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Natural Environment Protection under the Integration of Cloud Computing and Green Energy Effects

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Abstract: In recent years, with the continuous improvement of people's living standards, the requirements for the environment are also rising. People began to realize the importance of natural environment protection, and also began to put environmental protection in an important position. By building a sustainable development system, they considered environmental issues from multiple perspectives. Based on this, this paper analyzes the natural environment protection under the integration of cloud computing and green energy effects, with a view to providing a reference basis for China's natural environment protection and future planning for relevant departments. Through in-depth investigation on the environmental awareness of the staff, the experimental results show that 70.59% of the scenic spot managers have negative attitudes towards human resource abuse and environmental damage; 76.48% of the employees hold negative views on "you litter in the scenic area"; Only 23.53% of the scenic area managers have a negative view of "people have the right to change the natural environment for human needs", and 64.80% of the scenic area managers think this is positive. In order to achieve effective protection of the environment, relevant departments should constantly improve the level of relevant technologies, reduce energy consumption while meeting work needs, and ensure that natural resources are used rationally.

1. Introduction

Due to global warming and other factors, the environmental protection problem is relatively serious in China, which has a serious impact on China's natural environment. Therefore, in order to improve environmental quality and reduce environmental damage in a relatively short period of time, relevant Chinese departments are actively exploring the development of green energy and applying cloud computing technology to continuously improve the environment.

With the expansion of green cloud computing and the neglect of energy cost factors, the problems of high energy cost and low efficiency are exposed. Based on the concept and principle of load balancing, aiming at the energy consumption problem in green cloud computing, Yong Lu proposed a new global optimization algorithm for energy saving load balancing, which is called resource aware load balancing cloning algorithm for task scheduling [1]. High power consumption leads to a large amount of carbon dioxide emissions into the atmosphere, polluting people's natural environment. Therefore, B S. Rajeshwari proposed that it is necessary to consider green cloud computing to reduce the impact of harmful gases on the environment [2]. Nowadays, environmental problems have attracted the attention of many craftsmen and researchers. Abdolhamid Safaei Ghadikolaei has formulated various policies and practices to protect the environment of the entire supply chain [3]. With the accelerated pace of social development and the disappearance of demographic dividend, people have begun to realize the importance of nature for human survival and its impact on the environment.

At the same time, as cloud computing technology is more and more widely used in environmental protection, it can also improve the utilization of resources, protect the natural environment, and thus achieve the maximum unity of environmental resource utilization and development quality [4-5].

2. Analysis of Natural Environment Protection under the Integration of Cloud Computing and Green Energy Effects

2.1. Impact of Natural Environment on People and Society

The impact of the natural environment on people and society is mainly reflected in the following aspects: the impact of the natural environment on society is mainly reflected in the impact on the quantity and quality of the population. For example, too fast population growth will affect the quality of social economy, while too fast population growth will affect the ecological environment, and at the same time, too fast population growth will lead to more serious ecological environment problems. The impact of the natural environment on the ecological environment is mainly reflected in the way it damages the natural environment. These two aspects will have a relatively serious impact on human health. If these two aspects cannot be addressed in a timely manner, the quality of the entire social environment will further decline and deteriorate. The impact of the natural environment on people is mainly reflected in the destruction of natural environment and resources, such as man-made destruction and natural disasters, which will affect the future development of human society, as well as environmental resources to a certain extent. The impact of the natural environment on people is mainly reflected in the impact on people's own lives and the negative impact on people and society. If we do not pay attention to the protection of the natural environment, it will lead to the failure to effectively carry out the relevant work. Therefore, we must attach importance to the protection of the natural environment in practical work. The direct impact of the natural environment on economic development refers to the problem of economic benefits caused by serious damage to the natural environment in recent years due to the continuous improvement of science and technology and the increasing awareness of environmental protection. This is also a problem that many countries have to face in recent years [6-8].

2.2. Optimization Measures for Natural Environment Protection under Cloud Computing and Green Energy Effects

Based on the research on cloud computing and green energy effects, it can be found that there is a broad application prospect in this field of environmental protection. The optimization measures

for environmental protection mainly include: strengthening the research on the impact of traditional production and lifestyle, promoting the transformation of production mode, and improving the efficiency of resource utilization. At the same time, by using cloud computing technology, we can maximize the efficiency of resource utilization. Therefore, it can be predicted that with the further study of green energy effects, it will become one of the important guarantees for human survival and development in the new era. In order to promote the comprehensive promotion and application of this technology and achieve sustainable development, institutions and relevant personnel need to make continuous efforts to promote more perfect and scientific environmental protection measures. The green energy effect can effectively improve the utilization efficiency and cleanliness of green energy resources, realize the efficient development of green energy, and realize the harmonious development of man and nature. Based on this, we can optimize and transform the traditional mode of production and lifestyle, so as to promote the comprehensive development of China's environmental protection work, promote the further improvement of China's green energy construction, and lay a solid foundation for the sustainable and stable development of the national economy. Therefore, it is a very necessary, effective and far-reaching measure to actively promote the comprehensive application of this technology and realize the harmonious development between man and nature [9-11].

Since cloud computing is parallel and its execution process is parallel, it is necessary to calculate the running time of each node and take its maximum value as the time cost of the task, so that the running time of the whole system can reach:

$$G = \max(\sum_{j=1}^{j=m} g_{ji})(i \in 1,2,...,n) \tag{1}$$

When the cloud system is running, the energy consumption generated is equal to the total energy generated by each task. Therefore, the energy consumption of the system can be expressed by the following formula:

$$F = \sum_{j=1}^{m}\sum_{i=1}^{n} f_{ji} \tag{2}$$

Therefore, the objective function of task scheduling is: $\min G$ and $\min F$

3. Natural Environment Protection Design Experiment under the Integration of Cloud Computing and Green Energy Effect

The survey objects are local community residents, company employees and civil servants in the Reserve. The survey method is based on the personal survey of the interviewers. The survey results show that the investigators filled in the questionnaire, collected relevant data, and made statistical analysis of the survey results. They found that there were a lot of missing or significantly different questionnaires, and finally formed an effective questionnaire, with an effective rate of 82.5%. The survey content includes the gender and age of the employees and their awareness of environmental management.

The report points out that 21 women are engaged in this industry, accounting for 32% of the total number of employees; 45 men, about 68%. Most of them are men. This also reflects that the family economy in this country mainly depends on the income of men. According to Table 1, only 22.72% of the employees are under 30 years old; Among them, 60.60% of 30-50 year olds are the main population; However, there are relatively few employees over 50 years old, only 16.67%. The age composition of employees is mainly 30~50 years old [12-14].

Table 1. Age composition of practitioners

Age	Number of people	Proportion (%)
Below 18	2	3.03
18-30	13	19.69
31-40	20	30.30
41-50	20	30.30
Above 50	11	16.67

As shown in Table 2, based on the analysis of the characteristics of the environmental attitudes of professionals, the questionnaire survey results of the environmental attitudes of tourism practitioners show that 40 practitioners believe that "human beings abuse resources and trample on the environment"; 52 staff members thought that "you have littered in the scenic area"; Only 21 practitioners hold negative views on the negative proposition that "people have the right to change the natural environment in order to meet human needs", and 29 hold positive views; For the negative proposition that "man is the master of nature", 31 people said yes, 20 people were uncertain, and 15 people held negative attitudes; This means that their understanding of ecotourism is not thorough enough. They acknowledge that human beings can plunder resources to meet their own development. There are 53 people who believe that "the balance of nature is very fragile, once it is destroyed, it is difficult to recover"; Among the respondents, 55 people believed that the main function of nature reserves was to protect natural resources, while only 4 people held negative views on this; Only 7 of the 59 employees have a positive attitude towards "people must live in harmony with nature if they want to develop", and only 7 have a skeptical or negative attitude [15-16].

Table 2. Environmental attitudes of tourism professionals

	Strongly agree	agree	uncertain	disagree	Strongly disagree
Abuse of resources and trample on the environment(A)	4	17	8	31	9
drop litter carelessly(B)	1	11	2	31	21
Change the natural environment(C)	7	22	11	17	21
The balance of nature is very fragile Hard to recover(D)	14	39	9	4	0
The main function of nature reserves is to protect natural resources(E)	12	43	7	3	1
Man is destined to be the master of nature(F)	5	26	20	12	3
Harmonious coexistence with nature)G)	21	38	4	2	1

4. Experimental Analysis of Natural Environment Protection under the Integration of Cloud Computing and Green Energy Effects

4.1. Analysis of Tourism Environment Attitudes of Different Professionals

Through the screening of the practitioners' questionnaire, 17 practitioners are scenic area administrators, accounting for 25.75% of the total number of practitioners. The analysis of this part of practitioners mainly selects the following two issues: the understanding of the core area and the general understanding of the environment [17-18].

Table 3. The understanding of scenic spot managers on the development of tourism in the core area of the Reserve

Understanding of the development of tourism in the core area	Number of people	percentage(%)
Vigorously advocate	4	23.52
Restricted development	8	47.07
Prevent development	5	29.41

As shown in Table 3, some (23.52%) believe that tourism should be vigorously promoted in the core region, while less than half (47.07%) of the people who restrict tourism believe that tourism is not allowed. It can be seen from this that among the management personnel of natural reserves, there is a lack of due understanding of the scope of protection, the scope of development and the degree of development. This will inevitably lead to the lack of law enforcement in the Reserve, which makes it difficult to effectively protect and manage the Reserve.

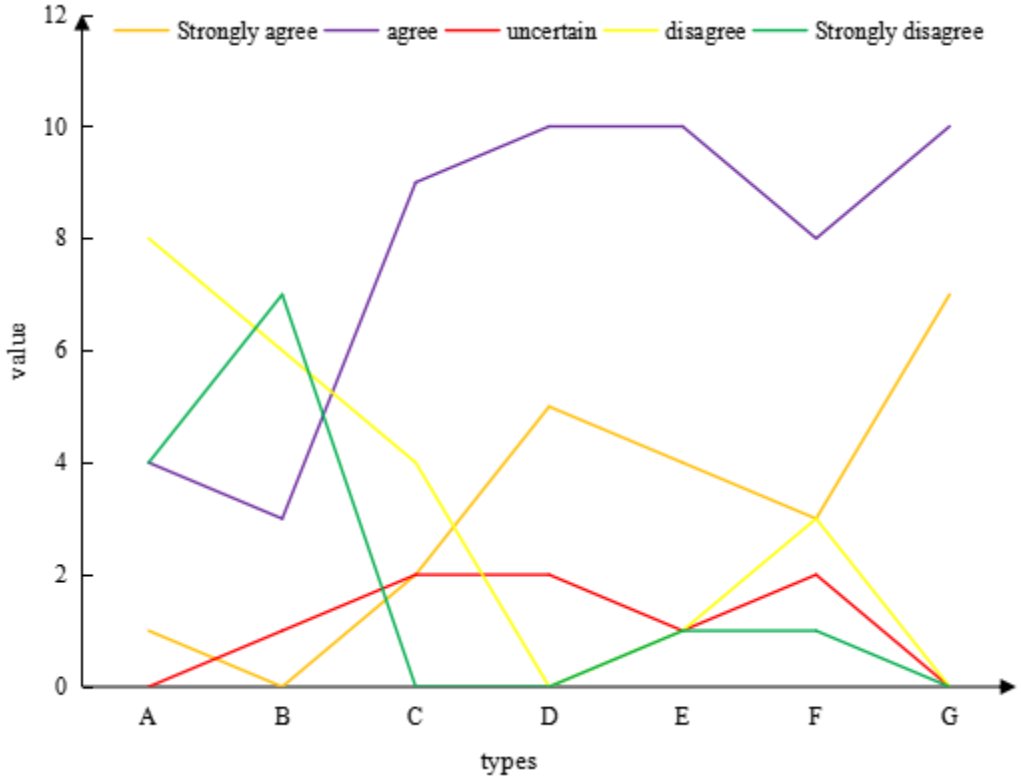

Figure 1. Environmental attitude of scenic area managers

It can be seen from Figure 1 that 70.59% of the scenic spot managers have a negative attitude towards "human abuse of resources and destruction of the environment"; 76.48% of the managers have a negative attitude towards "you litter in the scenic area"; Only 23.53% of the managers of tourist attractions have negative views on the negative view of "people have the right to change the natural environment to meet human needs", and 64.80% of the managers of tourist attractions have positive views on this; As for the negative proposition that "man is the master of nature", 64.71% of people said yes, 11.76% said no, and only 23.55% said no. 88.23% of the scenic spot managers believed that "the natural ecosystem is very fragile, and once it is damaged, it is difficult to recover", but this was absolutely denied; 82.35% of the managers of tourist attractions believe that "protecting resources is the most important function"; As for the proposition that "if people want to

develop, they must coexist peacefully with nature", all scenic spot managers have expressed a positive attitude, which means that protecting nature and maintaining the relationship between people and nature are deeply rooted in the minds of scenic spot managers.

4.2. Analysis of Local Residents' Awareness of Environmental Protection

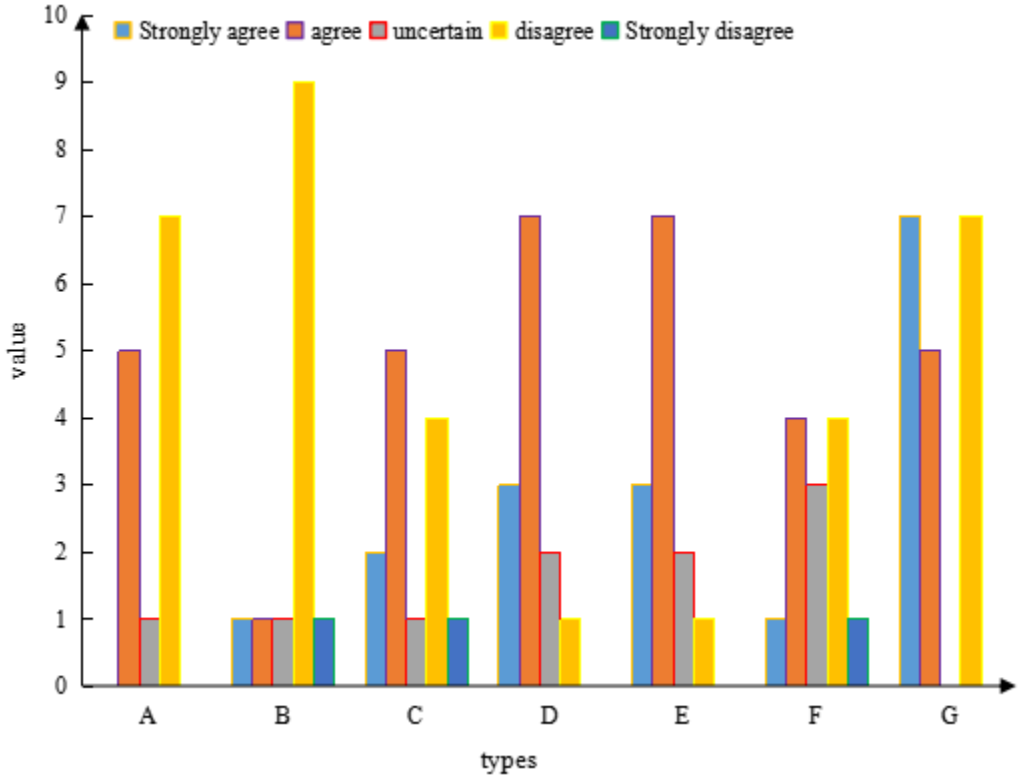

Figure 2. Environmental attitude of local residents

As shown in Figure 2, 53.85% of the residents expressed negative views on "resource abuse and environmental trampling"; 76.92% people think that "you litter in the scenic area"; Only 38.46% of the residents hold negative views on the negative view that "human beings have the right to transform the natural environment for human needs", and 53.84% of the residents hold positive views on this; As for the negative proposition that "man is the master of nature", 38.46% said yes, 23.08% said no, and 38.46% said no; 76.93% believed that "the natural ecosystem is very fragile, and once damaged, it is difficult to recover." Surprisingly, on the issue of "protecting natural resources", people's views are surprisingly consistent with those above; 92.31% of the people agree with the proposition that "people must live in harmony with nature if they want to develop", which shows that they have a strong relationship between nature and human beings.

5. Conclusion

With the increasingly prominent environmental protection issues, domestic and foreign governments and relevant departments have begun to attach importance to environmental protection issues, and actively explore green energy application technologies, cloud computing technologies and green energy systems through various ways. Through analysis, the energy generated by the current integration of cloud computing and green energy has seriously affected China's natural environment. Therefore, in terms of environmental protection in the future, relevant Chinese

departments should actively promote the application of green energy technology, and strengthen the research and exploration on the development of green energy application technology in combination with cloud computing technology. Under the condition of integrating cloud computing and green energy effects, effective measures should be taken to protect the environment. This can not only meet the needs of environmental protection, but also have a positive impact on the utilization rate of environmental resources and the quality of development.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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