achievements.

Now we are carrying out a survey by a questionnaire to the participants in the fifth workshop "Communication between Companies and Citizens in terms of Environmental Information" (Dec. 9, 2000) of the Citizen's College for Global Environment (Global Environment Course) with the cooperation of the Aozora Foundation. Survey results will be used for the research subsidized by the Hyogo Research Institute for Human Care, entitled "Positive influences of corporate environmental disclosure on environmental education and consumer education and related issues to be tackled." The survey report will be published on the Organization's web pages (<http://www.boreas.dti.ne.jp/~human-c/>) around May 2002. The report will mention what participants in the workshop have answered for this questionnaire but not include any information that can identify the respondents.

We would appreciate your filling in this questionnaire and returning it to us using the enclosed envelope.

We enclose a token gift, whether or not you will answer our questionnaire.

Thank you very much for your cooperation in advance.

Sincerely yours,

Kenjiro HIRAYAMA
Institute for Global Environmental Strategies, Kansai Research Center
hirayama@iges.or.jp

NOTE:

In this questionnaire, “environmental reports” refer to disclosures of companies’ environmental preservation efforts and achievements in printed form (brochures, etc) or on web pages, and the workshop refers to the Global Environment Course’s fifth workshop “Communication between Companies and Citizens in terms of Environmental Information” held on Dec. 9, 2000 by the Aozora Foundation.

<Questionnaire>

Q1. How much knowledge did you have about environmental reports before your participation in the workshop? Please mark only one answer.

- 1. Did not know that companies had published environmental reports.**
- 2. Knew that companies had published environmental reports, but had never actually read one.**
- 3. Had read environmental reports but could not understand them well.**
- 4. Had read environmental reports and could understand them.**

Q2. After you participated in the workshop, had there been any change in the frequency with which you obtained environmental reports or looked up web pages? Please mark only one answer.

- 1. Yes. More frequent.**
- 2. No change.**
- 3. Yes. Less frequent.**

Q3. Do you think your attitude toward environmental reports has changed since your participation in the workshop? Please mark the appropriate answer to each question.

- 1. You now (want, do not want) to read them.**
- 2. They have (become easier, not become easier) to read.**
- 3. They have (become easier, not become easier) to understand.**
- 4. You now (read, do not read) them in a comparative way, comparing the reports of different companies.**
- 5. You (read, do not read) them with an awareness of environmental issues.**

Q4. How easy do you feel it is to read environmental reports in general? Please mark only one answer.

- 1. It is difficult to read.**
- 2. It is easy to read.**

Q5-1. What do you think makes environmental reports unfriendly to readers or what issue do you think should be tackled to make environmental reports easier to read?

(Mark all that apply.)

<How to compile>

1. Too many items or too much information
2. The implications of disclosed numerical data are difficult to understand.
3. Technical terms are often used and some background knowledge is required.

<Contents>

4. There is little information directly useful to ordinary citizens/consumers.
5. Not covering the expected items sufficiently.

Q5-2. What kind of information in environmental reports is most useful to you? Please choose one or two from the answers listed below. Why?

1. Management policy on environmental preservation
2. Environmental management system
3. R&D in designs with environmental suitability, etc
4. Observation of environmental regulations
5. Social contribution by environmental activities
6. Environmental impact record and efforts to reduce the impact
7. Environmental accounting data
8. General commentaries related to the above
9. Other ()

Reason ()

Q6. In order to make environmental reports easier to read, do you think it necessary to include useful information for ordinary citizens/consumers, such as tips for environmentally friendly lifestyles? Please mark only one answer and write the reason.

1. Yes. If such information is included, they will be easier to read.
2. No. The primary objective of environmental reports is to publicize companies' environmental efforts and achievements; if such information is at odds with the other information of reports, it will make them more difficult to read.

3. Depends on the type of business and the type of such information
Reason ()

Q7. As for information reliability, all currently published environmental reports have not received certification from a third party. Please mark the answer which best represents your view.

1. Third party certification is indispensable to corroborate the reliability of environmental reports for citizens/consumers as readers
2. Ordinary citizens/consumers, by becoming more skilled at understanding the information contained, should be able to cope even with environmental reports whose reliability had not necessarily been corroborated by a third party.
3. Other ()

Q8. If research institutes or non-profit organizations have a plan to publish guidebooks for readers of corporate environmental reports, what information do you expect? Mark all that apply.

1. How to distinguish between factual information and commercial information
2. How to obtain a broad grasp of what is written
3. Knowledge about technical terms and measurement units of scientific data
4. General explanations of environmental issues related to disclosed information (commentary on data)
5. Considerations for comparison with competitors' data
6. Other ()

Q9. What stance do you think ordinary citizens/consumers should take toward environmental reports? Please mark the answer which best represents your view.

1. It is necessary to read environmental reports of not just companies associated with your business but also as many other ones as possible.
2. It is necessary to read environmental reports from companies associated with your business
3. It is desirable for ordinary citizens/consumers to read environmental reports but there is no need to go out of their way to read them.
4. Since environmental reports are not intended for ordinary citizens/consumers, they need not do so.
5. Other (describe concretely:)

Q10. (For those who chose “1” or “2” in Q9) Please mark your reason(s). Mark all that apply.

1. For an environmentally friendly lifestyle, people need to consider what sort of companies manufacture and sell the products they use.
2. Citizens/consumers need to consider data about environmental impact of individual products in the whole process from procurement of materials through manufacture and distribution to disposal.
3. In seeking employment or investing in stocks, companies’ environmental efforts and achievements are important factors to consider.
4. The number of companies publishing environmental reports is increasing and environmental reports will become an important medium in the future.
5. Other (describe concretely: _____)

Q11. Finally please write your opinions or ideas freely.

<Attribute>

The following are questions to yourself.

Q1. Please circle ones that apply.

Sex: 1. Male 2. Female

Age: 10’s 20’s 30’s 40’s 50’s 60’s 70’s or older

Q2. If you don’t mind, please write your profession or occupation.

(_____)

Q3. If you allow us to ask further details of your opinions, please write your name and point of contact (e-mail address if possible).

Name: (_____)

POC: (_____)

Thank you very much for your kind cooperation.

<Preliminary survey for interviews with people involved in environmental or consumer education>

We send you this questionnaire before interviewing you concerning environmental reports. Please give us your view for each question in the questionnaire. Please state your opinion freely even for selection type questions. Thank you very much in advance.

<About the use of information provided by companies for education>

Q1-1. Have you ever used the following types of information or material (a through e) provided by companies (or economic organizations) in your educational activities?

- a. Information which products bear descriptive labels, handling caution, quality standard marks, eco-labels, etc.
- b. Handling instructions, user manuals, etc. supplied with products
- c. How-to guide published by companies or economic organizations for consumers
- d. Environmental reports (companies' information on their environmental efforts and achievements including site reports)
- e. Corporate information disclosed in accordance with the Pollutant Release and Transfer Register System (PRTR, Material Safety Data Sheets, etc.)

1. Yes 2. No

Q1-2. (For those who chose "Yes" in Q1-1)

What types of information or material have you used? Please mark all that apply, among options a through e.

<Usefulness of environmental reports as educational materials>

Q2. Do you think that corporate environmental reports are useful as educational materials?

- 1. Yes, they are useful. 2. Some of them are useful.
- 3. No, they are not useful.

Q3-1. (For those who chose "1" or "2" in Q2)

Please choose the reason(s). Mark all that apply.

1. For citizens/consumers to realize an environmentally friendly lifestyle, it is necessary to consider what environmental preservation activities manufacturers and distributors of consumer products have been doing in various aspects of their business and what effects their activities have brought about.
2. Ordinary citizens/consumers need to consider environmental impact of individual products in the whole process from procurement of materials through manufacture and distribution to disposal.
3. In seeking employment or investing in stocks, companies' environmental efforts and achievements are important factors to consider.
4. The number of companies publishing environmental reports is increasing and environmental reports will become more important as a means for corporate environmental disclosure.
5. Other (describe concretely: _____)

Q3-2. (For those who chose "3. No" in Q2)

Please write the reason.

(_____)

<Reader-friendliness of environmental reports as educational materials>

Q4. Are corporate environmental reports easy to use as a tool for environmental or consumer education?

1. Yes, they are easy to use.
2. No, they are not easy to use.

Q4-1. (For those who chose "1. Yes" in Q4)

Please write the reason.

Q5. (For those who chose "2. No" in Q4)

Why do you think corporate environmental reports are not easy to use as a tool for environmental or consumer education? Please mark all that apply.

1. Too many items or too much information.
2. The reliability of disclosed information is not confirmed.
3. Implications of disclosed environmental data are difficult to understand.

4. Technical terms are used and some background knowledge is required
5. There is little information which is useful to ordinary citizens/consumers.
6. The information is too biased to be used as an educational material.
7. Other ()

<Requirements for educational materials>

Q6. What are the requirements for educational materials? Please mark the one which best represents your view.

1. Only reliable information should be used for educational purposes.
2. Even unconfirmed information may be used to help consumers learn how to read data.
3. Other (describe concretely:)

Q7. Will you use environmental reports as educational materials if a third party checks the reliability of the information contained in them carefully?

1. Yes.
2. No.

Reason. ()

Q8. Do you think corporate environmental reports should include useful information for ordinary citizens/consumers, such as tips for environmentally friendly lifestyles? Why or why not?

1. Yes.
2. No.

Reason ()

(Example of reason for answer 2 (No): The primary objective of environmental reports is to disclose companies' environmental measures so such information is at odds with the objective and may unfavorably influence the reports' readability.)

<About guidebooks for readers of environmental reports>

Q9. Do you think a guidebook for readers of corporate environmental reports is necessary? Why or why not?

1. Yes.
2. No.

Reason ()

Q9-1. If research institutes or non-profit organizations have a plan to publish guidebooks for readers of corporate environmental reports, what information do you expect from such guidebooks? Mark all that apply.

- 1. How to distinguish between factual information and commercial information**
- 2. How to roughly grasp what is written**
- 3. Knowledge about technical terms and measurement units of scientific data**
- 4. Commentaries on environmental issues related to disclosed information (explanation of implications of data)**
- 5. Considerations for comparison with competitors' data**
- 6. Other ()**

Q10. Please write your opinions or ideas about environmental or consumer education freely.

<Attribute>

The following are questions to yourself.

Q1. How many corporate environmental reports have you read in the past six months?

Q2. Are you involved in environmental education or in consumer education?

- 1. Environmental education**
- 2. Consumer education**

Q3. How many years have you been involved in the present activity?

About () years.

Q4. Are you an educator or researcher in environmental/consumer education?

- 1. Educator**
- 2. Researcher**
- 3. Both**

Thank you very much for your cooperation. We also look forward to your cooperation in interviewing you.

<Preliminary survey for interviews with personnel in charge of environmental reporting>

Please answer the questions below about your company's environmental report. We would appreciate it if you could comment environmental reports in general as well.

Please write your opinions or ideas in the comment fields.

Q1. How easy do you feel are your company's environmental reports for ordinary citizens/consumers to read? Choose only one answer.

1. Easy to read.
2. We compile a special version for ordinary citizens/consumers which is easy to read.
3. For ordinary citizens/consumers, they used to be difficult to read but have become easier to read.
4. Difficult to read

Q2. (For those who chose "4" in Q1)

Choose the reason(s). Mark all that apply.

- A. Too many items or too much information for ordinary citizens/consumers to understand.
- B. Implications of disclosed environmental data are difficult for ordinary citizens/consumers to understand.
- C. Terminology is too technical for ordinary citizens/consumers to understand and some background knowledge is required
- D. There is little information which is useful to ordinary citizens/consumers.

Q3. Which measure is most needed to make your environmental report easier to read for ordinary citizens/consumers?

- A. Issuing a condensed version (digest)
- B. Including commentaries on implications of numerical data to make the contents more comprehensible.
- C. Adding an explanation of technical terms (web page linking or attachment of a glossary at the end of a report in booklet form)
- D. Including useful information for ordinary citizens/consumers such as tips for environmentally friendly lifestyles.

Q4. From among the measures listed in Q3, which have you already introduced or which are you going to introduce? Mark all that apply.

(Measures that you have already introduced):

(Measures that you are going to introduce):

Q5. Regarding “D” in Q3 (including useful information for ordinary citizens/consumers such as tips for environmentally friendly lifestyles), which view do you think best represents yours?

1. Such information does not fit in with the nature of an environmental report as a means for corporate environmental disclosure.
2. Such information does not fit in with the nature of an environmental report as a means for corporate environmental disclosure but one possibility is to link it to corporate web pages.
3. It is not at odds with the objective of environmental reports; rather it is desirable to include such information.
4. Other (describe concretely: _____)

Q6. If you have a plan to add useful information for ordinary citizens/consumers, such as tips for environmentally friendly lifestyles, to your environmental report, what kind of information will you include?

Q7. Some people argue that an environmental report in printed form which takes into account all stakeholders is something which is impossible from the outset. Do you think so? Why or why not?

1. Yes, I think so.
2. No, I don't think so.

Reason: (_____)

Q8. (For those who chose “1. Yes” in Q.7)

What do you think of the argument that different types of environmental reports should be issued for different stakeholder categories? Please choose the answer which best represents your view, and write a comment.

1. We agree and are considering compilation of different versions.
2. Ideally, we agree, but that would put up the cost so it wouldn't be feasible.

3. There's no need to go as far as that.

Comment: ()

Q9. How do you think ordinary citizens/consumers consider third party certification of environmental reports? Please choose the answer which best represents your view and write a comment.

1. Environmental reports which have received third party certification would be too sophisticated for ordinary citizens/consumers to comprehend.

2. The report's reliability would be confirmed, so the number of readers would increase.

3. Other ()

Comment: ()

Q10. If a research institute or non-profit organization is going to publish a guidebook for ordinary citizens/consumers about how to read environmental reports, what type of guidebook do you think it should be? Please mark all that apply, put them in the order of priority and write a comment.

1. It should enhance their understanding of your environmental report.

2. It should clarify in which points to compare your company's disclosed data and your competitors'.

3. It should encourage people to refer to environmental reports when they seek employment or invest in stocks.

4. It should deepen awareness of corporate environmental activities in general.

Write the appropriate numbers in the order of priority:

Comment: ()

Q11. Did you compile your environmental report with the intention of having environmental reports more or less used as an environmental or consumer educational material?

NOTE: "Environmental education" here refers to scientific or practical educational activity which suggests environmentally friendly lifestyles with awareness of the eco-system and environmental pollutions. "Consumer education" here refers to activity which clarifies the points to be discussed for practical solutions to various daily consumer problems and educates consumers to become independent-minded consumers with knowledge of such points. Both are intended for generations ranging from elementary

school children to adults

1. Yes, the reports was compiled with this intention.
2. Yes, parts of the report were compiled with this intention.
3. No such intention in compiling the booklet form of the environmental report, but in the web version we did give this some consideration by linking.
4. No, it was not compiled with this intention.

Comment: ()

Q12. Do you think environmental reports should be used as materials for environmental or consumer education? Why or why not? Or write a comment.

1. Yes, I think so.
2. It doesn't matter one way or the other.
3. No, I don't think so.
4. Other (describe concretely:)

Reason or comment: ()

Q13. Please write freely your opinions or comments concerning the relationship between environmental reports and citizens/consumers and the relationship between environmental reports and environmental/consumer education.

<Attribute>

The following are questions to yourself.

Q1. Are you in charge of compilation of your company's environmental report?

How long have you been in such a position?

Q2. Have you edited your company's environmental report taking the viewpoint of ordinary citizens/consumers into account?

Q3. Do you think your responsibility has changed your way of looking at your company's activities and encouraged you to take their environmental impact into account?

Thank you very much. We also look forward to your cooperation in interviewing you.