Environmental Accounting in Iran

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ABSTRACT: In the current research surveying the environmental accounting is highly important. Samples include 36 environmental polluting companies in Ilam Province in 2011. In the current research by the use of the library method and field research the required data and evidences were achieved, and after analyzing data by the use of Excel software it was determined that environmental accounting in Ilam Province includes environmental penalty and costs of installation and operation of non-polluting systems. Also the number of polluting companies during 2006 to 2011 was collected and the figures were analyzed. Applying terms and conditions during establishing polluting companies and applying heavy penalties for different companies could prevent from environmental pollution.

Keywords: Environmental accounting, Ilam province, Environmental penalty.

INTRODUCTION

Ilam is a province located within an area of over 19086 square kilometers between 31 degrees and 58 minutes to 31 degrees and 15 minutes of north latitude from the equator and 45 degrees to 27 minutes to 48 degrees and 10 minutes of east of Greenwich meridian (Alizadeh & Ibrahimzadeh, 1998). The natural vegetation of this area is influenced by climatic factors, length of heat and moisture existing in the air and results in creation of two specific and dominant vegetation groups of jungles, shrubs, trees and natural vegetation (Afshar, 1987). Nowadays although Ilam is not highly developed, it is not safe from the environmental pollution, a kind of pollution greatly caused by human beings’ factors. As we continue after defining the environment we introduce its approaches.

Environment means our water resources, air, and soil but based on today’s definitions it means everything around us. The role of environment in the sustainable development and endogenous regional and local development is very important. Thus planning for sustainable development, maintaining environment and optimal use of the natural resources and human resources are very fundamental (Maleki, 2012).

Environmental protection is a subject matter existing in different sciences and all of them are somewhat dealing with it, and accounting is not an exception as well. Some of the environmental limitations in the world trade and close domestic and foreign competitions indicate the function and position of accounting in environment more than before. In one hand, some non-profit organizations have to endure these environmental costs in order to eliminate these limitations and gain more income and or gain commercial popularity, and on the other hand, they have to reduce the mentioned costs in order to have positive evaluation of the specific function of environmental protection and preventing its outcomes. Environmental costing is an activity that could result in increased value of the company. In order to manage the environmental costing the first prerequisite is detecting them (Kazemzadeh Arasi, 2001), above mentioned reasons result in the manifestation of environmental accounting as one of the broad areas of accounting science. Environmental accounting has two internal and external approaches, in internal approach which is called Environmental Management Accounting aim is helping the management to perform pricing, fixed cost control and capital budgeting, while in the external approach the aim is presentation and disclosure of public interest and environmental enthusiasts’ environmental information.

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Research literature

Environmental accounting includes a set of activities resulting in increased power of accounting systems in detecting, recording, and reporting the effects caused by destruction and environmental pollution (Sajjadi, 2011). Environmental theories include: 1) Theory of human beings representation in environment, 2) Theory of social contracts, 3) Theory of legitimation. Theory of human beings representation in environment: Based on this theory, human beings are the representatives in exploitation of the environment (Hopwood, 2009). Based on this theory in case of achieving a proper balance with the environment we do not observe any environmental pollution and many other proposed problems about this matter (Hopwood, 2009).

Theory of social contracts: Based on this theory organizations intentionally or unintentionally enter contracts with society and environment in order to use society and environment, and the amount of adherence of the agency to this contract forms the base of theory of legitimation, and how the organizations activities in society and environment are determined based on these two theories (Aghdam Mazraeh, 2011).

Theory of legitimation: In the mutual relationship and influence of the organization, society and environment a theory is formed named as theory of legitimation, based on which organizations constantly try to ensure the outside part of their organizations (Society) about their activities that they observe their social and environmental requirements and they try to induce a positive perception of their activities to the society, this theory is called theory of legitimation (Aghdam Mazraeh, 2011).

Reducing the environmental costs, receiving Green Technology Certificate, improving environmental performance, more accurate cost determination, and more appropriate pricing, increased competitive power and supporting the development of a system through its environmental aspect are some of the reasons of paying attention to the environmental accounting (ISO 14001). In 1995 by Environmental Protection Agency (EPA) the environmental accounting was divided into 3 parts of financial accounting, revenue accounting and management accounting and the revenue and financial accounting have external users and management accounting has internal users. All the users emphasize on two aspects of environmental information, the first aspect is financial information such as cost related to producing more green products, and another aspect is physical information including all the materials and energy affecting the ecologic system such as the kg of used materials per customer (Ammenberg, 2003). Being conducted in the field of environmental accounting are as followed:

Researches of Mirsamiei and Khoshtinat (2002) about the barriers of developing environmental accounting in Iran showed that laws and regulations related to the manufacturing companies have deficiencies and they do not have the required enforcement.

Allameh (2004) showed that reporting and disclosure of environmental financial performance results in the increased information of the users and encourages companies to observe the environmental protection. Research results of Joharchi (2006) showed that there is no significant correlation between receiving the ISO 14000 Certification and environmental performance of the companies. Researches of Abbasi and Mohammadi (2012) showed that polluting companies listed in Tehran Stock Exchange at least in 50% of the observations offer their environmental financial performance in their notes of financial statements and reports of board of directors in the general meeting of shareholders. Banerjee (2006) showed that due to the social outcomes companies do not want to offer their detailed information about the environmental costs in their annual reports to the public. In researches conducted by Yongvanich and Guthrie (2006) it was determined that only a few numbers of countries such as the Nordic area are active in disclosure on environmental and social performance. Research of Edu et al (2009) showed that when the information disclosure about the environmental performance is non-mandatory and voluntary companies use different procedures for reporting.

Environmental accounting

Up to 1970’s the traditional accounting did not provide users with any information associated with the environment, thus the Accounting Standards Board published the Journal No. 5 named as the Accounting possible events in 1975 in order to provide the ground for creating environmental accounting.

After the adoption of above mentioned law in USA the standards were legislated and some of the most important ones are:
Table 1. Review of change in environmental law.

<table>
<thead>
<tr>
<th>Year</th>
<th>Legislative Body</th>
<th>Title</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>Accounting Standards Board</td>
<td>Interpretation of No. 14 entitled as A reasonable estimate of the amount of a loss</td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td>U.S. Congress</td>
<td>Environmental Resource Conservation and Recovery Act</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>U.S. Congress</td>
<td>Comprehensive law on liability, damages and liabilities of environment</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>U.S. Congress</td>
<td>Super Fund Law Reformation</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Accounting Standards Board</td>
<td>Formulating Journal of 90-8 named as Capital costs of environmental pollution</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>ISO Committee</td>
<td>International standards for environmental management ISO 14000</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>Europe Union</td>
<td>Eco-Management and Audit Scheme (EMAS)</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>Britain Commonwealth Countries</td>
<td>BS8555</td>
<td></td>
</tr>
</tbody>
</table>

Although we could not expect the formulation and implementation of environmental laws to resolve all the environmental problems, because the role of other factors such as public awareness and institutionalizing this matter in the social culture and behaviors is very important and considerable, definitely prevention of pollution and destruction of environment and regulating the relationships between human beings and environment is not possible without the existence of legally binding rules. On the other hand, environmental accounting should not only provide an adequate warning system for the environmental disasters but should also gradually improve and enhance the ecological consideration for its dominance (Mohseni, 2011).

The implementation of environmental accounting

Environmental accounting includes producing, analyzing and use of information related to the environmental financial problems for the environmental economic performance of the company (Saaki, 2011). In order to implement the environmental accounting the below stages are defined:

a) Detecting the environmental effects of the company operations.
b) Detecting the environmental costs of the companies and collecting the primary information about their diversity, distribution, extent and reasons.
c) The flows of material and energy, and non-financial data in each and every company should be traced and reported.
d) The environmental costs should be traced and reported, which means that in the second stage the detected costs should be recorded and traced in the framework of accounting system.
e) Decision making models used in the company should be surveyed in terms of sensitivity toward the environmental effects and costs.
f) Environmental goals and non-financial performance criteria should be involved in the budgeting system and performance evaluation.
g) Allocating the environmental costs to the products, procedures and units based on the activity-based costing methods, activity-based management, and total quality, total quality management with environmental approach, reengineering process and cost reduction should be conducted.
h) The scope of environmental accounting should be expanded through analyzing the life cycle and value chain. Company beliefs and responsibilities toward the environment should be delivered to the stakeholders through publication and environmental reports.
i) Determining the goal of sustainable development as the organizational goal (Nasirzadeh, 2009).

Types of environmental cost accounting

Disclosure of environmental costs in line with preserving the wealth of shareholders results in increased value of the profit agency, and although profits of such costs are not accountable, they distinguish a profit agency as a green industry, and despite all the benefits in preserving the competitive market in the similar non-green industries through creation of social popularity they have beneficial and influential effects on the stock prices of such agencies in the Stock Market. In order to detect the environmental costs following methods are used:

Natural resource accounting, waste accounting, value of environmental goods and services not offered to the market, Green GDP (Saaki, 2011).
Types of environmental costs

The topic of environmental costs is as followed:
1) Environmental educations
2) Environmental awareness and promotional activities
3) Establishing Environmental Management Systems (EMS)
4) Conducting environmental audits
5) Installation and implementation of pollution control systems
6) Performing tasks related to the social responsibilities
7) Conducting environmental studies and researches
8) Improving environmental performance of the product
9) Environmental penalties
10) Costs of demolition of mentality of society and consumers
11) Costs of operating international commitments
12) Costs of waste disposal
13) Cost of recycling and reuse of materials
14) Personnel costs spent on environmental matters
15) Costs related to preventive reforms
16) Maintenance costs of control system

METHODOLOGY

In the current research the field method has been used and required data were collected through library method. Referring to the Office of Research and Planning of Department of Environment was conducted in order to gain information about the polluting companies, after determining the polluting companies by visiting the above mentioned companies the environmental penalties, methods of eliminating pollution and costs of implementing these methods were collected, and after gaining the information they were analyzed by the use of Excel software.

RESULTS

Table 2. Polluting companies during 2006-2011 in Ilam Province.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of polluting companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>28</td>
</tr>
<tr>
<td>2007</td>
<td>13</td>
</tr>
<tr>
<td>2008</td>
<td>39</td>
</tr>
<tr>
<td>2009</td>
<td>47</td>
</tr>
<tr>
<td>2010</td>
<td>43</td>
</tr>
<tr>
<td>2011</td>
<td>36</td>
</tr>
</tbody>
</table>

Based on the above mentioned table it was determined that the lowest number of polluting companies belongs to the year 2007 with 13 companies, and the highest number of polluting companies belongs to the year 2009 with 47 companies. Also in years 2006, 2010, and 2011 the number of polluting companies had a decrease compared to their previous years, and the highest number of decrease belongs to year 2007 with 15 cases of decrease, and also in 2011 the number of polluting companies decreased from 43 polluting companies to 36 companies.

Table 3. Public and private-sector polluting companies during years 2006-2011 in Ilam Province.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of private companies</th>
<th>Percentage of private companies</th>
<th>No. of public companies</th>
<th>Percentage of public companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>23</td>
<td>82%</td>
<td>5</td>
<td>18%</td>
</tr>
<tr>
<td>2007</td>
<td>12</td>
<td>92%</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>2008</td>
<td>34</td>
<td>87%</td>
<td>5</td>
<td>13%</td>
</tr>
<tr>
<td>2009</td>
<td>39</td>
<td>83%</td>
<td>8</td>
<td>17%</td>
</tr>
<tr>
<td>2010</td>
<td>37</td>
<td>86%</td>
<td>6</td>
<td>14%</td>
</tr>
<tr>
<td>2011</td>
<td>31</td>
<td>86%</td>
<td>5</td>
<td>14%</td>
</tr>
</tbody>
</table>
Above mentioned table shows that during years 2006-2011 always the No. of private-sector polluting companies was more than public-sector polluting companies, and the highest of public polluting companies is 8 cases in 2009 and the lowest is 1 case in 2007.

**Environmental cost accounting**

Environmental costs were stated in the previous part, after conducting the surveys it has been found out that environmental costs related to the environmental polluting companies in Ilam Province include:

1) Penalty fee
2) Cost of installation and implementation of pollution control systems

From 43 companies in year 2010 it reached 26 companies in 2011, and changes occurred are as followed:

1) 12 sand production companies were eliminated from the list of polluting companies.
2) 3 new companies were added to the list of polluting companies.
3) 3 asphalt production companies were eliminated from the list of polluting companies.
4) 2 bankrupt companies were eliminated from the list of polluting companies.
6) From 26 polluting companies of Ilam Province in 2010 20 companies are located in deprived areas and the rest are located in the non-deprived areas.

**Environmental costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penalty fee</td>
<td>40.544.438.000 Rials</td>
</tr>
<tr>
<td>+ Cost of installation and implementation of pollution control systems</td>
<td>198.000.000 Rials</td>
</tr>
<tr>
<td><strong>Total environmental cost</strong></td>
<td>40.742.438.000 Rials</td>
</tr>
</tbody>
</table>

**Conclusion**

In a world of increasing number and development of polluting companies, the environmental accounting could be used as leverage. The above mentioned research confronted limitations such as lack of facilities, information spatial distance, lack of special standards, and lack of strong research background and etc. Ilam province is not highly developed but it has faced high levels of environmental pollution. Implementing environmental accounting in Ilam Province has shown that diversity of environmental costs in provinces having limited and somewhat similar polluting companies is low, and it only includes the penalty fees of polluting companies and cost of installation and implementation of pollution control systems as a strategy for eliminating the environmental costs, and this makes the ground easier for eliminating the environmental destructive factors.

After the above mentioned survey it has been determined that the environmental accounting in Iran does not have a good history and condition, thus now we state the following suggestions for improving the environmental accounting in Iran: Operational standards, Clarifying information related to the polluting companies, Obligation to implement environmental accounting, Imposing heavier fines for polluting companies, Change of culture and individuals’ attitude: According to some researchers solely laws and regulation could not guarantee the environmental protection against dangers caused by the profit activities, and there is a need to change the selfish attitude of human beings, Expanding green space, Formulating financial planning principles: Observing the following principles is suggested as a basis for financial planning: balance, modification, perfectionism, providence, taking a lesson, note-taking, holism, Unitarianism, and holistic views.

**REFERENCES**


