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A Theoretical Framework in Environment Improvement Policy: A Multidisciplinary Approach

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ABSTRACT

Global Warming and Climate Change are two phenomena that are currently posing a threat to humans all over the world. The increasing concentration of Greenhouse gases in the atmosphere are thought to be the primary cause of global warming. The accumulation of greenhouse emissions is thought to be the cause of both an increase in the average air temperature on the Earth's surface and of a decrease in environmental quality. Furthermore, the increase in greenhouse gas emissions has long been linked to human economic activities, The increase in greenhouse gas emissions has long been linked to human economic activities. This study describes the theoretical debates that have been widely used to analyse the causes of environmental degradation and the policy recommendations that have been used to improve environmental quality. Some of the given theories that frequently intersect with this phenomenon are neoclassical economics, which is regarded as the theoretical operator of economic governance currently used in the world, and ecological economics, on the other hand, is a rival to neoclassical economics. Furthermore, this paper describes how political economics attempts to reconcile the two poles of economic thought within a single framework. It seeks to contribute to the current phenomenon through the dialectic of economic thinking.

Keywords
Neoclassical Economic, ecological economic and Institutional & Political Economic

INTRODUCTION

One of the most important issues facing humanity in the 21st century is climate change and global warming. On October 6, 2018, the International Panel on Climate Change submitted a report on an increase in temperature of 1.5^{o}C from the global average global air temperature above the average air temperature at the pre-industrial level and the effects. One of the suspected causes of this phenomenon is the accumulation of carbon dioxide emissions left over from human activities (IPCC 2018). To meet the needs of life, humans take advantage of the abundance of natural resources on earth, then process them into finished goods and then dispose of the rest of the process into nature in the form of liquid waste, solid waste, and even the disposal of carbon dioxide emissions in the air. Over time, population growth and economic activity have resulted in an increase in carbon dioxide emissions in the atmosphere, which is thought to be the primary cause of the global warming phenomenon.

The accumulation of dangers caused by global warming and threats to the availability of dwindling natural resources humans to seek solutions for the sustainability of human life in the future through the concept of Sustainable Development(Brundtland and Visser 1987). In the 1960s, economic growth was recognized as the greatest achievement in the history of modern society, bringing prosperity and stability to most parts of the world (Bruyn 2000). Then attempts at academic debate ensued. The application of the concept of welfare through economic growth is now an important element for a modern country because it can reflect the growth of Gross Domestic Product (GDP) and is also the main achievement of modern society because it can bring stability and the country 2000.On the one hand, the other hand is considered one of the main causes of the sustainability crisis that is currently happening globally, one of which is the threat of global warming phenomenon. Economic activity has received considerable attention as the primary cause of environmental quality degradation, particularly the measure of economic

development success through Gross Domestic Product, which is considered the source of environmental damage, raising debate and becoming the target of criticism (Boulding 1966; Mishan 1967; Meadows and Meadows 1972). When discussing environmental issues, we usually look at only one dimension, whereas (Söderbaum 1990) states that environmental issues must be viewed in a multidimensional and multidisciplinary framework. This is due to the fact that environmental issues are complex and fraught with uncertainty. Uncertainty and complexity are frequently associated with imperfect information and limited knowledge.

In addition to groups that strongly oppose the concept of economic growth, some groups defend it, claiming that neoclassical economists have no problem with the concept of Gross Domestic Product (GDP) and the environment Gross Domestic Product (GDP) per capita positively influences environmental improvement, supported by technological innovation and lifestyle changes. positive for improving environmental quality (Simon 1996), so this hypothesis is known as the Environmental Kuznets Curve Hypothesis (EKC (Grossman and Kruger 1992)(Shafik and Bandyopadhyay 1992)(Panayotou 1993) as proof of the truth that GDP per capita has a positive influence on environmental quality improvement. Meanwhile, ecological economists argue that GDP is a dangerous concept for the environment, so other indicators are needed to measure economic performance that can consider the depletion of natural resources. (H. E. Daly and Cobb 1994; K. Arrow et al. 1996) They convincingly suggest replacing the concept of GDP as an indicator of success in economic development with softer groups, and states that GDP is harmful to the environment but emphasizes policies that can regulate sectors that are not very environmentally friendly (dirty sectors) in the economy (Bruyn 2000). Although it has been a long time since the concept of the Environmental Kuznet Curve was introduced in 1992, there is still no convincing empirical evidence that income per capita has benefits for improving environmental quality, as stated by (Bruyn 2000) Several studies show different results, such as several recent studies on EKC (Koilo 2019)(Ilham 2018), which confirmed the existence of the Inverted U Shape. While (Allard et al. 2018) confirmed the existence of the N Shape, even (Rauf et al. 2018) could not confirm the existence of the Inverted U Shape in their research.

While other opinions support that the economy is one of the driving factors in environmental degradation (Gould, Pellow, and Schnaiberg 2008), through the Treadmill Theory, economic activity through industrial activities is a driver of environmental degradation. Even though they fully understand that the economy is only one part and the human factor has the most dominant role as the cause of environmental degradation. The popular view of Ecological Economics, at a glance, is a very normative concept and is very difficult to prove. However, on the next trip, they managed to analyze human activities based on anthropogenic factors, in this context using the analysis of the IPAT and STIRPAT models. (Bond, Dietz, and Jorgenson 2015). In this group's view, the decline in environmental quality is caused by problems with economic activity. It involves more complex factors, including population size, affluence, and technology, all of which humans use in decision making. Both the Impact Theory and The Treadmill Theory of Production reinforce the idea that the economy is a major cause of environmental damage . (Common and (Common and Stagl 2005).

The search for causes and solutions to environmental problems is part of human efforts to avoid a bigger disaster than humans face. Both neoclassical economic circles and ecological economics with different perspectives try to use the recommended policy tools to implement the environmental improvement process. The existence of environmental policy packages is sometimes very dependent on the political will of the government. Recommended environmental policy packages often have to deal with the desire to improve economic performance through predetermined indicators. The high economic growth target will take precedence over the

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recommended environmental policy recommendations. As an alternative to solving environmental problems, efforts to gain political support are required, including knowledge of institutional economic tools. Specifically, (Neumayer 2002) focuses on looking at the positive influence of democracy on environmental problems in a country.

This paper focuses on looking at institutional aspects of democracy as a solution to environmental problems that occur. One of the important aspects of this research is positioning the recommendations from the poles of neoclassical economic thought, the ecological economy, and the political economy to work together to solve environmental problems. This research intends to see that institutional aspects, especially democratic institutions, can be alternative solutions other than those developed by neoclassical economics and ecological economics. There are often many adequate environmental policy recommendations at the academic level, but they are difficult to implement at the practical level. It is hoped that environmental quality improvement policies can be fought for with the help of the political system.

MATREAL & METHODS

This study uses a literature review based on theories that are thought to be the basis for the theory of the process of interaction between activities carried out by humans and the environment. Several related theories include the neoclassical economy, the ecological economy, human structural ecology, and the institutional and political economy. The literature review in this paper focuses on several conceptions of the grand theory, which is the basis of several applied theories that are used to analyze environmental degradation. Several applied theories used in this paper are focused on studying, among others: Environmental Kuznets Curves, Impact Theory, The Treadmill theory of Production.

A. Neoclassical Economic

The economic growth model generally used as a study material is the neoclassical growth model, namely the exogenous growth model or the Solow Growth Model. Neoclassical economics is the same as physics and has the same method as scientific proof of observation. Neoclassical economics formulates its theory based on mathematical equations and requires empirical proof(Brahmachari 2016). The neoclassical economic growth theory aims to explain the factors that determine economic growth and the relative contribution of other factors in creating economic growth. Professor Robert Solow developed the neoclassical theory of economic growth in 1956, using the Cobb Douglas production function (Gardoňová 2016).

A neoclassical economic thought tradition holds that environmental problems are caused by a lack of a market for environmental goods (K. J. Arrow 1974), is nearly identical to the Austrian economist Von Mises (O'Neill 2001b) belief that environmental problems are caused by preferences. There are no environmentally friendly products on the market. Meanwhile, environmental problems arise as a result of market failure. Till then, (Pigou 1920) admits that, in addition to benefits, the market mechanism has negative externalities. The neoclassical economic growth theory sees environmental issues and sustainable development issues as working based on several basic assumptions: 1) A rational market valuation is used to solve problems related to non-market environmental goods. (2). Externalities and some problems related to market failure can be overcome by internalization and corrected by incentive policies (3). Some types of capital can be replaced with other types of capital to achieve sustainable development (Richard P.F.Holt, Steven Pressman 2009)

Neoclassical economics fully understands that environmental problems are one of the consequences of the production process. As a result, environmental economics emerges as a

neoclassical economic response to externalities that arise as a byproduct of economic activity. Environmental economics emerged from the ontology system developed by neoclassical economics (Hussen 2004). Thus, the theoretical principles are not to challenge neoclassical economics, but instead strengthen the important principles of neoclassical economic theoretical tools. In European countries, Neoclassical Environmental Economists organize their views through the European Association for Environmental and Resource Economists (EAERE). On the other hand, the ecological economy group is through the European Society for Ecological Economics (ESEE) (Illge and Schwarze 2006). Philosophically, Neoclassical Economics and ecological economics originate from the philosophy of conservationalism, which then produces a utilitarian understanding; from this utilitarian intersection, both still have the same perspective. This principle focuses on humans as normative entities who receive benefits from the utilities they use. Then these two views choose a different perspective if the neoclassical economy places consumer sovereignty on efficiency, while the ecological economy places individual and social health sustainability. (Common and Stagl 2005) One important concept that can support the neoclassical view of economics is the Environmental Kuznet Curves (EKC). Theoretically, using the Environmental Kuznets Curve (EKC) comes from the tradition of neoclassical economic views to empirically test the neoclassical economist's perspective, which states that sustainable economic growth is a solution to solving population and environmental problems(Hussen 2004). Furthermore, as stated by (Beckerman 1992), the use of the Environmental Kuznet Curve (EKC), which was popularized by the World Bank's World Development Report in 1992, is only to validate the argument that an increase in economic activity will have benefits for improving environmental quality.

As (Kuznets 1955) stated, the Kuznet Curve proposition that economic inequality initially moves parabolically, increasing until it reaches the highest point and then decreasing, is described by the Inverted U Shape Curve, which connects economic inequality and income per capita. The analogy of Kuznet Curves and, according to (Grossman and Kruger 1992), The Environmental Kuznet Curve, can also be used to link per capita income and environmental problems. So far, environmental damage is believed to be related to the stages of economic growth (Andrée et al. 2019). *The Environmental Kuznet Curve (EKC) was* then developed into one of the hypotheses considered to describe the relationship between per capita income and environmental problems. The name Kuznet Curve describes the U curve with the name Kuznet curve because the shape of the curve resembles the letter U, which describes the relationship between economic growth and inequality and is derived from the Kuznet Curve (Ginevicius,Romualdas 2017). The use of the Kuznet curve to find the relationship between income and environmental damage has been widely used. Several types of pollutants used to cause environmental damage are CO2 and SO2(Grossman and Kruger 1992), who were the first to formulate the U curve that connects SO2 emissions and income. According to (Yurttagüler 2017), the U-shaped curve describes the statistical phenomenon of the relationship between income and environmental damage. There is an increase in per capita income in the early stages, which also increases environmental damage. There is an increase in per capita income at a certain point (threshold level) or turning point. However, in contrast, there is a decrease in environmental damage. According to (Ginevicius, Romualdas 2017) the stages in the EKC include: The initial stage of the U curve, known as the pre-industrial stage, sees an increase in per capita income as well as significant environmental damage, until it continues to the industrial economy stage and reaches a turning point in the post-industrial economy stage, where the trend of damage declines but per capita income continues to grow.

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B. Ecological Economic

Fundamentally, ecological economics has a different view compared to neoclassical economics. As a mainstream economic theory, neoclassical economics has become the cornerstone of the most popular economic policy governance in the world today. Neoclassical economics focuses on institutional limitations related to economic growth. Meanwhile, ecological economics experts focus more on the material basis of economic activity. Ecological economics believes that economic growth will move from an empty economic model (empty world) to a full world economy. Welfare caused by economic activities continues to increase, but from an ecological perspective, welfare has decreased (H. E. Daly and Cobb 1994).

Ecological economics has historically combined several disciplines, including economics, ecology, thermodynamics, and ethics. Ecological economics is used to provide other perspectives and find solutions to economic and environmental problems faced by humans. From the time dimension of ecological economics, it has a longer time horizon when compared to neoclassical economics. It pays special attention to the cause-effect chain and the interaction between the natural-human economic system(Bergh 2013). An important difference of opinion between the neoclassical economic view and the ecological economy is the position of the two in building the economic system. Neoclassical economics holds that the environment is part of the economic system. Meanwhile, ecological economics has the view that the economic system is part of the environment. A different view, in principle, of the existence of the economy and of the environment (Williams et al. 2005; H. Daly and Farley 2010).

One of the most fundamental criticisms of the neoclassical growth model as a mainstream growth model lies in two important aspects: limits to substitution and technological progress. The substitution limit is related to the limited input available as a substitute for natural resources.The limitation is related to natural resources in general, which are limited in number, so it is not easy to find substitute goods to replace similar initial inputs. At the same time, the limit to technological progress relates to the stages in technological development that are still not fully able to replace existing technology(Stern 2004).

Systemically, ecological economics tries to harmonize economic interests to maximize the well-being of humans as economic actors, non-humans, and the entire ecosystem that exists in nature. In general, neoclassical economics views the economic system as a large system, and one part of the large system is natural resources as inputs into the production system. Ecological economics is seen only as a servant of the economic system. Meanwhile, ecological economics views the opposite, that the economy should be part of the universe. Thus, the economy should be positioned as part of the living system, society, culture, politics, nature, and ultimately, Gaia. (Capra, Frijof and Jakobsen 2017).

Ecological economics, although in some respects it has similarities with environmental economics, according to (Munda 1997), both are different; environmental economics is rooted in neoclassical economics, which studies and explains two main problems that must be faced by neoclassical economics specifically to answer the problems faced by economics, among others related to Externality issues and management of natural resources regulation, specifically talking about *the optimal intergenerational allocation of non-renewable resources.* In the neoclassical economic tradition, it is epistemologically rooted in Newton's Mechanics as the basis of inspiration. Based on the standard of policy-making based on the scientific method, free of value and objectivity, it can only be measured in monetary terms. Meanwhile, ecological economics emphasizes its study by looking for the relationship between ecosystems and economic systems. Even (Bergh 2013) elaborates that ecological economics combines several disciplines, including economics, ecology, ethics, and other social and natural sciences that seek to answer questions

about the relationship between economics and the environment. In (Lewis 2012), ecological economics is said to be methodologically more diverse (plural), while environmental economics only takes one paradigm from neoclassical economics.

Some of the applied theories in the ecological, economic tradition include: *First***, Impact Theory**, which in turn is a theory that is used to simplify the theoretical complexity of the concept of Human Ecology, encouraging Sociologists and Human Ecologists to (Micklin, michael and Dudley L. Poston 1998; Scholz 2011), make a breakthrough to fundamentally change the concept of human ecology by simplifying the theoretical complexity by introducing the POET (Population, Social-Organization, Environment, and Technology) scheme. If we observe the concept of POET has similarities with the concept of IPAT (Impact, Population, Affluence, and Technology), which was developed by (Ehrlich and Holdren 1971) which was later elaborated by (York, Rosa, and Dietz 2003) to modify the IPAT model into a stochastic model that could prove the validity of the hypothesis, known as the STIRPAT (Stochastic Impact by Regression on Population, Affluence, and Technology) model. The IPAT model has several advantages, including being simple, systematic, and strong. The IPAT model is simple because it can combine the main sources of environmental damage; systematic because it uses a mathematical equation that combines the driving forces of environmental damage with its impact; and strong because it can be applied to almost all types of environmental pollution (Chertow 2001). Meanwhile, the main weakness of this model is its too broad and general nature and its inability to prove the hypothesis.

Second, **Structural Human Ecology** is a theory used to test the interplay between structure and agency in the interaction between humans and the environment. The theory of Structural Human Ecology is a development of Human Ecology (Human Ecology), which Haeckel introduced in 1866. Human Ecology itself is rooted in the science of Ecology-Biology as its parent. This theory also has the same roots as the Neo Malthusian Theory of Population. Neo Malthusians develop analytical tools that discuss the influence of the population on the economy and expand the scope of their analysis to technology and the influence of human institutions related to environmental sustainability (Hussen 2004).

Epistemologically, Human Ecology comes from the demystification of the statement of belief to understand the relationship between the human system and the natural system (Dharmawan 2007). Human Ecology is rooted in the experience of the reality faced by humans, including what we think about (William, Lewis, Roberts, Rose and McIntosh 2012). Talking about the reality of environmental problems results from social construction carried out by humans as subjects, where human social activities mediate our understanding of them. This is reinforced by Post Keynesian economic thinking, which recognizes that a theory must be based on something real and have a foundation in the reality of what humans face (Richard P.F.Holt, Steven Pressman 2009).

As a theory based on real understanding, Human Ecology is a theory that talks about the reality of human life and the environment around it. Although humans are part of the ecosystem, the interplay between humans and ecosystems is the core of this theory. Therefore, all activities carried out by humans will always involve social systems, which are interrelated with humans, populations, psychology, and social systems that will affect human behavior towards ecosystems. Furthermore, this social system is the main concept in human ecology (Marten 2003).Meanwhile, ontologically, Human Ecology is rooted in Ecology - Biology, which has existed as the parent of human ecology. Starting from the concept of adaptation of a group of humans who can adapt to an area, it also explains how the social system they have developed interacts with nature and their environment. The social system they build includes how the social dynamics they face, such as

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conflict, competition, and succession, are over the ownership of the natural resources they live in. Meanwhile, axiologically, the human ecology will be equipped with the emergence of a risk society built because humans can create technology to exploit natural resources regardless of future generations (Dharmawan 2007).

Meanwhile, when talking about what the economic system is in the context of Human Ecology, In this context, economics is placed as a subfield of Human Ecology. In this approach, economists are given the freedom to participate in discussing the various limitations that exist in human ecology, even concerning the methodology used, so that they can be fully involved in all kinds of debates about the problems faced by humans, and, at the same time, find solutions to the problems that arise. Face it (Allen 2008) and make human-made economic decisions. In such a complex economic and social relationship pattern, all will return to individual human decisions, choices, and human behavior itself (D. G. and J. T. Bates 2010)

While *Structural Human Ecology* is trying to understand that human activity is formed between humans and the physical, biological, and social structures around them, Structural Human Ecology has emerged from two currents of thought in the environmental field: Quantitative macro-comparative and testing of risk and uncertainty (Bond, Dietz, and Jorgenson 2015).

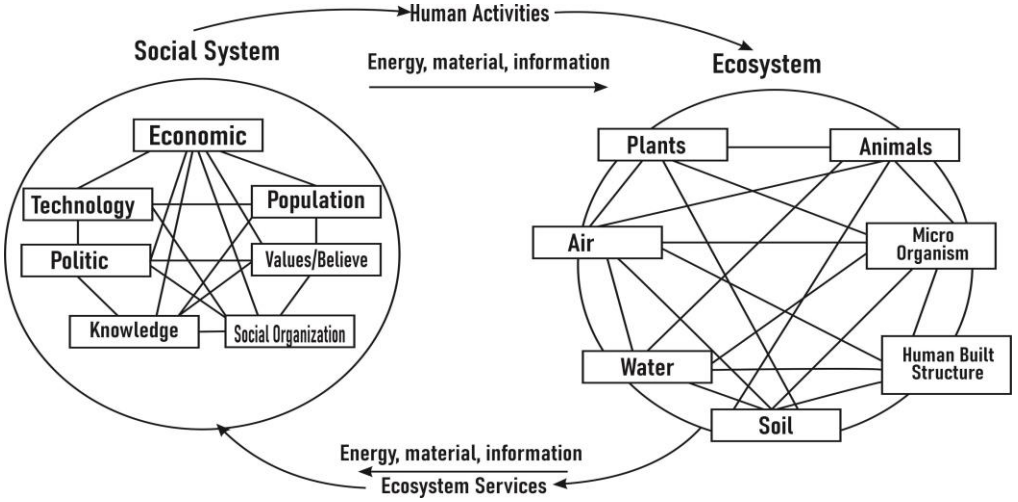

Figure 1: Interaction between Social Systems and Ecosystems in Structural Human Ecology Source: (Modelski 2017)

One of the most basic points in Structural Human Ecology is that various kinds of activities carried out by humans will cause pressure on the biophysical environment. The human population continues to increase, and all economic activities to achieve prosperity, the technology used by humans to achieve it, and various structural factors, including institutional and cultural governance, are also drivers of environmental change (Jorgenson, Andrew K. and Clark 2012).

In a more complex discussion, an economic activity that is often regarded as the main factor in the decline in environmental quality and as a solution to environmental improvement, as has been conveyed in the discussion above, is not a stand-alone entity free from the influence of the existing social system. The economic system, as an ontological system, is a meeting point between complex factors, such as belief systems, social agreements, the physical environment, natural resources, and the human population (Modelski 2017). So, in this case, a comprehensive approach to sustainability is an interdisciplinary encouragement of several system ontologies, which also consist of very complex subsystems to build an economic system. With an economic

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model in which each country has unique characteristics, the economic system and how we measure each country's economy should have unique characteristics. This is mainly related to a different system of belief.

The Treadmill Theory of Production was developed by (Gould, Pellow, and Schnaiberg 2008), with the idea that the capitalist system, which is always trying to maximize its profits, will continue to produce and, as if on a treadmill, they will remain silent but continue to run by spewing out a continuous flow of goods and externalities. The Treadmill Theory of Production concept is very relevant if it is associated with the concepts in neoclassical economics. In aggregate, these production activities are accumulated in the Gross Domestic Product, which is continuously driven to generate high economic growth. In addition to the Treadmill Theory of Production, several theories in neoclassical economics, such as growth machine theory, and ecological economics, such as resource Extraction and Ecologically Unequal Exchange theory, can explain their theoretical roots in neoclassical economics (Bunker 1984). This theory seeks to criticize Adam Smith, David Ricardo, and Karl Marx, who are too focused on manufacturing economies and never consider the extraction of natural resources used in the economy.

Institutional and Political Economic

The institutional aspect of a country's economy is critical, as an institution can be defined as a generally accepted regulation by members of society, whether controlled by themselves or by outside groups ((Rutherford 1994).Meanwhile, according to (North 1991) Meanwhile, according to (North 1991), it is conceptualized as a set of rules used to limit human deviant behavior (human) to build one's political, social, and economic interactions. In this understanding, the institutional aspect can limit deviant behavior by creating order and uncertainty. In this model, the institutional aspect can be managed through formal, informal rules and rule enforcement. Based on (Spash 2017) Analysis from numerous disciplines is required to understand how the relationship between the economy and nature is needed.

The American Institutionalists laid the groundwork for institutional economics, as Torstein Veblen, Wesley Mitchel, John R. Commons, and Clarence Ayres. (Yustika 2008; Klein 2005) Neoclassical economics is a school of economics based on the market mechanism, then institutional economic thinking from the American Institutionalist Tradition, also known as the old institutional economy (Yustika 2020). Meanwhile, New institutionalism extends the old institutional economy that comes from the roots of classical, neoclassical, and Austrian schools of thought, known as New Institutional Economics (New Institutional Economics). Their basis of thought comes from the concepts of market failure and production externalities, even if it is considered as New Institutional Economics. Institutional Economics is neoclassical economics by adding an element of transaction costs in exchange (Hariss, Hunter, and Lewis 1999). These two components are then considered several issues that gave birth to the thoughts of institutional economics and several corrections made, including collective outcomes resulting from rational individual decision making.

In New Institutional Economics, there is an extension of economics to the social sciences, especially in sociology, law, and politics. So that is classified, basically in (Kherallah and Kirsten 2002) as the branching point in New Institutional Economics, which talks about public choice and political decision making initiated by (Buchanan and Tullock 1962)), whereas (F. L. Bates 1997; Olson 1971) discuss rent-seeking behavior and the dynamics of interest groups, which are economic analysis used in the political system, which is known as the political economy theory. If viewed carefully, New Institutional Economics appears to have a wider scope because it involves many other fields of science. This has differences when compared to conventional

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economics. In New Institutional Economics, I want to show that the economy can not be seen from an economic point of view alone, but must also be seen from another perspective.

At that time, the political economy was widely used to talk about how the state could stimulate the economy, because it was considered that the market was still underdeveloped. The state has the responsibility to protect economic activity and open up new trade areas. Later on, this opinion was challenged because the government was considered not a good agent to regulate the economy (Clark 1993), starting from this difference of opinion, then gave rise to many schools of political economy, which are generally classified into three streams, namely: (1) conservative political sects with figures such as Edmund Burke; (ii) classical economics with figures such as Adam Smith, Thomas Malthus, David Ricardo, Nassau Senior, and Jean-Baptise Say and (iii) radical political economy pioneered by William Godwin, Thomas Paine, Marquis de Condorcet and Karl Marx (Yustika 2008).

By definition, the political economic approach is an interrelation between aspects of political processes and institutions in economic activity (consumption, production, investment, price creation, and others (Johnson, Caporaso, and Levine 1994). Based on this definition, the political economic approach includes political processes and institutionalized institutions for economic activities carried out by the community and the government. So, in its meaning, there is a relationship between the economy, which is called a way of acting (a way of acting), while politics is a space to take action (a place to act). As a result of this classification model, we can eliminate the viewpoint that considers political economy to be merely a synthesis of economics and political science, which have ontologically distinct characteristics.

Nevertheless, at least economics and politics have the same process for solving the problems faced by humans. (Clark 1993) describes how the two fields of science finally come together to discuss how to allocate limited economic and political resources to meet human needs. Meanwhile, according to (Weingast and Wittman 2006), the political economy is an economic methodology used to analyze political and institutional behavior.

One of the important conceptions in the political economy is politics as a government. This conception of politics can be seen as an organization, rules and agencies, public policy, and its actors (Johnson, Caporaso, and Levine 1994). Organizations in terms of submitting to formal institutions such as courts, legislatures, executives, while the rules can be in the form of the rights and obligations of citizens, both written and unwritten. In practice, the political economy, when associated with the process of making economic policies, has at least two views, including A traditional welfare maximization-based approach in which the government is viewed as an autonomous and exogenous institution to the economic system, with all decisions made in the public interest. In this thought model, the government is considered an actor who knows everything and can overcome market failures. Thus, to overcome market failure, the government must be present to make market corrections so that public welfare can be achieved.

Historically, the process of decreasing environmental quality has always been associated with economic activity. So far, the main theme of environmental degradation has always been associated with the market failure of economic activity, with the presence of unwanted products in the form of pollution as a residual product of economic activity. Rarely is the subject of discussion of environmental damage associated with aspects of state institutions, especially concerning the decision-making process taken mainly through economic policies. The government may fail, so many policies are mainly related to development strategies that are not well-targeted. The government's choice to prioritize economic growth over environmental issues will have a very large impact, especially related to the decline in the community's quality of life.

The government's failure to manage externalities will keep the government from achieving the expected maximum social welfare (Andersson 1991).

For neoclassical economists, decreasing environmental quality can be solved by itself through the level of per capita income through natural adjustment (auto adjustment) as described in the Environmental Kuznet Curve (Clapp and Dauvergne 2005). Meanwhile, the current social (ecological economic) movement is trying to limit environmental damage by limiting activities that are considered a driving factor of environmental damage, and one of them is economic activity. The movement even loudly challenges the concept of GDP as a concept that is harmful to the environment, so that must be replaced with indicators that not only look at the growth side but also look at the depletion side of the use of natural resources used in the production process (H. E. Daly and Cobb 1994). Thus, the mechanism for solving environmental problems between these two camps of thought also has a different character. In general, neoclassical economics explains the sources of environmental problems, which are considered an explanation for the absence of market presence in environmental issues (O'Neill 2001a). Through the mechanism of including environmental damage by including it in the market price. The contribution of neoclassical thought to environmental problems can be resolved through market mechanisms, through transactions that can drive commercial transfers of property rights from the private sector (Ménard 2011).

Furthermore, we still have no idea how to provide financial compensation for environmental damage in the community, willingness to pay for and accept the environmental mechanisms that occur, who should pay and how much compensation should be paid? To solve this problem, the concept of property of rights and economic valuation is one of the important aspects that can be used. One of the main difficulties of this concept is that if environmental goods as a commodity can be exchanged in the market (O'Neill 2001a), for goods that are clearly defined, it may be easy for us to determine the property of a right, but for products whose ownership is not clear, we will have difficulty determining the property of the right. Environmental challenges are particularly complicated concerns for ecological economics since they encompass numerous types of human interactions, such as population, economy, technology, and even political and theological activities. The approach to issue solutions in ecological and economic thinking is also distinct. Although, until now, the ecological economic circles have lacked a specific theory, unlike the neoclassical circles, which have the environmental Kuznet curves tool by using GDP per capita as an adjustment point in handling environmental concern (Clapp and Dauvergne 2005). This study focuses on looking at the dialectical side that brings together the two poles of economic thought and the presence of state institutions in solving problems related to the environment. There are complex factors involving many interrelated aspects (Udo 1998).

Meanwhile, the Environmental Kuznet Curves approach only focuses on economic aspects and market mechanisms with GDP per capita to solve environmental problems. In the Neoclassical view, the cause of environmental degradation is due to the exclusion of market aspects from environmental issues (Heinrichs and Biermann 2016), and it concluded that sectoral policies are deemed insufficient in solving interrelated environmental problems. In the neoclassical model, the market mechanism is indeed the keyword to solve many problems, and one of them is environmental problems. This model is in the future known as Liberal market economies (LMEs), but institutional aspects are included to coordinate market mechanisms, hence known as Coordinated Market Economies (CMEs). In this position, the institutional structure is used to manage the coordination problems that exist within the firm (Gale 2018).

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DISCUSSION

According to the findings of this study, Neoclassic Economics has the characteristic of understanding environmental problems through a reductionist-mechanistic way of thinking, an approach that departs from belief through broad specialization and simplification that has advantages (Söderbaum 1990), Institutional economics, on the other hand, is more holistic and evolutionary. As a result, viewing ecological economics sees environmental issues is always framed in terms of justifying neoclassical economic assumptions like market mechanisms and economic growth. The Environmental Kuznet Curve hypothesis is used to argue that the concept of income is actually beneficial in terms of improving environmental quality. While institutional economics and ecological economics recognize that environmental problems are extremely complicated but must be solved through a multidisciplinary approach. As a result, environmental issues are a mechanism that must include institutional aspects, in this case, political institutions, in moreover to an economic approach.

Simply put, each ontological system plays a different role in the political process; if it is said to be a place to do something (a place to act), then economic policy is a way of doing something (a way of acting), which means that the process of improving environmental quality must be directed to the right place, namely political spaces, beginning with the existence of political spaces. Meanwhile, the way to solve environmental problems must be resolved through the method provided in the economic recommendations (*a way of acting*) of neoclassical economics and ecological economics. Through canalization (*a place to act*), formal and constitutional environmental struggles will get an adequate place and support through democratic mechanisms. Based on the idea that public policy cannot be seen as a single product of the government, government policy is a meeting point between government interests and public interests that can be fought for in a participatory manner through formal and informal political channels through non-governmental actors.

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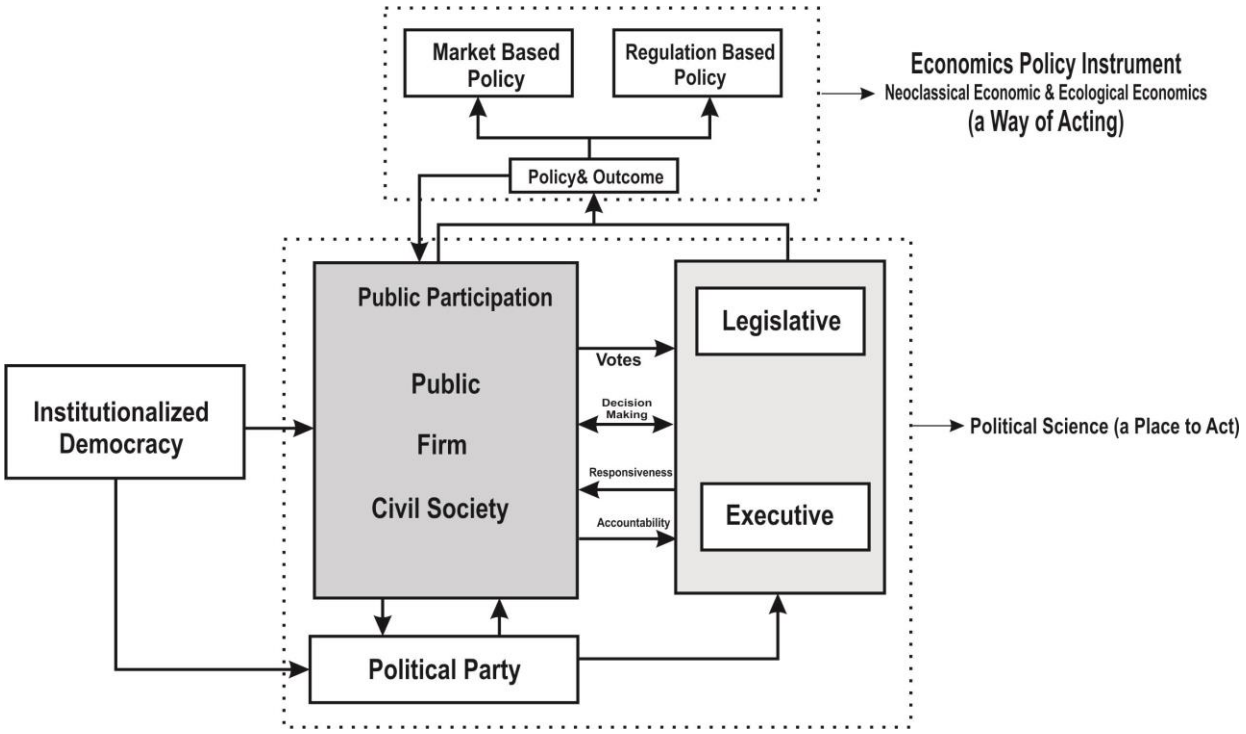

Figure 3: The relationship between economics and politics in environmental improvement

As a result of this research, aspects of institutional quality, specifically democratic institutions, serve as a solution to various types of interests and serve as a forum for peaceful conflict resolution (Vatn 2009), such as environmental issues through formal political channels or informal political channels outside the government. Even (Soderbaum 2000) emphasizes the significance of ideology as the foundation for the agenda and priorities that must be carried out, and balances ideas and concepts about ends and means.Through political institutions, legislation against the environment can be fought. Through political institutions, the policy-making process from within the government can be controlled through opposition parties, healthy press freedom, and freedom of expression, especially regarding environmental issues. With an argument, the decision-making process in government can occur through the aggregation of the majority of public interests, resulting in political markets originating from a process that is almost the same as the formation of prices in economic markets (Vogel 1999). where the point of equilibrium in politics and the economy results from a process of opposing forces. It is not the same as (Rausser 2014), endogenous policy theory, which asserts that policy-making occurs from within the political system, but in a democratic country, it allows for the interaction of interest groups to be driven by external factors, one of which is climate change and sustainable development. Originating from outside the country, in addition, there are also incentives from interest groups that exist within the country.

CONCLUSION

The relationship between human activities and environmental degradation is a crucial issue throughout the world. Climate change and global warming are some of the phenomena that have become the result of the interaction between the environment and all activities carried out by humans, especially the economy. Many studies have been carried out to find the causes of the decline in environmental quality and the solutions that must be faced. At the academic level, one

view that is considered the main cause is the neoclassical economy. As a view that is currently the mainstream view of economic governance around the world, this view is facing many challenges from various ontological systems.

In the neoclassical economic view, environmental problems are responded to by environmental economics to answer the criticisms made by other poles of thought, such as ecological economics and institutional economics, which talk about environmental problems. Convincingly enough, economists from the poles of neoclassical economic thought defend their view of economic growth, which is considered a trigger for the environmental damage that is currently happening. They believe that economic growth has positive benefits for environmental improvement (Simon 1996), and a hypothesis initiated by (Grossman and Kruger 1992) known as the Environmental Kuznet Curve was introduced to defend the view of the positive benefits of per capita income for environmental improvement. It is divided into two categories at the poles of neoclassical economic thought, and is related to its view of Gross Domestic Product : Radical Supporters, who defend the idea that Gross Domestic Product per capita positively influences improving environmental quality. Among the economists who fall into this category are : (Simon 1996). The second group is the so-called conditional supporters. They hold the view that although economic growth harms the environment, the existence of economic growth is a prerequisite for the process of improving environmental quality. Because through economic growth, technological innovation activities can be carried out, and adequate funds are available to implement environmental policies. This group is: (Grossman and Kruger 1992) and the World Bank economist group (Bruyn 2000).

The Gross Domestic Product and economic growth are concepts that are harmful to the environment, according to the poles of ecological and economic thought. divided into two groups, namely the strong antagonist group including: (H. Daly and Farley 2010), (Meadows and Meadows 1972), which states that it needs to be replaced with another alternative measure of economic activity. While the more moderate group (Arrow et al. 1996), I consider Gross Domestic Product and economic growth dangerous, can still be controlled through policies that regulate the control of dirty industries. Furthermore, an institutional mechanism is required to ensure that the policies chosen by the two camps of thought can be implemented using a political economic approach.The use of the political economy as a non-market mechanism with the idea that handing over environmental quality improvements only to the government is considered very risky. Because, on the one hand, economic growth and GDP, despite the fact that their existence is the main issue that divides economic thinking between neoclassical economics and ecological economics, are still regarded as indicators of the success of economic development, every government will strive to achieve them as long as they are in power. So, institutional solutions through institutions through participating in democracy can be pursued by institutionalizing the struggle for environmental improvement in formal political channels. Thus, the resulting policy products can represent various kinds of interests that exist in a country. Then every government would want the achievements during their reign to be chosen and sacrifice environmental aspects to achieve the political targets they promised the voters. So, institutional solutions through institutions through participating in democracy can be pursued by institutionalizing the struggle for environmental improvement in formal political channels. Thus, the resulting policy products can represent various kinds of interests that exist in a country. Then every government would want the achievements during their reign to be chosen and sacrifice environmental aspects to achieve the political targets they promised the voters. So, institutional solutions through institutions through participating in democracy can be pursued by institutionalizing the struggle

for environmental improvement in formal political channels. Thus, the resulting policy products can represent various kinds of interests that exist in a country.

REFERENCES

[1] Allard, Alexandra, Johanna Takman, Gazi Salah Uddin, and Ali Ahmed. 2018. "The N-Shaped Environmental Kuznets Curve: An Empirical Evaluation Using a Panel Quantile Regression Approach." *Environmental Science and Pollution Research* 25 (6): 5848–61. https://doi.org/10.1007/s11356-017-0907-0.

[2] Allen, Roy E. 2008. *Human Ecology Economics. A New Framework for Global Sustainabilty*. New York, NY 10017, USA Routledge: Routledge.

[3] Andersson, Thomas. 1991. "Government Failure - the Cause of Global Environmental Mismanagement." *Ecological Economics* 4 (3): 215–36. https://doi.org/10.1016/0921-8009(91)90052-G.

[4] Andrée, Bo Pieter Johannes, Andres Chamorro, Phoebe Spencer, Eric Koomen, and H. Dogo. 2019. "Revisiting the Relation between Economic Growth and the Environment; a Global Assessment of Deforestation, Pollution and Carbon Emission." *Renewable and Sustainable Energy Reviews* 114 (October): 109221. https://doi.org/10.1016/j.rser.2019.06.028.

[5] Arrow, Kenneth, Bert Bolin, Robert Costanza, Partha Dasgupta, Carl Folke, C S Holling, Bengt-owe Jansson, et al. 1996. "Economic Growth , Carrying Capacity , and the Environment." *Science* 268 (February): 520–21. https://doi.org/10.1017/S1355770X00000413.

[6] Arrow, Kenneth J. 1974. "Limited Knowledge and Economic Analysis." *American Economic Review* 64 (FEBRUARY 1974): 1–10.

[7] Bates, Daniel G and Judith Tucker. 2010. *Human Ecology. Contenporary Research and Practice*. New York USA: Springer New York Dordrecht Heidelberg London. https://doi.org/10.1007/978-1-4419-5701-6.

[8] Bates, Frederick L. 1997. *Sociopolitical Ecology Human Systems and Ecological Fields*. *Journal of Chemical Information and Modeling*. Vol. 53. New York: Springer Science and Business Media. https://doi.org/10.1007/978-1-4899-0251-1.

[9] Beckerman, Wilfred. 1992. "Development Economic and the Environment Conflict or Complementad." Washington DC. https://documents.worldbank.org/en/publication/documents-reports/documentredirects?url=/external/default/WDSContentServer/WDSP/IB/1992/08/01/000009265_3961003070505/Rendered/PDF/multi0page.pdf.

[10] Bergh, Jeroen C.J.M. van den. 2013. "Ecological Economics : Themes , Approaches , and Differences with Environmental Economics." *Environ Change*, no. December. https://doi.org/10.1007/s101130000020.

[11] Bond, Erik.L, Thomas Dietz, and Andrew K Jorgenson. 2015. "Progress in Structural Human EcologyBond, Erik.L, Thomas Dietz, and Andrew K Jorgenson. 2015. 'Progress in Structural Human Ecology.' Human Ecology Review 22 (1): 161–66. Https://Www.Jstor.Org/Stable/24875138." *Human Ecology Review* 22 (1): 161–66. https://www.jstor.org/stable/24875138.

[12] Boulding, Kenneth E. 1966. "The Economics of Th Coming Spaceship Earth." In *Environmental Quality in A Growing Economy: Essays from the Sixth RFF Forum*, edited by Henry Jarrett, 3:1–173. Baltimore, Maryland: The John Hopkins Press. https://doi.org/10.4324/9781315064147.

[13] Brahmachari, Deborshi. 2016. "Neoclassical Economics as a Method of Scientific Research Program : A Review of Existing Literature Neoclassical Economics as a Method of Scientific Research." *Personal, Munich Archive, Repec* 75738.

[14] Brundtland, Gro Harlem, and Wayne Visser. 1987. "Our Common Future ('The Brundtland Report'): World Commission on Environment and Development." *United Nations*. https://doi.org/10.9774/gleaf.978-1-907643-44-6_12.
[15] Bruyn, Sander M. de. 2000. *Economic Growth and the Environment Economy & Environment*. Amsterdam: SPRINGER-SCIENCE+BUSINESS MEDIA, B.V. https://doi.org/10.1007/978-94-011-4068-3.
[16] Buchanan, james M., and Gordon Tullock. 1962. *The Calculus of Consent: Logical Fondations of Constitutional Democracy*. Michigan: TheUniversity of Michigan Press.
[17] Bunker, S. G. 1984. "Modes of Extraction, Unequal Exchange, and the Progressive Underdevelopment of an Extreme Periphery: The Brazilian Amazon, 1600- 1980." *American Journal of Sociology* 89 (5): 1017–64. https://doi.org/10.1086/227983.
[18] Capra, Frijof and Jakobsen, Ove Daniel. 2017. "A Conceptual Framework for Ecological Economics Based on Systemic Principles of Life" 44 (6): 831–44. https://doi.org/10.1108/IJSE-05-2016-0136.
[19] Chertow, Marian R. 2001. "The IPAT Equation and Its Variants and Environmental Impact." *Journal of Industrial Ecology* 4 (4): 13–29. https://doi.org/https://doi.org/10.1162/10881980052541927.
[20] Clapp, Jeniver, and Peter Dauvergne. 2005. *Paths to a Green World The Political Economy of the Global Environment*. Cambridge UK: The MIT Press.
[21] Clark, Barry. 1993. *Political Economy: A Comparative Approach*. *Southern Economic Journal*. Second Edi. Vol. 59. London UK: Greenwood Publishing Group. https://doi.org/10.2307/1060314.
[22] Common, Michael, and Sigrid Stagl. 2005. *Ecological Economics*. Cambridge UK: Cambridge University Press. www.cambridge.org/9780521816458.
[23] Daly, Herman E., and John B. Cobb. 1994. *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future. Population and Development Review*. Vol. 16. Beacon Press. https://doi.org/10.2307/1972837.
[24] Daly, Herman, and Joshua Farley. 2010. *Ecological Economics, Second Edition_ Principles and Applications*. 2 nd editi. Washington DC: Island Press.
[25] Dharmawan, Arya Hadi. 2007. "Dinamika Sosio-Ekologi Pedesaan : Perspektif Dan Ekologi Politik." *Sodalty : Jurnal Sosiologi, Komunikasi Dan Ekologi Manusia* 01 (01): 1–40.
[26] Ehrlich, Paul R, and John P Holdren. 1971. "Impact of Population Growth." *Science* 171 (3977): 1212–17. https://doi.org/10.1126/science.171.3977.1212.
[27] Gale, Fred P. 2018. *The Political Economy of Sustainability*. *The Political Economy of Sustainability*. Chelthenhan UK: Edward Elgar Publishing Limited Glensanda House Montpellier Parade Cheltenham Glos GL50 1UA UK Edward. https://doi.org/10.4337/9781785368011.
[28] Gardoňová, Kristína. 2016. "How the Solow Growth Model Changes with Effective Use of Natural Resources I." *Advances in Economics and Business* 4 (9): 500–505. https://doi.org/10.13189/aeb.2016.040904.
[29] Ginevicius, Romualdas, Giedrė Lapinskienė and Kęstutis Peleckis. 2017. "The Evolution of the Environmental Kuznets Curve Concept : The Review of the Research." *PANOECONOMICUS* 64 (1): 93–112. https://doi.org/10.2298/PAN150423012G.
[30] Gould, Kenneth A., David N. Pellow, and Allan Schnaiberg. 2008. *The Treadmill of Production Injustice & Unsustaibility in the Global Economy*. Edited by Berard Phillips and J. david Knottnerus. New York USA: Routledge.
[31] Grossman, Gene M, and Alan B Kruger. 1992. "Economic Growth and the Environment." *The Quarterly Journal of Economics* 110 (2): 353–77. https://doi.org/10.2307/2118443.

[32] Hariss, John, Janet Hunter, and Colin M. Lewis. 1999. *The New Institutional Economics and Third World Development. Development and Change*. Vol. 30. London and New York: Routledge.
[33] Heinrichs, Harald, and Frank Biermann. 2016. "Sustainability Science." *Sustainability Science*, no. January 2016. https://doi.org/10.1007/978-94-017-7242-6.
[34] Hussen, Ahmed M. 2004. *Principles of Environmental Economics Second Edition*. Second edi. New York USA: Routledge the Taylor & Francis e-Library. https://doi.org/https://doi.org/10.4324/9780203507421.
[35] Ilham, M Irsyad. 2018. "Economic Development and Environmental Degradation in ASEAN." *Signifikan : Jurnal Ilmu Ekonomi* 7 (1): 103–12. https://doi.org/http//dx.doi.org/10.15408/sjie.v7i1.6024 Received:
[36] Illge, Lydia, and Reimund Schwarze. 2006. "A Matter of Opinion: How Ecological and Neoclassical Environmental Economists Think about Sustainability and Economic." 619. Berlin. http://hdl.handle.net/10419/18512.
[37] IPCC. 2018. "Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change,." Edited by Valérie Masson Delmotte and Hans-Otto Pörtner. Vol. 2. www.environmentalgraphiti.org.
[38] Johnson, L. E., James A. Caporaso, and David P. Levine. 1994. *Theories of Political Economy*. *Southern Economic Journal*. Vol. 60. Cambridge UK: Cambridge University Press. https://doi.org/10.2307/1060455.
[39] Jorgenson, Andrew K. and Clark, Brett. 2012. "Are the Economy and the Environment Decoupling ? A Comparative International Study , 1960 – 2005 1." *American Journal of Sociology* 118 (1): 1–44. https://doi.org/109.148.106.134.
[40] Kherallah, Mylène, and Johann F Kirsten. 2002. "THE NEW INSTITUTIONAL ECONOMICS : APPLICATIONS FOR AGRICULTURAL POLICY RESEARCH IN DEVELOPING COUNTRIES." *Agrekon: Agricultural Economics Research, Policy and Practice in Southern Africa* 41 (August 2015): 110–33.
[41] Klein, Philip A. 2005. "THE INSTITUTIONALIST CHALLENGE: BEYOND DISSENT." In *Institutional Economics: Theory, Method, Policy*, edited by Marc R. Tool. London: Kluer Academic Publisher.
[42] Koilo, Viktoriia. 2019. "Evidence of the Environmental Kuznets Curve: Unleashing the Opportunity of Industry 4.0 in Emerging Economies." *Journal of Risk and Financial Management* 12 (3): 122. https://doi.org/10.3390/jrfm12030122.
[43] Kuznets, Simon. 1955. "Economic Growth and Income Inequality." *American Economic Review* 90 (3): i–vi. https://doi.org/10.1257/aer.90.3.i.
[44] Lewis, Tom Tietenberg and Lynne. 2012. *Environmental & Natural Resource Economics*. Pearson Education, Inc.
[45] Marten, Gerald.G. 2003. *Human Ecology - Basic Concepts for Sustainable Development*. Vol. 4. London UK: Earthscan. https://doi.org/10.1108/ijshe.2003.24904bae.004.
[46] Meadows, Donella H, and Dennis L Meadows. 1972. *The Limit to Growth : A Report for The Club of Rome's Project on the Predicament of Mankind*. Washington DC: Universe BooksNew York.
[47] Ménard, Claude. 2011. "A New Institutional Economics Perspective on Environmental Issues." *Environmental Innovation and Societal Transitions* 1 (1): 115–20. https://doi.org/10.1016/j.eist.2011.04.002.

[48] Micklin, michael and Dudley L. Poston, Jr., ed. 1998. *Continuities in Sociological Human Eclogy*. New York USA: Springer Science+ Business Media New York. https://doi.org/10.1007/978-1-4757-9841-8.
[49] Mishan, E.J. 1967. *The Cost of Economic Growth*. First. Middlesex England: Penguin Book Ltd.
[50] Modelski, George. 2017. "Innovation and Evolution in the World Economy." In *Human Ecology Economics A New Framework for Global Sustainabiliy*, edited by Roy E. Allen, 53:21–25. London and New York: Routledge the Taylor & Francis e-Library.
[51] Munda, Giuseppe. 1997. "Environmental Economics , Ecological Economics , and the Concept of Sustainable Development Environmental Economics , Ecological Economics , and the Concept of Sustainable Development." *Environmental Values 6*, no. February 1997. https://doi.org/10.3197/096327197776679158.
[52] Neumayer, Eric. 2002. "Do Democracies Exhibit Stronger International Environmental Commitment? A Cross-Country Analysis." *Journal of Peace Research* 39 (2): 139–64. https://doi.org/10.1177/0022343302039002001.
[53] North, Douglass C. 1991. "Institutions." *Journal of Economics Perspectives* 5 (1): 97–112.
[54] O'Neill, John. 2001a. "Markets and the Environment: The Solution Is the Problem." *Economic & Political Weekly* 36 (21): 1865–73.
[55] ———. 2001b. "Markets and the Environment The Solution Is the Problem." *Economics and Political Weekly* 36 (21): 1865–1873. www.jstor.org/stable/4410667.
[56] Olson, Mancur. 1971. *The Logic OfCollective Action Public Goods and The Theory of Groups*. Cambridge UK: Harvard University Press.
[57] Panayotou, Theodore. 1993. "Empirical Tests and Policy Analysis of Environmental Degradation at Different Stages of Economic Development." *Pacific and Asian Journal of Energy*. Vol. 4. Geneva.
[58] Pigou, A.C. 1920. *The Economics of Welfare*. London: Macmillan and Co, Limited.
[59] Rauf, Abdul, Xiaoxing Liu, Amin Waqas, Ilhan Ozturk, Ur Obaid Rehman, and Muhammad Hafeez. 2018. "Testing EKC Hypothesis with Energy and Sustainable Development Challenges : A Fresh Evidence from Belt and Road Initiative Economies." *Environmental Science and Pollution Research*.
[60] Rausser, Gordon. 2014. "Endogenous Policy Theory : The Political Structure and Policy Formation," no. January 1992.
[61] Richard P.F.Holt, Steven Pressman, Clive L.Spash, ed. 2009. *Post Keynesian and Ecological Economics*. Northampton Masschusetts USA: Edward Elgar Publishing,Inc. https://www.e-elgar.com/shop/gbp/post-keynesian-and-ecological-economics-9781847206688.html.
[62] Rutherford, Malcolm. 1994. *Institution in Economics*. Cambridge UK: Cambridge University Press.
[63] Scholz, Roland W. 2011. *Environmental Literacy in Science and Society. From Knowledges to Decisions*. 2011: Cambridge University Press. https://doi.org/https://doi.org/10.1017/CBO9780511921520.
[64] Shafik, Nemat, and Sushenjit Bandyopadhyay. 1992. "Economic Growth and Environmental Quality Tome Series and Cross Country Evidence."
[65] Simon, Julian L. 1996. *The Ultimate Resorce 2*. New Jersey: Princeton University Press Princeton University Press.
[66] Soderbaum, Peter. 2000. *Ecological Econommics. A Political Economics Approach to Environment and Development*. London UK: Earthscan Publication Ltd.
[67] Söderbaum, Peter. 1990. "Neoclassical and Institutional Approaches to Environmental Economics." *Journal of Economic Issues* 24 (2): 481–92. https://doi.org/10.1080/00213624.1990.11505047.

[68] Spash, Clive L., ed. 2017. *Routledge Handbook of Ecological Economics, Nature and Socoety*. *Political Science*. London and New York: Routledge.
[69] Stern, David Ian and Cutler J Cleveland. 2004. "Energy and Economic Growth."
[70] Udo, E. 1998. "Global Environmental Problems - Searching for Adequate Solutions." FS II 98-405 Global. Berlin.
[71] Vatn, Arild. 2009. "Combining Post Keynesian, Ecological and Institutional Economics Perspectives." In *Post Keynesian and Ecological Economics: Confronting Environmental Issues*, edited by Richard P.F. Holt, Steven Pressman, and Clive L. Spash. Chelthenhan UK and Northampton,MA,USA: Edward Elgar Publishing,Inc. https://doi.org/10.1080/09538259.2011.636599.
[72] Vogel, Michael P. 1999. *Environmental Kuznets Curves: A Study on the Economic Theory and Political Enconomy of Environmental Quality Improvements in the Course of Economic Growth.* Vol. 469. Berlin: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-58517-3.
[73] Weingast, Barry R., and Donald A. Wittman. 2006. *The Oxford Handbook of Political Economy*. *American Political Science Review*. Vol. 78. New York USA: Oxford University Press. https://doi.org/10.2307/1963373.
[74] William, Lewis, Roberts, Rose and McIntosh, Alistair, ed. 2012. *Radica Human Ecology. Intercultural and Indigenous Approach*. Furnham, England: Lewis Williams, Rose Roberts and Alastair McIntosh.
[75] Williams, Jeremy B, Judith M Mcneill, Jeremy B Williams, and Universitas Global. 2005. "The Current Crisis in Neoclassical Economics and the Case for an Economic Analysis Based on Sustainable Development March 2005 The Current Crisis in Neoclassical Economics and the Case for an Economic Analysis Based on Sustainable Development *."
[76] York, Richard, Eugene A Rosa, and Thomas Dietz. 2003. "METHODS STIRPAT , IPAT and ImPACT : Analytic Tools for Unpacking the Dri v Ing Forces of En v Ironmental Impacts." *Ecological Economics* 46: 351–65. https://doi.org/10.1016/S0921-8009(03)00188-5.
[77] Yurttagüler, İpek M. 2017. "An Econometric Analysis of the Environmental Kuznets Curve : The Case of Turkey." *Alphanumeric Journal. The Journal of Operations Research, Statistics, Econometrics and Management Information Systems* 5 (1). https://doi.org/10.17093/alphanumeric.304256.
[78] Yustika, Ahmad Erani. 2008. *Ekonomi Kelembagaan Definisi Teori, Dan Strategi*. Second Eds. Malang Indonesia: Bayumedia Publishing.
[79] ———. 2020. *Ekonomi Politik Pijakan Teoritis Dan Kajian Empiris*. First.Eds. Malang Indonesia: Intrans Publishing.