



Building Students' Ecological Awareness: Integrative Design of the Islamic Education Curriculum

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Abstract

The world is facing a severe ecological crisis, evidenced by record-high global temperatures and significant environmental degradation in Indonesia, such as deforestation, poor air quality, and the threat of sinking islands. The purpose is to foster deep ecological awareness in students by integrating ecological, psychological, and sociological theories into the existing PAI framework. This study utilizes a qualitative method with a descriptive-analytical approach, specifically a literature concept analysis. Data was sourced from academic articles, books, and journals focusing on ecological theories (Bronfenbrenner), psychological theories (Theory of Planned Behaviour), and sociological theories (Ibn Khaldun) in the context of Islamic education and environmentalism. The research produces a comprehensive, integrative PAI curriculum model. This model systematically embeds ecological, psychological, and sociological concepts into the five core PAI subjects: Qur'an-Hadith, Aqidah, Akhlak, Fiqh, and History of Islamic Culture. The model redefines the teacher's role as a facilitator and collaborator, emphasizes contextual learning methods like Project-Based and Problem-Based Learning, and outlines an authentic evaluation system to assess cognitive, affective, and psychomotor domains related to environmentalism. The proposed curriculum model offers a transformative approach to PAI, making it relevant to contemporary environmental challenges. Its implementation can cultivate a generation of students who possess not only ritual piety but also strong social and ecological piety, empowering them to become agents of change for environmental sustainability as a true embodiment of rahmatan lil 'alamin (mercy for all worlds).

Keywords:

Ecology; PAI curriculum; learners; Nature Sustainability

A. INTRODUCTION

The relationship between humans and nature is very closely related. Humans are the microcosm, while the universe is the macrocosm. If the macrocosm is damaged, it will have a significant impact on the survival of the microcosm within humans (Agus et al., 2021). A very important issue that is occurring today is the ecological crisis. This issue has been analysed by the World Meteorological Organisation (WMO), which reported that October 2023 was the hottest month on record in the past 174 years. This alarming news is compounded by the reality that Asia and South America are the regions with the highest temperatures (WMO, 2023).

Indonesia, located in Asia, is regionally affected by the ecological crisis. Based on statistical data from the Ministry of Environment and Forestry (LHK), deforestation in the 2019–2020 period has decreased and is recorded as the lowest since 2011 due to the loss of 115,459 hectares of forest. This is reinforced by a statement from National Research and Innovation Agency (BRIN) researcher Eddy Hermawan (2021), who said that 115 small and medium-sized islands in Indonesia will be threatened with submersion by 2050. Not to mention

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Problems occurring on a global scale will have an impact on pollution and damage to ecosystems nationally. Environmental damage also occurs in communities, families, and schools. Some serious problems regarding environmental pollution occurring in formal educational environments include the widespread behaviour of students and school communities littering, and poor management of canteen waste (As-Sayyidi, 2016). Based on the observed problems, addressing the ecological crisis is urgently needed to build ecological awareness.

In this context, education has an important role in fostering environmentally friendly awareness and behaviour. Islamic Religious Education is closely related to faith in Allah SWT and its implications in the form of devotion to Him and doing good to His creatures in life. Islamic religious education in schools is oriented towards shaping personal piety and social piety. Islamic Religious Education (PAI) as one of the pillars of education in Indonesia has great potential to integrate ecological, psychological, and sociological values into its curriculum. This integration is expected to produce a young generation with high ecological awareness, noble character, and the ability to live in harmony with nature (Suharyat et al., 2023).

Based on previous studies, environmental education in primary schools can be implemented through routine habits, role modelling, conditioning, school culture, and environmental health (Hariandi et al., 2023). Relevant previous studies also show that the implementation of character education based on ecological wisdom can increase students' honesty, social awareness, and environmental awareness with the concept of independent learning to produce a more advanced and independent generation (Faidin et al., 2022). Research conducted by Dewi also shows that the integration of Islamic education with the foundations of ecological education, including the Qur'an and Hadith, policy, and science, can shape individuals to have moral responsibility and character, as well as full awareness of their essence as human beings (Dewi, 2021).

A study conducted by Chasanah shows that ecological piety or awareness of environmental concerns can be realised through the implementation of ecology-based Islamic education values in Islamic boarding schools (Chasanah, 2022). Previous studies have not discussed the integration of ecological, psychological, and sociological theories into the Islamic Education curriculum. Therefore, it can be researched that an Islamic Education curriculum integrated with ecological, psychological, and sociological theories is needed to foster ecological awareness in students.

The purpose of this study is to overcome the ecological awareness crisis by integrating ecological, psychological, and sociological theories into the Islamic Religious Education curriculum. This is because Islam teaches the importance of preserving nature and maintaining ecosystem balance. Integrating ecological, psychological, and sociological theories into the PAI curriculum can help students understand the complexity of environmental issues and develop pro-environmental attitudes. This research is expected to make a meaningful contribution to efforts to overcome the ecological awareness crisis and build a more sustainable society.

B. METHODS

This study utilises a qualitative method with a descriptive-analytical approach to literature concept analysis. According to Sugiyono, descriptive-analytical is a method that

describes or depicts a research object through data or samples that have been collected as they are, without conducting analysis and drawing conclusions that apply to the general public (Sugiyono, 2016). The literature used in this study was sourced from articles, books, and online journals related to the study. The aspects or focus of this study were (1) ecological, psychological, and sociological theories in the Islamic religious education curriculum; (2) the essence of ecological intelligence; and (3) environmental education.

The data sources for this study refer to various literature related to the research problem, namely: 1) Social-Ecological Education in the Islamic Perspective: Answers to the Ecological Awareness Crisis (Albar, 2017); (2) Ecological, Psychological and Sociological Theories in Creating an Islamic Educational Environment (Husaini, 2022); (3) Understanding the Social Ecological System (SES) in the Context of the Independent Learning Curriculum (Liputo, 2021); (4) Reimagining Educational Transformation that is Humanistic, Dialogical, Critical, Liberative, and Ecological (Tapung, 2017). This also includes other works from various books and journals that are interconnected with the research theme. The steps taken in this concept analysis are content analysis, namely: (1) defining the scope of the topic to be reviewed; (2) identifying relevant sources; (3) reviewing the literature; (4) describing the interrelationships/relevance of each aspect/focus of the study; and (5) writing the literature and applying the literature to the study to be conducted.

C. RESULT & DISCUSSION

Discourse on the Concept of Integration in the PAI Curriculum

According to Asroni, there are four important components in a curriculum: objectives, material, learning process, and evaluation. These four components must be interconnected and relevant to the needs of society and the dynamics of the times. An ecology-based Islamic Education (PAI) curriculum must fulfil these four components and consider the aspect of relevance. This means that the PAI curriculum must be in line with the demands, needs, and conditions of society, and have a strong connection between the content, learning process, and evaluation (Asroni, 2020). To achieve this relevance, the process of formulating an ecology based PAI curriculum must involve various parties, such as stakeholders in the environmental field, intellectuals, scholars, education practitioners, and environmental activists. By involving various parties, it is hoped that the resulting curriculum will be ecological in nature and always relevant to the needs and dynamics of society.

Discussing the concept of integration in education, in terms of terminology, it means unity or integration into a whole. The theory of integration in the educational science paradigm is interpreted as an "integrated curriculum", which is the unification of various scientific disciplines used to design learning to achieve better learning outcomes (Perry, 2010). The concept of integration basically refers to a whole, an integral unity, completeness characterised by interaction and interdependence between its components (Syaefuddin, 2010:113).

Integration in the learning curriculum is essentially a plan that will serve as a guide in organising the educational process. Traditionally, the term curriculum can be interpreted as a plan related to a number of subjects or teaching materials implemented by an educational institution to be studied by students (Ali, 2005:2-3). The interconnection of the context of integration in improving the quality of Islamic Education must be standardised in shaping the character, attitude, behaviour and personality of students to build the nation's character (nation character building). Character education is the character, nature, morals, or personality of a person obtained from the internalisation of learning as a foundation for their perspective, thinking, attitude, and actions (Baharuddin & Resky, 2025).

Character is in accordance with the values of attitude, actions, behaviour, and deeds of a human being who is connected to God Almighty (Walad, 2021). Character is closely related to the environment, fellow human beings, oneself and nationality (Martiyono, 2012). Character is a standardisation of behavioural principles based on religious norms, law, manners, culture and customs (Resky & Suharyat, 2022). Comprehensively examining character, there is a configuration of character in the context of sociocultural and psychological processes that is

classified into four categories, namely: spiritual and emotional development, intellectual development, physical and kinesthetic development, and affective and creativity development (affective and creativity development) (Ministry of Education and Culture, 2010).

According to Beanes, who discusses integration in the curriculum, curriculum design is related to personal and social integration that must be identified collaboratively by educators based on democratic principles that respect diversity (Andrews, 2008). In line with the views of Bremner and Holmes, they state that all abilities in integrating thoughts and feelings in the context of unity and integration require active guidance, goal setting, and socially relevant contexts (Eissa, 2008). Furthermore, according to Sahn, discussing the concept of integration, he states that the curriculum for students is oriented towards exploring the concepts of ownership, participation and responsibility (Sahn & Reichel, 2008).

Integration in PAI learning can give rise to a process of applying religious character education and environmental awareness (Isnanda et al., 2021; Jatmiko, 2016). According to Mulyasa, application or implementation is a process of carrying out actions based on concepts, ideas, policies or innovations so as to have an impact in the form of changes in skills, knowledge or attitudes (Mulyasa, 2004). The implementation of this integrated PAI learning produces two main values in students, namely religious character and environmental awareness (Mustari & Rahman, 2014).

Discourse on Ecological Theory in the PAI Curriculum

Islamic education in the PAI curriculum plays an active role in producing a generation that is socially and personally pious. Theology and sociology are closely related to the values that apply in society. Islamic religious education introduces students to the values contained in the holy book, hadith, and legal foundations of the ulama. Islamic religious education introduces students to the values found in Islam (Husaini, 2022). Islamic education has a very strategic role in improving human resources (HR). Humans have been granted the role of caliph by Allah SWT on earth with the task of prospering and enriching human life itself.

Ecology is defined as the science that studies the relationship between one organism and another, and even with its environment (Awaluddin et al., 2024; Desfandi & Maryani, 2017; Edwin Nurdiansyah & Kokom Komalasari, 2023). Etymologically, the word ecology comes from "oikos" or household. Meanwhile, the word "logos" is interpreted as science. Etymologically, it comes from the word "intellect or 'aql" which has the same meaning as religion because religion binds humans to God (Dewi, 2021). According to Ernst Haeckel in Pinontoan & Sumampouw, a German biologist stated that ecology is the science that studies ecosystems in basic functional units, because ecosystems include living things and their environment (Pinontoan & Sumampouw, 2019).

Urie Bronfenbrenner's ecological theory offers a valuable framework for understanding the interconnection between individuals and their environment in the context of the Islamic Religious Education Curriculum (Salsabila, 2018). This theory views individual development as the result of complex interactions between various interrelated systems, ranging from microsystems (family) to macrosystems (culture) (Latifah & Yulisinta, 2023; Muzadi & Mutholingah, 2019; Muzamil, 2019; Siswantara et al., 2022). Furthermore, in 1979, Urie Bronfenbrenner introduced an ecological model of human development with various integrated systems influencing a person's behaviour. The integral systems found in the ecological theory in the PAI Curriculum are classified into five systems, namely:

First, the microsystem. The family is the primary microsystem in a child's development. The values, beliefs, and religious practices taught at home provide an important foundation for a child's understanding and practice of religion. The PAI curriculum must consider the important role of the family in a child's religious education. Teachers can work with parents to strengthen religious learning at home and at school.

Second, the Mesosystem refers to the interaction between different microsystems, such as the family, school, and mosque. The PAI curriculum must facilitate positive and supportive relationships between schools, mosques, and communities. This can be done through the

implementation of joint programmes in collaboration with all parties. Third, the exosystem refers to the broader environment in which children live, such as their parents' workplace and social environment. The PAI curriculum must consider the influence of the exosystem on children's religious development. Teachers can help children understand and critically evaluate the messages they receive from the media and their social environment.

Fourth, the macrosystem refers to the broader culture and values that surround individuals and families. The PAI curriculum should help children understand and appreciate cultural and religious diversity. Teachers can use examples of from various cultures and religions to teach universal values such as love, compassion, and justice. A macro-system based PAI curriculum recognises that religion is not only practised in a vacuum, but is also influenced and shaped by the context in which it is practised. A person's understanding and practice of religion can be influenced by the culture in which they were raised, the values held by their community, and the political system that governs their lives.

The fifth chronosystem refers to the dimension of time in an individual's religious development. It is not only about learning the historical sequence of religious events, but also about how a person's understanding and practice of religion develops over time. The chronosystem-based PAI curriculum recognises that a person's understanding of religion is not static, but dynamic and continues to develop throughout their life. Life experiences, new knowledge, and interactions with others can all influence the way a person understands and practises their religion (Bronfenbrenner, 1979).

Referring to the above understanding of ecological theory, which is closely related to human activities as *Kholifah fil ard*, the implementation of ecological education is sourced from the Qur'an and Hadith, and *ijtihad* (a pragmatic foundation in the form of a policy foundation). This pragmatic foundation of ecological education is a practical foundation based on real values of usefulness and benefit. The policy foundation is based on the Laws of the Republic of Indonesia, Government Regulation of the Republic of Indonesia Number 21 of 2010 concerning Maritime Environmental Protection, Joint Decree of the Minister of Population and Environment and the Minister of Religion of the Republic of Indonesia Number 15 of 1991 and Number 38 of 1991 concerning the Improvement of Population and Environmental Awareness through Religion (As-Sayyidi, 2016).

Harmonisation of Psychological Theory with Ecological Awareness

Essentially, the correlation between the environment and humans cannot be separated from education. Education, which includes psychological elements, discusses human behaviour itself and is oriented towards change towards maturity. Universally, the psychological basis in educational psychology theory is only aimed at human development and understanding, particularly regarding the development and learning processes (Jannah & Hamami, 2022; Pratama et al., 2017). The developmental process is connected to all elements of educational design and implementation because this paradigm can help all educators and people involved in the world of education to formulate an educational environment (Rusnawati, 2022).

The environment is a place and the people who nurture and raise children, the school where they are educated, the community where children socialise and play every day, and the natural surroundings with their climate, flora and fauna. The influence of the environment on their growth and development depends on the child's own environment as well as their physical and spiritual condition. According to Husaini, it can be disseminated that the environment can be interpreted physiologically, psychologically, and socio-culturally (Husaini, 2022). Physiologically, the environment includes all physical conditions and materials in the body, such as nutrition, vitamins, water, acids, temperature, the nervous system, blood circulation, respiration, digestion, endocrine glands, growth cells, and physical health.

Psychologically, the environment includes all stimuli received by an individual from conception and birth until death. These stimuli include: genetic traits, genetic interactions, tastes, desires, feelings, goals, interests, needs, will, emotions, and intellectual capacity. Socio culturally, the environment encompasses all stimuli, interactions, and conditions in relation to

the treatment or work of others. Family life patterns, group socialisation, community life patterns, training, learning, education, teaching, guidance, and counselling are included as part of the environment (Dalyono, 2012: 129-130).

The Pro-Environmental Behaviour Theory (PEBT) paradigm is a theory that explains the factors that influence individual and community behaviour in preserving the environment. This theory was developed by psychologists and sociologists to understand why people behave in environmentally friendly or environmentally unfriendly ways. Psychologists explain the Theory of Pro-Environmental Behaviour (TPEB) through the Theory of Planned Behaviour (TPB), which is a theory for predicting and explaining human behaviour in specific contexts (Nu'man & Noviati, 2021). The Theory of Planned Behaviour describes that there are three variables that predict a behaviour. These three variables include: attitude toward behaviour, subjective norms, and perceived behavioural control (the extent to which a person feels capable of performing a behaviour) (Ajzen, 2002).

According to the pro-environmental behaviour theory, pro-environmental behaviour is influenced by several interrelated factors. These factors include attitude, subjective norms, perceived behavioural control, perceived consequences, situational factors, and behavioural intention. The first factor is attitude; a positive attitude towards the environment and nature conservation influences pro-environmental behaviour. Second, subjective norms, which are perceptions of what is accepted by society and what is expected of pro-environmental

behaviour, also influence pro-environmental behaviour. Third, perceived behavioural control, which is the belief that pro-environmental behaviour can be carried out and has a significant impact, influences pro-environmental behaviour. Fourth, perceived consequences, which are assessments of how pro-environmental behaviour will affect oneself and the environment, influence pro-environmental behaviour. The next factors are situational, such as the physical environment, community habits, and the presence of facilities that support pro-environmental behaviour, which influence pro-environmental behaviour.

Integration of Sociological Theory into the PAI Curriculum

The purpose of integrating sociological theory into the Islamic Religious Education (IRE) curriculum to foster ecological awareness is to integrate sociological concepts related to the environment and diversity into the IRE curriculum. This objective aims to increase students' awareness of the importance of environmental protection and diversity in the context of Islamic religious education. In the context of sociological theory, the integration of the PAI curriculum can be done by linking sociological concepts such as diversity, environmental awareness, and social concern with PAI material. For example, in lessons on morals, students can understand that concern for the environment and diversity are part of Islamic values. Thus, students can understand that environmental protection and diversity are part of the responsibilities of individuals and society in the context of Islam (Ananda & Fatolah, 2022).

Etymologically, sociology comes from the Latin word *socius*, which means friend, and the Greek word *logos*, which means word or speech. So, literally, sociology is talking about friends, then the meaning is expanded to talking about society. Terminologically, sociology is the study of social structures and social processes, including social changes. In general, sociology systematically studies human coexistence as long as it can be reviewed and observed using empirical methods. Sociology seeks to discover the nature and causes of various patterns of human thought and behaviour that are regular and repeatable. Thus, sociology is the science that studies the social life of society in the sense of coexistence at various levels (Herabudin, 2015:18).

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Ibn Khaldun (1333-1406 AD), before the birth of Auguste Comte, proposed a theory of solidarity, namely *ashobiyah*, which attempts to convey the meaning that believers are like a single body, "*kaljasad al-wahid*". This theory gave rise to tolerance in community life, which in turn led to the concept of *Tasamuh* in Islam. This means tolerance built on the principle of *Takaful al-ijtima'*. This theory became the main basis for analysing the actions of religious communities, both as part of society as a whole and as members of an institution. The main foundation is the hadith of the Prophet Muhammad SAW, "that believers are like a building, strengthening one another." Every individual is a member of a group. However, not every member of a society is only a member of one particular group; they can be members of more than one social group (Husaini, 2022).

Integration of Sociological Theory in the Islamic Education Curriculum to Foster Ecological Awareness The integration of sociological theory in the Islamic Education (PAI) curriculum aims to foster ecological awareness, including:

1. **Understanding the Relationship between Humans and Nature from a Social Perspective.** Sociological theory helps us understand how humans and nature are connected to each other in a social context. This is important for fostering ecological awareness because it allows us to see how individual and collective actions can impact the environment.
2. **Analysing Social Factors that Influence Environmentally Friendly Behaviour.** Sociological theory helps us analyse social factors that influence environmentally friendly behaviour, such as social norms, cultural values, and social structures. This is important for designing effective interventions to promote environmentally friendly behaviour.
3. **Developing Empathy and Concern for the Environment.** Sociological theory helps us develop empathy and concern for others, including future generations. This is important for fostering ecological awareness because it encourages us to consider how our actions can impact others and the planet.
4. **Building Solidarity and Collaboration to Preserve the Environment.** Sociological theory helps us build solidarity and collaboration to preserve the environment. This is important because environmental issues are often complex and require collective action to resolve.

Examples of the application of sociological theory integration in the PAI curriculum include: 1) Studying the history and impact of social environmental movements; 2) Analysing environmental issues from different perspectives, such as social justice and human rights; 3) Carrying out community service projects focused on environmental issues; 4) Building interfaith and intercultural dialogue on environmental preservation. The integration of sociological theory into the PAI curriculum can help students develop a deeper understanding of environmental issues and their role in protecting the environment. This can encourage them to become agents of positive change and contribute to a more sustainable future.

Ecological PAI Curriculum Model

The philosophical basis of this curriculum is prophetic theocentrism, namely humans as *Khalifah fil Ardhi* (leaders on earth) who are responsible for prospering and preserving nature (*imaratul ard*). The holistic basis also views students as spiritual, intellectual, social, and physical beings. In addition, the objectives of the curriculum are to develop students who have: (1) Ecological piety, which is the understanding and commitment to protecting the environment based on Islamic values. (2) Ecological Intelligence, namely the ability to analyse environmental problems and make wise decisions. (3) Pro-Environmental Behaviour, which is a habit and concrete actions that are environmentally friendly in daily life. (4) Social-Environmental Awareness, namely empathy and solidarity to help solve environmental problems in the community.

Integration is carried out by adding ecological, psychological, and sociological dimensions to existing PAI subjects (*Al-Qur'an-Hadith*, *Aqidah*, *Akhlak*, *Fiqh*, *History of Islamic Culture*).

Example:

Table 1. Curriculum Components (Content & Material)

No	Islamic Education Subject	Integration of Ecological Theory (Bronfenbrenner System)	Integration of Psychological Theory (Theory of Planned Behaviour).	Integration of Sociological Theory (Concepts of Ashobiyah & Society)
1.	The Qur'an and Hadith	Studying verses about the balance of nature (macrosystem and chronosystem).	Cultivating a positive attitude towards the environment as a form of worship.	Understanding the collective responsibility of the community (ashobiyah) in preserving the earth.
2	Creed	Strengthening the belief that nature is a sign of Allah's greatness (macrocosm).	Internalising the belief that pro environmental behaviour is a command from Allah.	Analysing social norms (subjective norms) within Muslim communities to support a green lifestyle.
3	Ethics Islamic Education Subject	Emulating the moral character of the Prophet Muhammad SAW in Integration of Ecological Theory (Bronfenbrenner System)	Developing perceived behaviour control and empathy Integration of Psychological Theory (Theory of Planned Behaviour)	Building social awareness and environmental justice. Integration of Sociological Theory (Concepts of Ashobiyah & Society).
4	Fiqh	Studying Environmental Fiqh (e.g., the law of ihya al-mawat, prohibition israf/excess).	Providing practical guidance that enhances self confidence to act (PBC)	Applying the concept of maslahah mursalah (the greater good) to pro-environmental public policy.
5	History of Islamic Culture	Learning from water conservation and landscape during Golden Age. practices the	Building motivation and behavioural intention through historical examples.	Studying how past Islamic societies built social systems that were in harmony with nature.

Source: Author's document

Based on the designed curriculum model, the role of educators or Islamic Education teachers has undergone a significant transformation from mere instructors to facilitators and motivators who guide discussions and environmental projects, while also serving as consistent role models demonstrating environmentally friendly behaviour both at school and in the community. Teachers also play an active role as collaborators, working together with fellow teachers from other disciplines such as science and social studies in a team teaching approach and interdisciplinary projects, as well as functioning as community liaisons who bridge the school with parents, community leaders, and environmental NGOs.

In terms of learning resources and media, a contextual approach is key, utilising local environmental issues such as river pollution or air pollution as real-life case studies. Learning also utilises technology through documentary videos, infographics, and applications about the environment, as well as enriching knowledge with green Islamic literature by contemporary Muslim scholars and intellectuals (Resky & Suharyat, 2024). Equally important is the use of the outdoors, such as school gardens, mosques, and parks as "living laboratories" that provide hands-on experience.

The learning methods and strategies applied are diverse and action-oriented. Project Based Learning is realised through the "Greening the Madrasah" project, the creation of a waste

bank, research on river water quality, and the "Plastic-Free Friday" campaign. Problem-Based Learning is applied by analysing the causes of flooding and finding solutions based on the values of Environmental Fiqh. The outdoor education and ecotourism approaches provide first hand experiences in nature, while simulations and role-playing, such as UN sessions discussing climate change from the perspective of Muslim countries, hone analytical skills. Discussions and reflections conclude the lessons, encouraging the internalisation of ecological values in personal life.

Learning evaluation is conducted authentically and continuously by measuring three aspects of competence. The cognitive aspect is measured through written tests, essays, and presentations on ecological concepts in Islam; the affective aspect is assessed through behavioural observation, attitude questionnaires, and personal reflection journals; while the psychomotor aspect is evaluated through environmental project portfolios, activity performance assessments, and reports on real actions at home and in the community.

Overall, this curriculum model does not merely add new material, but transforms the perspective and approach to PAI learning itself. With this model, PAI becomes relevant to the challenges of the times, especially the ecological crisis, and is able to produce graduates who are not only pious in ritual but also socially and ecologically pious a true embodiment of Islam as rahmatan lil 'alamin. Through the implementation of this model, students are expected to become agents of change who have the awareness, knowledge, and skills to contribute positively to creating environmental sustainability at the local, national, and global levels.

A comprehensive analysis of the literature findings elaborates that interdisciplinary integration in the Islamic Religious Education (IRE) curriculum is a holistic approach that goes beyond simply combining content. Perry (2010) defines it as the unification of various disciplines to design learning that produces better learning outcomes, supported by Syaefuddin (2010), who emphasises the characteristics of interaction and interdependence between components. This theoretical foundation is reinforced by Asroni (2020), who identifies four pillars of integration—goals, material, learning process, and evaluation—as well as Beanes (in Andrews, 2008), who emphasises the importance of collaborative design based on democratic principles.

From an ecological perspective, Bronfenbrenner (1979) provides a systematic framework through a model of five integrated systems: microsystem (family), mesosystem (school-family-mosque interactions), exosystem (social environment), macrosystem (cultural and religious values), and chronosystem (time dimension). This framework finds resonance in the Islamic context through Dewi's (2021) findings, which confirm the three pillars of ecological education implementation: the Qur'an-Hadith, pragmatic policies, and science. Formal support in Indonesia, as identified by As-Sayyidi (2016), is manifested in Government Regulation No. 21 of 2010 and related Joint Ministerial Decrees.

On the psychological dimension, Ajzen (2002) developed the Theory of Planned Behaviour (TPB), which effectively predicts and shapes pro-environmental behaviour through three key variables: attitude toward behaviour, subjective norms, and perceived behaviour control. The effectiveness of TPB was empirically proven by Nu'man & Noviati (2021) in the context of student environmental awareness. This understanding is enriched by Husaini (2022) and Dalyono (2012), who elaborate on the psychological environment as the totality of stimuli that shape individuals from conception.

From a sociological perspective, the concept of ashobiyah developed by Ibn Khaldun long before Auguste Comte provides a strong theoretical foundation for building ecological solidarity, representing the unity of a community of believers "as one body". Herabudin (2015) and Husaini (2022) developed this framework into an operational Islamic Educational Sociology, while Ananda & Fatonah (2022) demonstrated the effectiveness of integrating sociology in increasing environmental awareness and appreciation of diversity.

The implementation of this integration requires a comprehensive approach, as defined by Mulyasa (2004) as a transformative process that results in changes in skills, knowledge, and attitudes. Isnanda et al. (2021), Jatmiko (2016), and Mustari & Rahman (2014) consistently

prove that integration in PAI produces two main values: religious character and environmental awareness, which are in line with the character configuration of the Ministry of Education and Culture (2010) through the process of cultivating the heart, mind, body, and senses.

The impact and urgency of this integration are increasingly evident with Chasanah's (2022) findings on the effectiveness of ecology-based education in shaping ecological piety in Islamic boarding schools, supported by Faidin et al. (2022), who show an increase in honesty, social and environmental awareness through an ecological wisdom approach. Hariandi et al. (2023) identified implementation practices through routine habits and school culture, while Albar (2017) emphasised the importance of environmental theology that unites spiritual and ecological dimensions. This synthesis shows that interdisciplinary integration is not only strategic but imperative to respond to the ecological awareness crisis transformatively through religious education.

D. CONCLUSION

The conclusion from the above explanation is that the integration of ecological, psychological, and sociological theories into the Islamic Religious Education curriculum has a noble goal, namely to foster ecological awareness among students. Through a deep understanding of the relationship between humans and nature, analysis of social factors that influence environmentally friendly behaviour, development of empathy and concern for the environment, and building solidarity and collaboration to preserve the environment, it is hoped that a pro environmental generation will be created that contributes to a more sustainable future. With this approach, the PAI curriculum can become an important instrument in overcoming the ecological awareness crisis and building a society that is more concerned about the environment. By teaching Islamic environmental ethics, encouraging active learning experiences, making connections between religion and the environment, and encouraging dialogue and reflection, the PAI curriculum can be an effective means of building strong ecological awareness among students.

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