The New Environmental Paradigm Based on Demography Characteristic of Dayak Paramasan Tribe

Dyah Febria Wardhani[1*], Deasy Arisanty[2], Agung Nugroho[3], Umi Baroroh Lili Utami[4]

[1]Doctoral Program of Environmental Science, Lambung Mangkurat University, Indonesia
[2]College of Arts and Sciences, Lambung Mangkurat University, Indonesia
[3]Department of Agricultural Industrial Technology, Lambung Mangkurat University, Indonesia
[4]Chemistry Department, Mathematics and Natural Science, Lambung Mangkurat University, Indonesia
{2241213320070@mhs.ulm.ac.id[1]}

Abstract. The purpose of this research is to analyze the new environmental paradigm of the Dayak Paramasan tribe, South Kalimantan, Indonesia. The novelty and uniqueness of my study is that it is the first research conducted and published regarding the new environmental paradigm of the Paramasan Dayak tribe, which is one of the Dayak tribes on the island of Kalimantan. The data were collected using questionnaires distributed to a total of 300 respondents. They live on Paramasan District. The data collection was carried out from May 2023 to July 2023 and analyzed using Structural Equation Modeling (SEM). The results showed that there was a positive correlation between education, income and the number of children in the new environmental paradigm of the Paramasan Dayak tribe. The Dayak Paramasan's adoption of this new environmental paradigm highlights their commitment to balancing cultural heritage with modern ecological concerns, showcasing their ability to adapt and evolve in response to changing global dynamics. further research into the implementation and long-term effects of this paradigm shift could provide valuable insights for both indigenous communities and broader society in fostering environmentally conscious practices.

Keywords: Social Demography; NEP; Dayak Tribe; Local Wisdom; Environment.

1. Introduction

The New Environmental Paradigm (NEP) is a concept that measures human concern for the environment. It has been used in various countries, including South Korea, Taiwan, Indonesia, Germany, and China. Studies have shown that there are significant differences in NEP scores among these countries, indicating variations in perceptions of natural environmental conservation and utilization (1). Additionally, research has a difference between NEP scales and economic differences, such as altruism and positive reciprocity, suggesting that economic factors can influence environmentally relevant behaviour (2). Personality and value orientation have been identified as factors that can affect students' adoption of the NEP, highlighting the importance of these variables in shaping environmental paradigms (3). In China, scholars have revised and validated the NEP scale to develop a measurement tool applicable to Chinese characteristics, emphasizing the need for cultural adaptation the NEP (4). Overall, the NEP plays a crucial role in understanding individuals' attitudes and behaviors towards the environment, and its application extends to various contexts

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and populations.

The New Environmental Paradigm (NEP) scale has been widely used to quantify environmental attitudes and behaviors. However, there are concerns about the limitations of this scale. It is argued that the NEP scale conflates a limited set of environmental attitudes with pro-environmental worldviews in general (5). This conflation can be problematic both theoretically and pragmatically. To better explain the diversity of contemporary environmentalism, three dimensions are suggested: view of technology, view of societal response, and view of nature (6). While quantitative scales can be used to engender individual and community empowerment, it is important to reassess and refine these scales rather than rejecting them altogether (7).

The New Environmental Paradigm (NEP) is being implemented in Indonesia through various approaches. One approach is the involvement of local communities in forest management, particularly in state forest areas and customary forests (8). This paradigm shift aims to improve forest management, maintain biodiversity, and protect endangered species and their habitats. Additionally, community-based ecotourism has been widely implemented around national parks, empowering local communities and providing economic benefits (9). Another implementation of NEP is seen in waste management, where a new paradigm for solid waste management is being proposed, focusing on waste-to-energy technology and waste-entrepreneurship (10). These initiatives aim to address the negative impacts of waste management on the environment and surrounding communities while providing economic opportunities. Overall, of implementing NEP in Indonesia involves community involvement, sustainable forest management, and innovative waste management strategies (11,12).

Previous researchers have conducted studies on the New Environmental Paradigm (NEP) and its measurement. One study proposed a form short-form measure called the brief ecological paradigm (BEP) scale as an alternative to the NEP scale (11). Another study examined the relationship between environmental attitudes measured by the NEP and nature-based tourism motivations, finding a positive correlation between the two(13). Additionally, research has explored the effect of the NEP on students' environmental sensitivity and responsible environmental behaviour, suggesting that the NEP has a significant impact on these outcomes (7,9). These studies contribute to our understanding of the NEP and its implications for environmental attitudes and behaviors.

Previous findings about the New Environmental Paradigm (NEP) have some areas for improvement. One weakness is that the dimensionality of the NEP scale has been inconsistent across different studies. Some studies have not confirmed the previous configurations of the scale's dimensionality (11). Weakness is that the scale's dimensionality has varied across different settings, indicating a lack of stability (14). Additionally, some studies have found high and significant covariances between pro-NEP and pro-Human Exception Paradigm (HEP) factors, suggesting that participants do not see the two paradigms as mutually exclusive (15). This challenges the assumption that the NEP and HEP are distinct and opposing paradigms (16). These weaknesses highlight the need for further research to better understand the dimensionality and conceptualization of the NEP and its relationship with other paradigms (17).

The novelty and uniqueness of our study is that it is the first research conducted and published regarding the new environmental paradigm of the Paramasan Dayak

tribe, which is one of the Dayak tribes on the island of Kalimantan. The tribes in Indonesia have developed new ecological paradigms based on their traditional knowledge and wisdom. These paradigms emphasize sustainable use and management of natural resources and the preservation of cultural values and ethics (18). The indigenous rights movement in Indonesia has played a significant role in promoting these paradigms and advocating for the revitalization of customary communities and their traditional systems of social organization (19). The changing political and administrative landscape, along with international factors, has contributed to the emergence of this movement (20). Additionally, the rise of environmental regulation in Indonesian policy making has also influenced the tribes' environmental paradigms, as mounting evidence of the economic and social costs of environmental degradation has led to a greater focus on environmental issues (21). The traditional agricultural practices of tribes, such as the Wamena Tribe, have demonstrated the integration of local wisdom and sustainable development principles, showcasing environmentally friendly agrarian activities (22). The purpose of this research is to analyze the new environmental paradigm of the Dayak Paramasan tribe, in South Kalimantan, Indonesia.

2. Material and Method

2.1 Research Location

This research was conducted in Paramasan which is located at 3.1131° South Latitude, 115.3644° East Longitude. The Paramasan Dayak tribe is a community in Banjar Regency, South Kalimantan, Indonesia, wich has cultural practices and ceremonies unique to their tribe, such as the *Babalai* Ceremony, which involves the use of Dayak Tribal mantras (23). The study location map is shown in Figure 1.

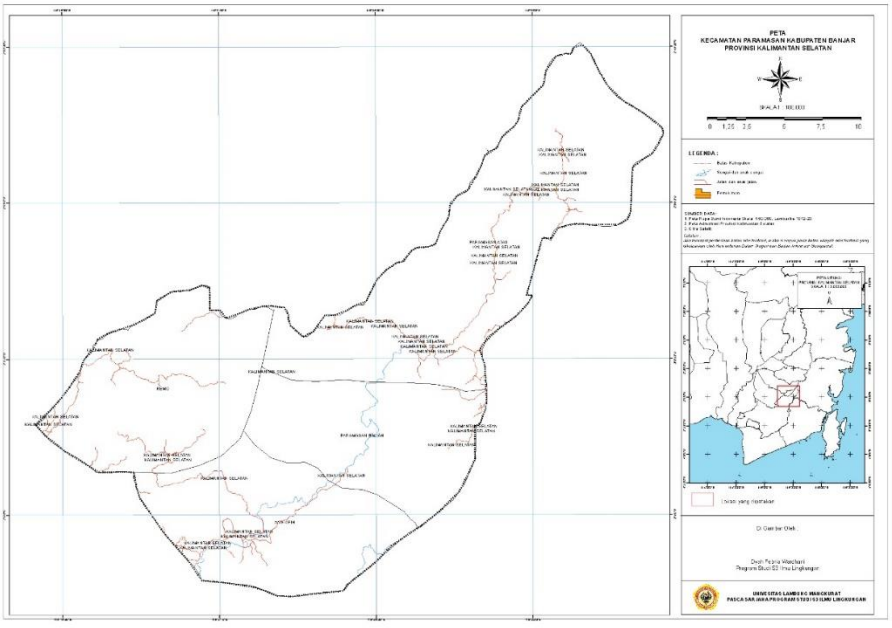

Figure 1. Map of the Research Location

2.2 Data Collection

The data were collected using questionnaires distributed to a total of 300 respondents. They live on Paramasan District. The study was conducted between May 2023 to July 2023. The variables used to analyze the new environmental paradigm of the Dayak Paramasan tribe are demographics related to education, income and number of children. We asked questions on the questionnaire. A description of the sample is provided in Table 1.

Table 1. Profile of Sample

Profile of Sample		Frequency	Percent
Village	Angkipih	62	20,67%
	Paramasan Atas	52	17,33%
	Paramasan Bawah	186	62,00%
Gender	Male	177	59,00%
	Female	123	41,00%
Age	18-30	85	28,33%
	31-40	60	20,00%
	41-55	85	28,33%
	56-65	42	14,00%
	65-70	16	05,33%
	>70	12	04,00%
Education	Not attending school	171	57,00%
	Kindergarten	5	01,67%
	Elementry School	85	28,33%
	Junior High School	16	05,33%
	Senior High School	20	06,67%
	Bachelor	3	01,00%
	Post Graduate	0	00,00%
Income	Under Rp. 500.000	123	41,00%
	500.000-1 million	116	38,67%
	1 million - 2 million	38	12,67%
	2 million - 4 million	21	07,00%
	4 million - 7 million	1	0,330%
	More than 7 million	1	0,330%
Work	Civil servant	0	00,00%
	Private sector employee	5	1,670%
	Self-employed	2	0,670%
	Doesn't work	3	01,00%
	Homeworker	8	02,67%
	Student	3	01,00%
	Farmer	279	93,00%
Position in Society	Traditional Figures	38	12,67%
	Indigenous Community	262	87,33%
Marital Status	Single	19	06,33%
	Marry	264	88,00%
	Divorced	6	02,00%
	Widow / Widower	11	03,67%
Number of Children	0	26	08,67%
	1	65	21,67%
	2	88	29,33%
	3	51	17,00%
	>3	70	23,33%

2.3 Data Analysis

The NEP scales used in this study consisted of 9 items and was based on the revised version presented (24). The 9 items employed a Likert scale (1-5, strongly disagree-

strongly agree). The details of the questions based on variables and indicators are in Table 2. A description of the sample is provided in Table 2.

Table 2. List of Questions based on Variables and Indicators

Variables	Indicator	No	A list of questions
Demography	Education	D2	The highest education of the respondent
	Income	D4	Total income of respondents in a month
	Number of children	D8	Number of respondent's children
NEP	Reality of limits to growth	P1	Human has the right to modify the natural environment to suit his needs
		P2	When humans destroy nature it can cause disaster
	Anti-anthropocentrism	P3	Earth has many natural resources, if we learn how to use them
	Rejection of exceptionalism	P4	News about environmental damage is exaggerated
		P5	Earth has very limited space and resources
		P6	Human existence is to rule over all nature
		P7	The balance of nature is very small and easily disturbed
	Possibility of an eco-crisis	P8	Humans will only learn about how nature works and controls its balance
		P9	Continuous environmental damage as it is now will cause various natural disasters

The data were analyzed using Structural Equation Modeling (SEM). Factors loading was used to assess discriminant validity, where only items with factors that outperformed 0.50 would remain in the mode (25). The hypotheses in this study are Demography (D) has a positive influence in NEP (P).

3. Result and Discussion

3.1 Education in The New Environmental Paradigm

Education for sustainable development and environmental education are important in addressing environmental issues and achieving a paradigm shift in development (26). The New Environmental Paradigm scale has been developed and validated in Western nations. Still, its validity for schoolchildren in non-western countries, such as Senegal, is questionable and requires revision (27). Positive changes in pro-environmental behaviour can be achieved through exposure to environmental degradation and awareness development (28). Higher education institutions play a crucial role in educating for sustainable development, and understanding the demographic factors that influence environmental worldviews can help contextualize sustainability content (29). Ecological education in India has evolved from focusing on environmental issues to education for sustainable development, integrating the principles of sustainable development and addressing the challenges of a sustainable future (30).

3.2 Income in The New Environmental Paradigm

Income in the new environmental paradigm is a topic that is addressed in several of the abstracts. One discusses the need for a new approach to environmental planning in developing countries, taking into account their developmental and income levels, to allow for greater flexibility in adopting and applying policies driven by internal needs and dynamics rather than imposed by international agencies (31). Paper explores the concept of contractarian environmental regulation, which involves regulators agreeing not to enforce certain laws in exchange for regulated entities fulfilling additional obligations. This approach is seen as a response to problems, formal command-and-control regulation's limits, and ecological problems complexity (32). Additionally, a study on the and that meaningful progress in improving environmental performance requires a shift to more proactive, ecological practices of SMEs found that these firms tend to be environmentally reactive rather than proactive. That significant progress in improving environmental performance requires a shift to more proactive model (7).

3.3 Number of Children in The New Environmental Paradigm

Children's ecological beliefs in the new environmental paradigm are influenced by demographics socio-demographic variables, including age, gender, and rural/urban residence (33). Children from rural areas tend to exhibit a more eco-centric worldview compared to those from urban areas (34). Gender differences also play a role in shaping children's ecological beliefs (35). Additionally, the awareness of the consequences of human entanglement in the planet is expected to be felt more strongly by children born in the twenty-first century (36). Factors such as rapid industrialization, urbanization, unsustainable use of natural resources, climate change, loss of biodiversity, and increased use of biotechnologies contribute to the global burden of disease, which is higher for children than adults (37). Therefore, creating healthy environments for children requires an integrated approach involving decision makers, NGOs, families, and various sectors including health, education, housing, environment, agriculture, industry, transport, and energy.

3.4 The Demography Model of the Dayak Paramasan Tribe in New Environmental Paradigm

The demographic model of the Dayak Tribe in the new environmental paradigm is influenced by various factors such as development efforts, gender relations, and environmental change. The Dayak Tribe, known for its well-balanced gender relations, has experienced new asymmetries between men and women due to inclusion in new economic systems (38). Additionally, the Dayak Jalai community in Ketapang Regency utilizes environmental history to reduce disaster risk and increase awareness of environmental sustainability (39).

The Dayak Paramasan community's Demography model in New Environmental Paradigm (NEP) is seen from various aspects, including education, income and number of children. There are around 9 questions regarding demography and NEP to explore demography in NEP. The loading factor value is relatively high, with a value of > 0.5 and Cronbach's Alpha > 0.7. In Table 3, a summary of the measurement model is presented.

Table 3. Summary of measurement models

Construct	Item	Loading Factor	Cronbach's Alpha
Demography	D2	0,808	0,469
	D4	0,620	
	D8	0,629	
New Environmental Paradigm	P1	0,649	0,794
	P2	0,631	
	P3	0,571	
	P6	0,728	
	P7	0,674	
	P8	0,753	
	P9	0,625	

The Demography Model in New Environmental Paradigm in the Dayak Paramasan community is shown in Figure 2.

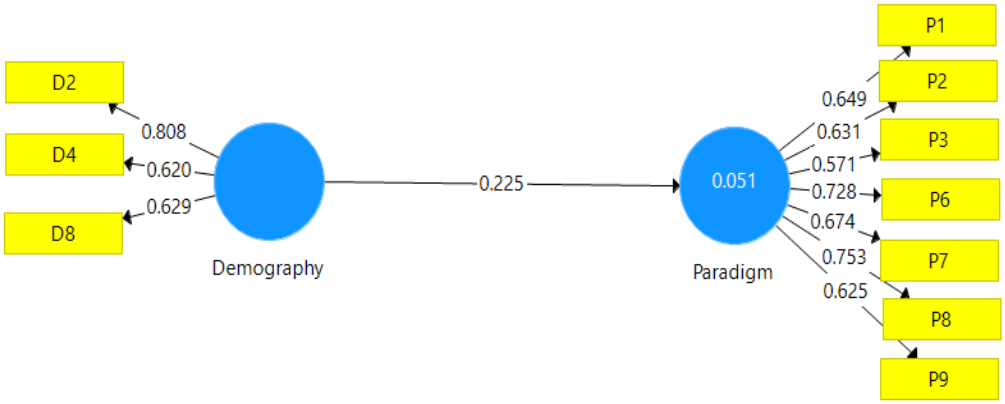

Figure 2. Demography Model in New Environmental Paradigm (Source: Data Processing with SEM)

The demographic correlation value with the new environmental paradigm is 0.225. This shows that the relationship between demographics and NEP is low as seen in Table 4.

Table 4. Correlation between Demography on New Environmental Paradigm

Variable	New Environmental Paradigm
Demography	0.225

The p-value shows <0.05, so the influence between the variables of the New Environmental Paradigm is significant. This shows that education, income and on the number of children have a significant effect on demography compared to other aspects.

The relationship between socio-demographics and the New Environmental Paradigm (NEP) is low because socio-demographic characteristics have been found to have limited usefulness in capturing variations in environmental consciousness (40). While some studies have shown statistically significant linkages between socio-demographic factors and environmental consciousness constructs, such as the presence of green consumers in India (41), other research has found is more thinking and has

found that the NEP is more strongly correlated with cognitive paradigm systems thinking, ecological worldview (42). Factors such be systems thinking, ecological worldview, environmental value-orientation, connectivity to nature, and environmental behaviours be better predictors of the NEP (43). Additionally, socio-demographic factors have been found to influence plant identification knowledge, but the prevailing level of species identification skills and its key drivers remain poorly understood (44). Therefore, while socio-demographics may play a role in shaping environmental consciousness, they may not be the most reliable or comprehensive indicators of the NEP.

Table 5. The Model Summary

Model Summary	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
Demography <- NEP	0,225	0,255	0,039	5,780	**0,000**	Significant

4. Conclusion

For applying the Demography Model within the context of the New Environmental Paradigm represents a vital analytical framework for comprehending the intricate interplay between population dynamics and evolving ecological perspectives. This research has highlighted the model's effectiveness in assessing environmental beliefs influence demographic trends. By shedding light on these connections, our study valuable insights into the complex relationship between human populations and their evolving environmental consciousness. Furthermore, it underscores the significance of considering demography as a critical factor in formulating sustainable environmental policies and practices. As society continues to grapple with ecological challenges, the Demography Model can serve as an invaluable tool for researchers and policymakers alike in developing strategies that promote a more harmonious coexistence between human populations and the natural world.

References

1. Kim D, Avenzora R, Lee J. Exploring the Outdoor Recreational Behavior and New Environmental Paradigm among Urban Forest Visitors in Korea, Taiwan and Indonesia. Vol. 12, Forests. 2021.
2. Ziegler A. New Ecological Paradigm meets behavioral economics: On the relationship between environmental values and economic preferences. J Environ Econ Manage [Internet]. 2021;109:102516. Available from: https://www.sciencedirect.com/science/article/pii/S0095069621000838
3. Puspita ED, Putrawan IM, Miarsyah M. Pengaruh Value Orientation dan Personality terhadap New Environmental Paradigm Siswa. IJEEM - Indones J Environ Educ Manag [Internet]. 2021 Jul 31;6(2 SE-Articles). Available from: https://journal.unj.ac.id/unj/index.php/ijeem/article/view/13839
4. Wang X, Sun Y. Theoretical Exploration of the New Environmental Paradigm Scale in China. E3S Web Conf [Internet]. 2021;251. Available from: https://doi.org/10.1051/e3sconf/202125102078
5. Stahl CH, Cimorelli AJ. Environmental Policy: The Current Paradigm BT -

Environmental Public Policy Making Exposed: A Guide for Decision Makers and Interested Citizens. In: Stahl CH, Cimorelli AJ, editors. Cham: Springer International Publishing; 2020. p. 1–24. Available from: https://doi.org/10.1007/978-3-030-32130-7_1
6. Bernstein J, Szuster BW. The new environmental paradigm scale: Reassessing the operationalization of contemporary environmentalism. J Environ Educ [Internet]. 2019 Mar 4;50(2):73–83. Available from: https://doi.org/10.1080/00958964.2018.1512946
7. Dana DA. The new "Contractarian" paradigm in environmental regulation. In: Environmental Law. Routledge; 2019. p. 139–63.
8. Tasrif A, Taufik M, Nazaruddin N. New Paradigm on Plant Quarantine System for Protection of Biological Diversity in Indonesia. J Perlindungan Tanam Indones Vol 25, No 1 (2021)DO - 1022146/jpti62605 [Internet]. 2021 Jul 24; Available from: https://jurnal.ugm.ac.id/jpti/article/view/62605
9. Islamiati DI, Putrawan IM, Vivanti D. Pengaruh New Environmental Paradigm dan Environmental Sensitivity terhadap Responsible Environmental Behavior Siswa. IJEEM - Indones J Environ Educ Manag [Internet]. 2021 Feb 1;6(1 SE-Articles). Available from: https://journal.unj.ac.id/unj/index.php/ijeem/article/view/9585
10. Indira Anggraini R, Gunawan B. Ecotourism development in National Parks: A new paradigm of forest management in Indonesia. E3S Web Conf [Internet]. 2021;249. Available from: https://doi.org/10.1051/e3sconf/202124903010
11. Ningtyas LD. Pengaruh Naturalistic Intelligence dan New Environmental Paradigm terhadap Environmental Sensitivity. IJEEM - Indones J Environ Educ Manag [Internet]. 2019 Jul 30;4(2 SE-Indonesian Journal of Environmental Education and Management). Available from: https://journal.unj.ac.id/unj/index.php/ijeem/article/view/9580
12. Rosana M. Kebijakan pembangunan berkelanjutan yang berwawasan lingkungan di Indonesia. J Kelola J Ilmu Sos. 2018;1(1).
13. López-Bonilla LM, López-Bonilla JM. From the new environmental paradigm to the brief ecological paradigm: a revised scale in golf tourism. Anatolia [Internet]. 2016 Apr 2;27(2):227–36. Available from: https://doi.org/10.1080/13032917.2015.1100128
14. Corral-Verdugo V, Armendáriz LI. The "New Environmental Paradigm" in a Mexican Community. J Environ Educ [Internet]. 2000 Jan 1;31(3):25–31. Available from: https://doi.org/10.1080/00958960009598642
15. Williamson D, Lynch-Wood G. A new paradigm for SME environmental practice. TQM Mag [Internet]. 2001 Jan 1;13(6):424–33. Available from: https://doi.org/10.1108/EUM0000000006179
16. Marzec P. Environmental Trends and New Paradigm of Management. Int J Synerg Res Vol 5 (2016)DO - 1017951/ijsr201650165 [Internet]. 2017 May 23; Available from: https://journals.umcs.pl/ijsr/article/view/5398
17. Geller JM, Lasley P. The New Environmental Paradigm Scale: A Reexamination. J Environ Educ [Internet]. 1985 Oct 1;17(1):9–12. Available from: https://doi.org/10.1080/00958964.1985.9941393
18. Maria. Local wisdom of indigenous society in managing their customary land: a comparative study on tribes in Indonesia. E3S Web Conf [Internet]. 2018;52.

Available from: https://doi.org/10.1051/e3sconf/20185200023
19. Bettinger K, Fisher M, Miles W. The Art of Contestation and Legitimacy: Environment, Customary Communities, and Activism in Indonesia. In: Occupy the Earth: Global Environmental Movements [Internet]. Emerald Group Publishing Limited; 2014. p. 195–224. (Advances in Sustainability and Environmental Justice; vol. 15). Available from: https://doi.org/10.1108/S2051-503020140000015008
20. Warren C, Elston K. Environmental regulation in Indonesia. University of Western Australia Press/Asia Research Centre on Social …; 1994.
21. Timisela M, Kameo DD, Rupidara NS, Siahainenia R. Traditional farmers of Wamena tribes in Jayapura-Indonesia. J Manaj Hutan Trop. 2020;26(1):34.
22. Shepherd S, Terry A. The Role of Indigenous Communities in Natural Resource Management: The Bajau of the Tukangbesi Archipelago, Indonesia. Geography [Internet]. 2004 Oct 1;89(3):204–13. Available from: https://doi.org/10.1080/00167487.2004.12094098
23. Ramadania F, Arifin J. Cultural semiotic in Dayak's Babalai ceremonial at Paramasan as an form of maintaining Dayak language. SOCIA J Ilmu-Ilmu Sos. 2019 Jun 19;16(1):1–14.
24. Ogunbode CA. The NEP scale: measuring ecological attitudes/worldviews in an African context. Environ Dev Sustain [Internet]. 2013;15(6):1477–94. Available from: https://doi.org/10.1007/s10668-013-9446-0
25. Hair Jr JF, Matthews LM, Matthews RL, Sarstedt M. PLS-SEM or CB-SEM: updated guidelines on which method to use. Int J Multivar Data Anal. 2017;1(2):107–23.
26. Grúňová M, Sané M, Cincera J, Kroufek R, Hejcmanová P. Reliability of the new environmental paradigm for analysing the environmental attitudes of Senegalese pupils in the context of conservation education projects. Environ Educ Res [Internet]. 2019 Feb 1;25(2):211–21. Available from: https://doi.org/10.1080/13504622.2018.1428942
27. Khan D. Sustainable learning a new paradigm in environmental education: a study to facilitate awareness among the school children in some selected schools in Nadia district, West Bengal, India. Int Res J Multidiscip Stud. 2018;4(3).
28. Ling S, Landon A, Tarrant M, Rubin D. Sustainability education and environmental worldviews: Shifting a paradigm. Sustainability. 2020;12(19):8258.
29. Gorana RN, Kanaujia PR. A New Paradigm of Education Towards Sustainable Development BT - Reorienting Educational Efforts for Sustainable Development: Experiences from South Asia. In: Gorana RN, Kanaujia PR, editors. Dordrecht: Springer Netherlands; 2017. p. 21–34. Available from: https://doi.org/10.1007/978-94-017-7622-6_2
30. Igorevich Nikiforov A, Rafailovna Kokorina O, Sergeevich Bagdasarian A, Ivanovna Shishanova E, Anatolievna Beskorovaynaya S. THE EVOLUTION OF ENVIRONMENTAL EDUCATION AS A DRIVER FOR IMPROVING THE TECHNOLOGIES OF MANAGING THE USE OF NATURAL RESOURCES. Humanit & Soc Sci Rev [Internet]. 2020 Jan 14;7(6 SE-Education & Assessment):1235–40. Available from: https://mgesjournals.com/hssr/article/view/hssr.2019.76175

31. O'Brien J, Keivani R, Glasson J. Towards a new paradigm in environmental policy development in high-income developing countries: The case of Abu Dhabi, United Arab Emirates. Prog Plann [Internet]. 2007;68(4):201–56. Available from: https://www.sciencedirect.com/science/article/pii/S0305900607000517
32. Fusaro PC, Vasey GM. Energy and environmental hedge funds: the new investment paradigm. John Wiley & Sons; 2011.
33. Corraliza JA, Collado S, Bethelmy L. Spanish Version of the New Ecological Paradigm Scale for Children. Span J Psychol [Internet]. 2013/06/14. 2013;16:E27. Available from: https://www.cambridge.org/core/article/spanish-version-of-the-new-ecological-paradigm-scale-for-children/6208FFEFAD18F738B80DA73DDCA05777
34. Somerville M, Powell S. Researching With Children of the Anthropocene: A New Paradigm? In: Reyes V, Charteris J, Nye A, Mavropoulou S, editors. Educational Research in the Age of Anthropocene [Internet]. Hershey, PA, USA: IGI Global; 2019. p. 14–35. Available from: https://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/978-1-5225-5317-5.ch002
35. Dunlap RE, Van Liere KD. The "New Environmental Paradigm." J Environ Educ [Internet]. 1978 Jul 1;9(4):10–9. Available from: https://doi.org/10.1080/00958964.1978.10801875
36. Pronczuk J, Surdu S. Children's Environmental Health in the Twenty-First Century. Ann N Y Acad Sci [Internet]. 2008 Oct 1;1140(1):143–54. Available from: https://doi.org/10.1196/annals.1454.045
37. Okamoto Y, Sakurai D, Horiguchi S. Allergic rhinitis in children: environmental factors. Clin Exp Allergy Rev [Internet]. 2004 Aug 1;4(1):9–14. Available from: https://doi.org/10.1111/j.1472-9725.2004.00023.x
38. Haug M. Men, women, and environmental change in Indonesia: The gendered face of development among the Dayak Benuaq. Adv Southeast Asian Stud. 2017;10(1):29–46.
39. Malate R. The Role of the Dayak People of Indonesia and the Philippines' Menuvù Tribe of the Keretungan Mountain in Ecological Conservation: The Natural and Indispensable Partners. J Kaji Wil. 2014;5(2):217–31.
40. Magnani E, Tubb A. The link between economic growth and environmental quality: What is role of demographic change? Int J Glob Environ Issues. 2008 Feb 1;8:365–91.
41. Jain SK, Kaur G. Role of Socio-Demographics in Segmenting and Profiling Green Consumers. J Int Consum Mark [Internet]. 2006 Jun 13;18(3):107–46. Available from: https://doi.org/10.1300/J046v18n03_06
42. Davis AC, Stroink ML. The Relationship between Systems Thinking and the New Ecological Paradigm. Syst Res Behav Sci [Internet]. 2016 Jul 1;33(4):575–86. Available from: https://doi.org/10.1002/sres.2371
43. Robinson BS, Inger R, Gaston KJ. A rose by any other name: Plant identification knowledge & socio-demographics. PLoS One. 2016;11(5):1–13.
44. Issn S. Joint Discussion Paper Series in Economics Andreas Ziegler New Ecological Paradigm Meets Behavioral Economics : On the Relationship between Environmental Values and Economic Preferences New Ecological Paradigm meets behavioral economics : On the. 2020.