

# Research on Environmental Accounting Information Disclosure of Agricultural Enterprises under the Background of Green Economy Development

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**Abstract:** The global economic development is showing a new trend, and green development requires major companies to continuously improve resource utilization efficiency and reduce waste emissions in production and daily life. As a fundamental industry of the national economy, the disclosure of environmental accounting information in agriculture is particularly important. This not only an important manifestation of actively responding to the national call for ecological protection, but also conducive to providing micro data for national or regional environmental and resource statistics, and promoting sustainable development. This article first analyzes, reviews, and organizes relevant research achievements and literature at home and abroad. Secondly, by analyzing the disclosure status of 44 agricultural enterprises in China in their annual reports and social responsibility reports from 2018 to 2022, this paper summarizes the problems that exist in the disclosure process of relevant information by agricultural enterprises in China. Finally, in response to the problems that arise in the disclosure practice of relevant information by agricultural enterprises in China, suggestions are proposed to make up for the shortcomings and promote the formation and development of relevant disclosure systems for agricultural enterprises.

**Keywords:** Green Economy; Environmental Accounting; Information Disclosure; Evaluation System

## 1. Introduction

### 1.1 Research Background

Agriculture is the fundamental industry of the

national economy, and its development not only depends on the environment, but also affects the environment, and even destroys it. In recent years, the problem of agricultural pollution in China has become increasingly serious. Data shows that agricultural pollution emissions have exceeded industrial pollution emissions, becoming the main source of environmental pollution. Environmental accounting, as an effective tool for economic management, utilizes accounting methods to measure, reflect, and control social environmental resources, which is conducive to promoting the win-win development of the economy, society, and ecology. The disclosure of environmental accounting information by agricultural and forestry enterprises is not only an important manifestation of actively responding to the national call for ecological protection, but also conducive to providing micro data for national or regional environmental and resource statistics, and promoting sustainable development. Therefore, it is undoubtedly of great significance to draw on the research achievements of environmental accounting and combine the particularity of agriculture to construct a theoretical system of agricultural environmental accounting, and then study its practical path.

### 1.2 Literature Review

Environmental accounting, also known as green accounting, is a branch of accounting that uses currency as the main measurement method and environmental protection laws as the basis to study the relationship between economic, social development, and the environment. It measures and records the impact of environmental pollution, environmental governance, utilization of environmental resources, and compensation on business activities and economic benefits of

enterprises<sup>[1]</sup>. From a global perspective, Western countries began researching environmental accounting as early as the 1970s, and have now formed a relatively mature theoretical system of environmental accounting. Environmental accounting laws and regulations, environmental accounting systems, environmental information disclosure mechanisms, carbon emission trading, and environmental tax collection have been proficiently and effectively applied in practice. Neighboring countries such as Japan, South Korea, and India also issued a series of environmental accounting standards and guidelines around 2000, which have been revised and improved in corporate practice.<sup>[2]</sup>

Specifically, in China, the research on environmental accounting began in the 1990s. Ge Jiashu<sup>[3]</sup> first elaborated on environmental accounting in his article "A New Trend of Western Accounting Theory in the 1990s - Green Accounting Theory". Afterwards, after going through development stages such as "problem posing theoretical exploration institutional construction implementation research", the current research field has covered various aspects such as basic theories, accounting systems, factor accounting, information disclosure, emission trading, and enterprise application, especially achieving fruitful results in information disclosure and cost accounting<sup>[4]</sup>. However, overall, there is still a significant gap between China's research on environmental accounting and that of foreign countries. Specifically, there are many research directions, but a unified and standardized theoretical system has not yet been formed. Secondly, despite the introduction of environmental protection laws and regulations, there have been no specialized environmental accounting standards and systems yet, which are only sporadically involved in enterprise accounting standards. The third is the existing theoretical research and practical exploration, mostly focusing on enterprises above designated size and enterprises, with a focus on the industrial manufacturing industry, while agriculture, forestry and other fields are rarely involved. Fourthly, specific measurement methods and standards are rarely used to account for environmental factors in enterprises, and there is a lack of specific data on the composition

and factor analysis of these factors. The fifth is that environmental information is only disclosed briefly within the scope of the enterprise, with qualitative disclosure being the main method and quantitative disclosure being less, while passive disclosure is the main method and active disclosure is less.

Agricultural environmental accounting is the refinement and application of environmental accounting, which not only draws on the theoretical achievements and practical experience of environmental accounting, but also enriches and enriches it based on the unique characteristics of agriculture. This feature is also applicable in forestry environmental accounting and other fields. Ma Zhijian pointed out that the important value of agricultural environmental accounting should be comprehensively measured from five dimensions: sustainable development of agriculture, agricultural resources and environmental protection, development and competition of agricultural enterprises, remedying the shortcomings of traditional agricultural accounting, and aligning with international accounting<sup>[5]</sup>. Gong Lei defined the purpose, significance, and conceptual characteristics of agricultural environmental accounting, and proposed for the first time the research idea of "basic theory - recognition and measurement of accounting elements - combination of theory and practice"<sup>[6]</sup>.

The recognition and measurement of accounting elements, as well as the disclosure of accounting information, are the key and difficult points of agricultural environmental accounting. Ding Jia et al. focused on the pollution of agricultural enterprises' biological assets to the environment, subdivided agricultural environmental costs into prevention costs, governance costs, and damage costs, and measured them using the prevention cost method, opportunity cost method, and market value method respectively<sup>[7]</sup>. Huang Aihua's research has found that agricultural enterprises in China have problems such as inconsistent information disclosure methods, untrue data, incomplete content, and untimely time, which require systematic improvement in theoretical research, institutional construction, publicity and guidance, and talent cultivation.<sup>[8]</sup>

In summary, there is currently relatively little research on agricultural environmental

accounting in the theoretical community, mainly focusing on qualitative meaning descriptions and conceptual features, lacking an overall theoretical framework and specific practical exploration. Based on this, this article constructs a theoretical framework for agricultural environmental accounting, refines the recognition and measurement of accounting elements, and proposes implementation paths for agricultural environmental accounting.

### 1.3 Research Content

Firstly, this article analyzes, reviews, and organizes relevant research achievements and literature both domestically and internationally. Secondly, this article analyzes the disclosure status of 44 agricultural enterprises in China in their annual reports and social responsibility reports from 2018 to 2022, and summarizes the problems that exist in the disclosure process of relevant information by agricultural enterprises in China. Finally, suggestions are

put forward to address the problems and make up for the shortcomings in the disclosure practice of relevant information by agricultural enterprises in China, which is conducive to the formation and development of relevant disclosure systems for agricultural enterprises.

## 2. Analysis of the Current Situation and Problems of Environmental Accounting Information Disclosure in Agricultural Enterprises in China

### 2.1 Current Situation of Environmental Accounting Information Disclosure in Agricultural Enterprises in China

This article selects 44 A-share listed companies in the agriculture, forestry, animal husbandry, and fishing industries (i.e. agricultural listed companies) as samples to analyze their annual reports and social responsibility reports from 2018 to 2022. The basic information of the sample enterprises is shown in Table 1:

**Table 1. Basic Information of Sample Enterprises**

Stock code	Stock abbreviation	Stock code	Stock abbreviation
000592	Pingtang Development	300094	Guolian Aquatic Products
000713	Fengle Seed Industry	300106	Western Animal Husbandry
000735	Luoni Mountain	300189	Shennong Technology
000798	Water fisheries	300313	Tianshan Biology
000876	New Hope	300498	Wen's shares
000998	Longping High Tech	300511	Snow Banyan Biology
002041	Denghai Seed Industry	300761	Lihua Shares
002069	Zhangzi Island	600097	Pioneering International
002124	Tianbang Food	600108	Yasheng Group
002157	*ST	600257	Dahu Corporation
002234	Minhe Shares	600313	Agricultural Development Seed Industry
002299	Shengnong Development	600359	New Agricultural Development
002311	Haida Group	600371	Wanxiang Denong
002321	Huaying Agriculture	600467	homey
002385	Da Bei Nong	600506	Xiangli Shares
002458	Yisheng Shares	600540	Xinsai Shares
002679	Fujian Jinsen	600598	Northern Wilderness
002696	Baiyang Co., Ltd	600965	Fucheng Shares
002714	Muyuan Shares	600975	New Wufeng
002746	Xiantan Shares	601118	Hainan Rubber
002772	Zhongxing Mushroom Industry	603477	Giant Star Farmer

Data source: CNINFO

Through reading and organizing the annual reports of 44 selected agricultural enterprises, it can be found that the environmental accounting information disclosed in the annual reports of agricultural enterprises in China is relatively scattered, and agricultural

enterprises mainly qualitatively disclose environmental risks and policies in the important reminder section; In the chapter on business analysis and discussion, agricultural enterprises mainly disclose their environmental policies, the use of

environmental protection facilities, etc., all of which adopt the form of qualitative disclosure; In the important matters section, companies mainly disclosed information on pollutant compliance and emission treatment, as well as their investment in environmental protection facilities. Excluding 14 companies that did not disclose any environmental accounting information, 9 companies only disclosed the above content in qualitative form, while the remaining 21 companies provided quantitative descriptions with varying degrees of detail; In the financial report section, the disclosure content mainly includes financial information related to the environment, such as government subsidies received related to environmental protection.[9] All 28 companies used quantitative disclosure. However, due to the lack of independence of environmental accounting subjects from traditional accounting subjects, the disclosed environmental accounting information does not include the depreciation of environmental equipment and environmental construction in progress of the enterprise.

Through the organization and analysis of the collected social responsibility reports, it can be seen that only 9 out of the 44 selected enterprises have released independent social responsibility reports for 2022, including Muyuan Group, Wenshi Group, Yisheng Group, Xiangdenong, Luoniushan, Shengnong Development, Haodangjia, Hainan Rubber, and Pingtan Development. The above 9 agricultural enterprises have all disclosed environmental related information. From the perspective of disclosure form, all 9 companies adopt qualitative descriptions as the

main form of disclosure, with 2 companies (Wenshi Co., Ltd. and Muyuan Co., Ltd.) disclosing quantitative information, such as overall environmental protection investment, pollutant emissions, energy-saving and emission reduction results, etc. From the perspective of disclosure content, it mainly involves several aspects such as the company's environmental protection system, environmental investment and project licensing, pollution treatment measures, environmental performance, and environmental honors. Only two companies, Luoniushan and Wenshi Group, have disclosed environmental accidents and emergency plans, as well as environmental training for employees. It can be seen that there are certain differences in the content of environmental accounting information disclosure among agricultural enterprises in China.

## 2.2 Quality Evaluation

### 2.2.1 Evaluation Items and Scoring Standards

This article sorts out and summarizes the items required and recommended for disclosure in the current environmental accounting information disclosure documents in China. Based on the characteristics of agricultural listed companies, a system that can be used to evaluate the quality of their environmental accounting information disclosure is established for agricultural listed companies. When evaluating the quality of environmental accounting information disclosure, different scores are assigned based on the different disclosure methods used. The specific scoring standards are shown in Table 2.

**Table 2. Quality Evaluation Items and Scoring Standards for Environmental Accounting Information Disclosure of Agricultural Enterprises**

project	content	Scoring criteria		
		no message	Only qualitative description	Include quantitative description
Environmental financial information	government grants	0	1	2
	Environmental protection investment	0	1	2
	Pollution discharge fee	0	1	2
	Greening fee	0	1	2
Environmental non-financial information	Environmental accidents and emergency plans	0	1	2
	Operation status of environmental protection facilities	0	1	2
	Energy conservation and emission reduction	0	1	2
	Waste recycling and utilization	0	1	2
	Pollutant compliance status	0	1	2

ISO certification status	0	-	2
Other environmental honors	0	-	2
Enterprise Environmental Policy	0	-	2

### 2.2.2 Analysis of evaluation results

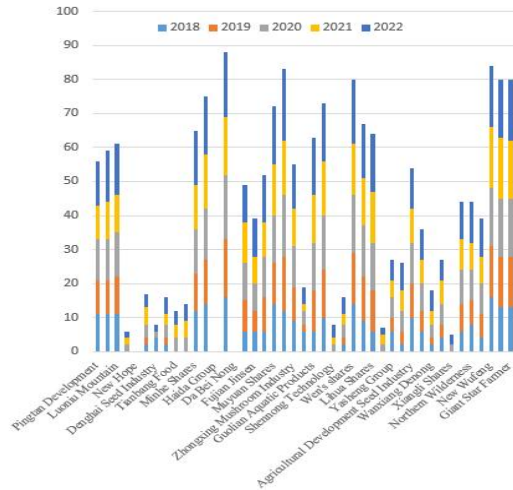
According to the evaluation system for environmental accounting information disclosure of agricultural enterprises established earlier, 44 A-share agricultural listed companies were evaluated and analyzed for the relevant information disclosed in their

reports from 2018 to 2022. The evaluation results are shown in Table 3 and Figure 1, and the table "-" shows that there was no data for the year. The disclosure ratios of various contents of environmental accounting information disclosure are shown in Table 4 and Figure 2.

**Table 3. Evaluation Results of Environmental Accounting Information Disclosure Quality of Agricultural Listed Companies**

Company Name	2018	2019	2020	2021	2022
Pingtian Development	11	10	12	10	13
Fengle Seed Industry	11	10	12	11	15
Luoni Mountain	11	11	13	11	15
Water fisheries	0	0	2	2	2
New Hope	-	-	-	-	-
Longping High Tech	2	2	4	5	4
Denghai Seed Industry	4	0	2	0	2
Zhangzi Island	2	2	4	3	5
Tianbang Food	-	-	4	4	4
*ST 正邦	-	-	4	5	5
Minhe Shares	12	11	13	13	16
Shengnong Development	14	13	15	16	17
Haida Group	-	-	-	-	-
Huaying Agriculture	16	17	19	17	19
Da Bei Nong	-	-	-	-	-
Yisheng Shares	6	9	11	12	11
Fujian Jinsen	6	6	8	8	11
Baiyang Co., Ltd	6	10	12	10	14
Muyuan Shares	14	12	14	15	17
Xiantan Shares	12	16	18	16	21
Zhongxing Mushroom Industry	9	10	12	11	13
Quanyin High Tech	6	2	4	2	5
Guolian Aquatic Products	6	12	14	14	17
Western Animal Husbandry	10	14	16	16	17
Shennong Technology	0	0	2	2	4
Tianshan Biology	2	2	4	3	5
Wen's shares	14	15	17	15	19
Snow Banyan Biology	9	13	15	14	16
Lihua Shares	6	12	14	15	17
Pioneering International	0	0	2	3	2
Yasheng Group	6	4	6	5	6
Dahu Corporation	2	4	6	6	8
Agricultural Development Seed Industry	10	10	12	10	12
New Agricultural Development	6	6	8	7	9
Wanxiang Denong	2	2	4	4	6
homey	4	4	6	7	6
Xiangli Shares	0	0	2	0	3
Xinsai Shares	6	8	10	9	11
Northern Wilderness	8	7	9	8	12

Fucheng Shares	4	7	9	8	11
New Wufeng	16	15	17	18	18
Hainan Rubber	13	15	17	18	17
Giant Star Farmer	13	15	17	17	18
Zhongnong Lihua	-	-	-	-	-

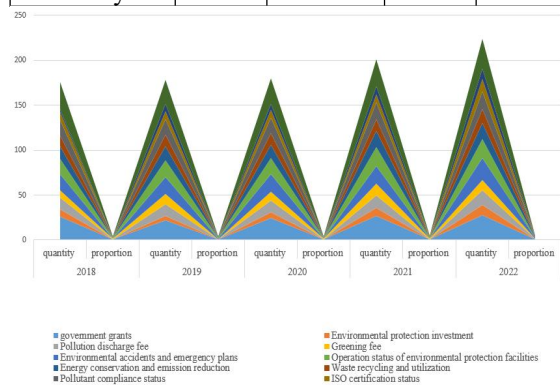


**Figure 1. Evaluation Results of Environmental Accounting Information Disclosure Quality of Agricultural Listed Companies**

**Table 4. Disclosure ratios of various contents of environmental accounting information disclosure**

Disclosure items	2018		2019		2020		2021		2022	
	quantity	proportion	quantity	proportion	quantity	proportion	quantity	proportion	quantity	proportion
government grants	26	59.09%	22	50.00%	24	54.55%	27	61.36%	28	63.64%
Environmental protection investment	8	18.18%	5	11.36%	7	15.91%	9	20.45%	11	25.00%
Pollution discharge fee	13	29.55%	13	29.55%	13	29.55%	14	31.82%	16	36.36%
Greening fee	8	18.18%	11	25.00%	10	22.73%	13	29.55%	12	27.27%
Environmental accidents and emergency plans	18	40.91%	19	43.18%	19	43.18%	19	43.18%	24	54.55%
Operation status of environmental protection facilities	17	38.64%	19	43.18%	18	40.91%	21	47.73%	21	47.73%
Energy conservation and emission reduction	14	31.82%	15	34.09%	15	34.09%	18	40.91%	18	40.91%
Waste recycling and utilization	12	27.27%	13	29.55%	13	29.55%	13	29.55%	16	36.36%
Pollutant compliance status	17	38.64%	17	38.64%	17	38.64%	19	43.18%	19	43.18%
ISO certification status	9	20.45%	9	20.45%	9	20.45%	9	20.45%	14	31.82%

Other environmental honors	4	9.09%	8	18.18%	6	13.64%	9	20.45%	11	25.00%
Enterprise Environmental Policy	26	59.09%	22	50.00%	24	54.55%	27	61.36%	28	63.64%



**Figure 2. Disclosure ratio of various contents of environmental accounting information disclosure**

From Table 4 and Figure 2, it can be observed that from 2018 to 2022, the disclosure ratios of various environmental accounting information disclosure projects of agricultural listed companies in China have fluctuated and increased.[10] However, there are not many disclosure projects with more than half of the total number of disclosed enterprises, only government subsidies, corporate environmental policies, environmental accidents, and emergency plans. The description of enterprises is mostly limited to the scope specified by the state, And qualitative disclosure accounts for a large proportion of the disclosed content. Therefore, from the disclosure situation of agricultural listed companies in China, it can be seen that it is difficult for enterprises to voluntarily disclose environmental related information. Some projects with high disclosure ratios, such as pollutant compliance, are mostly only disclosed by key pollutant discharge units announced by the environmental protection department in accordance with relevant national regulations. The overall autonomy of environmental accounting information disclosure is not high.[11]

### 2.3 Existing Problems

#### 2.3.1 Scattered disclosure locations and incomplete disclosure content

There is a phenomenon of inconsistency and incompleteness in the disclosure position and content of environmental accounting

information in agricultural enterprises in China. Due to the lack of unified regulations and rules, different companies choose to disclose information in different locations, which makes it difficult for users to find and collect relevant information. At the same time, there are differences in the chapter names and content arrangements of social responsibility reports of different enterprises, which leads to information users being prone to omissions when searching for environmental accounting information disclosed by enterprises, causing inconvenience and difficulty in making decisions using relevant information.

In addition, due to the fact that most companies only disclose positive information when disclosing environmental accounting information, such as their environmental policies, measures, and investments, while avoiding or concealing negative information that may damage the company's image, such as environmental accidents and environmental fines. This makes it difficult for external environmental accounting information users to access these negative information, and the disclosure of positive information is mainly based on textual descriptions, with low verifiability and insufficient reliability. This makes it difficult for information users to accurately and comprehensively understand the true environmental responsibility fulfillment of enterprises and the implementation of environmental management systems, which may lead to investors making incorrect investment decisions. [12]

#### 2.3.2 Insufficient quantitative information

In the environmental accounting information disclosure of agricultural enterprises in China, a large proportion of the disclosure content is qualitative description through text, such as the environmental risks faced by enterprises in the future, current environmental policies, environmental measures, etc. These disclosure contents are relatively subjective, and the form of qualitative disclosure is difficult to accurately measure and verify, resulting in lower reliability of the disclosed information compared to quantitative disclosure and low

value for information users.

At the same time, Chinese agricultural enterprises often only disclose total data when quantitatively disclosing some environmental related information such as environmental investment and government subsidies, and there is no relevant basis for how these data are measured. This affects the comparison of environmental accounting information users between enterprises, and affects the reliability and comparability of environmental accounting information disclosure.

### 2.3.3 Insufficient initiative

Increasing the importance and investment efforts of enterprises in environmental protection, as well as fully proactive disclosure of environmental accounting information, can help stakeholders better grasp the implementation of enterprise environmental management work, form a positive corporate image among stakeholders, and enhance investors' investment willingness. However, at present, the overall understanding of the importance of corporate environmental behavior and the implementation of environmental protection measures in Chinese society is not high enough. The investment of enterprises in environmental protection work cannot have a significant impact on their business results in the short term, and it is also difficult to bring direct financial benefits. Therefore, companies do not invest too much in environmental protection from the perspective of maintaining short-term economic interests. At the same time, compared to other accounting information, the collection of environmental accounting information is more difficult, and the accounting and measurement process is more complex. Enterprises need to invest a large amount of costs to develop environmental management systems and cultivate environmental accounting related professionals, in order to better implement the enterprise's environmental protection plan for high-quality environmental accounting disclosure. For enterprises, in the short term, it does not comply with the principle of cost-effectiveness. Therefore, most agricultural listed companies in China cannot actively disclose environmental accounting information.

### 2.3.4 Lack of effective audit for disclosure of information

On the one hand, in China, there is currently no relevant audit process and standards for environmental accounting, and there is also a lack of professional third-party environmental accounting information audit institutions. Currently, conducting environmental audits requires a significant amount of energy and cost, and hiring experts in related fields is not in line with the principle of cost-effectiveness for enterprises; On the other hand, most agricultural enterprises in China use qualitative methods to disclose environmental accounting information from aspects such as environmental policy risks, corporate environmental policies, and corporate environmental protection measures. However, qualitative disclosure of information is difficult for auditors to accurately measure and verify, and therefore, it is often difficult to carry out effective audit work on this type of information. In the general audit activities of enterprises, auditors often pay more attention to the authenticity of general financial information. However, due to the lack of unified accounting and measurement methods for environmental accounting information, which is not separately listed outside of general accounting subjects, it is difficult for auditors to effectively audit the environmental related information contained in general subjects. For users of relevant information, it reduces the reliability of environmental accounting information disclosure.

## 2.4 Cause Analysis

### 2.4.1 Lack of unified environmental accounting information disclosure standards

China's environmental protection policies and regulations are constantly developing and improving, but the current regulations mainly focus on the emission and treatment of pollutants, and the regulations on environmental accounting information disclosure are still not specific and comprehensive enough. This leads to a lack of unified standards and basis for enterprises to disclose environmental accounting information, making it difficult to form an effective disclosure system. At the same time, due to the lack of mandatory legal constraints, enterprises often do not actively disclose environmental accounting information, or the disclosed content is incomplete and inaccurate. Therefore, China needs to further improve



environmental regulations, clarify the responsibilities and requirements for enterprise environmental accounting information disclosure, and promote the standardization, scientificity, and legalization of environmental accounting information disclosure work.

#### 2.4.2 Low level of attention from managers

The importance attached by enterprise managers to environmental accounting information is one of the important factors affecting the quality of enterprise disclosure. Due to the fact that environmental accounting in China is still in the development stage, enterprise managers have insufficient understanding of environmental accounting and lack awareness and attention to environmental responsibility. Some enterprise managers may selectively disclose environmental accounting information or not disclose information that is detrimental to the enterprise in order to pursue economic interests and protect the corporate image, resulting in incomplete and untrue disclosure content. Therefore, enterprise managers need to strengthen environmental awareness, recognize the importance of environmental accounting information disclosure for sustainable development of enterprises, and voluntarily disclose environmental accounting information.

#### 2.4.3 Lack of professional third-party environmental accounting information audit institutions

Due to the particularity and complexity of environmental accounting information, it requires professional audit institutions to audit it. However, currently there is a lack of professional third-party environmental accounting information audit institutions in China, and there is no scientific and effective audit process and standards developed, which increases the difficulty and cost of auditing. Meanwhile, due to the fact that the environmental accounting information of most enterprises is disclosed in the form of qualitative descriptions, it is difficult to accurately verify and verify. Therefore, establishing a professional third-party environmental accounting information audit institution and developing scientific and effective audit processes and standards is one of the important ways to improve the quality of enterprise disclosure.

#### 2.4.4 Lack of environmental protection

awareness among the public

The environmental awareness and public opinion pressure of the public have a significant impact on the environmental behavior of enterprises. However, while China's economy has developed rapidly in the past few decades, the environmental awareness of the public has not been correspondingly improved. This leads to a low level of public attention to corporate environmental behavior and a lack of supervision and driving force for environmental information disclosure. Therefore, China needs to strengthen environmental publicity and education, improve the public's environmental awareness and literacy, form sufficient public opinion pressure, and encourage enterprises to actively disclose sufficient environmental related information.

### **3. Suggestions for Improving the Quality of Environmental Accounting Information Disclosure in Agricultural Enterprises**

#### **3.1 External Perspective of the Enterprise**

##### **3.1.1 Improving Environmental Accounting Information Disclosure Regulations**

Environmental protection laws are institutional guarantees that supervise and constrain enterprises to conscientiously implement national environmental protection policies. At present, in China's environmental protection legal system, unified standards have been established for the treatment and discharge of pollutants by enterprises, but there is no clear legal provision on how Chinese enterprises should disclose environmental accounting information. However, the relevant regulations and documents on environmental accounting information disclosure issued by relevant departments in China have not established a unified standard for the form of disclosure content. On the other hand, these regulations and documents are not legally effective and cannot form strong regulatory constraints and guidance on the environmental behavior of Chinese enterprises, making it difficult to effectively supervise the environmental accounting information disclosure of enterprises.

Therefore, the Chinese government and relevant departments should revise the relevant disclosure regulations in China based on the current situation of environmental protection

in China and the content and implementation of foreign regulations. They should provide unified guidance on environmental accounting information disclosure, clarify the disclosure content, methods, and measurement methods used, which will be more conducive to improving the quality of environmental accounting information disclosure for agricultural enterprises in China. It also provides more legal basis for the Chinese government and relevant departments to formulate environmental policies related to agricultural enterprises. In addition, a sound reward and punishment mechanism for environmental related information disclosure should also be established. When enterprises actively fulfill relevant obligations, financial or honorary rewards should be given; When enterprises intentionally conceal or fabricate false information, corresponding penalties should be imposed. Perfect relevant disclosure regulations can provide authoritative guidance for enterprises to carry out disclosure work, making the disclosure content and form more unified, and facilitating the collection, search, and use of relevant information by those who use it. At the same time, improving relevant regulations can provide institutional basis for the disclosure quality evaluation system, facilitating comparison and measurement among enterprise stakeholders to make scientific investment decisions.

### 3.1.2 Developing Environmental Accounting Standards

At present, China has not yet formulated corresponding standards and environmental accounting norms for environmental accounting, and enterprises do not have reference standards for how to recognize, measure, and calculate environmental accounting elements. This leads to significant differences in the content and quality of information disclosed by enterprises in the process of disclosure, making it impossible to directly compare and summarize the relevant information disclosed by different enterprises. Poor comparability seriously affects the quality of disclosure. If agricultural enterprises in our country can have comprehensive environmental accounting standards that provide unified reference for the recognition, measurement, and accounting standards of relevant accounting elements, adopting unified environmental accounting standards will make

up for the lack of comparability, which is of great significance for improving the quality of environmental accounting information disclosure.

We can refer to the following suggestions for formulating and improving China's environmental accounting standards: firstly, we can draw on the experience of countries that have conducted environmental accounting research earlier and have relatively more complete relevant standards, refer to the content and implementation of the relevant standards formulated by them, and modify and improve them based on China's national conditions to form China's environmental accounting standards; Secondly, the confirmation, measurement, and accounting processes of most environmental accounting elements can refer to traditional accounting, but appropriate adjustments need to be made based on the opinions of professional environmental management and environmental protection personnel to ensure that the results of environmental accounting can accurately reflect the economic situation of the relevant business

Essentially, making the disclosure content more comprehensive and reliable; Finally, the development of sound environmental accounting standards requires a combination of theory and practice in order to construct a scientific and reasonable environmental accounting system that meets practical needs. Therefore, it requires the full cooperation of scholars and practitioners. In addition, relevant departments of the Chinese government can consider giving certain rewards to institutions and personnel who have made certain achievements in environmental accounting research in China, and providing financial support for related research projects to enhance the enthusiasm of researchers.

### 3.1.3 Establish a third-party environmental accounting information audit mechanism

Due to the existence of information asymmetry, there is currently no relevant audit process and standards for environmental accounting in China, and there is also a lack of professional third-party environmental accounting information audit institutions. Therefore, it is difficult for environmental accounting information users to ensure that the information they obtain is true and reliable. Therefore, in order to solve the problem of

insufficient reliability of environmental accounting information and ensure the quality of environmental accounting information disclosure, a third-party audit mechanism should be established as soon as possible.

Establish a third-party environmental accounting information audit mechanism in China: Firstly, on the basis of the unified environmental accounting information disclosure standards issued by relevant national departments as soon as possible, the China Certified Public Accountants Industry Association should formulate unified environmental accounting information audit standards, provide reference opinions for audit methods and processes, and cultivate professional environmental accounting audit talents; Secondly, relevant departments and industry organizations should evaluate the qualifications of third-party audit institutions to conduct environmental accounting information audits, ensuring the professional capabilities of institutions engaged in environmental accounting audits; Finally, when establishing a third-party environmental accounting information audit mechanism in China, reference can be made to the relevant experience of countries that have already implemented environmental audits. For example, Japan, as an earlier country to conduct environmental audits, has adopted a similar approach to general annual report auditing activities to audit enterprise environmental related matters, that is, the information to be disclosed is first audited by a third-party auditing agency, Afterwards, the environmental audit report will be released together with the annual report of the enterprise.

#### 3.1.4 Enhancing the Environmental Awareness of the Whole People

At present, the public in our country lacks awareness of the importance of strengthening attention to corporate environmental behavior, lacks supervision awareness of environmental information disclosure work related to enterprises, and is unable to promote the proactive and sufficient environmental accounting information disclosure work of enterprises. The environmental behavior of enterprises actually has a practical impact on the daily living environment of the public. The public should actively exercise their right to supervise the environmental behavior of

enterprises, increase their attention to the environmental behavior of enterprises, form sufficient public opinion pressure, improve the initiative and willingness of enterprises to disclose relevant information, and promote the improvement of the quality of information disclosed by enterprises.

In order to increase the public's awareness of environmental protection, cultivate environmental awareness in the hearts of the public, strengthen public attention to corporate environmental behavior, and fully leverage the supervisory role of the public in corporate environmental behavior. The state and relevant departments should promote environmental protection and the importance of paying attention to corporate environmental behavior to the public through various means such as school education and online media, helping the public understand the importance of actively monitoring corporate environmental behavior, thus forming a good social atmosphere and enhancing the willingness of enterprises to carry out relevant information disclosure work. In addition, the state can establish a unified environmental information disclosure platform to comprehensively disclose environmental related information disclosed by enterprises to the public, thereby greatly reducing the difficulty for the public to play their supervisory role and increasing their enthusiasm to participate in the supervision of enterprise environmental behavior.

Media supervision plays a crucial role in the overall supervision of corporate environmental behavior in society. To improve the disclosure quality of agricultural enterprises in China, the media's role in public opinion supervision should be fully utilized. On the one hand, it can enhance the public's awareness of the importance of supervising the environmental behavior of enterprises; On the other hand, media supervision can bring greater public opinion pressure to enterprises. In order to establish a better corporate image in the minds of stakeholders, enterprises will actively disclose environmental accounting information, which to some extent can also ensure the quality of relevant information disclosure.

### 3.2 Internal Perspective of the Enterprise

#### 3.2.1 Improve environmental management system and organizational structure

Most agricultural enterprises in China do not

have a complete set of environmental management systems, and there is no dedicated environmental management department established in their organizational structure. This has to some extent increased the difficulty of enterprises in carrying out environmental protection work and collecting and processing environmental related data, and has a negative impact on the quality of disclosure. Therefore, improving the company's relevant systems and organizational structure, formulating environmental management systems that meet the company's development goals, and establishing professional and efficient environmental management departments can effectively ensure the implementation of environmental protection work and the collection and processing of environmental related data, and also contribute to the improvement of the quality of information disclosure for enterprises.

When formulating environmental management systems, enterprises need to consider the following aspects: firstly, by combining their own development goals, potential environmental risks they may face in the future, and current national environmental protection regulations, a general outline of environmental management systems that are conducive to sustainable development of the enterprise while adhering to the principle of cost-effectiveness during implementation should be formulated; Secondly, refine the environmental management system, clarify the detailed rules of each department's environmental management system based on the actual production and operation situation of different departments, and establish corresponding environmental management objectives; Once again, specialized environmental management agencies in the enterprise regularly assess and evaluate the environmental management performance of each department, collect environmental performance data such as pollutant emissions, and provide timely feedback to each department to facilitate timely adjustment of departmental environmental management goals; Finally, when it comes to the operation, operation, and maintenance of professional environmental protection equipment, it should be maintained by professional personnel, while fully recording the operation and maintenance

status. In addition, enterprises should also establish an internal audit system for environmental accounting information, record the implementation and execution of environmental tasks by each department, and evaluate the environmental performance of the enterprise.

Enterprises should also consider establishing an independent environmental management department, arranging personnel with relevant professional knowledge to supervise and manage the implementation of relevant policies of the enterprise, and having professional environmental accounting personnel conduct relevant accounting. This independent environmental management department formulates and adjusts the company's environmental policies, annual environmental protection plans, and collects and reports on the company's environmental accounting information. Professional personnel should also be considered in each department to supervise the implementation of environmental management systems, collect and record environmental performance information of each department, and provide relevant information to independent environmental management departments, in order to facilitate timely adjustments to the company's environmental policies and plans, and ensure the sustainable development of the company.

### 3.2.2 Improve disclosure content and form

At present, most agricultural enterprises in China use textual descriptions to provide detailed qualitative disclosure of their environmental protection policies and system implementation. However, this qualitative description information is not reliable enough for information users and has relatively poor practicality; When enterprises quantitatively disclose environmental accounting information, they mostly only disclose the measurement results without mentioning the measurement methods used. At the same time, the proportion of the content disclosed through quantitative methods in the overall content is very low, and the quantity is very small. In terms of disclosure form, due to the lack of unified constraints and requirements of relevant regulations, the forms of environmental accounting information disclosure for agricultural enterprises also vary, which is very inconvenient for information

users to search and use.

Therefore, in order to improve the quality of environmental accounting information disclosure in agricultural enterprises in China, improvements need to be made from the following perspectives: firstly, agricultural enterprises should expand the coverage of environmental accounting information and increase quantitative disclosure content. For example, enterprises can disclose more detailed information in terms of environmental protection facility construction and maintenance costs, environmental management costs, pollution discharge fees, greening fees, etc. In order to enhance the comparability of the disclosed information, Enterprises should consider disclosing the measurement results while also disclosing the measurement methods used; Secondly, agricultural enterprises can consider fixing the disclosure position of relevant information in their annual reports or social responsibility reports, or preparing additional environmental reports to comprehensively summarize and disclose environmental accounting information, in order to facilitate stakeholders to quickly and fully understand and master the environmental management situation of the enterprise; Finally, agricultural enterprises can jointly establish an industry organization that unifies the content and form of environmental accounting information disclosure for agricultural enterprises, and establish unified environmental accounting information disclosure standards based on industry characteristics and relevant national regulatory documents. This not only provides a reference basis for enterprise environmental accounting information disclosure, but also enhances the comparability of information disclosed by various companies in the industry, It can help users of environmental accounting information better understand the environmental management situation of enterprises and avoid making unreasonable investment decisions.

### 3.2.3 Strengthen environmental accounting knowledge education and training for employees

Whether it is to better implement enterprise environmental management systems, or to establish efficient environmental management departments, improve the disclosure content and mode of environmental accounting information, it is inseparable from the

understanding and mastery of environmental accounting knowledge by financial personnel of agricultural enterprises. At present, environmental accounting in China is still in the research stage and lacks a training mechanism for environmental accounting professionals. Therefore, in order to improve the disclosure quality of enterprises, enterprises should strengthen the relevant professional knowledge training for employees, especially those in the environmental management department and financial personnel engaged in environmental related businesses, to help them better grasp the processes of collecting, confirming, measuring, and disclosing environmental related data, Improve the processing efficiency and quality of enterprise environmental accounting information, and ensure the disclosure quality of relevant information of enterprises.

In addition to strengthening environmental protection training for employees engaged in environmental related work, enterprises should also regularly carry out publicity and training on environmental protection related knowledge for employees who are not involved in related work, so that employees can have a deeper understanding of the importance of implementing enterprise environmental protection measures and current environmental protection regulations in China, and help employees increase their awareness of the importance of implementing environmental protection work, Better cooperate with relevant departments of the enterprise to implement environmental management systems and collect relevant information, ensuring the efficient and accurate transmission of environmental accounting information within the enterprise.

## 4. Summary

This article analyzes the disclosure status and quality of environmental accounting information of 44 agricultural enterprises under the concept of green development, and identifies the problems in the disclosure process of relevant information of agricultural enterprises in China. It also provides more reference suggestions for the establishment and development of disclosure systems and standards for agricultural enterprises. The research conclusions of this article are as follows:

Firstly, analyze the problems in the disclosure of information related to agricultural enterprises. The main disclosure positions of agricultural enterprises in China are relatively scattered, the disclosure content is not comprehensive, and it is inconvenient for information users to search and fully grasp the environmental management situation of enterprises; The quantitative information disclosed is relatively small, and Chinese agricultural enterprises often disclose textual information such as the risks of future environmental policy changes, current environmental systems of enterprises, and the operation and maintenance of environmental equipment; Enterprises lack the initiative to disclose environmental accounting information, and the disclosed content is mostly required by relevant regulations; There are no third-party auditing agencies to verify the disclosed information and other issues. This is mainly due to the imperfect legal system in China and the lack of standardized disclosure of environmental accounting information; Lack of professional third-party audit institutions; Chinese agricultural enterprise managers do not attach enough importance to the disclosure of relevant information, and there is a shortage of professional personnel; The lack of public attention to the environmental protection situation of enterprises in China and the limited role of social supervision are reasons for this.

Secondly, suggestions for improving the quality of disclosure by agricultural enterprises. From the external perspective of the enterprise, it is necessary for the government and relevant departments to establish and improve disclosure related regulations; Develop environmental accounting standards; Establish a third-party environmental accounting information audit mechanism; Enhance the public's attention to corporate environmental behavior and maximize the role of social supervision. From an internal perspective, enterprise managers need to increase their emphasis on environmental protection and related information, establish sound environmental management systems, and establish specialized environmental management departments; Improve the content and form of relevant information disclosure; Strengthen education and training on environmental related knowledge for

employees.

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