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# The Urgency of Regulating Payment for Environmental Services as an Environmental Economic Instrument at The Regional Level in Central Sulawesi

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## Abstract

Governments at the regional level are mandated to strike a balance between economic development and ecological interests. One approach to achieving this balance is the introduction of the Payment for Environmental Services (PES), which acts as an Environmental Economic Instrument (IELH). Given the importance of ensuring prosperity through the use of natural resources, the role of PES becomes increasingly crucial. Central Sulawesi boasts a wealth of natural resources, yet it's also marked by significant community poverty. This article aims to address the pressing need for PES in enhancing the well-being of Central Sulawesi's residents. Additionally, we will put forth several policy suggestions related to PES that could bolster the welfare of the Central Sulawesi populace.

**Keywords:** Payment for Environmental Services, Central Sulawesi, Welfare

## 1. Introduction

The Constitution of Indonesia emphasises the direction of regional autonomy, aiming "to accelerate the realisation of community welfare by enhancing services, empowerment, and community participation, and increasing regional competitiveness, all while adhering to the principles of democracy, equality, justice, and the distinctiveness of each region within the framework of the Unitary State of the Republic of Indonesia"(UU PEMDA, 2014). This constitutional guidance encompasses several objectives: Enhancing the governance of regional governments to bolster the efficacy and outcomes of administrative efforts, Channelling and integrating community aspirations, Rolling out development programmes aimed at achieving prosperity, Augmenting participation and fostering community autonomy, Granting regions comprehensive, tangible, and accountable authority in handling government matters.

When it comes to environmental protection and management (PPLH), these constitutional directions are foundational for PPLH's success. As a result, regional governments have the jurisdiction over environmental protection and oversight. PPLH is characterised as a concerted and cohesive effort by regional governments to maintain environmental functions and thwart pollution and/or environmental degradation. This effort covers planning, utilisation, regulation, conservation, supervision, and law enforcement. The Constitution delineates the regional authority to manage PPLH. Two pivotal mandates for regional governments in their environmental oversight include: Ensuring the right to a wholesome and healthy environment. This mandate, emphasised in the 1945 Constitution of the Republic of Indonesia, is recognised as both a human and constitutional right for every Indonesian citizen, Acknowledging the direct impact of environmental management, as a facet of PPLH, on the economic well-being of the population. These mandates dictate that regional governments are duty-bound to protect and oversee the environment as they pursue sustainable development. Yet, local governments grapple with challenges, such as the disparate and finite availability of natural resources, the mounting pace of development, and an escalating demand for vast natural resources. This scenario heightens the risk of environmental degradation, affecting the environment's carrying capacity and productivity.

Under the given context, Article 42, paragraph (1) stipulates: "To maintain environmental functions, local governments are mandated to develop and enforce Environmental Economic Instruments (UU PPLH, 2009). One embodiment of these instruments is a management system and mechanism where funds are allocated for the protection and management of the environment (PP IELH, 2017). Via this mechanism, governmental bodies, businesses, and other entities benefiting from the environment are required to make payments to environmental management communities, either through direct payment systems or compensatory measures. Central Sulawesi, abundant in natural resources, should not exploit this wealth through conventional and harmful methods. Instead, there's an opportunity to derive economic value from existing environmental services. The belief is that managing and utilising environmental services in Central Sulawesi won't just ensure economic sustainability. The local environment, in turn, will confer substantial fiscal benefits to both the local government and its residents. The Regional Government and the citizens of Central Sulawesi have the potential to negotiate environmental conservation efforts with the national government and the corporate sector, in exchange for a specified budget allocation to the regional treasury, dedicated to its preservation. Similarly, coastal and forest communities are poised to receive payments from both the government and the private sector, recognising their efforts in environmental preservation. The current legal void concerning the employment of environmental services in Central Sulawesi not only jeopardises environmental sustainability but also overlooks regional and community economic potential. Hence, this research is of paramount importance. Consequently, this article will address the following issues: How can the pressing need to implement Payment for Environmental Services as a regional environmental economic tool enhance the welfare of Central Sulawesi's residents and In what ways might the development of payment policies for environmental services, when viewed as regional environmental economic instruments in Central Sulawesi, elevate community welfare.

## **2. Results and Discussion**

### *2.1. The Role of Environmental Services in Central Sulawesi*

Experts define environmental services as benefits ecosystems offer to human life (Prokofieva, 2016), as well as direct and indirect contributions of ecosystems to human well-being (Amaruzaman, Tanika, et al., 2018). The Indonesian government characterises environmental services as the advantages of ecosystems and the environment for human existence and life's sustainability. This includes the supply of natural resources, environmental regulation, support of natural processes, and preservation of cultural values (PP IELH, 2017). Experts have identified 23 kinds of environmental services, categorised into provisioning services, regulatory services, cultural and supporting services (Nantiya Tang isujit, 2009). A crucial point of agreement among these definitions is that "The environment serves a role when it benefits humans or contributes to health and welfare (Kementrian lingkungan Hidup, 2018)." Environmental services underscore nature's value to humans and warrant sustainable protection and management. It's evident that human life's sustainability hinges upon well-maintained ecosystems and natural resources those capable of consistently delivering environmental services. As such, they demand sustainable protection and management (Burkhard & Maes, 2017)

Rapid population growth undoubtedly impacts the utilisation of finite natural resources. Furthermore, the constant provision of goods/services derived from these resources isn't always feasible. This underscores the paramount importance of sustainable development. Hence, focusing on sustainability is essential in PPLH (Chairil Ichsan, 2021). The ecosystem services concept advanced by Schneiders and Muller (Purba et al., 2022) is illustrative. It correlates ecosystem interactions with their functions and benefits to humans. This interaction is defined by natural landscape features as abiotic drivers and types of natural vegetation as biotic drivers. Together, they shape an ecoregion, wherein humans, as integral parts of an ecosystem, harmoniously engage to establish equilibrium and productivity. The above underscores that managing the environment is a pivotal facet of the socio-economic framework. In the absence of a conducive environment, economic advancement would be stymied. Overutilisation that breaches the environment's threshold and capacity will inevitably stifle the economy's growth potential. Achieving this delicate balance necessitates policies encapsulating the interplay between environmental, societal, and economic systems (Burhanuddin, 2016).

The aforementioned policies warrant examination through the lens of ecosystem services, which are intrinsically linked and play a role in producing environmental services (Heyde et al., 2017). Such analysis is vital to understand the risks posed by the current state of ecosystems. The unsustainable exploitation of potential environmental services is likely to precipitate grave repercussions. Policies centred around environmental services must guarantee the sustainability of providers of these services, with a particular emphasis on conserving natural resources and biodiversity. In the province of Central Sulawesi, environmental services are categorised as follows: Providing Services encompass Water, Food, and Fibre provisions, Regulatory Services include Air Quality Regulation, Climate Regulation, Landslide Disaster Mitigation, Flood Disaster Mitigation, Forest and Land Fire Disaster Mitigation, Water Purification, Natural Pollination, and Pest Control, Supporting Services cover Habitat & Biodiversity support and Soil Formation & Regeneration. (Pemerintah Daerah Propinsi Sulawesi Tengah, 2023)

In general terms, Central Sulawesi's environmental services are perceived to be in a robust condition, as evidenced by the interdependence of the three aforementioned components of environmental services. An area can be deemed to possess healthy environmental conditions if its regulatory capacity is stellar. Similarly, an area with excellent provision capabilities likely has high supporting capabilities as well. (Pemerintah Daerah Propinsi Sulawesi Tengah, 2023). Concerning the environmental service index values for Central Sulawesi, there is a consistent interplay between various service components. These components are uniformly distributed across the thirteen districts and cities in Central Sulawesi. The average values are 2.95 for provider services, 3.27 for regulatory services, and 3.20 for supporting services. A more comprehensive breakdown of Central Sulawesi's environmental services index can be found in the subsequent table.

Table 1. Average environmental services index in Central Sulawesi province.

1	Banggai	3,22	2,62	2,92	<b>2,92</b>	3,30	3,43	3,21	3,32	2,87	3,22	2,33	3,15	3,41	<b>3,14</b>	3,29	3,03	<b>3,08</b>
2	Banggai Kepulauan	3,13	2,58	2,65	<b>2,79</b>	2,80	3,21	3,00	2,54	2,29	2,62	1,92	2,37	2,65	<b>2,60</b>	2,59	2,23	<b>2,42</b>
3	Banggai Laut	3,21	2,48	3,17	<b>2,95</b>	3,43	3,53	3,43	3,53	3,04	3,37	2,22	3,40	3,39	<b>3,26</b>	3,34	3,10	<b>3,18</b>
4	Buol	3,34	2,90	2,97	<b>3,07</b>	3,72	3,83	3,61	3,89	3,40	3,55	2,76	3,51	3,64	<b>3,55</b>	3,57	3,31	<b>3,46</b>
5	Donggala	3,21	2,83	2,92	<b>2,98</b>	3,59	3,73	3,49	3,75	3,26	3,38	2,88	3,42	3,60	<b>3,46</b>	3,59	3,09	<b>3,38</b>
6	Kota Palu	3,11	2,66	2,53	<b>2,77</b>	2,86	3,12	2,89	2,69	2,52	2,70	2,47	2,50	2,93	<b>2,74</b>	2,93	2,50	<b>2,66</b>
7	Morowali	3,19	2,71	2,93	<b>2,94</b>	3,63	3,69	3,45	3,81	3,23	3,49	2,56	3,60	3,86	<b>3,48</b>	3,75	3,46	<b>3,47</b>
8	Morowali Utara	3,19	2,64	2,94	<b>2,92</b>	3,49	3,63	3,37	3,67	3,11	3,37	2,49	3,43	3,68	<b>3,36</b>	3,61	3,28	<b>3,33</b>
9	Parigi Moutong	3,21	2,87	2,78	<b>2,95</b>	3,48	3,58	3,40	3,49	3,13	3,23	2,78	3,18	3,34	<b>3,29</b>	3,31	2,82	<b>3,18</b>
10	Poso	3,20	2,94	2,83	<b>2,99</b>	3,61	3,67	3,45	3,70	3,24	3,50	2,72	3,51	3,61	<b>3,45</b>	3,71	3,15	<b>3,40</b>
11	Sigi	3,20	3,06	2,90	<b>3,05</b>	3,83	3,81	3,57	3,87	3,38	3,64	2,99	3,77	3,83	<b>3,63</b>	3,89	3,40	<b>3,60</b>
12	Tojo Una-Una	3,27	2,59	3,03	<b>2,97</b>	3,38	3,54	3,27	3,51	2,98	3,21	2,50	3,25	3,52	<b>3,24</b>	3,39	3,17	<b>3,20</b>
13	Toli Toli	3,22	2,90	2,87	<b>3,00</b>	3,57	3,65	3,47	3,58	3,21	3,37	2,76	3,29	3,40	<b>3,37</b>	3,38	2,94	<b>3,25</b>

Secondly, broadly speaking, the effectiveness of environmental services in supplying ecosystem services – food provision at 77.70%, water at 71.49%, and fibre at 41.31% – falls within the 'Medium Potential' category in the

province of Central Sulawesi. This medium potential for providing ecosystem services spans all districts and cities. Analysing based on the performance indicators for provisioning services in relation to the availability of species or abiotic components with potential uses for water, food types, wood, fuel or raw materials reveals that, according to vegetation and land cover data, Central Sulawesi holds a rather favourable potential for fibre supply (Pemerintah Daerah Propinsi Sulawesi Tengah, 2020). In contrast to the aforementioned provisioning services, regulatory services perform at a more commendable level. The average index across nine regulatory services in Central Sulawesi is situated between the medium to very high range. Indices signifying high performance are observed in services like air quality control (40.53), Landslide Disaster Mitigation (41.22), Karlahut Disaster Mitigation (41.89), and Water Flow Management (49.79). Services like Flood Disaster Mitigation management (44.59) and Pest Control (37.87) exhibit a very high-performance index. On the other hand, services like Water Purification (41.18) and Climate Regulation (38.77) fall under the medium criterion index. A similar trend is observed for Supportive Environmental Services, with high to very high indices noted for Habitat & Biodiversity (37.10) and Soil Formation & Regeneration (48.24). A detailed representation of this data can be found in the subsequent table:

Table 2. The effectiveness of environmental services in supplying ecosystem services

NO	ENVIRONMENTAL SERVICES IN CENTRAL SULAWESI	VERY HIGH		LOW		MEDIUM		HIGH		VERY HIGH		TOTAL	
		(Ha)	(%)	(Ha)	(%)	(Ha)	(%)	(Ha)	(%)	(Ha)	(%)	(Ha)	(%)
<b>PROVIDER SERVICES</b>													
1	Food	30.486,74	0,50	275.854,77	4,50	4.761.811,63	77,70	961.476,79	15,69	98.778,08	1,61	6.128.408,01	100
2	Water	158.810,45	2,59	1.525.457,26	24,89	4.381.255,31	71,49	11.094,10	0,18	51.790,90	0,85	6.128.408,01	100
3	Fiber	171.612,90	2,80	2.037.890,04	33,25	2.531.784,87	41,31	1.387.120,20	22,63	-	-	6.128.408,01	100
<b>REGULATION SERVICES</b>													
1	Air Quality	47.207,70	0,77	1.081.496,17	17,65	1.133.307,42	18,49	2.484.064,68	40,53	1.382.332,04	22,56	6.128.408,01	100
2	Climate	58.308,66	0,95	186.681,36	3,05	2.375.752,62	38,77	1.825.472,64	29,79	1.682.192,73	27,45	6.128.408,01	100
3	Landslide Disaster Mitigation	19.588,96	0,32	675.269,99	11,02	2.406.805,34	39,27	2.525.997,16	41,22	500.746,55	8,17	6.128.408,01	100
4	Flood Disaster Mitigation	313.396,25	5,11	1.805.320,98	29,46	143.761,74	2,35	1.133.031,51	18,49	2.732.897,53	44,59	6.128.408,01	100
5	Forest fire disaster Mitigation	648.797,37	10,59	1.502.699,39	24,52	1.011.199,51	16,50	2.567.434,43	41,89	398.277,31	6,50	6.128.408,01	100
6	Water (Water Flow System)	80.877,58	1,32	1.869.118,55	30,50	593.013,66	9,68	3.051.056,27	49,79	534.341,94	8,72	6.128.408,01	100
7	Water Purification	814.259,52	13,29	2.023.396,87	33,02	2.523.728,55	41,18	767.023,06	12,52	-	-	6.128.408,01	100
8	Natural Pollination	629.912,42	10,28	1.606.238,41	26,21	85.109,18	1,39	2.107.560,82	34,39	1.699.587,18	27,73	6.128.408,01	100
9	Pest Control	110.095,72	1,80	1.489.741,04	24,31	730.186,84	11,91	1.477.766,96	24,11	2.320.617,45	37,87	6.128.408,01	100
<b>SUPPORT SERVICES</b>													
1	Habitat & Biodiversity	284.631,42	4,64	1.579.321,87	25,77	369.101,53	6,02	1.621.786,08	26,46	2.273.567,11	37,10	6.128.408,01	100
2	Soil Formation and Regeneration	1.430.824,07	23,35	867.934,21	14,16	591.375,18	9,65	2.956.533,62	48,24	281.740,93	4,60	6.128.408,01	100

The aforementioned environmental services have intrinsic value not just as life support systems, but they can also be leveraged to bolster the local economy. As evident from the data, services like provisioning, regulating, and supporting can be harnessed economically, provided they are managed sustainably. Sustainable management isn't only about preventing deforestation; it's equally about ensuring the well-being of communities residing in and around these ecosystems.

## 2.2. Payment for Environmental Services in Central Sulawesi Province

Given the significant benefits these environmental services confer upon the community, particularly the residents of Central Sulawesi, it's imperative that the regional government's policies rectify any ecosystem imbalances, thus positively influencing the ecosystem. Local governments should begin to duly recognise these ecosystem services, offering appropriate incentives for their sustainable delivery. They should drive individuals, businesses, and other institutional bodies to be cognizant of the repercussions of their actions on these services (Nabangchang, 2014). Essentially, this could involve offering incentives to service providers, implementing programmes that ensure payments for ecosystem services, imposing taxes on environmentally detrimental activities, or direct regulation of activities that impact the provision of such services.

Three core responsibilities for local governments in mainstreaming these services include:(Polasky Seminar & Polasky, 2011) :

- 1) Linking Actions with Impacts: Deepening the understanding of how human actions influence ecosystem processes and their subsequent impact on the natural capital underpinning these services.
- 2) Valuing Services: Amplifying understanding of the role ecosystem services play in enhancing human welfare.
- 3) Offering Incentives: Embedding the appreciation of the value of ecosystem services into policy and management structures to foster the sustainable delivery of valuable services.

In Indonesia's environmental management, this approach is bifurcated into two concepts: payment for environmental services and compensation/benefit for environmental services. The latter is characterised as the transfer of resources (or their monetary equivalent) in the context of environmental conservation. Both concepts are integral components of Indonesia's environmental economic instrument (PP IELH, 2017) designed to spur a collective commitment to environmental preservation.

Payment for Environmental Services (PES) operates as a market-based conservation instrument grounded in the principle that beneficiaries of environmental services should compensate those who facilitate their provision. Under the PES framework, providers are remunerated based on their ability to deliver the desired services or execute activities that produce these services (Didik et al., 2020). The PES is conceived as a mechanism where the service recipient compensates the provider (FAO UN, 2004) It's a transaction where, per business principles, payment is made upon service receipt, and the provider ensures its continuous delivery (Fauzi & Anna, 2013). At its core, PES insists that those delivering environmental services are recompensed for their conservation efforts, while beneficiaries bear the cost. To execute these payment and compensation mechanisms effectively, there's an emphasis on a grassroots, or bottom-up, approach across all development facets. Emil Salim articulated this mechanism as a balance between the 'willingness to accept rewards' from environmental service providers and the 'ability to pay rewards' of its user.(AUNUL FAUZI et al., 2005)

The fundamental economic theory of PJI is straightforward: it operates on the "beneficiary pays" principle, where those who benefit pay the costs (DANIEL BUTT, 2014). At its core, PES is a scheme designed to offer environmental services, which are perceived to be deteriorating due to an insufficient societal appreciation of their value and an absence of compensatory mechanisms. The PES framework seeks to render the provision of these services more cost-effective in the long run (H. ROSA, n.d.), the traditional PJI approach deploys economic tools aimed at optimisation, striving to minimise costs while fulfilling environmental management objectives.

Indonesia has integrated the PJI model to address concerns surrounding deforestation and community welfare. Within the Indonesian legal context, PJI is perceived as an Environmental Economics (IELH) tool. Article 42, Paragraph 1 of Law 32/2009 on PPLH highlights the mandate for both the government and regional administrations to cultivate and enact environmental economic instruments (IELH). Defined in this context, IELH encompasses: (a) economic activity and development planning; (b) environmental funding; and (c) the use of incentives and/or disincentives. The payment for environmental services concept lies within the development planning and economic activities domain, centred on an environmental services compensation/reward mechanism, along with the introduction of a payment system as an incentive and/or disincentive instrument. PP 47/2017 further elucidates the intricacies of payments for environmental services. Two crucial aspects highlighted in this regulation are: First, promoting public engagement in conserving natural resources and upholding environmental integrity. Second, regional governments bear the responsibility of bolstering the delivery of Inter-Regional Environmental Services Compensation/Indemnity.

Interestingly, the Central Sulawesi Regional Government pioneered the PES initiative, (Pemda Sulteng, 2014). This legislation underscores several facets: integrating environmental services management into government planning; ensuring regional authority spans districts/cities; delineating the categories of payable environmental services; establishing the legal interplay between service providers and users; conflict resolution, and the

introduction of a multi-party institution to oversee environmental services. In this regional legislation, Payment for Environmental Services is described as a compensation for maintaining environmental service objects managed by providers. However, this definition seems rather broad and lacks specificity for practical application. This contrasts sharply with the definition as per PP 47/2017, which explicitly mentions the transfer of a monetary sum or its equivalent in managing these services.

Furthermore, while Law 32/2009 established the two typologies of environmental services economic instruments - Compensation/Reward and Payment for Environmental Services - the nuanced guidance for practitioners came about eight years later with PP 46/2017. This significant temporal gap has led to varied regional interpretations and standards of environmental services. Moreover, PP 46/2017 doesn't adequately distinguish between Compensation for Environmental Services and Remuneration for Environmental Services. Various regional regulations have evinced multiple misconceptions concerning the concept and realisation of environmental services. These ambiguities, found in regional regulations' definitions of environmental services, their scope, the meaning of the PES scheme in the context of levies and regional revenue, among others, mean that the implementation of PJJL could be potentially fraught with confusion (Leimona Beri et al., 2019).

Several factors hinder the implementation of this regional regulation. First and foremost, the regulation itself is challenging to enforce as it necessitates comprehensive and detailed technical regulations for support. Secondly, there's a palpable lack of political and bureaucratic drive to utilise PJJLH instruments as regional economic tools. These first two regional regulations demand reconciliation with government regulations concerning environmental economic instruments. Lastly, the existing bureaucratic entities are not well-acquainted with the processes surrounding payments for environmental services.

### *2.3. The Imperative of Payment for Environmental Services in Central Sulawesi*

Central Sulawesi presents a unique situation when considering the importance of Payment for Environmental Services (PJJLH). Three salient aspects define the situation: Economic Vulnerability Amidst Rich Natural Resources: Central Sulawesi has a notable concentration of impoverished individuals, predominantly located in rural regions adjacent to forests and zones abundant in environmental economic assets. This significant impoverished demographic arises from several reasons: primarily, these forested and resource-rich areas are largely dominated by corporations. Additionally, the local communities face restricted economic access to these assets. Tenure disputes further complicate the situation, and the centralized policies on resource management significantly limit both the local community and government's capability to capitalise on these resources.(Herman Supriyanto et al., 2017) Up to now, the percentage of poor people in Central Sulawesi province in March 2023 is 12.41 percent, an increase of 0.11 percentage points compared to September 2022, and an increase of 0.08 percentage points compared to March 2022. The number of poor people in March 2023 is 395.66 thousand people, an increase of 5.95 thousand people compared to conditions in September 2022, and an increase of 7.31 thousand people compared to conditions in March 2022. The percentage of poor people in urban areas in September 2022 was 9.13 percent, decreasing to 8.90 percent in March 2023. Meanwhile, the percentage of poor people in rural areas in September 2022 was 13.79 percent, rising to 14.09 percent in March 2023. Compared to September 2022, the number of poor people in March 2023 in urban areas fell by 0.82 thousand people (from 92.93 thousand people in September 2022 to 92.11 thousand people in March 2023). Meanwhile, in the same period the number of poor people in rural areas increased by 6.78 thousand people (from 296.77 thousand people in September 2022 to 303.55 thousand people in March 2023).(BPS *Prov Sulawesi Tengah*, n.d.)

The PES (Payment for Environmental Services) Scheme is widely regarded as an effective, transparent, and cost-efficient tool (Nugroho et al., 2019)(Timer Manurung, 2019). The scheme operates on a voluntary basis between both involved parties (direktorat Kehutanan dan Konservasi Sumber Daya Air Kementerian PPN/Bappenas, 2021). Numerous studies highlight that economic incentives via PES schemes can create economic, social, and environmental impacts (Harahap, Yuerlita, et al., 2021). ighlight that economic incentives via PES schemes can create economic, social, and environmental impacts. Furthermore, other research indicates that PES schemes can influence physical and financial capital, human capital, social capital, and natural capital

to varying extents. In various locales, the PES scheme has demonstrated its ability to indirectly enhance community well-being through community empowerment activities (Leimona et al., 2015). Turning to the environmental index data for Central Sulawesi, it predominantly indicates that the region's environmental services are either 'good' or 'very good'. The Provider's Environmental Services Index sits at an average value of 2.95. Specifically, the food provider index is rated as 'good', with a score of 3.21. Moreover, the index for environmental regulatory services in Central Sulawesi is slightly higher at 3.27. The supporting services index also received a commendable score of 3.20.

The favourable condition of environmental services in Central Sulawesi underscores the pressing need for the local community, inclusive of local governments, to leverage payments for environmental services (PES). This not only aims to bolster the local economy but also serves as a policy mechanism to ensure the sustainable management of the region's natural ecosystems. By employing payment mechanisms for environmental services, it becomes possible to guarantee that both the local community and government can derive economic value from these services. Furthermore, such payment mechanisms can be utilised as a tool to maintain, and even enhance, the environmental quality and index in Central Sulawesi. For landowners, this translates to an opportunity to transform natural capital into financial streams. By introducing PES, local communities can attain enhanced financial flexibility, allowing them to diversify their income sources and, as a result, mitigate their vulnerabilities. Thirdly, the adoption of payment mechanisms for environmental services will lead to a reinforced application of environmental law in Central Sulawesi, particularly concerning environmental economic law. This encompasses both state administrative law and civil law. Enforcing environmental law in this context signifies affording legal rights to entities such as forests, oceans, and rivers. These are termed 'natural objects in the environment'. It even extends to the broader environment. In this scenario, the Central Sulawesi provincial government is proactively engaging in payments for environmental services as a representation of the environment as a legal entity. This initiative is crucial to ensuring the long-term sustainability of environmental functions and the broader life it supports.

#### *2.4. Policy Formulation for Payment of Environmental Services in Central Sulawesi Province*

Economic instruments for the environment are designed as a collection of policies, aiming to incentivise the Central Government, Regional Governments, and individuals to preserve environmental functions. As expressed in the provisions of Article 43 paragraph (4) and Article 55 paragraph (41) of the 2009 Law Number 32 concerning Environmental Protection and Management, there exists a binding duty on the state, specifically the central and regional governments. Within this context, payment for environmental services remains a pivotal component of the environmental economic instrument. It's noteworthy that, in a bid to maintain environmental equilibrium, the Central Sulawesi government had enacted the regional regulation number 15 of 2014, addressing the management of payments for environmental services. However, due to reasons previously detailed, the regulation has remained unimplemented. This underscores the need for renewed commitment from the Central Sulawesi government in regulating payments for environmental services, reflecting their responsibility as regional governments to champion and evolve environmental economic tools. The author believes there are four crucial facets to consider when drafting policies for payment of environmental services in Central Sulawesi:

- 1) **Accountability & Legal Adherence:** Payment policies for environmental services must advocate for and enforce responsibility and legal compliance in environmental preservation and management. Besides forthcoming regional regulations tailored to regional competencies, policymakers too need to be held accountable. Specifically, Central Sulawesi's regional government should ensure that these policies are unequivocally designed to strike a balance between economic and environmental needs. It is imperative for regional governments to operate transparently, report consistently, and be held accountable for the consequences of their environmental economic pursuits. Having planning and accountability documentation regarding the success or failure of environmental economic instrument management is essential.
- 2) **Cultural & Behavioural Shift:** In rolling out PES, it's paramount for the Central Sulawesi Regional Government to influence a change in the attitudes and behaviours of stakeholders within development and economic ventures. An integrated approach, weaving environmental concerns into the broader



regional economic development strategy, is essential. This ensures that both sustainability and conservation are integral to the regional government's plans, which are directly linked to Central Sulawesi's economic prosperity and growth. Payment for environmental services is aptly suited as an instrument for these challenges. Such approaches, known as PJJ, have been previously executed in various regions, including but not limited to: PJJ in the watershed Cidanau, Banten Regency (Febrima Napitupulu & Asdak, 2013) compensation funds between Kuningan Regency and Cirebon City (Ramdan, 2006); and the Latuppa Watershed in Palopo City (Jibria Ratna Yasir et al., 2018) River in the Way Besai Watershed (Rachman Pasha et al., 2010); River flow in Aceh (Wardah et al., 2013)

- 3) There is a pressing need to develop PJJ regulations and policies that are coherent, orderly, structured, and quantifiable. The essence of this aspect is to ascertain a valuation for one or more of the accessible environmental services. Such a move ensures that the extent of these services can be lucidly comprehended and disseminated to the general populace. The primary objective behind these calculations is not to serve as the ultimate metric or central tool in policy-making or setting the payment value for environmental services. Instead, it is to amplify public awareness and concern about the significance of preserving these vital environmental services.
- 4) Fostering and bolstering public confidence in the administration of Environmental Funding is crucial. Trust in PJJ is anchored in two core beliefs. Firstly, the conviction that certain natural resources cannot be equitably and effectively managed by private proprietors. Secondly, these resources should, instead, be vested in the hands of the government. The responsibility then rests with the government to oversee their consumption and conservation, safeguarding the interests of both the present and future generations (Sagarin & Turnipseed, 2012).

However, when implementing the second factor mentioned above, the regional government's policy confronts a scenario where public trust significantly impacts three aspects: the regional government in its role as regulator, the community, and entrepreneurs. The crux is that policy can augment and shape public trust in the local government (Andhika, 2018). This trust is pivotal in assuring environmental sustainability and the welfare of the community. Cultivating public trust in PES can be achieved by promoting extensive community participation, ensuring the provision of accurate information about environmental services, and endorsing transparent, accountable, and sustainable PES practices. Moreover, it's essential to advocate for prices that are equitable for payments for environmental services, always bearing in mind and prioritising the needs of each group – both the providers and users of environmental services. This aspect of public trust presents a significant challenge for the residents of Central Sulawesi. Indeed, it's this very factor of trust that has rendered the previously established PJJH policy ineffective.

### 3. Conclusion

Drawing from the preceding discussion, several conclusions can be drawn. The Urgency of Payments for Environmental Services in Central Sulawesi: Three significant points highlight the necessity of these payments as instruments for environmental economics in Central Sulawesi. First, Central Sulawesi has a significant rural population living in poverty, despite possessing rich environmental economic resources. Second, Data regarding the environmental index in Central Sulawesi indicates commendable performance, with an average Environmental Services Index score of 2.95. The food provider index stands in a healthy position at 3.21, while the environmental regulatory services index is even more impressive at 3.27. Additionally, the supporting services index boasts a good score of 3.20. Third, Implementing payments for environmental services is expected to bolster the enforcement of environmental laws in Central Sulawesi, particularly those related to environmental economics encompassing state administrative and civil laws. The provincial government of Central Sulawesi is now proactively engaging with these payments, positioning the environment as a legal entity. This ensures the ongoing sustainability of environmental functions and broader life systems. Recognising and embedding these three elements within the PPLH policy can significantly enhance the welfare of Central Sulawesi's residents. Policy Formulations for Enhancing Community Welfare: There are four essential policy formulations concerning payments for environmental services in Central Sulawesi, all aimed at elevating community well-being: First, Payment systems for environmental services must promote and ensure legal compliance and accountability in the realms of environmental conservation and management. Second, The

Central Sulawesi Regional Government must initiate cultural and behavioural shifts among stakeholders, fostering a more environment-conscious approach in both development and economic spheres. Third, It's crucial for PJJ policies and regulations to be systematic, structured, and quantifiable. The goal is to appraise the value of one or several environmental services, making this information transparent and accessible to the general populace. Fourth, It is of utmost importance to nurture and solidify public trust in the administration of environmental funds.

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