# ENVIRONMENTAL POLICIES AND THEIR IMPACT ON NATURAL RESOURCE PROTECTION

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Abstract. In the past few decades, there has been an increasing awareness regarding the decline of the environment and the exhaustion of natural resources, leading to actions taken by governments and institutions globally to devise policies that address these matters. These policies include a variety of strategies, which range from regulatory structures intended to manage pollution and protect biodiversity to incentive programmes that aim to promote sustainable practices, engaging both businesses and consumers. However, the efficacy of these environmental policies continues to be a topic of considerable contention, particularly in relation to their effects on the safeguarding of natural resources. Both scholars and practitioners endeavour to comprehend the complexities surrounding the creation and implementation of these policies, evaluating not only the short-term advantages but also the enduring consequences for ecosystems and the communities dependent upon them. This essay intends to conduct a critical examination of the convergence between environmental policies and their success in preserving natural resources, thereby adding to the ongoing discourse regarding sustainable development and the stewardship of ecological systems. Environmental policies comprise a extensive array of regulations and strategies that are designed with the purpose of alleviating the detrimental impacts that human activities impose on the natural environment. Such policies are established by various governmental entities and organisations with the intention of fostering sustainable practices and protecting ecosystems, which are vital for maintaining a long-term ecological equilibrium. The effectiveness of these policies is significantly dependent upon the presence of a substantial business environment that encourages innovation alongside responsible management of resources.

Keywords: environment, policies, impact, environment, protection, importance

#### INTRODUCTION

The safeguarding of natural resources holds considerable importance for the maintenance of ecological equilibrium as well as the advancement of sustainable economic progress, especially in nations abundant in resources. As delineated in (SAQIB ET ALL., 2024), the excessive dependence on income derived from natural resources poses a threat to biodiversity and reduces the carrying capacity of ecosystems, which subsequently leads to notable environmental deterioration. A transition towards green energy solutions and the implementation of stringent environmental regulations is of utmost necessity to alleviate these detrimental consequences. Furthermore, the insights gleaned from (MPUURE ET ALL., 2024) underscore the vital contribution of environmental institutions in promoting sustainable methodologies amidst the escalation of trade activities within Sub-Saharan Africa (SSA). This suggests that robust policy infrastructures are imperative for the protection of natural resources concurrently with the facilitation of economic expansion. By incorporating extensive environmental policies that bolster institutional frameworks and stimulate sustainable trading practices, nations have the potential to safeguard their natural assets and ensure a more salubrious planet for forthcoming generations. Consequently, the preservation of natural resources emerges as not only an ecological imperative but also a crucial element of sustainable economic development.

The effective management of resources is inextricably linked with the realm of environmental policies, as these policies delineate the regulatory structure within which natural

resources are overseen and exploited. By imposing regulations and establishing standards, such policies direct practices that seek to reconcile economic advancement with environmental stewardship. A case in point is the decentralisation of authority, which brings to light a pivotal juncture where local governing bodies are compelled to negotiate property relations alongside resource management within their specific areas. It has been observed that "the general basis of institutional support for property relations over natural resources should be corporatization, development of rent relations, and improvement of fiscal mechanisms in resource use" (ARTYUSHOK ET AL., 2023). This situation enables a more unified and bespoke approach to the administration of natural resources, as it encapsulates local particularities. Moreover, as seen in the correlation between the development of accommodation infrastructure and the state of environmental quality in the Cordillera Administrative Region, it is imperative that responsible governance and rigorous policies are adopted to lessen carbon emissions and encourage sustainable practices (AMISTAD ET AL., 2024). Therefore, the intricate relationship between policy frameworks and resource management not only aids in the preservation of ecological integrity but also champions a future oriented towards sustainable economic viability.

The historical occurrences and socio-economic transitions that have transpired have profoundly influenced the evolution of environmental policies, which illustrate the shifting views regarding nature and sustainability. At the outset, regulatory arrangements were mainly concentrated on the immediacy of pollution issues rather than on the conservation of resources in the long term, resulting in a tendency towards a reactive methodology rather than a proactive one. In high-income nations (HICs), the surge in industrialisation throughout the 20th century culminated in notably detrimental ecological impacts, thereby necessitating more thorough investigations into the ramifications of natural resource extraction on environmental health (REGMI ET AL., 2024). As societal awareness heightened, propelled by scientific inquiry and advocacy efforts, there was a noticeable shift in policies towards the amalgamation of environmental safeguarding with economic progression. Furthermore, the structural composition of governmental environmental agencies has surfaced as a pivotal element impacting the efficacy of policies. Research elucidates that agencies solely dedicated to environmental matters tend to display more stringent regulatory measures in comparison to those with a broader set of responsibilities, underscoring the intricate relationship between the structure of agencies and their environmental outcomes (WOODS, 2024).

Throughout the passage of time, the evolution of environmental legislation has been quite marked, denoting a growing cognizance regarding ecological sustainability alongside an imperative for anticipatory governance of natural resources. The preliminary legal structures were established primarily as reactions to the negative repercussions of industrialisation, with a concentration on the management of pollution and waste. Nevertheless, as societies began to grapple with challenges such as climate change and the decline of biodiversity, the scope of policies broadened to include a wider array of ecological considerations. For example, recent strides in digitalisation and automation technologies, as brought to attention in the context of Ukraine's endeavours towards European integration, highlight the significance of innovative methodologies in the enhancement of environmental protection mechanisms (BREDIKHINA, 2023). Moreover, scholarly research emphasises that a comprehension of local environmental circumstances and the impacts on communities, especially in regions reliant on resources like mining cities, is pivotal for the formulation of efficacious legislation (ZENG ET AL., 2024). Hence, present-day environmental statutes are crafted not solely to alleviate deleterious impacts but also to foster sustainable development via integrative and adaptable strategies.

### MATERIAL AND METHODS

As a graduate of Engineering and environmental protection bachelor study programme and now master student at the study programme Management of natural resources and currently working in managing the environmental side in a company, I am very aware of the importance that environment has for the sustainability in general. For this research article, me and the coauthors, we used the analysis method and also the comparative one, due to a large experience of some of us in internationalization and abroad environmental policies which are very important to be understood in all languages (PASCALAU ET ALL., 2021).

International accords hold an essential function in the configuration of environmental regulatory frameworks and in steering the sustainable utilisation of natural assets. Agreements like the Paris Climate Agreement and the United Nations Sustainable Development Goals furnish vital structures that motivate nations to pledge towards the reduction of greenhouse gas emissions and the enhancement of food security, whilst navigating the complexities of ecological sustainability. For example, the cooperative initiatives delineated in these treaties accentuate the imperative of engineering cultivars that can endure climatic variations and optimise resource utilisation, thus fostering agricultural resilience and biodiversity (HARBINSON ET AL., 2021). Such global obligations cultivate a harmonised strategy towards resource preservation, as exemplified by India's Environmental Policy of 2006, which aspires to synchronise domestic aims with international benchmarks of environmental governance (SAMANT, 2023). Nevertheless, the conversion of these agreements into fruitful local implementations continues to present obstacles, necessitating the establishment of robust enforcement stratagems and inter-sectoral collaboration to guarantee appreciable outcomes in the stewardship of natural resources.

A considerable assortment of environmental policies is available, each one specifically designed to tackle distinct ecological issues and concerns surrounding resource management. Command-and-control regulations establish direct restrictions on emissions and the extraction of resources, thus providing delineated guidelines for various industries. In contrast, marketbased instruments incentivise practices that are environmentally friendly via mechanisms such as cap-and-trade schemes or taxes which impose penalties for excessive extraction, consequently aligning economic motives with the preservation of the environment. Moreover, sector-specific policies, exemplified by those related to the oil and gas sector, illustrate a multifaceted interaction between methods of taxation and the production of resources. As elucidated in (THOMAS, 2024), the nature of the taxation can considerably affect the output of natural gas, thereby showcasing how fiscal policies may either promote or obstruct sustainable practices. In the end, the efficacy of these policies is frequently contingent upon their formulation and execution, with all-encompassing frameworks that incorporate the adoption of green energy and stringent regulations proving to be the most advantageous for the conservation of resources, as evidenced by the examination of the long-term consequences of environmental regulations discussed.

## RESULTS AND DISCUSSIONS

The advancing trajectory of policies relating to the environment increasingly underscores the significance of market-based instruments (MBIs), positioning them as efficacious mechanisms for conservation endeavours. By attributing economic worth to natural resources, these instruments aspire to alleviate the issues linked to over-exploitation whilst fostering sustainable behaviours amongst users. A pertinent example is Environmental Fiscal Reform (EFR), acknowledged as a plausible strategy that not only assists in revenue generation but also shifts the tax obligations from productive endeavours towards pollution and resource

depletion, thereby providing incentives for environmentally considerate actions. It has been noted in various studies that the proficient execution of such policies could pave the way for a transition towards a decarbonised economy, ultimately contributing to the preservation of essential ecosystems (DOMINGUES, 2018). Moreover, the accomplishments of programmes integrating MBIs, such as the National IPM Programme in Pakistan, accentuate the potential for considerable decreases in the utilisation of harmful pesticides whilst concurrently enhancing agricultural productivity. This dual advantage further emphasises the imperative of incorporating economic dimensions into conservation strategies to ensure sustained ecological safeguarding (EMDEN, 2020).

The emergence of community-based resource management initiatives has been recognised as significant in augmenting sustainable environmental practices, while attempting to reconcile the needs of local populations with the imperatives of ecological preservation. The act of empowering communities to actively participate in the management of forests, water, and land engenders a sense of ownership and responsibility, which is deemed vital for ensuring long-term efficacy. For example, the shift towards integrated methodologies does not only support environmental sustainability but also advances socio-economic development, thereby underscoring the interdependence of human welfare and the stewardship of natural resources (LUCAS, 2024). As is noted, the effective execution of these strategies can greatly reduce the burdens on ecosystems while fostering biodiversity, which are essential prerequisites for an environment that is resilient (GETMAN ET AL., 2023). Moreover, the mutual relationship observed between community involvement and governmental policies underscores the necessity of harmonising local actions with overarching national environmental aims. In conclusion, these initiatives foster a cooperative framework that reinforces both conservation efforts and community resilience, thereby highlighting the vital role of inclusive policy-making within the sphere of natural resource management and also international dissemination of regional and local policies, translated in several languages (PASCALAU ET ALL., 2023).

The recognition of the effectiveness of environmental policies in the protection of natural resources, is becoming more prevalent, especially as ecological issues on a global scale intensify, implicitly water pollution which is one of the most important issue (SMULEAC ET ALL., 2023). Well-structured regulations strive not only to diminish environmental harm but also to promote economic growth that is sustainable. A case in point is North Sumatra Province, where policies regarding natural resources have shown a notable relationship with economic advancement, while also highlighting the difficulties in reconciling the preservation of the environment with the use of resources (PURBA ET AL., 2024). This dual emphasis is critical, as neglecting the safeguarding of natural resources could jeopardise the long-term sustainability of the economy. In addition, the emergence of initiatives related to green packaging exemplifies the vital function of policy in fostering resource conservation and enacting waste reduction measures, thereby underscoring the urgent need for innovative materials and recycling approaches (WANG ET AL., 2024). Consequently, the interaction between strong environmental policies and proactive management of resources is pivotal for the attainment of sustainable results, ultimately ensuring the safeguarding of natural resources for the generations to come.

A comprehensive evaluation of biodiversity conservation policies is fundamentally reliant on an intricate comprehension of the mechanisms behind their execution and resultant effects. The interaction between agricultural methodologies and ecosystem services exemplifies the nuanced nature of this assessment. For instance, investigations into agroecosystem services have illustrated that managers overseeing variously diversified farms exhibited differing levels of awareness and utilisation of biodiversity concepts, which, in turn,

has a marked effect on the conservation initiatives integrated within their farming operations. Moreover, the discernment of obstacles preventing the efficacious implementation of these policies, encompassing economic, institutional, and behavioural impediments, highlights the imperative for bespoke strategies that resonate with local circumstances. Through the appraisal of both the immediate and peripheral impacts of such policies, in conjunction with the socioeconomic variables influencing their efficacy, stakeholders may cultivate an enhanced understanding of which actions produce measurable conservation benefits. Accordingly, a methodical approach towards the scrutiny of policy effectiveness stands as essential in guiding forthcoming endeavours toward more sustainable and meaningful biodiversity conservation methodologies.

In addition to this, international treaties and worldwide regulations, translated (PASCALAU ET ALL., 2024) into all languages might raise the awareness of all the most important issues.

The complex interrelation that exists between environmental policies and resource industries calls for a meticulous investigation into their economic ramifications (BREDIKHINA, 2023). Oftentimes, rigorous environmental regulations inflict supplementary operational expenses upon resource industries, which could detrimentally impede profitability and expansion. Nonetheless, as emphasised by (WANG ET AL., 2024), such policies possess the potential to trigger financial advancement by cultivating a more sustainable economic framework, consequently promoting investments in eco-friendly technologies and methodologies (GUAN ET AL., 2024). This dualistic nature is of utmost importance; despite the perception that such enactments may initially impose burdens, they could ultimately bolster long-term resilience and competitive edge within the sector. Proper vocabulary used (PASCALAU ET ALL., 2023) to transmit all the necessary changes will very useful, especially in a society where everything is and may be adapted to national languages by translation and interpretation (PASCALAU ET ALL., 2024). Furthermore, the insights derived from APEC nations highlight a significant association between resource stewardship and emissions, where an escalating dependence on clean energy modalities may alleviate detrimental environmental impacts, as acknowledged in (LI ET AL., 2024). Therefore, it becomes manifest that reconciling economic development with stringent environmental policies not only protects natural assets but also assists in propelling a transition toward sustainable industrial endeavours.

## **CONCLUSIONS**

Resource management is inextricably linked with its social ramifications, with the engagement of communities being of utmost importance in promoting sustainable methodologies. The involvement of local populations within the mechanisms of decision-making guarantees that management approaches are specifically attuned to the distinct cultural and ecological conditions pertinent to the locale. For example, the empowerment of women in the governance of resources has been evidenced to yield more favourable environmental results, including a decrease in deforestation rates and an augmentation of biodiversity, owing to the social empowerment that fosters a more prudent utilisation of resources. Furthermore, the current hostilities in Ukraine serve as a pertinent illustration of how outside pressures can intensify the complexities associated with resource management, thereby necessitating a comprehensive framework for community participation to bolster adaptive capacities in response to climatic shifts and economic constraints. Consequently, the promotion of participatory governance frameworks not only advances the efficacy of resource management but also cultivates social unity, thereby fortifying the resilience of communities and ecosystems alike.

In the process of synthesising the conclusions derived from this research, it becomes clear that the implementation of effective environmental policies is of paramount importance for the sustainable oversight of natural resources. The study reveals that financial inclusion alongside energy innovation serves as pivotal elements in fostering environmental sustainability, which in turn influences land degradation and ecological footprints particularly within affluent nations. Additionally, participation in global value chains has been demonstrated to further compound environmental degradation, which highlights the necessity for policy frameworks that amalgamate economic advancement with ecological safeguarding. To alleviate the detrimental impacts that economic pursuits inflict upon natural resources, it is essential for policymakers to embrace a comprehensive strategy that places a premium on environmental factors within financial and economic structures. By creating an environment that supports green technologies coupled with the promotion of judicious resource management practices, it becomes feasible to achieve an equilibrium between economic progress and environmental integrity. In conclusion, the findings substantiate that specific environmental strategies are critical for the preservation of our natural resources and the enhancement of socio-economic resilience.

The examination of policies concerning the environment reveals numerous significant observations regarding their consequences for the safeguarding of natural resources. To begin with, it is apparent that policies which are effective and concentrated on the conservation of natural resources, encompassing aspects such as biodiversity, stewardship of land, and water, do indeed positively affect environmental sustainability within nations featuring high income. This finding is in accordance with the proposition that the enhancement of financial inclusion, alongside the promotion of innovation in energy, has the potential to considerably strengthen these endeavours. Furthermore, the inquiry indicates a relationship between practices of Green Human Resource Management (Green HRM) and the encouragement of environmentally accountable behaviour among employees. Through the incorporation of sustainability into the structural frameworks of organisations, businesses can improve their aggregate performance while also contributing to wider environmental objectives.

This interrelation implies a complex methodology towards environmental policy, in which economic incentives, frameworks of institutions, and HR practices operate in a synergistic manner to reduce the deterioration of natural resources, thereby ultimately aiding initiatives aimed at sustainable development.

The development of effective policy ought to prioritise the integration of environmental sustainability within strategies for economic growth, particularly in nations abundant in resources. Future policies ought to place a significant emphasis on the uptake of green technologies, alongside the establishment of robust environmental regulations that aim to lessen the ecological repercussions related to both resource extraction and consumption. For instance, findings indicate a pressing necessity for a movement towards green energy, as well as the implementation of financial technologies that support environmental compliance, as underscored by recent studies. Furthermore, it is of utmost importance that strategic environmental assessment frameworks are employed for the identification of potential adverse impacts of policies prior to their enactment, especially within ecologically sensitive locales where detrimental activities might worsen environmental degradation. Ensuring that policy recommendations are grounded in comprehensive eco-environmental sensitivity evaluations is likely to enhance decision-making processes, ultimately contributing to improved preservation of natural resources alongside an increase in overall sustainability. Such a methodology necessitates collaboration between policymakers, stakeholders from the industry, and organisations that are focused on environmental concerns.

The efficacy of environmental policy is fundamentally linked to the general populace's awareness and involvement, as these factors cultivate a shared sense of responsibility and immediacy regarding the safeguarding of natural resources. When communities possess knowledge about the consequences of environmental decline, their likelihood of participating in advocacy efforts and endorsing sustainability-promoting policies escalates. Such involvement not only serves to magnify the citizens' voices but also enhances the policy-making procedures with a variety of viewpoints. Furthermore, participatory strategies, including public consultations and joint decision-making, can result in policies that are more transparent and just, thus fostering greater public confidence in governmental undertakings. In the end, policies that adeptly merge public awareness with participatory frameworks are more suitably positioned to confront the multifaceted issues associated with environmental degradation, culminating in improved implementation and adherence. By promoting an informed and engaged citizenry, the chances of accomplishing significant environmental results are considerably heightened, highlighting the essential function of grassroots participation in the successful enactment of policies.

#### **BIBLIOGRAPHY**

- ALKA T.A., 2024, "Seeds of Change: Mapping the Landscape of precision farming technology adoption among agricultural entrepreneurs"
- AMISTAD W.C., CORNELL D.A., 2024, "The effects of lodging infrastructure development in the environmental quality and natural resource management in the Cordillera Administrative Region (CAR), Philippines".
- ARTYUSHOK K., VERSTIAK A., KRAVCHUK P., DOROFYEYEV O., POLOVA O., KAPELISTA I., 2023, "Institutional security in relations of ownership of natural resources: state environmental and economic policy and decentralization".
- BALSCHWEID M.A., 1998, "Agriculture and Science Integration". https://www.sciencedirect.com/science/article/pii/S1658077X24000833
- BREDIKHINA V., 2023, "Legal support of the use of Industry 4.0 technologies in the field of natural resource management and environmental protection"
  - https://www.semanticscholar.org/paper/7cd2980dee555fdfe04bd0e952b9ff0b0dff211d
- DOMINGUES N., 2018, ""Energy and Economy: the Environmental Impact of Benefits and Penalties"". https://www.semanticscholar.org/paper/fe279e97f40133ff4283e944eb9c91a33d7cca8
- GETMAN A.P., BREDIKHINA V., 2023, "Legal support for an environmentally balanced system of natural resource management in terms of European integration of Ukraine".
- GUAN X., WANG Q., MANSOOR H., NADEEM M., 2024, "The impact of natural resource rent, global value chain participation, and financial development on environmental footprints: A global analysis with fresh evidence".
- HARBINSON J., PARRY M., DAVIES J., ROLLAND N., LORETO F., WILHELM R., METZLAFF K., KLEIN R.L., 2021, "Designing the Crops for the Future; The CropBooster Program". 10.
- LI X., LAU W., LAW S., LI L., 2024, "The shadow economy, natural resource income, and the effect of economic globalization on carbon emissions: Toward a sustainable future".
- LUCAS B., 2024, "How Women's Empowerment Contributes to Climate Change and Natural Resource Management Outcomes"
  - https://www.semanticscholar.org/paper/aeac2fe116904a63d3effefd877d97b5e283cfd7
- MPUURE D.M-N., DUODU E., BRAIMAH ABILLE A.B., AYAMGA E.A., 2024, "The environmental impact of international trade in Sub-Saharan Africa: Exploring the role of policy and institutions for environmental sustainability".

  <a href="https://www.sciencedirect.com/science/article/pii/S2590051X24000492">https://www.sciencedirect.com/science/article/pii/S2590051X24000492</a>
- PAȘCALĂU R., ȘMULEAC L., MILANCOVIC S., STEIGELBAUER L., PĂDUREAN A., BĂRBULEȚ G., 2023, "
  Importance and impact of modern languages and education in agriculture". Research
  Journal of Agricultural Science, Vol 55, Issue 3.

- PAŞCALĂU R., ŞMULEAC L., STIEGELBAUER L.R., SABĂU G.D., MILANCOVIC S., PADUREAN A., BĂRBULEȚ G., ,
  BIRMA M., JURAKHONZODA R., 2024, "Particularities of Teaching Foreign Languages to
  Agriculturists". 56 (1). pp. 145-147.

  <a href="https://rjas.ro/download/paper\_version.paper\_file.ad0ba83b3bf11fcf.Ui4gUEFTQ0F">https://rjas.ro/download/paper\_version.paper\_file.ad0ba83b3bf11fcf.Ui4gUEFTQ0F</a>

  MQVUtIFBhcnRpY3VsYXJpdGllcy5wZGY=.pdf
- PASCALĂU R., SMULEAC L., STANCIU S., IMBREA F., SMULEAC A., "Leveraging modern languages and translations for sustainable environmental practices", International Multidisciplinary Scientific GeoConference: SGEM; Sofia, Vol. 23, Iss. 4.2, (2023). DOI:10.5593/sgem2023V/4.2/sl9.36
- PAȘCALĂU R., ȘMULEAC L., STANCIU S.M., IMBREA F., SMULEAC A., STIEGELBAUER L. R.,. SABĂU G.D,
  MILANCOVIC S., HAUER K., UNGUREANU D., 2024, "Impact of foreign languages'
  terminology in agricultural activities", Research Journal of Agricultural Science, Vol
  56. Issue 1.
- PURBA B., TARIGAN D.R., GINTING R.O., 2024, "Analisis Kebijakan Sumber Daya Alam Provinsi Sumatera Utara".
- REGMI R., ZHANG Z., ZHANG H., 2024, "Environmental sustainability in high-income countries: Does natural resource protection, financial inclusion, and energy innovation matters?".
- SAMANT S., 2023, "Assessing the Impact of Environmental Policy, 2006: A Critical Examination". https://www.semanticscholar.org/paper/84796e36d7fbf2c282a3c931e466bc9eaecebdf5
- SAQIB N., SHAHZAD U., 2024, "Pathways to sustainability: Evaluating the impact of green energy, natural resources, FinTech, and environmental policies in resource-abundant countries". <a href="https://www.sciencedirect.com/science/article/pii/S0301420724006317">https://www.sciencedirect.com/science/article/pii/S0301420724006317</a>
- SMULEAC L., PAȘCALĂU R., SMULEAC A., IMBREA F., LATO A., "The interconnection between preventing water pollution and addressing climate change", International Multidisciplinary Scientific GeoConference: SGEM; Sofia, Vol. 23, Iss. 3.2, (2023). DOI:10.5593/sgem2023V/3.2/sl2.27
- SMULEAC A, SMULEAC L, PASCALAU R., POPESCU G., HORABLAGA, A., 2022, "Using ground control points (GCP) and UAV Poind Cloud processinf in water management", International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM, 2022, 22(3.2), pp. 231–238.
- THOMAS P., COLLINS A., ETIENNE X., MUGABE D., 2024, "Impacts of state tax and resource ownership policies on extraction: Evidence from U.S. natural gas production". <a href="https://www.sciencedirect.com/science/article/pii/S0140988324005772">https://www.sciencedirect.com/science/article/pii/S0140988324005772</a>
- VAN EMDEN, H., 2020, Integrated Pest Management. Managing Soils and Terrestrial Systems.

  WANG P.,PENG H., 2024, "Green Food Packaging Industry to Explore and Analyze".

  <a href="https://www.semanticscholar.org/paper/8caf78403947448f31f8ef44579a5ab9d7bc31f">https://www.semanticscholar.org/paper/8caf78403947448f31f8ef44579a5ab9d7bc31f</a>
- WOODS N.D., 2024, "Structuring Bureaucratic Performance? Assessing the Policy Impact of Environmental Agency Design"
- ZENG J., DAI X., LI W., XU J., LI W., LIU D., 2024, "Quantifying the Impact and Importance of Natural, Economic, and Mining Activities on Environmental Quality Using the PIE-Engine