

Rural Development in Indonesia: Ecological Crisis, Marginalization, and the Emerging Ecological Governance

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ABSTRACT

This paper aims to explain rural development that has an impact on the ecological crisis and marginalization of rural areas in Indonesia. In addition, this paper also describes the appearance of ecological governance that can help solve several problems in rural areas. The qualitative method is the method used in this research with an integrated literature review (ILR) approach. An integrative literature review is a form of research that reviews, critiques, and synthesizes representative literature on a topic in an integrated way to generate new frameworks and perspectives on the topic under study. The findings of this research show that opening access to rural areas often encourages urban elite actors, government officials, and corporations to control and exploit existing resources in the rural area until it leads causing an ecological crisis. Furthermore, rural marginalization can be seen where local sovereignty in regulating the order of life is systematically eroded by national and global socio-economic-political regulatory mechanisms. Hence, as an alternative to improve the pattern of rural development that has occurred so far, the conception of ecological governance can be used to inhibit the existing development model by introducing a local study approach. The limitation of this research is that no field study was conducted. The results of this research are very useful for new rural development approaches with good ecological governance, and these concepts are also an alternative novelty in this research.

Keywords: rural development, ecological crisis, marginalization, ecological governance

1. INTRODUCTION

Indonesia's constitution provides that "the state protects the whole nation and all its people, promotes general welfare, and educates the nation's life" as the basic framework of a welfare state. Furthermore, Arifin et al. (2020) shows that rural development is important in the transformation and progress of a country. As an agricultural country, villages are the dominant region in Indonesia. The state is constitutionally mandated to improve the welfare of all citizens. One of its main pillars is rural development. Thus, rural development must be a major concern in building the welfare of all Indonesian people.

Rural development also has an important role in poverty alleviation. Various studies have shown that rural poverty problems can be solved by improving the economic and social levels of rural communities (Y. Wang & Zhu, 2022). The study explains that the increase in rural development that occurs in the world can promote economic development and improve the level of civilization through environmental improvement. Then, historically, rural development is also understood as an instrument for sustainable improvement in the living standards of people living in rural areas (Ashley & Maxwell, 2001), where rural development is a solution to various other problems in rural areas such as unhealthy housing, severe soil and water pollution, inadequate health care and education, irregular village construction, and so on (S. L. Wang et al., 2019)

Behind its positive potential, rural development also has the potential to cause ecological crises and rural marginalization. Problems that arise in enhancing development are the emergence of new problems that become serious problems faced by rural communities, one of which is ecological damage due to development programs (Awaluddin & Hidayat, 2018). Furthermore, ecological problems are often caused by problems of group control over other groups (power & authority) (Muharram et al., 2021). As Blaikie & Brookfield (1987) explained, in the context of developing countries, ecological crises mostly stem from imbalances in power relations. The imbalance of power relations has great potential to cause various other problems (multi-impact) in human life that are reciprocal (Baugh, 1980).

Rural development also has the potential to cause rural marginalization. In this context, for example, development has actually led to a tendency for rural differentiation that is increasingly acute in the lives of peasants (Elizabeth, 2008). In addition, it is undeniable that in people's lives there is still the potential for social exclusion or social marginalization that weakens the role of society as a subject of development (Gutama & Widiyahseno, 2020). Factors such as unequal land ownership, limited access to education and training, and limited access to health and financial services can lead to some community groups being marginalized and more vulnerable to marginalization. Moreover, rural development projects may not provide equal benefits to all community members (Zemedede Wubayehu, 2020).

Another aspect of rural marginalization is what is known as 'siphoned out of peripheral society and into global circuit capital', which is rural underdevelopment as a result of specializing in one agricultural commodity or natural resource to serve urban areas (Armstrong & McGee, 1985). The opening of access to rural areas often encourages urban elite actors, government officials, and entrepreneurs to scramble to control and exploit existing resources in the village. Meanwhile, rural communities are powerless to play a role in managing their resources because of their lower bargaining position compared to the exploiters. The geographical location of villages in close proximity to cities also does not automatically increase the accessibility of rural communities to economic resources in urban areas. Instead, urban actors become more able to exploit the resources of rural communities.

Rural development that does not consider social aspects and community participation may ignore their needs and interests. Basically, limited access to resources and development opportunities can reinforce social inequality in villages (Taylor, 2011). In later times, it was found that the benefits of economic growth were concentrated in urban areas only. Net capital outflows, brain drain, and various resource transfers have not only benefited urban areas, but have also been unable to encourage rural growth. In fact, the potential of villages is decreasing, the countryside is becoming poorer and more disadvantaged as the capacity of rural resources decreases. This tendency will increase the dependence of villages on the urban economy and in the end villages will only become objects of urban actors (Setiawan, 2013).

Various studies on rural development that causes ecological crises and marginalization in several countries have begun to be discussed and present in international journals. One of the studies on rural development causing ecological crisis and marginalization is Taylor's (2011) study, which found that rural development in Andhra Pradesh, India caused microfinance crisis, agrarian crisis and marginalization (Taylor, 2011). Another example, rural development in China, in the transition phase from agricultural to industrial civilization, presents a very complicated situation and faces many problems, especially agricultural backwardness mixed with damage from industrial processes (Zhang et al., 2013). Another study in the Middle East found that the unequal ownership and use of water and land resources due to rural

development can contribute to the social exclusion of a large part of the rural population (Houdret et al., 2017).

The various problems that arise as a result of rural development pose significant challenges in terms of ecological governance. In principle, ecological governance refers to the management of natural resources and ecosystems in a way that promotes sustainability and protects the environment. In this context, ecological governance involves the wise and sustainable management of natural resources and ecosystems, with a focus on environmental protection and ecological balance (Wan & Zhang, 2013). Furthermore, it requires the development and implementation of policies, laws, and regulations that aim to balance economic development with environmental protection (Jozaei et al., 2022).

This paper aims to explore the impact of rural development on the ecological crisis and rural marginalization. Through this paper, it can promote a deeper understanding of the complex relationship between humans and the natural environment, and propose achieving sustainable ecological governance in rural areas. Thus, this article could make a valuable contribution to the scientific discussion on rural development and efforts to achieve harmony between human development and environmental preservation.

2. METHODOLOGY

The method used is an integrative literature review by searching databases from various references, such as research journals, journal reviews, annual reports, books, and data related to the themes of *rural development*, *ecological crisis*, *rural marginalization*, and *ecological governance*. This is in accordance with Torracco's (2005) explanation that an integrative literature review is a form of research that reviews, critiques, and synthesizes representative literature on a topic in an integrated way to produce a new framework and perspective on the topic. In addition, a literature review is an excellent way to synthesize research findings to show evidence at the meta-level and to uncover areas that require further research, which is an important component in creating theoretical frameworks and building conceptual models (Snyder, 2019).

In this study, six main steps were taken in compiling and conducting a literature review according to the explanation of Efron & Ravid (2019), *First*, selecting a literature review topic. The development of the literature review began by selecting a topic of investigation on the topic of "*rural development*". Then the review is extended to "*ecological crisis*", "*rural marginalization*", and "*ecological governance*". *Second*, finding sources for the literature review. After selecting the topic, the next process was to find literature sources that provided knowledge and information on the topic. Using the keywords "*rural development*", "*ecological crisis*", "*rural marginalization*", and "*ecological governance*", a database was obtained from websites that provide a variety of literature, including *Library Genesis*, *ScienceDirect* *Google Scholar*, and *ProQuest*. In this phase, careful note-taking and organization of the identified sources was done and a bibliography was compiled.

Third, Analysing and evaluating the literature review sources. At this stage, all the literature was reviewed and sorted, then interpreted and summarized its contents and documented according to the themes and issues to be discussed in the relevant sub-chapters of the literature review by all team members. The manuscripts were evaluated to assess the credibility of the research sources and the extent to which the information obtained was reliable, valid, and logical. Fourth, organizing and synthesizing literature and building arguments. At this stage, the information and data that have been obtained "*rural*

development”, “*ecological crisis*”, “*rural marginalization*”, and “*ecological governance*”, are analyzed from each source into a well-structured, persuasive narrative, and bring them together into a coherent whole.

Fifth, developing the author's voice and following the rules of writing. At this stage, the author's position of truth is voiced in each sub-sub chapter. Then the entire content of the manuscript is also subject to writing ethics that refer to and acknowledge all correct sources and avoid plagiarism. Finally, writing, editing, and refining the literature review. At this stage, the integration of all concepts and theories reveals a thorough understanding of current knowledge related to the “*rural development*”, “*ecological crisis*”, “*rural marginalization*”, and “*ecological governance*”.

3. RESULTS AND DISCUSSION

3.1 Rural Development

Rural development refers to the process of improving rural economic, social, and environmental conditions. Rural development will involve job creation, infrastructure improvement, and provision of basic services such as health, education, and housing (Popescu et al., 2018). Rural development aims to promote modern technology in the rural population by increasing production and productivity, improving living standards in terms of economic and social use, and environmental protection in order for them to provide a pleasant and permanent workplace and life (Antonioli et al., 2013). Scholars agree that rural development concerns the development of rural areas, but this statement can hardly be a definition that is acceptable to all parties (Horzsa, 2021). In this regard, there is no universally accepted definition of rural development, and existing definitions and concepts of rural development have some conceptual gaps that need to be revisited and re-conceptualized in the 21st century (Zemede Wubayehu, 2020).

Rural development in Indonesia is an effort and strategy that is implemented to promote economic growth, improve living conditions, and reduce poverty in rural areas of Indonesia. Rural development has a significant impact on poverty reduction in Indonesia. Regions with better rural development status have the potential to reduce poverty and increase economic growth (Handoyo et al., 2021). After the issuance of Law No. 6/2014 on Villages, each village in Indonesia is responsible for managing its own village funds. Effective governance and management of these funds is essential for sustainable rural development (Tarlani & Sirajuddin, 2020)

In the regional context, each village can formulate strategic solutions to improve its development. These include improving public information and communication, strengthening internal systems and supervision, optimizing the role of rural business entities, and strengthening spatial control (Tarlani & Sirajuddin, 2020). The approach of using holistic strategies in rural development has an important role, as is being done by Majasari Village, Indramayu Regency, West Java, Indonesia (Muhardi et al., 2020). Development in the village involves consideration of various aspects such as political, economic, social, technological, environmental, and legal factors. Village Leadership plays an important role in utilizing external and internal resources for rural development.

Several villages in West Java have already implemented policies and strategies to accelerate inclusive and sustainable rural development. One of the districts that has successfully implemented inclusive and sustainable rural development is Pandeglang District, Banten Province, Indonesia (Yudha et al., 2020). This is evidenced by a significant increase in the

Village Development Index (VDI) from 2014 to 2020. Rural development in Pandeglang Regency has reconstructed village financial and asset management arrangements and developed a village typology model and development strategy (Yudha et al., 2020). This is in accordance with rural development in Indonesia which aims to improve the welfare of rural communities, reduce poverty, and encourage sustainable economic growth in rural areas.

Rural development in Indonesia intends to address the challenges, implement strategic solutions and empower local communities to drive development initiatives. However, despite its positive potential, infrastructure development, such as roads, electricity and telecommunications, does not guarantee success. In other words, rural development also has the potential to cause negative impacts (Purwanto, 2020). For example, rural development in Sumenep District has resulted in infrastructure that has been completed but not utilized and stalled infrastructure development (Hidayaturrahman, 2020). Rural development in many villages in Bantul and Sleman districts has also resulted in an ecological crisis that will also lead to an economic crisis in these villages (Baiquni, 2008).

Although rural development aims to improve the quality of life of rural communities and reduce the gap between urban and rural areas, some development projects can have negative impacts on the environment. A development project to expand the mining area in Mulawarman Village, Tenggara Seberang Sub-district, Kutai Kartanegara Regency, East Kalimantan Province resulted in environmental degradation (Tianur et al., 2022). Another example is the infrastructure development of the Bener dam in Wadas Village, which will change land use, deforestation, and degradation of natural ecosystems (Hidajat, 2021). In addition, poorly managed tourism development in rural areas can also cause an ecological crisis (Arida, 2017).

Moreover, the development of tourism infrastructure that is not environmentally friendly, accompanied by increased pollution, and unsustainable management of natural resources can threaten the sustainability of ecosystems and cause environmental damage in the long run. In many cases, the development of rural tourism infrastructure has led to the overuse of natural resources such as water, land and forests (Tleuberdinova et al., 2022). Ecological crises resulting from rural development can have significant long-term impacts, such as the loss of ecosystems important for climate change, decreased agricultural productivity, droughts, floods, and degraded water and air quality.

3.2 Ecological Crisis

The ecological crisis that has happened in Indonesia is severe and frightening, various ecological disasters that are detrimental and threaten the survival of the community have not received special attention from the government (Adam et al., 2021; Lako, 2017). Recorded in the vulnerable years 2016 - 2021, Indonesia experienced more than 18,000 disaster events, with 7,500 casualties (missing and dead). In this context, recovery efforts are not serious enough and there is even a decline in democratization related to natural resources (increasingly limited public control) (Adam et al., 2021).

Many cases explicitly demonstrate that the ecological crisis stems from monopolistic activities in the control of natural resources that are not environmentally friendly, and have an impact on the loss of access of rural communities to sources of life (Cahyono, 2022), as well as an implicit consequence of industrialization (Beck, 1992). For example, forest clearing in Tewai Baru, Tampelas and Tanjung Karitak villages by the Ministry of Defense has created a combination of coarse sediment and wood detritus that clogs waterways and nearby wetlands, causing flooding (Greenpeace, 2022). Under these conditions, the community suffered.

Furthermore, 33,448,501.37 hectares of Indonesia's forests have been encumbered by business licenses for the utilization of forest products, both natural forests, ecosystem restoration, and industrial plantations (Adam et al., 2021). In fact, Indonesia is considered as one of the biggest forest destroyers in the world due to the high rate of forest destruction (Syarif & Wibinasa, 2014). The 'exploitation' of natural resources through formal 'legalization' has caused environmental damage (Arianto et al., 2021).

The representation and understanding of the ecological crisis need to be interpreted with the orientation that the crisis that occurs is not only related to one field of meaning construction (nature and environment), but also the logical consequences of these events have cross-sectoral adverse effects (Batel & Adams, 2016; Gervais, 1997). In this context, humans are not only victims, but also the cause (risk) of ecological crisis that occurs (Farinaci et al., 2016). One of them is the rise of extractive development systems (Machado & Healy, 2022). For example, national policies that continue to reproduce "high-risk development" are a major factor in the ecological crisis in rural areas (Shohibuddin et al., 2017). Another example, SCG's Java cement plant in Sukabumi was built on agricultural cultivated land, the most pronounced social and environmental impact is the degradation of air quality, due to (i) the process of transportation and mixing of cement raw materials, (ii) burning cement raw materials using coal (WALHI Jawa Barat, 2021). If left unchecked, the degradation will further exacerbate the surrounding rural environmental problems. (For reflection, see the case in (Olszowski et al., 2012; Piwowar & Dzikuć, 2019).

In the context of industrialization, including industrialization in rural areas, if the industrial process legalized by the government is not oriented towards ecological sustainability, it will cause environmental damage. Some examples of cases can be seen in (Awaluddin & Hidayat, 2018; Jumali et al., 2017; Saraswati, 2019). Moreover, industrial waste tends to have systemic and mass ecological crisis consequences (Bryant, 1998). Such insecurity, ecologically ignorant (radically: immoral) industrialization, will lead to the phenomenon of risk society (Beck, 1992). This phenomenon is a terrifying nightmare for society, in this context rural communities.

The current ecological crisis has brought other types of social risks, one of which is related to the complex impacts of climate change (Khan et al., 2016), (one of which is a significant impact on livelihood conditions for rural communities) (Villa, 2019). Also, climate change will disproportionately affect the poorest in society. For example, jobs that require manual labour are typically the lowest paid and are also most at risk of reduced productivity due to heat stress (Kjellstrom et al., 2016).

Indonesia ranks in the top three countries in terms of climate risk, with high exposure to all types of flooding and extreme heat. The intensity of these hazards is expected to increase with climate change (World Bank, 2021). For example, many regions in Indonesia face very significant adaptation challenges, and even East Java has been identified as a global hotspot (Willner et al., 2023). Without effective adaptation, population exposure will also increase. In fact, it is estimated that the population exposed to extreme river flooding could increase by 1.4 million people by 2035-2044 (World Bank, 2021)

In addition, climate change significantly impacts rural communities, which depend on access to ecosystems (Triyanti et al., 2023). However, rural communities often have access under tentative rights, as in practice legal use is often difficult for rural communities to assert. Pressures to secure individual land rights and competing interests continue between corporate land acquisitions and the increasing commercialization of land (McCarthy & Robinson, 2016) and the concurrent (re)acquisition of land by the state (Triyanti et al., 2023).

3.3 Rural Marginalization

It is undeniable that the birth of Law No. 6/2014 on Villages reinforces the theory that villages are political objects of "urban actors" as the culmination of the backwash effect phenomenon. This phenomenon, according to Hunt (1989) cannot be separated from the wrong development practices introduced by Arthur W. Lewis in the 'dual sectors model in developmental economic theory', which states that economic growth and modernization of development can be encouraged if there is a transfer of surplus from agricultural areas in rural areas to industries in urban areas. The form of surplus transfer that occurs is human resources (labor), capital, and other resources in rural areas in the name of development interests.

In particular, Harvey (2010) explains under these conditions with the 'theory of capital bondage' or 'the spatial range of goods theory', that these imbalances can occur between sectors and between regions and that business cycles and local-level recessions can occur. In conditions where access to inputs is cheaper than access to outputs, even though expansion is equally important to generate profits openly. The implication then is that expansion into non-capitalistic regions is not just for trade, but more importantly to enable capital penetration in investing by exploiting cheaper labor, abundant raw materials, low-cost land, and so on. In this context, Tjondronegoro (2008) also rejects the concept of shared property, arguing that impoverishment is evident only in urban-rural relations.

Another aspect of urban-rural hegemony is what is known as 'siphoned out of peripheral society and into global circuit capital', i.e. rural underdevelopment as a result of specializing in one agricultural commodity or natural resource to serve cities (Armstrong & McGee, 1985). As a result, many villages have become markets for various corporate products. These products include agricultural inputs and foodstuffs. The economic structure of villages became increasingly dependent on corporations and cities. Villages that in the past were producing areas have now become consumers. Many farming communities have also shifted from agriculture to non-agriculture, especially micro-trading by opening grocery stalls in the village. Then, they sell products from the city. The result is that more money comes into the village. But at the same time, due to the economic structure of the village that is increasingly dependent on corporations and the urban area, money in the village quickly flows back to the city, which in the end remains the city and corporations who actually benefit more, and then perpetuate the hegemony of "urban actors" over the village.

In addition to being the "political object" - through various policies and programs - of "urban actors", in various economic changes in rural areas, the process of capital expansion has also triggered rural marginalization. This process occurs both due to the operation of endogenous factors such as the shrinking land-man ratio, the emergence of wage labor, the increase in population, as well as due to the pressure of exogenous forces such as the presence of commercialization, monetization of agriculture, technological diffusion, increased accessibility of transportation and communication networks. In another view, for example, Sosialismanto (2001) explains that this reality will show clear symptoms in developing countries in terms of the implementation of development policies implemented in rural areas, such as the introduction of agricultural mechanization technology, as well as the entry of political and economic institutions in rural areas that are structured by the state in a technocratic-bureaucratic manner.

Over the past two decades, many villages have experienced accelerated patterns of social change. The acceleration of change can be seen on the scale of intensity, tempo or dimensions. The coverage is not only physical and economic but also socio-technical dimensions, knowledge values, and spatial accessibility. The various forms and patterns of

social change in rural areas that occur were born from the technocratic thinking of urban actors through planned social engineering. Therefore, social change in rural areas is no longer value-free, political-free, or ideological-free, because it is actually subject to the ideology of developmentalism. Therefore, the process of change that occurs is a reflection of the ideology of developmentalism adopted by the state in making and implementing its policies. At this point, "urban actors" place themselves in a central position that will dominate the patterns and forms of rural political-economic change.

At the same time, in the name of growth, a country's economic development agenda is intervened by the scenarios of international financial institutions. Through the mechanism of development assistance (which is actually debt and loans), developed countries also incorporate their interests and agendas into the policies of developing countries' governments. Since the developed countries are the majority shareholders of these financial institutions, they can freely force the aid recipient countries to follow their will. Hancock (2005) explains that grassroots people in the third world do not enjoy much from the "development industry". Instead of enjoying, they are often disadvantaged or suffer negative impacts from giant projects financed by the IMF, World Bank, Asian Development Bank, or other financial institutions in cooperation with rich countries.

In the context of rural marginalization, the previous thesis can be explained by taking the example of the experience during the New Order era, which had introduced a rural agricultural revitalization policy under the name 'Green Revolution'. This policy initially promised an increase in agricultural production, but it was later discovered that this policy was actually part of the grand scenario of developed countries as an effort to expand the market expansion of their chemical industry. As a result, until now Indonesian farmers are dependent on chemical fertilizers, pesticides, and other chemicals to increase agricultural production (Rinardi et al., 2019)

In addition, Khudori (2004) has explained that the absence of state strategies and policies after the Agreement on Agriculture (AoA) in 1995, has made the rural agricultural sector even worse. Unfortunately, this situation has been exacerbated by the rapid increase in imports of agricultural products, while there has been no overall increase in agricultural exports. Indonesia's imports of agricultural products continue to increase from year to year with an average import volume of 3.2 million tons each year. The consequence of the marginalization of farmers with the increasing number of imports is that the selling price of agricultural products (agricultural output) is not balanced with the cost of production (agricultural input) and the rate of inflation. This has been exacerbated by the withdrawal of subsidies on agricultural inputs, which has also led to a decline in agricultural productivity because rural agriculture has been directed towards conventional systems with high external inputs. Another impact is that not only are pests and diseases mercilessly rampant, but production costs are also soaring, and farmers are constantly losing money as a result (Arifin, 2001). Similarly, the modernization of agriculture through the mechanization of agricultural technology has forced some farmers to continuously cultivate capital in order to carry out the process of capital reproduction.

Meanwhile, the villages themselves, as the bottom of the economic structure pyramid, remain poor. Villagers must work hard to earn an income, with the production inputs all coming from the urban areas. On the other hand, it cannot be denied that in the structure of the 'regional hierarchy', villages grow, but this is also followed by increasing inequality, and poverty that is increasingly difficult to reduce. In the broader urban hierarchy, cities thrive on the migration of cheap labor from the countryside. As for rural communities in general, they remain in

poverty and overexploited, which results in the rural economy becoming increasingly marginalized, and slowly experiencing a systematic decline. This whole rural marginalization can be seen in the perspective of the 'theory of sovereignty erosion' (Fukuyama, 2004) where local sovereignty in regulating the order of life is systematically eroded by global socio-economic-political regulatory mechanisms.

Furthermore, with the mask of international financial institutions' crimes increasingly exposed, developed countries currently have a new strategy as a mode of capital expansion through various large-scale agricultural and forestry industries in various forms and names. Thus, it is not wrong if it is currently said that the revitalization of development through increasing various foreign investments in the Jokowi regime as the new jargon of the new ruling regime in Indonesia, is nothing but a system of international capitalism packaged in a new package. Sowell (1985) explains that the capitalist system is more than just an economic system, because capitalism is actually a system of power where political forces are transformed into economic relations. Furthermore, Bachriadi (1995) has also warned that the opening of investment opportunities for the private sector in the agricultural sector in Indonesia, will be an entry point for multinational companies to restart the process of capital penetration in this sector intensively and massively.

Therefore, awareness of the existence of this new-style capitalism system must be used as a starting point in thinking to explore the penetration of capital that increasingly imprisons economic activity in Indonesia, and specifically in rural areas. In addition to this, according to Chambers (1987) it is also necessary to understand that rural development that has occurred to date is an expansion of capital that has its own logic, where the process and design of rural development policies are made by bureaucratic technocrats who are always subject to the ruler of capital. In a global context, Dharmawan (2011) describes the condition of villages that become the arena for the struggle of socio-economic-political interests, resulting in a 'local authority loss' in determining the direction of its own development. Then, the thesis of the strong state and the weak state in the global battle arena will drag the village into the strong currents of politics that will affect the degree of sovereignty in organizing the life of the social entities it oversees.

3.4 Ecological Governance

According to Kooiman's (1993) explanation, the basic concept of governance refers to the process of socio-political interaction between government and society in various fields related to public interests and government intervention in certain interests. Meanwhile, in the view of Emerson and Nabatchi (2015) governance includes processes and institutions for decision-making and public action involving actors from the government and other sectors. Then Ansell and Gash (2022) describe governance as an arrangement in which one or more public bodies directly involve non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative, and aims to make or implement public policies or manage public programs or assets.

Meanwhile, Ecology, according to Soerjani (1987), is the science of the mutual relationship between living things and each other. According to Soemarwoto (1991), ecology can serve as an approach to study and analyze a problem related to the environment. Ecology is related to the balance of nature. Because it encompasses humans, this science is essentially concerned with the harmonization of nature and humans (Bookchin, 2018). This focus has explosive implications. The explosive implications of an ecological approach not only arise from the fact that ecology is intrinsically a critical science, -in the sense that the most radical systems of political economy have failed to achieve-, it is also an integrative and reconstructive

science. For in the final analysis, it is impossible to achieve the harmonization of man and nature without creating human communities that live in perpetual balance with their natural environment.

Therefore, ecological governance is a combination of ecological studies and public administration, with the consequence that various concepts, laws and theories from each of these sciences are borrowed or used to explain environmental phenomena and events in the government sector (Mishenin et al., 2018). The importance of ecological governance comes in response to the failure of rural development (Pramusinto & Latief, 2011). Ecological governance is the scientific study of the interrelationships between living organizations and their internal and external environments, which aims to gain correct knowledge about the components involved, their processes, and their impact on human life (Kozmenko & Plastun, 2011). Ecological governance is the relationship between actors as organisms and the surrounding environment, both internal and external environments. In the internal environment of the governance system, there are systems of relationships between actors, which in their implementation greatly affect the course of the ecological system (van Hulst et al., 2020).

In the rural context, rural environmental governance refers to the activities of political actors in managing rural environmental operations in an integrated manner with the help of concepts, rules, institutions, resources, mechanisms, etc. (Driessen et al., 2012). Rural ecological governance aims to establish environmentally friendly interactive governance methods through the participation of grassroots communities, municipal enterprises and the general public, and to comprehensively control the deterioration of natural resources and their environment, the pollution of industrial enterprises, the pollution of non-agricultural sources, and the pollution of livestock and poultry breeding, as well as transform and rectify the deterioration of the rural living environment, and ultimately achieve the goal of improving the rural ecological environment and realizing the harmonious coexistence of man and nature (Qian et al., 2022).

Rural ecological governance is an initiative idea that uses the power of scientific progress and environmental resources in rural social and economic development efforts, as well as directions in appropriate industrial policies in an effort to improve environmental sustainability (Qian et al., 2022). Furthermore, the efficiency of rural ecological governance needs to be the focus of attention. Not without reason, but it is an important part of building a comprehensive rural ecological civilization. The efficiency in question can be understood as a multi-actor synergy process in the creation of a sustainable environment by utilizing relevant resources to achieve an optimal input-output ratio (Qian et al., 2022).

In the Indonesian context, rural communities in Indonesia are dependent on natural resources, where rights to access natural resources tend to be tentative and diverse (Turner-Walker, 2023). In this context, vulnerabilities arise alongside the complexity of cross-scale relationships between government interests and local wisdom. In addition, rural communities also depend on access to land, but what happens is that land conflicts are a frequent phenomenon in Indonesia, even the number of land conflicts in rural areas continues to increase where people's livelihoods depend on land resource management. The conflicts in question continue to occur in tandem with pressure on sources and access to land, with increasing demand (Handoko et al., 2019).

Furthermore, government performance is judged by certain norms that negate control from the community. Thus, efforts to increase government capacity in ecological governance are crucial. So that various triggers of the ecological crisis and marginalization of rural

communities can be prevented (Turner-Walker, 2023). In this context, local governments need to provide equitable access to public services, including a sustainable environment for all communities in the region. In addition, collective ecological governance is crucial for sustaining lives and livelihoods in a sustainable manner, and for dealing with increasing environmental pressures and threats (Adger, 2003). On the other hand, collective actions can be a preventive measure in handling risks, pressures, and natural resource governance.

Finally, strong social capital is likely to help communities become adaptive and resilient in supporting ecological governance. In Temusai, for example, strong kinship ties and shared socio-cultural backgrounds united villages in responding to forest fires (Nurhidayah et al., 2023). In other cases, as the impacts of climate change increase, land governance issues continue to emerge to keep local communities dependent on natural resources and land access subject to ongoing environmental pressures and changes (Turner-Walker, 2023). In Haruku Island, Central Maluku for marine livelihoods, as well as in Karangsewu and Bugel Villages, Kulon Progo, Yogyakarta, transforming unproductive coastal sand flats, communities in both cases were able to adapt through collective local resource governance mechanisms.

3.5 Discussion

Rural development attempts to address challenges and create opportunities for the benefit of rural areas (Gkartzios & Lowe, 2019). Rural development is usually defined as a set of measures aimed at promoting the modernization of rural areas, creating new jobs, developing sustainable agricultural production, protecting rural ecosystems and implementing efficient resource management (Gan et al., 2022). As a reorganization of culture and society, rural development is a multi-level, multi-actor, and multi-faceted process, implying the reconstruction of villages and farms (Ploeg et al., 2000). However, rural development still refers to sustainable development in the living standards of people living in rural areas in order to create an improvement in environmental quality.

Rural development has created an improved quality of life, social equality and economic prosperity for rural communities. Rural development is also capable of lifting the living standards and welfare of the population in a long-term and sustainable manner (Aggarwal, 2013). Furthermore, rural development aims for fairer land access, more equitable income distribution, broad empowerment in health, nutrition and housing, and expanded opportunities for all individuals to realize their potential through education and political involvement in shaping decisions that affect their lives. Rural development can also stimulate economic growth in rural areas by improving infrastructure such as roads, irrigation, and electrical energy, as well as providing access to markets and skills training, rural development can increase people's productivity and income. Thus, rural development support programs can alleviate the economic, social, and environmental problems of rural areas (Bakos, 2015).

Rural development that does not undertake sustainable development will definitely experience an ecological crisis. The ecological crisis occurs due to national policy factors that continue to reproduce "high-risk development" (Shohibuddin, 2016). The ecological crisis that occurs can also be explained by a failure in the system and regulation of environmental and natural resource utilization as a consequence of collusive political practices (Dharmawan, 2007). In this context, the circle of actors engaged in the practice of natural resource exploitation does not consider ecological sustainability. Furthermore, this crisis also transcends the limits of humanity with the criminalization of people who fight for ecological sustainability (WALHI National, 2022).

The ecological crisis has spread into structural problems to rural areas, even beyond bureaucratic and technocratic problems (Cahyono, 2022). For example, the fires and forest destruction that had occurred in Sumatra and Kalimantan were basically structural, characterized by profit-oriented control practices by forgetting sustainable approaches (extractive industries are increasingly massive through exploitative dredging of natural resources) (Cahyono, 2022). Another example, in the context of democratization of natural resources, structural problems are characterized by the Village Law, normatively, not having sensitivity to socio-ecological studies, which apparently does not make inequality of access and distribution of benefits over natural resources in the village a crucial issue (Shohibuddin et al., 2017).

Furthermore, ecological crisis needs to be a comprehensive review in the orientation of the development process. In this context, solving rural ecological problems needs to be guided by the right goal orientation and policy design (Fischer et al., 2022), one of which, often considered a cliché, is through a socio-ecological approach. In addition, the government needs to take steps or policies that prioritize the principle of inter-generational justice (WALHI National, 2020), considering that the impact of ecological problems hits cross-sectorally and cross-generationally.

On the other hand, Indonesia has challenges in succeeding in rural ecological governance, including lack of funds, flawed development models, negative impacts of rural population agglomeration, and government mistakes in its governance orientation. For example, the local conflict in the Tumpang Pitu Mountains, when the area was converted from a protected forest area to a production forest area to allow mining exploitation licenses to be issued (Riski, 2016). The move essentially triggered ecological problems and affected the sustainability of community livelihoods. In this context, governance by the government seems to have lost its orientation towards the environment. In other words, the government failed in ecological governance.

Furthermore, failures of rural ecological governance can increase the intensity of ecological disasters, while also presenting symptoms of democratic backsliding. Experts have an emerging consensus that Indonesia is experiencing democratic backsliding (Warburton & Aspinall, 2019), one of which is motivated by the presence of local oligarchs in "a system of power relations that allows the concentration of wealth and authority and their collective defense" (Hadiz & Robison, 2013). Thus, it is very important in rural ecological governance to optimize policy tools (improve the legal umbrella) that can protect rural ecology (Buckley, 1994), of course, with the principle of cross-dimensional justice.

Therefore, rural ecological governance should use the power of scientific progress and environmental resources to promote rural economic and social development, and cooperate with corresponding industrial policies, fiscal policies, investment and financing policies and other means to strengthen environmental protection and ecological governance in rural areas, so as to ensure the coordinated development of economy, society and ecological environment in rural areas. As a major factor in agricultural production and farmers' lives, the quality of the rural ecological environment is related to people's health and social well-being. Hence, promoting the governance of rural ecological environment is an important part of comprehensively promoting the construction of ecological civilization in rural areas.

4. CONCLUSION

Irresponsible rural development can lead to ecological crisis and rural marginalization. The rural ecological crisis in Indonesia is characterized by various ecological disasters that cause harm and threaten the sustainability of people's lives and do not receive special attention from the government. In fact, the crisis that occurs is a logical consequence of monopolistic activities, in the interests of power relations, over resources in an exploitative manner that has an impact on the loss of rural communities' access to sources of life and livelihoods. Rural marginalization is often the result of rural-urban hegemony and the scenarios of international financial institutions. The intervention of greedy 'city actors' tends to lead to the degradation of rural communities and the submission of villages in serving the interests of these 'city actors'. International financial institutions expand capital through new modes in various sectors in rural areas, even in the name of "green programs". Rural Ecological Governance comes as an initiative to improve development patterns, reduce ecological crises, and eliminate marginalization in rural areas by facilitating local wisdom and introducing ecological studies on a local level.

This paper is a preliminary report that is an initiative for improving the rural environment through rural ecological governance. The theory of rural ecological governance in Indonesia should be developed collaboratively with the involvement of multi-actors who have an interest in rural development. In addition, the main limitation of this paper is that researchers did not conduct direct field studies, so further confirmation is needed in the through observational research.

Rural Ecological Governance comes as an initiative to improve development patterns, reduce ecological crises, and eliminate marginalization in rural areas by facilitating local wisdom and introducing local studies. To succeed in this approach, Law No. 6/2014 on Villages must be revised by bringing up the socio-ecological and economic aspects in a balanced manner. Thus, the Village Law can represent an element of reconciliation between economic growth and rural environmental sustainability. Furthermore, reflecting on the democratization that occurs in rural areas, communities need to be given the opportunity to convey local wisdom through knowledge co-production. Thus, the government needs to provide a platform that can accommodate the ideas conveyed by the community. In addition, the central government needs to reduce investment in rural areas, which is often done by destroying the environment.

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