PAYMENT FOR ECOSYSTEM SERVICES (PES): AN EMERGING WAY FOR CONSERVATION OF NATURAL

Vinay Joseph Silas, Jitendra Kumar, Syed Mohd Quatadah & Ashish Srivastava

Faculty of Agricultural Sciences & Allied Industries, Rama University, Mandhana, Kanpur

Corresponding mail id- vinay.fas@ramauniversity.ac.in

Introduction

In today's modern era, we are constantly discovering new technologies to enhance human well-being and comfort. However, on the other hand, we are consistently neglecting the importance of natural resources. We seem to forget that natural resources such as air, water, earth, soil, etc., are not only meant for humans but for all living beings on Earth. In recent years, we have witnessed significant changes in the Earth's environment, and we ourselves are a major contributing factor to it. This is the result of these changes that in the past few years, we have witnessed a significant increase in droughts, deforestation, landslides, avalanches, irregular rainfall, new diseases, earthquakes, rising sea levels, and other natural disasters. According to a report by the American agency NASA, the Earth's temperature has increased by approximately 1 degree Celsius in the past 100 years, and human activities are the primary cause of this. The magnitude of this increase can be understood by the fact that it takes about 6,500 years for the Earth's temperature to decrease by 1 degree Celsius. In other words, the changes that should occur in thousands of years are happening within a few years, making it impossible for living beings and plants on Earth to adapt to them. [1]

According to another report, if appropriate global efforts are not made to balance the Earth's environment and if the Earth's temperature continues to rise, by 2070, half of the world's plant and animal species could become extinct.The purpose of this information is not to scare you, but to make you understand the impact of our current actions on our future and how we can rectify it. While various important efforts are being made at global and national levels to mitigate climate change, one new and meaningful approach is Payment for Environmental Services (PES).To assess the status of ecosystems worldwide, the United Nations conducted the Millennium Ecosystem Assessment in 2005, which primarily identified 24 different types of environmental services. Three major and widely discussed services were climate change mitigation, watershed management, and biodiversity conservation. [2]

OCCUPATIONAL HEALTH HAZARDS OF WORKERS

Acknowledges the crucial role of farmers and residents in safeguarding our ecosystems but also provides them with tangible incentives for their efforts. PES, also known as payment for the benefits derived from the environment, stands at the forefront of cutting-edge innovations for promoting environmental conservation. It empowers individuals to become true environmental heroes by properly managing their land and delivering valuable environmental services to their communities.

So, how does PES work? Let's break it down into four captivating components:

1. Specialized Environmental Services
2. Users/Buyers of Environmental Services
3. Stewards of Environmental Services/PES Beneficiaries
4. Financial Transactions

1. Specialized Environmental Services

In simple terms, all living beings (including humans) residing in a specific geographical area directly or indirectly depend on each other, along with the presence of abiotic elements such as air and water. This integrated system is known as the environment. The proper development of any living organism can only occur within a specific and favorable environmental system, where it obtains various benefits and services from its surrounding environment. While there is no standardized definition for environmental services, it can be understood as the "benefits derived by organisms, communities, and economies from nature." Due to its inherent connection to the environmental system, humans receive numerous advantages from both biotic and abiotic components. These benefits are collectively referred to as environmental services, which contribute directly and indirectly to human well-being. PES services play a vital role in human welfare by harnessing the direct and indirect contributions of nature.

2. Users/Consumers of Environmental Services:

Users of environmental services are individuals or entities that directly or indirectly utilize those environmental services. It is essential for the proper management and conservation of environmental services that their users take necessary steps. If a user of an environmental service is not directly involved in the conservation of natural resources, they can contribute through the Payment for Ecosystem Services (PES) mechanism. For example, if water for drinking in a city is sourced from a large reservoir, it is the

responsibility of the people and organizations in that area to protect the reservoir's water and manage its catchment area to ensure a long-term water supply. If they are unable to directly implement water conservation measures at the reservoir's catchment area, they can motivate and

incentivize the local community by providing support. This support can be given directly or indirectly.

3. Conservationists/Beneficiaries of PES:

Conservationists of environmental services are individuals or communities who contribute to the conservation of a specific environmental service or natural resource. They are typically located in specific areas and engage in direct or indirect conservation efforts.For example, if a farmer practices intensive agriculture using excessive fertilizers and chemicals in their field located in a reservoir's catchment area, it not only disrupts the entire ecological system but also pollutes the water flowing from there. However, if the farmer practices organic farming by using organic fertilizers and avoids chemicals, it keeps the soil and water clean, allowing the entire environmental system to function properly. Farmers can contribute to the conservation of natural resources through organic farming, which directly benefits them and their families by providing chemical-free food and water. It also ensures the preservation of soil fertility in their fields. Indirectly, this conservation benefits the environment in several ways. It increases the population of microorganisms in the soil, enhances soil water retention capacity, prevents soil pollution, avoids negative effects on other organisms due to chemical use, reduces the consumption of pesticide-contaminated agricultural products by humans, and maintains a continuous water supply in rivers and streams throughout the year.

4. Direct or Indirect Contracts for Financial Transactions:

Under the PES mechanism, encouragement is provided for the conservation of environmental services or specific activities through direct currency or other means. To maintain the credibility of PES, it is important to provide incentives to eligible individuals or communities. Therefore, certain strict conditions or rules can be established based on which these incentives can be given. The role of an autonomous or regulatory institution also becomes crucial in this process. Based on certain conditions or rules, a formal or informal contract can be established between the users/consumers of a specific environmental service and its conservationists. This contract is essential for the successful implementation of the PES mechanism. For example, if drinking water for a city is sourced from a reservoir, and farmers in the catchment area practice organic farming, the city's residents can purchase organic produce from those farmers at a higher price or provide them with financial support. This contract establishes a mutually beneficial relationship between the users/consumers and the conservationists, ensuring the conservation of the environmental service.

Conclusion

Payment for Ecosystem Services (PES) represents a genuine and effective approach for

addressing environmental conservation challenges while benefiting communities. By acknowledging the importance of natural resources and the services they provide, PES incentivizes individuals and communities to actively engage in sustainable land and resource management practices. The notable example of the New York City PES program showcases the remarkable outcomes that can be achieved through this approach, as the city successfully tackled its water supply issues by investing in the protection of watershed areas. PES offers a unique opportunity to foster a sustainable future, where the well-being of both ecosystems and society are mutually reinforced. Embracing PES can unlock the transformative potential needed to create a harmonious balance between human activities and the environment.

In India, the PES model is being implemented in the Narmada Landscape Restoration Project, primarily in the Khargone district of Madhya Pradesh. This is the first of its kind project in the country for river ecosystem and showcases a pioneering initiative in progress [4].Join the movement towards a greener and more prosperous world! PES is not just an idea; it's a practical and exciting way to build a sustainable future. Let's unleash the power of PES and create a harmonious balance between human activities and the environment we all depend on. Together, we can make a difference!

References

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