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A Study on Impact of Environmental Laws on Sustainable Management of Resources

N.B. NITHYA SRI¹

ABSTRACT

Environmental law refers to a body of laws, regulations, and treaties that aim to protect the environment and natural resources. It encompasses various aspects such as air and water quality, waste management, conservation of wildlife and habitats, land use planning, and environmental impact assessments. Environmental laws are designed to prevent pollution, promote sustainability, and mitigate the negative impacts of human activities on the environment. They often involve a combination of national, regional, and international regulations to address environmental issues on different scales. Sustainable development is an approach to growth that seeks to balance economic progress with environmental protection and social equity. It aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. This involves integrating practices that reduce environmental impact, such as using renewable resources, minimizing waste, and promoting energy efficiency. Socially, it emphasizes inclusivity, ensuring that benefits are shared equitably and that communities have a say in decision-making. Economically, it supports long-term stability rather than short-term gains. By fostering this balanced approach, sustainable development aims to create a healthier, more resilient world for everyone. This research investigates the profound influence of environmental laws on the sustainable management of resources. In an era marked by escalating environmental concerns and dwindling natural resources, the efficacy of legal frameworks in fostering sustainability warrants rigorous examination. Through a comprehensive review of pertinent literature, this study explores the evolution and implementation of environmental laws globally. Secondary data from literature review and primary data from 202 samples collected through questionnaires has been utilised to conduct this research. The study has concluded that environmental law aims to promote sustainable resource management by implementing pollution control measures and focuses on biodiversity conservation for resource management.

Keywords: *Environmental regulations, Natural resources, Conservation measures, Biodiversity conservation, Pollution control, Sustainable development.*

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I. INTRODUCTION

The environment is a complex system of physical, chemical, biological and social factors that surround us and affect the life of all living organisms on Earth. This includes the air we breathe, the water we drink, the land we live on, and the diverse ecosystems that support many species. Our environment plays a key role in sustaining vital resources such as clean air, water, food and shelter. It also regulates climate patterns, nutrient cycling and ecosystem balance, contributing to the overall stability and sustainability of our planet. However, human activities such as industrialization, urbanization, deforestation, and pollution have significantly altered the environment, resulting in environmental degradation, habitat loss, species extinction, and climate change. These challenges pose serious threats to human health, biodiversity and the well-being of future generations. Recognizing the importance of protecting and preserving our environment, efforts have been made worldwide to promote sustainable practices, conservation measures and environmental protection. This includes the development of environmental policies, regulations and international agreements aimed at reducing pollution, conserving natural resources and promoting sustainable development. Understanding the link between our activities and their environmental impacts is crucial to promoting harmonious relationships between human societies and societies. the natural world. By working together to adopt sustainable practices, promote environmental awareness and solve environmental problems, we can strive to create a healthier and more sustainable planet for current and future generations. Sustainability is an approach to economic growth that seeks to balance the needs of the present with the needs of future generations by ensuring that resources are managed responsibly to meet the needs of the present without compromising the ability of future generations to meet their own needs. It involves integrating environmental, social and economic considerations to create long-term solutions that promote the well-being of all while conserving natural resources and ecosystems. Environmental law includes a set of legal principles, regulations and agreements aimed at protecting the environment and natural resources. It covers a wide range of topics such as air and water quality, waste management, biodiversity conservation, land use planning and hazardous substance regulation. Environmental legislation often establishes pollution control standards, sets limits for emissions, and describes procedures for environmental impact assessment and enforcement. These laws are necessary to promote sustainability and ensure responsible management of our planet and natural resources. Environmental legislation and sustainable management of natural resources are key frameworks for dealing with the complex relationship between human activity and nature. Environmental law establishes the legal structures and regulations necessary to protect ecosystems, biodiversity and the health of our

planet. It covers a wide range of topics, including air and water quality, nature conservation, farming and climate change mitigation. The core of environmental legislation is the goal of finding a balance between economic development and environmental protection, promoting the harmonious coexistence of human communities and the natural environment. By establishing standards, enforcing regulations and promoting compliance, environmental legislation aims to prevent pollution, conserve natural resources and promote sustainable practices in various sectors. Sustainable management of natural resources together with environmental legislation includes a comprehensive approach to the responsible use of natural resources and ensures their availability for current and future generations. This involves incorporating environmental, social and economic considerations into decision-making processes to optimize the use of resources while minimizing negative impacts on ecosystems and communities. Effective environmental legislation and sustainable resource management require governments, businesses, civil society and individuals to work together to solve complex environmental problems and advance the transition to a more sustainable and sustainable future for our planet. By sharing these principles, we can aspire to a world where the well-being of people is closely linked to the health and vitality of nature.

(A) Objectives:

This research aims

- To identify the contribution of environmental laws in preventing pollution in the context of resource management.
- To investigate the role of awareness in effective implementation of environmental laws.
- To assess the long term impact of biodiversity conservation on sustainability of resources.

(B) Literature Review:

Kumar, P., & Kumar, S. (2023) aimed to introduce the episodes of green finance to discuss the role of the green economy in attaining sustainable development objectives and address particular problems of sustainable finance and environmental, social, and governance concerns of green financing. A significant challenge is evaluating the success of the 2030 Agenda and the role played by public policy. Governments have lately implemented new policies relating to GE to optimize its effect. Thus, this paper suggests an Environmental Regulations-based Sustainable Green Development (ER-SGD) strategy for protecting the environment and boosting the economy. This essay uses environmental regulation as a moderator to experimentally explore the influence strategy of political competitions on the efficacy of green

development from several viewpoints.

Xin Zhao, Weiliang Tao, Xiaowei Ma, Chen Wang, Grzegorz Mentel(2023) measured the level of energy security by region based on provincial panel data, empirically analyze the direct and spillover effects and spatial heterogeneity of environmental regulation on energy security, and also explore the non-linear characteristics of environmental regulation on energy security driven by fiscal decentralization and marketization. The results show that there are regional differences and spatial dependence in China's energy security, indicating that environmental regulation contributes to the level of energy security, but the effect of environmental regulation varies across regions and the positive impact of environmental regulation is enhanced when the degree of fiscal decentralization and marketization crosses a specific threshold.

K. Rezaei-Moghaddam. (2016) investigated green management of human resources and organizational performance towards sustainable environmental management. Explaining the importance of environmental impacts derived from organizational activities as well as attempting to create environmental awareness to perform green organizational strategies in order to protecting environmental sustainability is the main aim of the study. The paper tries to explain green human resource management and their impact on sustainable development. At first, the core components of green human resource management is explained. And then the environmentally friendly human resource practices and the preservation of knowledge capital have been emphasized. Based on the results, green movements to environmental protection are the key elements towards green human resource management.

Feng, Z.; Chen, W.(2018) examined the role and mechanism of environmental regulation (divided into administrative environmental regulation, market-based environmental regulation, and public participation environmental regulation) in the impact of green innovation (divided into green product innovation and green craft innovation) on industrial green development. The results indicate a sharp fluctuating trend in China's overall industrial green development performance, and that China's 30 provinces can be divided into four categories, based on the development levels of two subsystems of industrial green development. Considering the impact of environmental regulation on industrial green development performance, different types of environmental regulation have different regional influences. However, under environmental regulation constraints, market-based environmental regulation through the encouragement of green craft innovation rather than green product innovation achieves a positive impact on industrial green development.

Tisdell, C. Following a general introduction, the book begins with a discussion of externalities

(Paretian relevant and irrelevant, Coasian considerations) and microeconomic policies to control pollution and environmental spillovers and degradation from economic activities. Methods and problems involved in allowing for environmental risk and uncertainty in project evaluation and the impact of the law on environmental risk-taking are examined. A major theme is sustainability: its nature, its implications for cost-benefit analysis and project evaluation and its consequences for policies for economic development. In conclusion, global conservation issues, such as proposed world conservation strategies, and policies for controlling global pollution e.g., greenhouse gas emissions, are examined.

Likun Ni, Sayed Fayaz Ahmad, Talal Obaid Alshammari, Haoshen Liang, Ghadeer Alsanie, Muhammad Irshad, Randah Alyafi-AlZahri, Rima H. BinSaeed, Mohammed Hasan Ali Al-Abyadh, Sahar Moh'd Mahmood Abu Bakir and Ahmad Y.A. Bani Ahmad Ayassrah (2023) aimed to determine the impact of green human capital and environmental regulation on green innovation and green industry upgrading for sustainable development. The results show that green human capital positively impacts green innovation, green industry upgrading, and sustainable development. Environmental regulations positively impact green industry upgrading, but their impact on green innovation and sustainable development was not found. Green innovation and green industry upgrading both have positive impacts on sustainable development. The study concludes that green human capital should be the first focus for policymakers and organizations for sustainable development, green innovation, and green industry upgradation.

Hilborn, R., Walters, C. J., & Ludwig, D. (1995) aimed to find the maximum potential yield, the resource must be overexploited at some time, or very similar resources must have been overexploited. Temporal changes in environmental conditions mean that information on sustainability collected in the past may have limited applicability in the future. The unregulated dynamic of exploiters is to push the resources to overexploitation, and even when regulated, exploiters have been very successful at modifying their behavior so that regulations are less effective than anticipated. The most successful institutions at maintaining sustainability have been small-scale community or private ownership.

Abhay Goyal (2018) In India, sundry policies and regulations on the environment have been enforced to confront environmental predicaments and foster sustainable development. Among these measures are the Water (Prevention and Control of Pollution) Act, the Air (Prevention and Control of Pollution) Act, and the Forest Conservation Act, to cite a few. The implementation of environmental laws has contributed to the decrease in pollution levels, preservation of natural resources and biodiversity, and enhancement of citizens' quality of life.

The Air (Prevention and Control of Pollution) Act's induction led to the establishment of air quality surveillance stations in major cities, resulting in a drop in air pollution levels. Despite this, enforcing these laws has faced various hindrances, including ineffective institutional frameworks, insufficient resources, and corruption.

John Dernbach, Joel A. Mintz (2011) attempted to synthesize key lessons from the issue's ten substantive articles. These lessons involve the use of law to achieve integrated decision-making, the use of pre-existing laws to foster sustainability, the centrality of sub-national governments in achieving sustainability, the background law of unsustainable development, the growing importance of climate change, the need to use law to protect and restore ecological integrity, the importance of judicial review and nongovernmental organizations, the need to translate sustainability into specific legal principles, the challenge of creating an appropriate national legal structure for sustainability, the importance of sustainability assessment tools and institutions before and after laws are adopted, and the importance of "soft" law.

Efpraxia Maria, Theocharis Tsoutsos (2004) Nowadays, an attractive legislative and financing framework has been established in Greece for the development of renewable energy sources. This has resulted in a strong increase of investors' interest, especially in the islands, mainly due to their high renewable energy potential all year round. However, the typical characteristics of the small Greek island, which constitute sensitive ecosystems with unique attributes of a natural and cultural heritage, impose a limitation on the development of energy generation plants using renewables. In order to adopt the principles of sustainable development of these island regions, the application of the proportionality principle in relation to other general principles of environmental law is proposed as a suitable legislative tool for resolution of the foreseeable conflicts.

Viktor Koval, Inesa Mikhno, Iryna Udovychenko, Yevgeniia Gordiichuk, Iryna Kalina (2021) founded that heavier responsibility of each individual and changes in values can improve the current situation. It is concluded that the general utility function can be increased by rational nature management and implementation of the development strategy minimizing such negative risk factors as ecological state deterioration, inefficient functioning of the healthcare system, excessive use of chemical compounds while producing agricultural products, etc. The key in the study is the formation of a holistic view of the relationship between pollution and the state of the environment and harm to public health based on the analysis of rational nature management and environmental pollution and their negative impact on environmental health.

Muhammad Zubair Chishti, Nadia Arfaoui, Calvin W.H. Cheong tended to erect a policy

framework by investigating the time-varying effects of environmental regulation policies and human capital on sustainable development efficiency with the consort of industrialization and urbanization in a large economy. To this end, the study deploys the province-level panel data from 1998 to 2017 and utilizes several advanced econometric methods (Non-Parametric Panel Data Model, Wavelet Quantile Correlation, and Non-Parametric Panel Granger Causality Test). The results suggest that positive shocks in environmental regulation policies and human capital have favorable effects on sustainable development efficiency; however, their negative shocks have adverse impacts over time. Further, industrialization and urbanization significantly deteriorate the sustainable development efficiency.

Sara Bruhn-Tysk, Mats Eklund (2002)performed, environmental impact assessment (EIA) is a useful tool for promoting sustainable development because it includes many components that can help facilitate intragenerational and intergenerational equity. In a case study, environmental impact statements (EISs) for Swedish biofuelled energy plants are analysed to see whether they include components vital to meet intra- and intergenerational equity, such as assessing local and global impacts, use of resources, public influence on project development, and alternative project design. The analysis shows that the environmental aspects of sustainable development on a local level are only partly met by EIA. However, global effects and effects on the management of natural resources are not assessed, excluding aspects that may affect future generations.

Omar F. El-Gayar and Brian D. Fritz (2006) Environmental management information systems (EMIS) is defined as 'organizational-technical systems for systematically obtaining, processing, and making available relevant environmental information available in companies'. Such systems evolved out of a growing need to manage environmental information in response to internal and external pressures such as regulations, consumers, stockholders, and changes in the business environments. The objective of this paper is to serve as a tutorial providing a conceptual overview of EMIS, highlighting organizational and technical issues, as well as research opportunities. In this paper it is suggested that there are significant and relatively untapped research synergies existing between information systems and environmental management for sustainable development at the organizational and technical levels.

Dan Cristian Duran, Luminita Maria Gogan, Alin Artene, Vasile Duran(2015) The sustainable development of society refers to three major components of human existence: economical, ecological and human. The first component is essential, in the sense that the aim of social and economical activity is to satisfy human needs or desires, resulting for the three dimensions of human existence: biological (present in the interactions with the physical, natural environment),

social/collective/collective (as a member of some social groups), rational/psychological/spiritual (induced by internal traits, particular to one human being). The relation between economical growth and the protection of the environment is an essential problem in the approaching sustainable development because the approach of economical growth not only by GDP, without trying a quantification of medium and long term advantages, resulting from environmental protection is only a basic form, unacceptable in sustainable development analysis.

Campion Benjamin Betey and Essel Godfred examined environmental laws and institutions in selected African countries. Through comparative study of EIA laws, procedures and practices, their effects on sustainable development and reduction in poverty are discussed. The study revealed that successful integration of environmental impact assessments into planning and decision-making processes in these countries has not yet been realised, for its application is mostly limited to the project level. However, Africa appears to be on the right footing towards sound environmental protection and resource management, but lack of strong institutions and human resource capacity, rapid population growth, lack of direct investment in project communities, illiteracy and corruption remain the greatest threats to the success of EIA. It recommends that corporate social responsibility, specifying a fixed percentage of profit for local development, be made part of EIAs.

Nicholas A. Ashford and Ralph P.Hall (2011) explored the complex relationship between environmental regulation, innovation, and sustainable development within the context of an increasingly globalizing economy. The economic development, environment, and employment aspects of sustainable development are emphasized. The most crucial problem in achieving sustainability is lock-in or path dependency due to (1) the failure to envision, design, and implement policies that achieve co-optimization, or the mutually reinforcing, of social goals, and (2) entrenched economic and political interests that gain from the present system and advancement of its current trends. The article argues that industrial policy, environmental law and policy, and trade initiatives must be 'opened up' by expanding the practice of multi-purpose policy design, and that these policies must be integrated as well.

N. Mohan Das Gandhi, V. Selladurai, P. Santhi (2006) provided a conceptual framework, named the Four Forces model for diagnosing the process of sustainable development. Michael Porter's Five Forces model serves as a starting-point to derive the Four Forces model. These five major components are related based on cause and effect. The paper reveals that a clear understanding of the transformation process and their integration is necessary for successful implementation of sustainable development projects, as the transformation is a continuous

process. The Four Forces model is generic and contributes towards a richer understanding of the sustainable development process.

Jayanta Deb Mondol, Nikos Koumpetsos (2013) studied the current status of the electrical energy market, energy legislation, greenhouse gas emissions, energy consumption trends and future prospects of sustainable development in Greece. The study described current issues relevant to the renewable energy sources (RES) such as the climatic factors that affect the penetration of RES into the Greek energy mix, the current regulation status, the barriers and evaluation of their contribution in the energy balance. The study also investigated the increasing power demand, emissions and energy trends in the residential sector in Greece. The paper evaluated the current status of the building stock, RES and the future energy related prospects of the Aegean Sea islands. The study will help to propose action plans and implementation strategies in terms of residential renewable energy applications in non-grid interconnected islands in Greece.

A. Diduck (1999) suggested that critical education may form part of the solution. Critical environmental assessment (EA) education, the model explored in this paper, offers a tool for resource and environmental managers to use in managing public involvement processes. This model challenges current patterns of resource use and addresses criticisms of public involvement processes. Critical EA education, involving both cognitive development and personal empowerment, focuses on critical intelligence, problem solving and social action. The concept is offered as a means to facilitate and improve public involvement and, thereby, empower local communities to take greater control of resource use decisions affecting their lives. Positive implications of critical EA education for change, complexity, uncertainty and conflict, which are four enduring themes in resource and environmental management, are discussed in the paper.

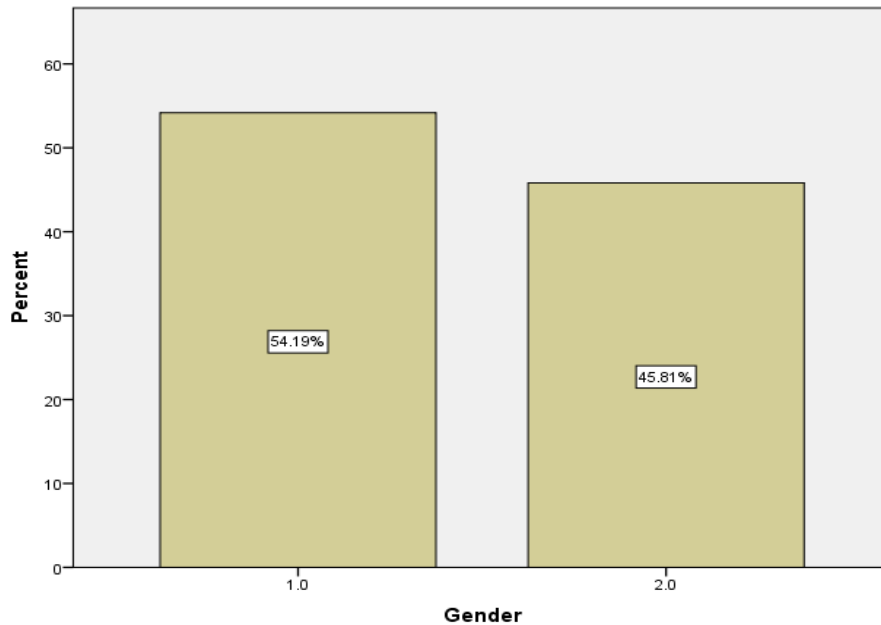
(C)Methodology:

The research method used here is descriptive in nature. The research sampling has been conducted using convenience sampling and the total number of samples used for analysis is 202. The research collected information from relevant samples through a questionnaire. The Independent variables utilised in this study are age, gender, occupation, educational qualifications and marital status of the respondent. The dependent variables in this study are environmental laws to promote sustainable resources, contribution of environmental laws in preventing pollution, focus on biodiversity conservation in environmental law is beneficial for long term resource sustainability, awareness on international collaborations and treaties aimed

at influencing environmental laws for resource management and ratings on the effectiveness of environmental liability laws. The tools used for analysis are bar graphs through SPSS.

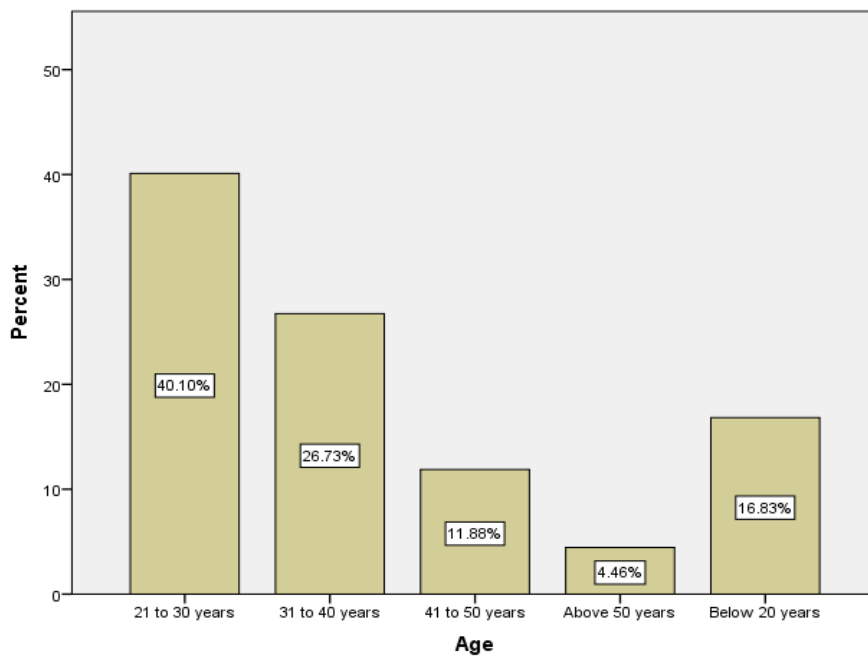
II. ANALYSIS

Figure: 1



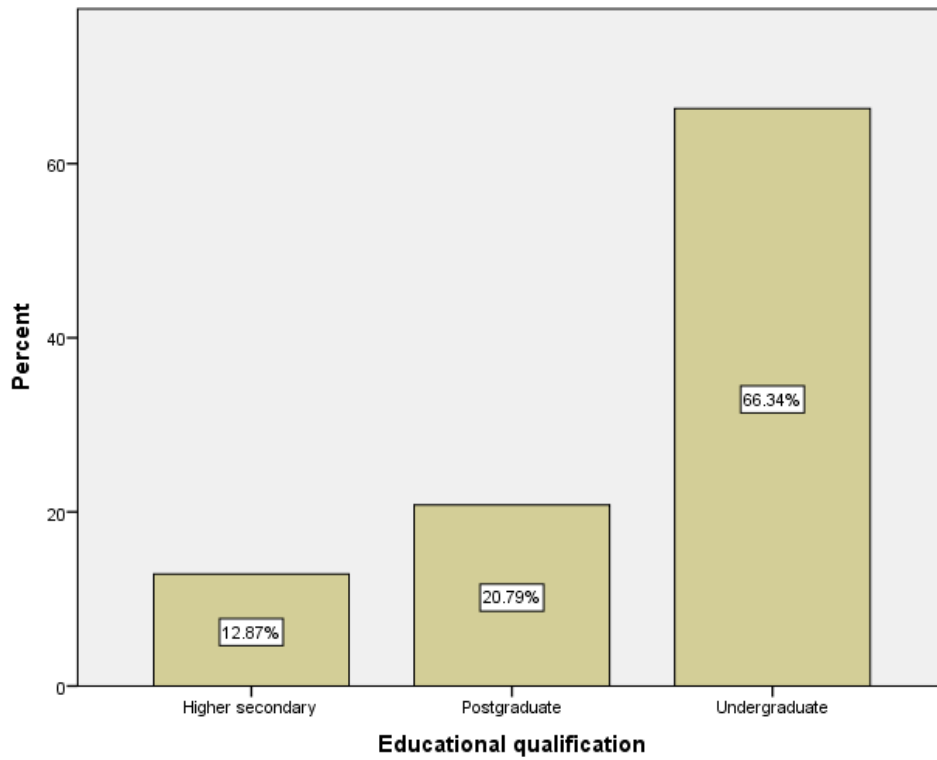
Legend: FIG 1 shows the gender distribution of the respondents

Figure: 2



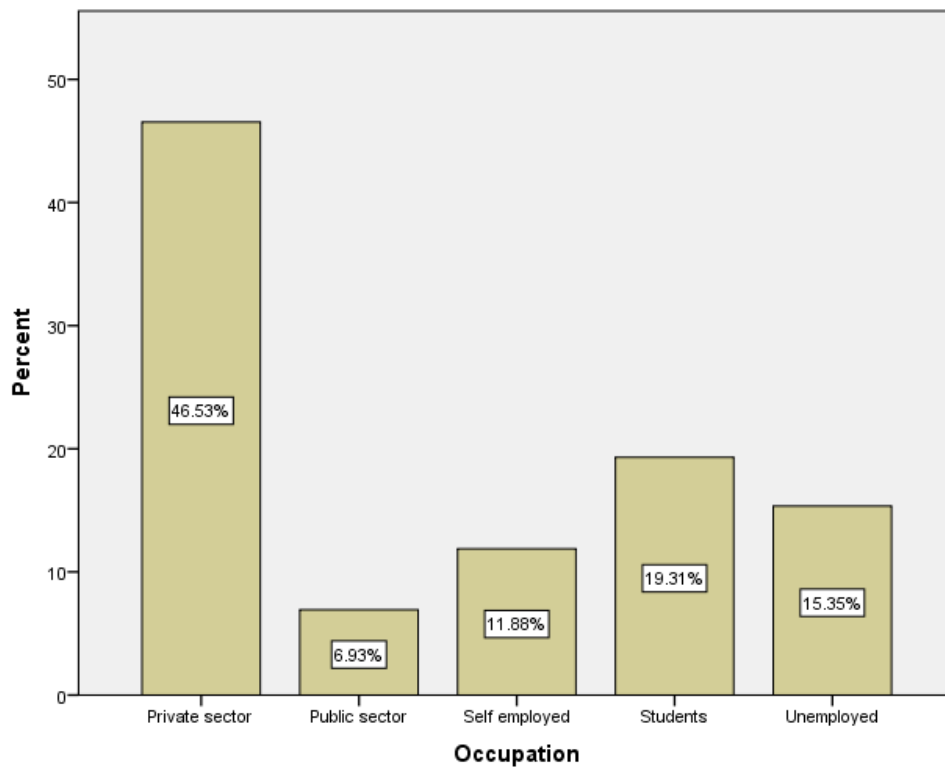
Legend: Fig 2 shows the age distribution of the respondents

Figure: 3



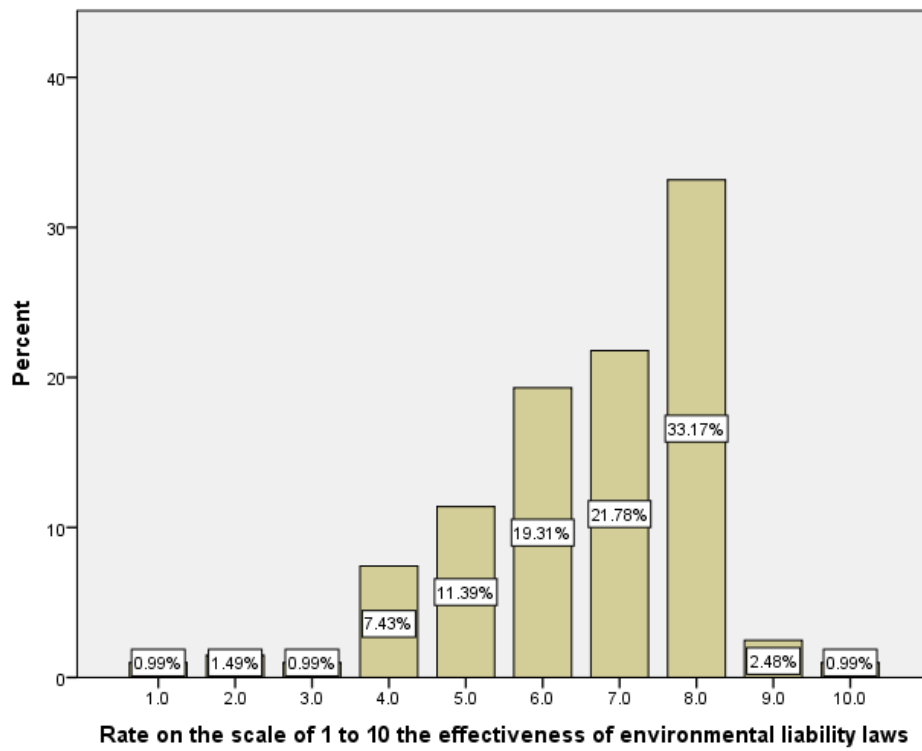
Legend: Fig 3 shows the educational qualification of the respondents

Figure: 4



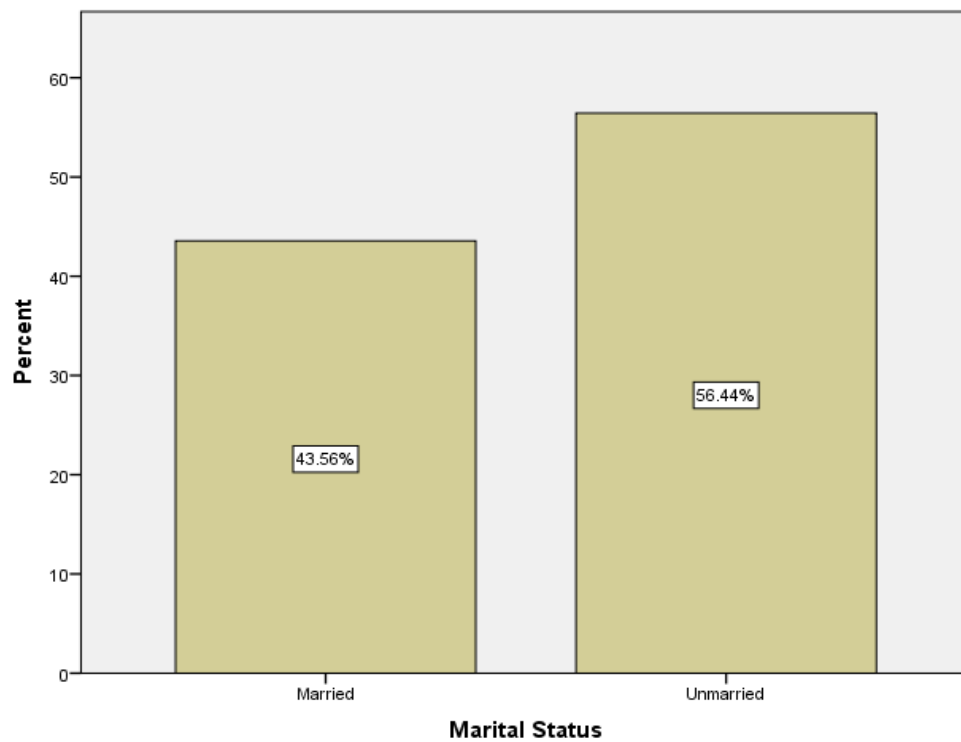
Legend: Fig 4 shows the occupation of the respondents

Figure: 5



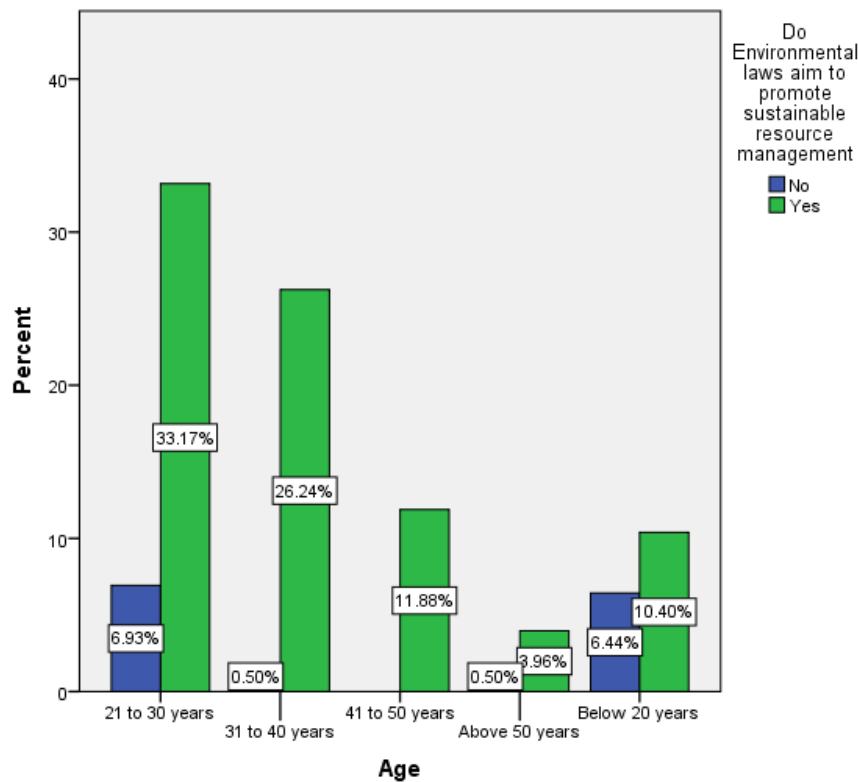
Legend: Fig 5 shows the ratings on the effectiveness of environmental liability laws

Figure: 6



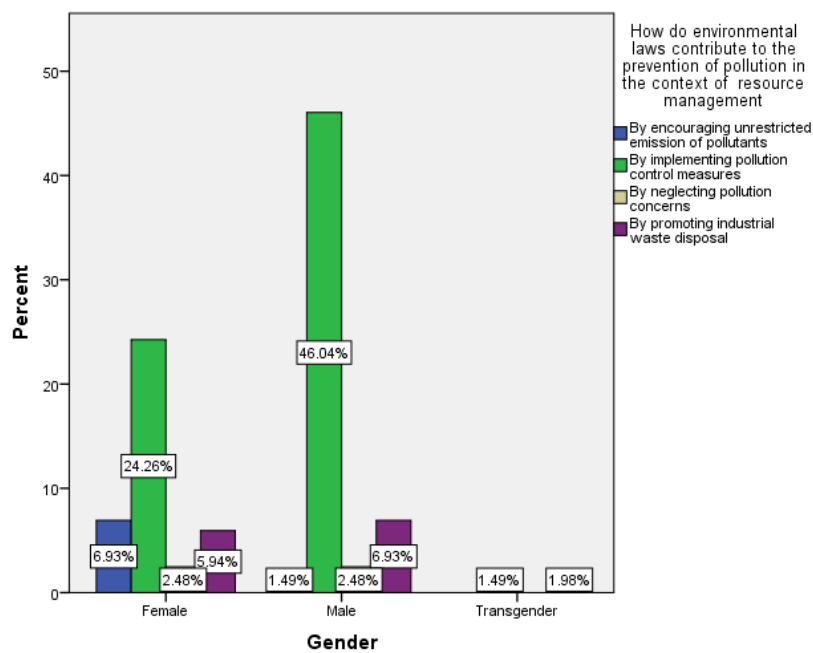
Legend: Fig 6 shows the marital status of the respondents.

Figure: 7



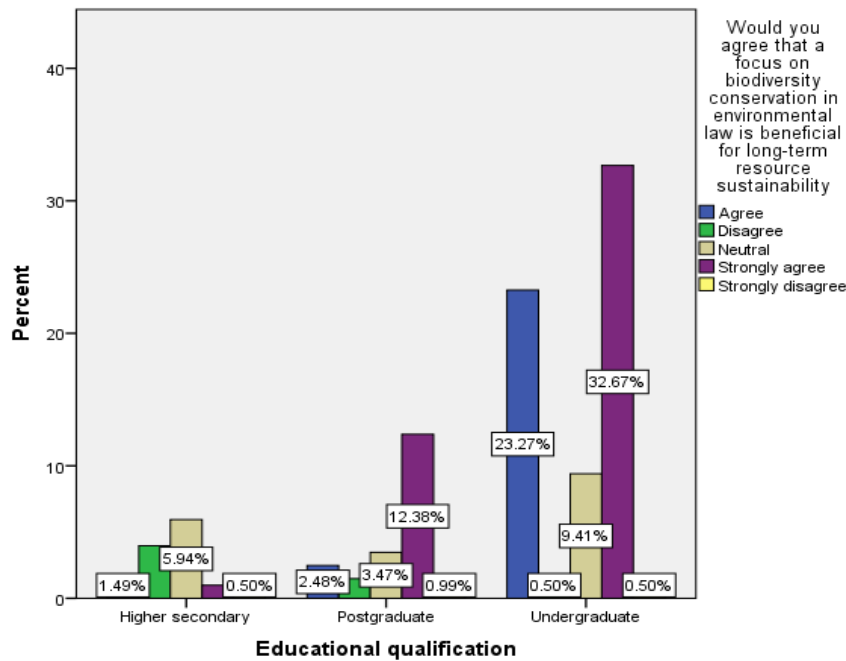
Legend: Fig 7 shows the age of the respondents and their opinion on whether environmental laws aim to promote sustainable resource management

Figure: 8



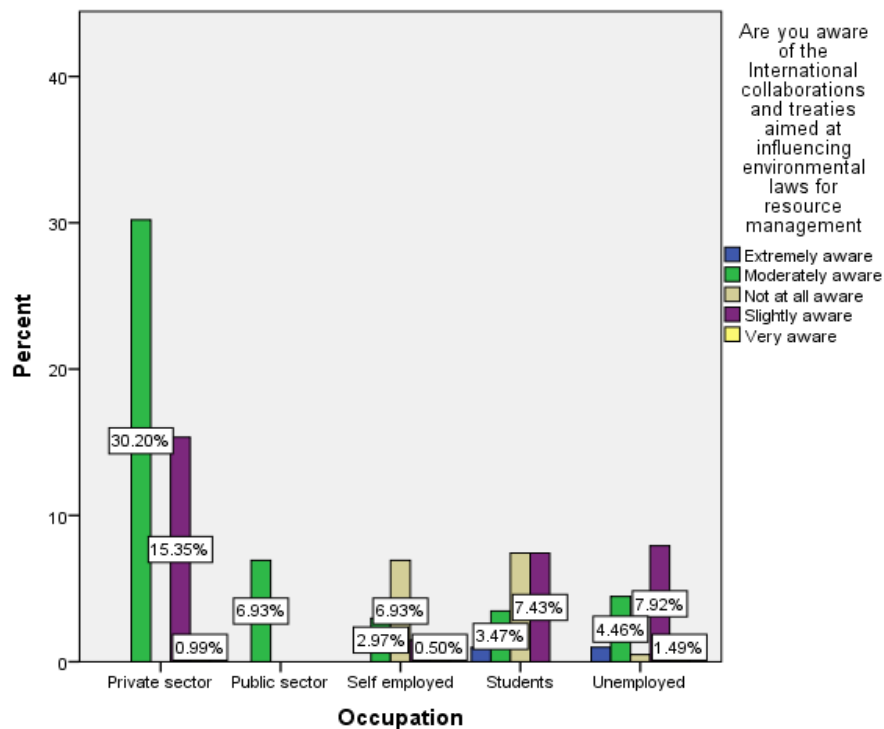
Legend: Fig 8 shows gender of the respondents and their opinion on contribution of environmental laws in preventing pollution

Figure: 9



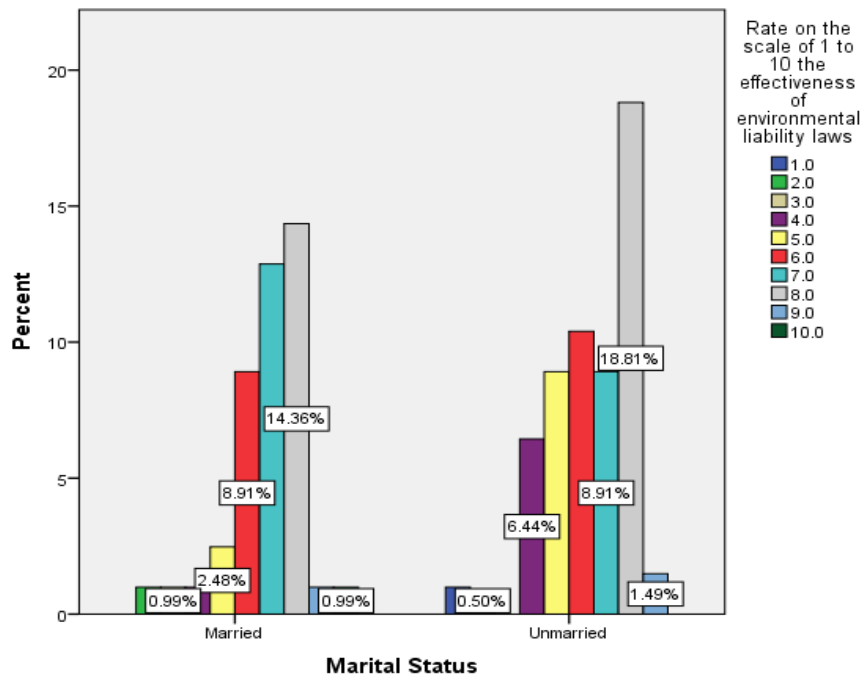
Legend : Fig 9 shows educational qualification of the respondents and their agreeability on whether focussing on biodiversity conservation in environmental law is beneficial

Figure: 10



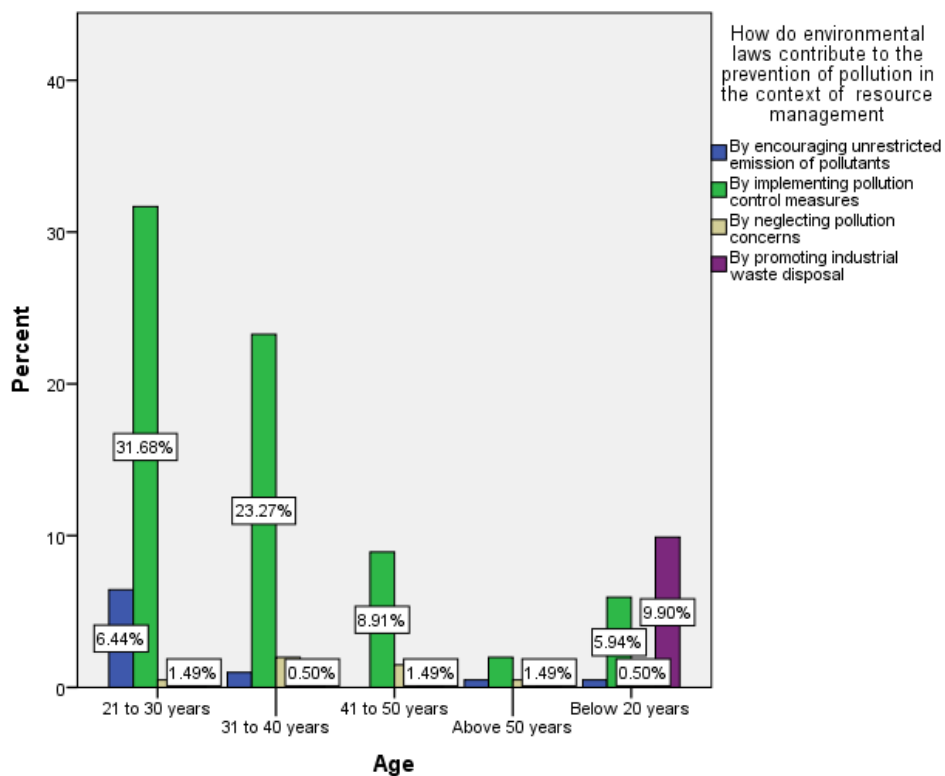
Legend : Fig 10 shows occupation of the respondents and their awareness about international collaboration and treaties aimed at influencing environment laws

Figure: 11



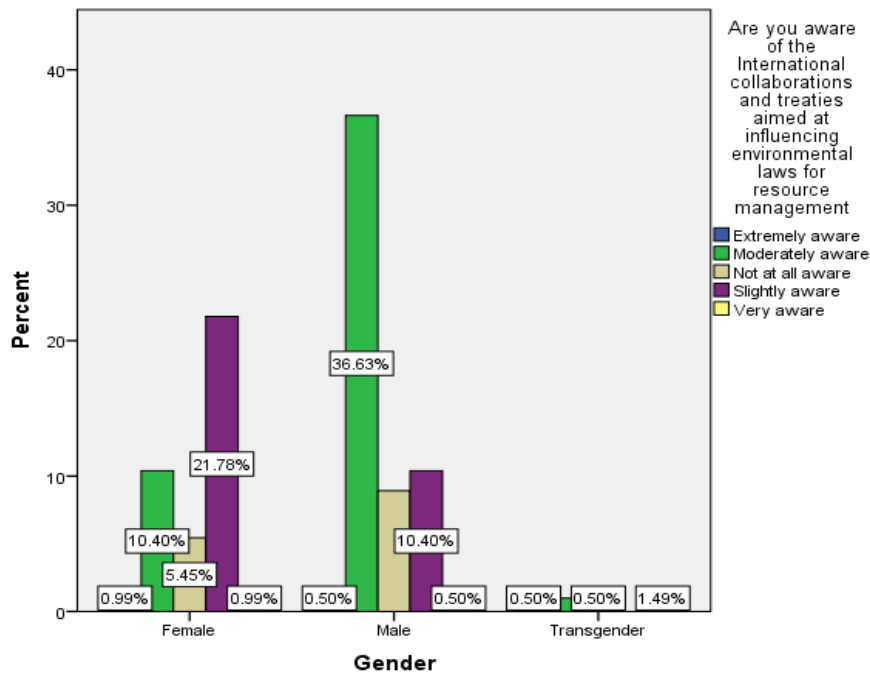
Legend: Fig 11 shows marital status of the respondents and their ratings on the effectiveness of environmental liability laws

Figure: 12



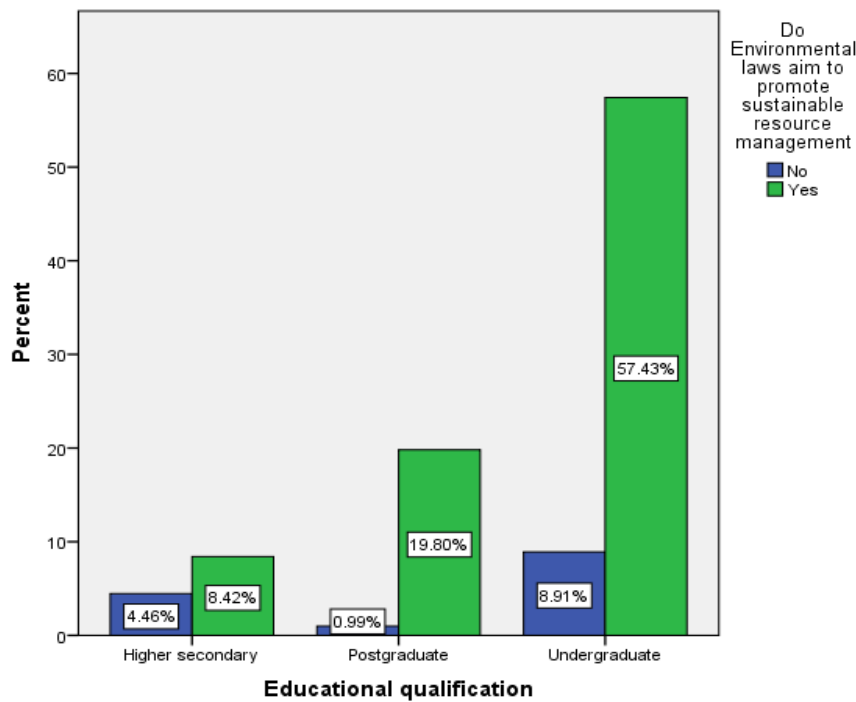
Legend: Fig 12 shows age of the respondents and their opinion on contribution of environmental laws in preventing pollution

Figure: 13



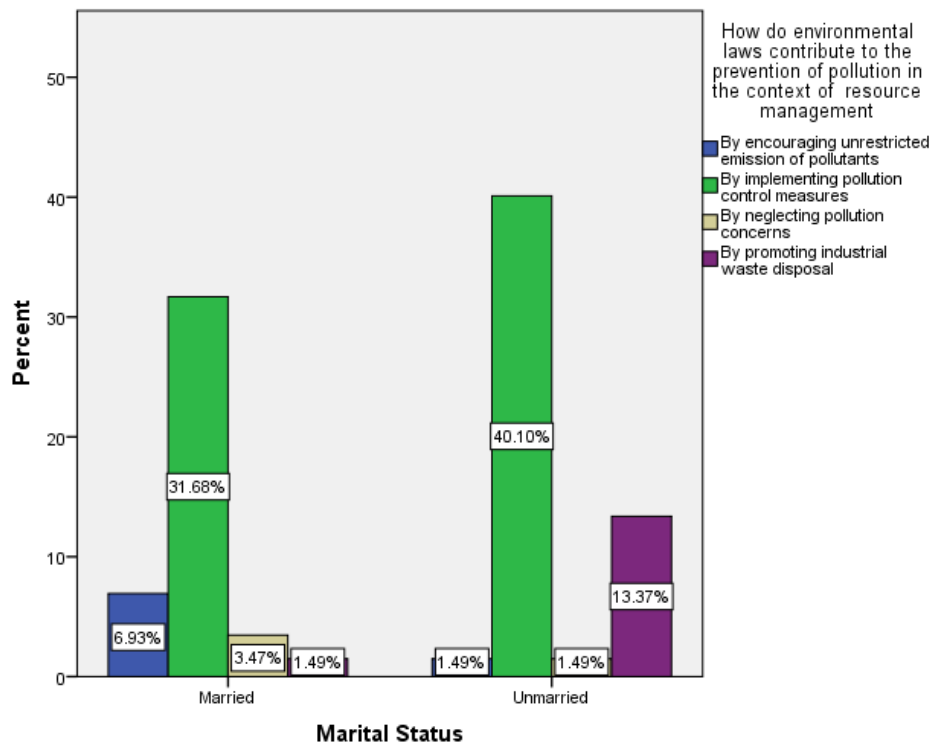
Legend: Fig 13 shows gender of the respondents and their awareness about international collaboration and treaties aimed at influencing environmental laws

Figure: 14



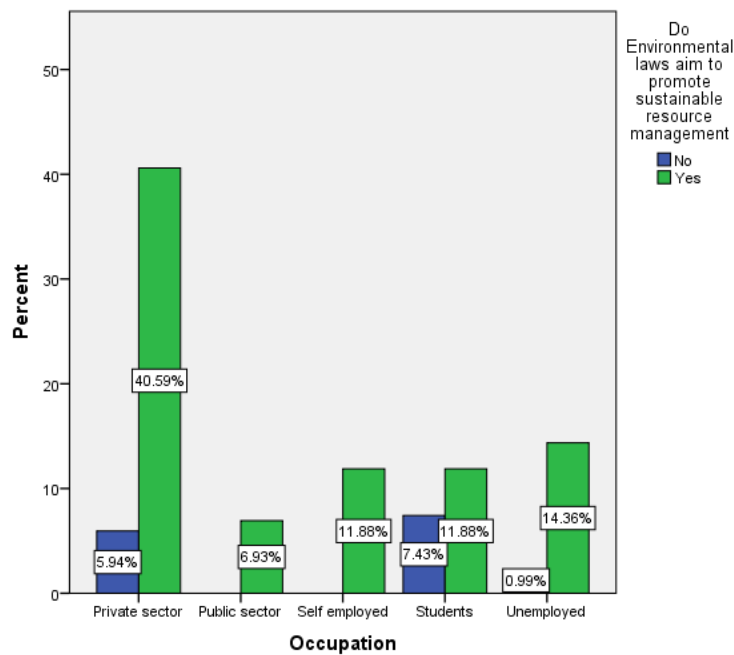
Legend: Fig 14 shows educational qualification of the respondents and their opinion on whether environmental laws aim to promote sustainable resource management

Figure: 15



Legend: Fig 15 shows the marital status of the respondents and their opinion on contribution of environmental laws in preventing pollution

Figure: 16



Legend: Fig 16 shows occupation of the respondents and their opinion on whether environmental laws aim to promote sustainable resource management

III. RESULTS

FIG 1 : 54.19% of the respondents were male and 45.81% of the respondents were female.

FIG 2 : 40.10% of the respondents were of the age group 21 to 30 years, 26.73% of the respondents were 31 to 40 years, 11.88% of the respondents were 41 to 50 years , 4.46% of the respondents were above 50 years and 16.83 of the respondents were below 20 years.

FIG 3 : 12.87% of the respondents were higher secondary students, 20.79% of the respondents were postgraduates and 66.34% of the respondents were undergraduates.

FIG 4 :46.53% of the respondents were from the private sector, 6.93% of the respondents were from the public sector, 11.88% of the respondents were self-employed, 19.31% of the respondents were students and 15.35% of the respondents were unemployed.

FIG 5 : 0.99% of the respondents rated 1, 1.49% of the respondents rated 2, 0.99% of the respondents rated 3 , 7.43%, 11.39%, 19.31%, 21.78%, 33.17%, 2.48% and 0.99% of the respondents rated 4,5,6,7,8,9 and 10 respectively for the effectiveness of environmental liability laws.

FIG 6 : 43.56% of the respondents were married and 56.44% of the respondents were unmarried

FIG 7 : In 21 to 30 years category 6.93% and 33.17% of the respondents chose no and yes. In the 31 to 40 years 0.50% and 26.24% of the respondents chose no and yes respectively, in the 41 to 50 years category 11.88% of the respondents chose yes, in the above 50 years category 0.50% and 3.96% of them chose no and yes respectively and in the below 20 years category 6.44% and 10.40% of the respondents choose no and yes respectively for the question do environmental laws aim to promote sustainable resource management.

FIG 8 : In the female category 6.93%, 24.26%, 2.48% and 5.94% of the respondents and in the male category 1.49% , 46.04%, 2.48% and 6.93% of the respondents chose by encouraging unrestricted emission of pollutants, by implementing pollution control measures, by neglecting pollution concerns and by promoting industrial waste disposal and in the transgender category 1.49% and 1.98% of the respondents chose by implementing pollution concerns and by promoting industrial waste disposal respectively for the question how do environmental laws contribute to the prevention of pollution in the context of resource management

FIG 9 : In the higher secondary category 1.49%, 5.94% and 0.50% of the respondents chose agree, neutral and strongly disagree respectively, in the postgraduate category 2.48%, 3.47%, 12.38% and 0.99% of the respondents chose agree, neutral, strongly agree and strongly disagree respectively and in the undergraduate category 23.27%, 0.50%, 9.41%, 32.67% and 0.50% of

the respondents chose agree, disagree, neutral, strongly agree and strongly disagree respectively

FIG 10 : In the private sector category 30.20% , 15.35% and 0.99% of the respondents shows moderately aware , slightly aware and very aware respectively, in public sector category 6.93% of the respondents chose moderately aware , in self employed category 2.97%, 6.93% of the respondents chose moderately aware and not at all aware respectively, in the students category 3.47% and 7.43% of the respondents chose moderately aware and slightly aware respectively and in the unemployed category 4.46%, 7.92%, 1.49% of the respondents chose moderately aware, slightly aware and very aware respectively when asked about the awareness about international collaboration and treaties aimed at influencing environmental laws for resource management

FIG 11 : In the married category 0.99%, 2.48%, 8.91%, 14.36% and 0.99% of the respondents rated 3, 5, 6, 8 and 9 respectively and in the unmarried category 0.50%, 6.44%, 8.91%, 18.81% and 1.49% of the respondents rated 2, 4, 7, 8 and 9 respectively for the effectiveness of environmental liability laws

FIG 12 : Of the total respondents 31.68% who were 21 to 30 years, 23.27% who were 31 to 40 years, 8.91% who were 41 to 50 years and 5.94% who were below 20 years chose by implementing pollution control measures, 6.44% of the respondents who were 21 to 30 years chose by encouraging unrestricted emission of pollutants and 9.90% of the respondents who were below 20 years chose by promoting industrial waste disposal for the question how do environmental laws contribute to the prevention of pollution in the context of resource management

FIG 13 : 0.99%, 0.50% and 0.50% of the respondents who were female, male and transgender respectively chose extremely aware, 10.40% and 36.63% of the respondents who were female and male respectively chose moderately aware, 5.45% of the respondents who were female chose not at all aware , 21.78%, 10.40% and 0.50% of the respondents who were female, male and transgender respectively chose slightly aware, 0.99%, 0.50% of the respondents who were female and male respectively chose very aware about international collaboration and treaties aimed at influencing environmental laws for resource management

FIG 14 : In the higher secondary students category 4.46% and 8.42% , in the postgraduate category 0.99% and 19.80% and in the undergraduate category 8.91% and 57.43% of the respondents chose no and yes respectively for the question whether environmental laws aim to promote sustainable resource management

FIG 15 : In the married category 6.93%, 31.68%, 3.47% and 1.49% , in the unmarried category

1.49%, 40.10%, 1.49% and 13.37% of the respondents chose by encouraging unrestricted emission of pollutants, by implementing pollution control measures, by neglecting pollution concerns and by promoting industrial waste disposal respectively for the question how do environmental laws contribute to the prevention of pollution in the context of resource management

FIG 16 : 40.59%, 6.93%, 11.88%,11.88% and 14.36% of the respondents who were private employees, public employees, self employed, students and unemployed chose yes , 5.94% and 7.43% of the respondents who were private employees and students chose no for the question whether environmental laws aim to promote sustainable resource management

IV. DISCUSSION

Figure:1.The data reveals that 54.19% of respondents were male, while 45.81% were female.This distribution highlights a slight majority of male respondents in the survey sample, potentially reflecting differences in participation rates or societal factors influencing survey engagement among different genders.

Figure:2.The age distribution shows that the highest percentage of respondents (40.10%) falls within the 21 to 30 years age group.It also highlights significant representation from other age groups, with notable percentages in the 31 to 40 years group (26.73%).The data suggests a diverse age range among respondents, indicating broad interest and engagement in environmental issues across different age demographics.

Figure:3.A majority of respondents (66.34%) are undergraduates, indicating a strong presence of students in the survey sample.Postgraduates represent 20.79% of respondents, while higher secondary students account for 12.87%.The distribution reflects varying levels of educational attainment among respondents, which could influence their understanding and perspectives on environmental matters.

Figure:4.The data reveals that the largest proportion of respondents (46.53%) are from the private sector, followed by students (19.31%). This distribution indicates the involvement of individuals from different occupational backgrounds in the survey, with private sector employees being the most represented group.

Figure:5.The figure illustrates the distribution of respondent ratings for the effectiveness of environmental liability laws.Ratings range from 1 to 10, reflecting varying degrees of satisfaction or dissatisfaction with existing laws addressing environmental liability.

Figure:6. The data shows that 43.56% of respondents are married, while 56.44% are

unmarried. This distribution provides insights into the marital status of respondents, which could influence their perspectives and priorities regarding environmental issues.

Figure:7. The figure presents the responses of different age groups regarding whether environmental laws aim to promote sustainable resource management. It highlights variations in perceptions across age demographics, indicating differing levels of awareness or understanding regarding the goals of environmental regulations.

Figure:8. This figure shows the responses of male and female respondents regarding how environmental laws contribute to the prevention of pollution. It reveals differences in perceptions between genders, suggesting potential disparities in environmental awareness and attitudes towards pollution prevention measures.

Figure:9. The figure displays responses from respondents of different educational backgrounds regarding their agreement with environmental laws' effectiveness. It demonstrates varying levels of agreement or disagreement among respondents based on their educational attainment, indicating potential differences in understanding or perceptions of environmental issues.

Figure:10. This figure illustrates respondents' awareness levels about international collaboration and treaties influencing environmental laws, segmented by occupational status. It reveals differences in awareness levels across various occupational groups, highlighting the need for targeted educational initiatives or information dissemination strategies to enhance understanding of global environmental issues.

Figure:11. The data presents respondents' ratings for the effectiveness of environmental liability laws, categorized by marital status. It showcases variations in perceptions between married and unmarried respondents, indicating potential differences in experiences or priorities regarding environmental regulations.

Figure:12. This figure displays responses from different age groups regarding how environmental laws contribute to pollution prevention. It highlights the distribution of opinions across age demographics, offering insights into generational perspectives on environmental regulations and pollution prevention measures.

Figure:13. The figure illustrates respondents' awareness levels about international collaboration and treaties influencing environmental laws, segmented by gender. It showcases potential differences in awareness levels between male, female, and transgender respondents, reflecting varying levels of engagement or exposure to global environmental issues.

Figure:14. This figure presents respondents' perceptions of whether environmental laws aim to

promote sustainable resource management, categorized by educational background. It highlights differences in perceptions across educational levels, suggesting varying degrees of understanding or engagement with the broader goals of environmental regulations.

Figure:15. The data displays respondents' opinions regarding how environmental laws contribute to pollution prevention, segmented by marital status. It offers insights into differences in perceptions between married and unmarried respondents regarding the effectiveness of environmental regulations in addressing pollution issues.

Figure:16. This figure presents responses from different occupational groups regarding whether environmental laws aim to promote sustainable resource management. It highlights variations in perceptions across occupational statuses, indicating differing levels of awareness or alignment with the goals of environmental regulations among different workforce segments.

V. LIMITATIONS OF THE STUDY

Convenient sampling method has been used in this study.

VI. CONCLUSION

In conclusion, this study underscores the significant role of environmental laws in fostering sustainable management of resources. Through comprehensive analysis and examination of pertinent legislation, it is evident that environmental laws serve as crucial frameworks for guiding responsible resource utilization, conservation, and protection. The implementation and enforcement of these laws are essential for mitigating environmental degradation, promoting sustainable practices, and safeguarding ecosystems for present and future generations. However, challenges such as regulatory compliance, enforcement effectiveness, and stakeholder engagement remain pertinent. Moving forward, collaborative efforts between policymakers, stakeholders, and communities are imperative to address these challenges and ensure the continued effectiveness of environmental laws in achieving sustainable resource management objectives.

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