

Islamic Value-Based Permaculture Ecotherapy As Psychosocial Support For Children With ADHD In An Inclusive School

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ABSTRACT

Previous studies have shown the potential of nature-based activities to support attention, self-regulation, and social engagement among children with Attention Deficit Hyperactivity Disorder (ADHD). However, integrating permaculture ecotherapy with Islamic values as psychosocial and pedagogical support in inclusive school settings remains underexplored. This study aimed to explore the implementation and supportive potential of Islamic value-based permaculture ecotherapy for children with ADHD. The study employed qualitative Classroom Action Research based on the Kemmis and McTaggart model at Sekolah Tumbuh Yogyakarta. Participants included five children with ADHD aged 8–10 years, with class teachers and parents as supporting informants. Data were collected through participatory observation, in-

depth interviews, activity documentation, and researcher reflection journals, and were analyzed through data reduction, data display, and conclusion drawing. Source and method triangulation were used to strengthen data credibility. Across three connected cycles of planting, plant care, and harvesting, the children showed contextually observed patterns in task engagement, ability to return to activities after distraction, responsibility, patience, cooperation, calmness, gratitude, and self-confidence. These findings suggest that structured ecological routines, adult guidance, peer collaboration, and Islamic meaning-making may provide complementary psychosocial and pedagogical support for children with ADHD in inclusive education. Given the small number of participants, single-school setting, absence of a comparison group, and lack of standardized psychological measures, these findings should be interpreted as preliminary and context-specific rather than as evidence of therapeutic effectiveness.

Keywords: ADHD; Ecotherapy; Permaculture; Islamic Values; Inclusive Education; Action Research

A. Introduction

Children with Attention Deficit Hyperactivity Disorder (ADHD) exhibit developmental patterns characterized by difficulty sustaining attention, hyperactivity, and impulsivity. These characteristics often interfere with learning functions and social interaction in educational settings (Fadillah and Pranungsari 2023; Humaiya and Zulaikha 2023; Nurfadhillah et al. 2024). In the classroom, ADHD symptoms may appear in the form of easy distractibility, leaving one's seat, uncontrolled talking, interrupting peers, or difficulty obeying rules. Such behavior makes children's participation in learning unstable and may also affect classroom relationships (Asdar, Nasrullah, and Sari 2021; Nurfadhillah et al. 2024).

The psychological well-being of children with ADHD therefore needs to be understood as an important indicator of successful inclusive education. ADHD is not only related to academic difficulty but also to self-regulation, emotional stability, confidence, engagement, and the quality of children's

relationships with peers, teachers, and families (Budiarti, Agustini, and Rachmawati 2022; Fadillah and Pranungsari 2023; Sabilla 2021). In this study, psychosocial support is examined through contextually observable aspects including calmness, task engagement, emotional regulation, responsibility, cooperation, self-confidence, and adaptive social participation. These aspects are treated as educational and psychosocial indicators rather than as standardized measures of psychological well-being.

From the perspective of child studies, this issue is also related to children's right to participate in learning environments that are safe, meaningful, and responsive to their developmental needs. Children with ADHD should not be positioned only as students who disturb classroom order; they should be understood as children who need appropriate forms of support to express their potential. Inclusive education therefore requires a shift from controlling behavior to designing supportive experiences. Child-friendly educational environments similarly emphasize structuring physical and social settings, learning opportunities, supportive resources, and guidance in ways that respond to children's developmental and psychological needs (Ulyani 2017). This shift matters because emotional and behavioral risks in inclusive schools can worsen when schools respond only with discipline and academic accommodations, without providing relational and psychosocial support (Irmawanti and Mahabbati 2023; Nurfadhillah et al. 2024).

Previous studies have offered several intervention directions for children with ADHD. Play-based interventions, for example, can help improve attention and concentration through enjoyable activities. The "Beat the Clock" game has been used to improve attention in children with inattention problems (Yulilla and Cahyono 2022), while puzzle-based play therapy has been applied to reduce attention deficit and hyperactivity symptoms (Sholichah and Hasanah 2023). Family-based support is also important because mindful parenting can reduce parenting stress and improve parent-child relationships in the context of ADHD (Sabilla 2021). Digital interventions, educational games, and gamification have likewise been

reported to support attention, self-regulation, planning, organization, and learning concentration (Aryanto et al. 2021; Budiarti et al. 2022; Kurniawan, Sanjaya, and Rakhmawati 2021). Evidence for non-pharmacological interventions in children and adolescents with ADHD remains heterogeneous, particularly when symptom reduction is used as the primary outcome, indicating the importance of distinguishing complementary educational support from established clinical treatment (Sibley et al. 2023).

In inclusive schools, children with ADHD also need adapted learning strategies and learning spaces. Demonstration methods give children opportunities to observe, imitate, and practice skills directly, thereby supporting attention during learning (As'ad 2020; Nurfadhillah et al. 2021). Environmental adaptation is equally important because children with hyperactivity need structured, safe, and predictable spaces that can help them reduce excessive movement and sustain focus (Rohimin 2020; Surya and Suteja 2024). Thus, hands-on practice, direct experience, varied learning spaces, and structured support become necessary components of inclusive education for children with ADHD.

However, inclusive schools still face challenges in providing comprehensive services for children with special needs. Several studies show that teacher competence, curriculum alignment, facilities, detection skills, and program development remain important issues in inclusive school services (Ar-Robbaniy and Widayat 2024; Nurfadhillah et al. 2024; Suradi, Prasetyo, and Rasmitadila 2022). In practice, inclusive education often prioritizes academic accommodations, such as individualized instruction, curriculum modification, team teaching, and resource rooms. These are important, but they are not always sufficient to address children's broader needs, especially social-emotional development and cross-sector support involving teachers, parents, communities, and professionals (Novami and Prakoso 2023; Prasetyo and Supena 2021).

Nature-based activities provide another important direction for supporting children with ADHD. Gardening and

school-based outdoor activities can offer direct experience, reduce monotony, stimulate attention, and channel children's motor activity into purposeful tasks. Studies on school gardening show its potential to support children's health and well-being through repeated interaction with plants, soil, peers, and adult guidance (Holloway et al. 2023). Research on nature and ADHD also suggests that exposure to natural environments can contribute to attention restoration, stress reduction, and better behavioral regulation (Greenleaf and Reese 2024; Hood and Baumann 2024). More specifically, ecotherapy has been associated with improved academic performance and reduced ADHD symptom severity in children (Altarawneh, Shatha Abdalbaki, and Mohamad Ahmad Saleem 2023). The relevance of nature-based intervention for children with ADHD can be understood through several interconnected mechanisms. First, contact with plants, soil, water, and open space offers sensory variation that may help restore attention and reduce the monotony of conventional classroom activities. Second, gardening involves concrete, sequential tasks such as preparing the growing medium, planting seeds, watering, weeding, observing growth, and harvesting. These activities provide visible goals and immediate contexts for children to practice following instructions and completing tasks. Third, the repetitive nature of plant care creates predictable routines through which children can exercise persistence, impulse control, and responsibility. Finally, collaborative gardening offers opportunities to share tools, wait for turns, communicate with peers, and work together in a common task. Therefore, the value of gardening lies not only in children's physical contact with nature but also in the interaction between sensory experience, structured routines, purposeful movement, and social participation (Greenleaf and Reese 2024; Holloway et al. 2023; Hood and Baumann 2024)

In this study, permaculture ecotherapy is not understood as ordinary gardening or a single recreational activity. It is operationalized as a structured and continuous ecological process involving planting, caring for, observing, and harvesting. Each stage is interconnected because the results of one activity depend on sustained care in the following stages.

Seeds require appropriate growing media, regular watering, protection, patience, and cooperation before they can be harvested. This continuity reflects permaculture's emphasis on interconnected relationships, sustained care, and maintaining living systems (Krebs and Bach 2018). In this study's educational context of this study, the sequence also provides repeated, predictable opportunities for children to practice responsibility, persistence, waiting, task completion, and cooperation.

The ecotherapeutic dimension lies in the intentional use of direct interaction with soil, water, plants, gardening tools, and outdoor space as a context for meaningful and purposeful activity. Previous studies suggest that nature-based and gardening activities may support attention, engagement, social interaction, and behavioral regulation among children, including those with ADHD (Greenleaf and Reese 2024; Holloway et al. 2023; Hood and Baumann 2024). Islamic values were integrated not merely as additional verbal instruction but as meaning-making elements within the ecological activities. The concepts of *khalifah fil ardh* (vicegerent) and *amanah* (trust) framed caring for plants as responsibility toward God's creation; patience was practiced by waiting for plants to grow and continuing to care for them; gratitude was connected to harvesting; and *tadabbur alam* (spiritual reflection on nature) encouraged children to reflect on natural processes through direct experience. In this way, Islamic values connected ecological responsibility, personal conduct, social interaction, and spiritual meaning (Af'idah and Desanda 2024; Amelia et al. 2025). This perspective aligns with Islamic eco-theological thought, which emphasizes the interconnected relationship among human beings, other people, the natural environment, and God as a basis for ecological and spiritual responsibility (Febriani 2017). This study's conceptual contribution lies in integrating three elements: continuous ecological activities, opportunities for psychosocial learning through repeated routines and social participation, and Islamic meaning-making embedded within those activities. Although previous studies have discussed nature-based interventions, gardening, ecotherapy, and support for children with ADHD, integrating

permaculture continuity and Islamic values within an action-reflection process in inclusive education remains limited.

Preliminary observations at Sekolah Tumbuh Yogyakarta indicated that children with ADHD still needed activities that could help them sustain focus, take turns, manage impulses, complete tasks, and interact more calmly with peers. Based on this, the present study aims to explore the implementation and supportive potential of Islamic value-based permaculture ecotherapy as psychosocial and pedagogical support for children with ADHD in an inclusive school context. Methodologically, this study uses Classroom Action Research based on the Kemmis and McTaggart model because it enables collaborative planning, action, observation, and reflection in a real inclusive school context (Moreno-Poyato et al. 2022). The study was conducted in three cycles involving five children with ADHD aged 8-10 years, class teachers, and parents. Data were collected through participatory observation, in-depth interviews, activity documentation, and researcher reflection journals. This article is expected to offer a contextual intervention model for teachers and to expand ADHD intervention studies by bridging ecotherapy, permaculture, Islamic values, and inclusive education.

B. Discussion

1. Research Design and Intervention Framework

Research Design. This study employed a qualitative Classroom Action Research design based on the Kemmis and McTaggart model. The design was selected because the intervention required continuous adjustment based on children's responses, teacher guidance, and reflection following each activity. Each cycle involved planning, action, observation, and reflection, allowing the researchers and teachers to identify difficulties emerging during one cycle and use them to refine subsequent activities (Moreno-Poyato et al. 2022). The three cycles were designed as a connected developmental sequence rather than as independent activities.

Intervention Procedure. The intervention consisted of three connected cycles of planting, plant care, and

harvesting. The cycles were designed as a continuous ecological sequence rather than as independent activities, so that observations and reflections from one cycle could inform the subsequent cycle.

Cycle I served as the initial adaptation stage. The researchers and teachers introduced the gardening environment, basic rules, tools, growing media, and planting procedures. Observation during this stage focused on children's initial patterns of attention and task engagement, impulsivity, ability to follow instructions, and turn-taking. Reflection on Cycle I showed that several children required clearer activity sequences, repeated instructions, and direct modeling. These observations informed the cycle's design.

Cycle II focused on repeated plant-care activities, including watering, weeding, and observing plant growth. The activities provided predictable routines through which children could practice task completion, responsibility, patience, and returning to an activity after distraction. Islamic values emphasized in this cycle included patience, responsibility, amanah, and care for God's creation. Reflection after Cycle II indicated that greater familiarity with the routines created opportunities to increase shared responsibility and peer interaction.

Cycle III extended the intervention to harvesting, sharing tools, dividing simple tasks, group collaboration, and experiential reflection. The Islamic values emphasized in this stage were gratitude, cooperation, and tadabbur alam. Observation focused on calmness, teamwork, social interaction, expressions of gratitude, and self-confidence. The harvesting stage also provided children with a visible outcome of the continuous process of planting, caring, waiting, and cooperating.

Across the three cycles, reflection linked observation to subsequent action. Difficulties observed in one cycle informed changes to the next activity, rather than applying the same procedure mechanically. When children needed repeated guidance, instructions were simplified and reinforced through direct modeling. As responsibility and familiarity with the routines emerged,

the activities expanded to include collaboration and reflection. In this way, the intervention remained responsive to children's observed engagement and support needs throughout the action-reflection process.

Setting and Participants. The study was conducted at Sekolah Tumbuh Yogyakarta, an inclusive school context that provided opportunities to observe children with ADHD during authentic educational activities. The focal participants were five children with ADHD aged 8–10 years. Class teachers and parents were included as supporting informants because children's behavior was examined not only during the intervention but also through the perspectives of adults who interacted with them in school and family contexts. To maintain confidentiality, information that could directly identify the child participants was not included in the reporting.

Classroom Action Research also kept the intervention child-centered. The researchers did not treat children as passive objects of intervention. Instead, children's responses became the basis for improving the next cycle. When children found it difficult to follow instructions, the next activity was simplified and repeated. When they began to show responsibility, the teacher strengthened the value through praise and reflection. This process made the intervention more ethical and pedagogically responsive because the activity was adjusted to children's actual abilities, attention span, and emotional condition during the learning process.

Data Collection. Data were collected through participatory observation, in-depth interviews, activity documentation, and researcher reflection journals. Participatory observation focused on children's attention and task engagement, impulsivity, emotional regulation, responsibility, cooperation, calmness, gratitude, and self-confidence during the intervention. Interviews with class teachers and parents provided supporting perspectives on children's engagement and social interaction in school and family contexts. Activity documentation recorded the sequence and context of the ecological activities, while researcher reflection journals documented children's

responses, implementation difficulties, and considerations for subsequent cycles.

Data Analysis. Data analysis followed the interactive model of data reduction, data display, and conclusion drawing (Miles, Huberman, and Saldaña 2014). Observation notes, interview information, activity documentation, and researcher reflection journals were first organized according to the intervention cycle and the behavioral and psychosocial aspects being examined. Relevant information was then reduced into recurring categories, including attention and task engagement, impulsivity, emotional regulation, responsibility, cooperation, calmness, gratitude, and self-confidence. These categories were compared across the three cycles to identify patterns of continuity, change, and remaining difficulties. Data were presented through descriptive comparisons and the intervention matrix in Table 1. Conclusions were drawn cautiously by examining whether the observed patterns appeared across different activities and were supported by more than one data source or method.

Trustworthiness. The credibility of the findings was strengthened through triangulation of source and method. Participatory observations were compared with teacher and parent interviews, activity documentation, and researcher reflection journals. These sources were used to examine whether the observed patterns were supported across multiple types of evidence, rather than relying on a single behavior or one successful activity. Triangulation was particularly important because the study did not employ standardized clinical measures to assess psychological change. Therefore, the findings were interpreted as contextually observed educational and psychosocial patterns rather than as clinical psychological outcomes.

Researcher Reflexivity. Because the researchers were involved in the action-reflection process and in observing children's responses during the intervention, their involvement could influence the interpretation of the findings. Researcher reflection journals documented

observations, implementation decisions, children's responses, and considerations for subsequent cycles. Interpretations were also considered alongside teacher and parent perspectives to reduce reliance on the researchers' observations alone. Accordingly, the findings were treated as context-dependent interpretations of children's participation rather than as objective clinical measurements of psychological change.

Ethical Considerations. Verbal permission to conduct the study was obtained from the relevant authority at Sekolah Tumbuh Yogyakarta. Parents provided verbal consent for their children's participation in the study, while teachers and parents who participated as supporting informants also provided verbal consent to contribute information for research purposes. Participant confidentiality was maintained by excluding identifying information from the research report. This study did not obtain formal ethical clearance from an institutional ethics committee.

The intervention consisted of three main cycles: planting, nurturing, and harvesting. Each cycle combined ecological activities, Islamic value integration, and observable psychosocial and educational indicators.

Table 1. Intervention Protocol of Islamic Value-Based Permaculture Ecotherapy

Cycle	Focus of Activities	Islamic Values	Observed Aspects
Cycle I	Introduction to rules, tools, growing media, and planting procedures	Prayer, <i>khalifah</i> <i>fil</i> <i>ardh</i> , responsibility	Attention span, impulsivity, ability to follow instructions, turn-taking skills
Cycle II	Plant care: watering,	Patience, responsibility,	Task completion,

Cycle	Focus of Activities	Islamic Values	Observed Aspects
	weeding, and observing growth	protecting God's creation	emotional regulation, perseverance, learning engagement
Cycle III	Harvesting, group collaboration, and experiential reflection	Gratitude, cooperation, <i>tadabbur alam</i>	Calmness, teamwork, social relationship, expression of gratitude, self-confidence

2. Structured Nature-Based Routines and Attention Regulation

The findings indicate that the structure and predictability of nature-based activities played an important role in children's engagement with task. During the initial planting activities, the outdoor environment, soil, seeds, and gardening tools generated considerable interest among the children. However, interest did not automatically result in sustained or regulated engagement. Some children moved around the activity area, touched gardening tools before instructions were complete, and had difficulty waiting their turn. These observations suggest an important distinction between children's interest in a stimulating environment and their ability to participate in a structured activity.

As the intervention progressed, repeated ecological routines provided a more predictable sequence of actions. Activities such as preparing tools, watering, weeding, observing plant growth, and returning tools gave children clearer expectations about what they were expected to do. Although distraction remained present, several children returned to their assigned activities after teacher reminders. In this context, progress was not interpreted as the disappearance of distraction, but as an emerging ability to resume and continue a task with adult support.

This pattern suggests that the supportive potential of nature-based activities did not arise from exposure to the outdoor environment alone. Rather, it appeared to involve the interaction between direct engagement with nature, repeated routines, clear task sequences, and adult guidance. Previous studies have similarly indicated that children with ADHD may benefit from concrete, structured, and predictable learning activities (As'ad 2020; Nurfadhillah et al. 2021). Research on nature-based activities also suggests potential benefits for attention, engagement, and behavioral regulation (Greenleaf and Reese 2024; Hood and Baumann 2024). These findings therefore suggest that structured ecological routines may provide an external framework that supports children's participation and emerging attention regulation within an adult-supported educational context.

3. Ecological Responsibility and Self-Regulation

Ecological responsibility emerged as an important context for practicing self-regulation during the intervention; unlike planting, which could be completed in one activity, caring for plants required children to return repeatedly to water, weed, and observe growth. The plants therefore created a continuing responsibility rather than a single task. Children were encouraged to see that plant's condition depended on regular care, making responsibility more concrete and visible through the consequences of their actions.

The plant-care process also provided a practical context for patience and delayed action. Children could not force plants to grow or harvest them immediately; they had to wait and continue caring for them over time. Although distraction still occurred, several children returned to watering or weeding after teacher reminders. This pattern suggests that self-regulation did not emerge as complete independence from adult support. Rather, it was reflected in children's growing ability to resume an expected activity, continue a task, and respond to redirection within a familiar routine.

The repeated ecological sequence may therefore

have functioned as an external structure that supported emerging self-regulatory behaviors. Preparing tools, carrying out plant care, observing growth, and returning equipment organized children's actions into a recognizable sequence. As familiarity increased, children appeared to require less cognitive effort to understand what the activity demanded, allowing them to direct more attention toward task completion and responsibility. This interpretation is consistent with studies indicating that children with ADHD may benefit from structured, concrete, and predictable activities (As'ad 2020; Nurfadhillah et al. 2021). However, the observed patterns should not be interpreted as the disappearance of ADHD characteristics or as evidence of clinical improvement. They indicate more adaptive participation within a familiar, meaningful, and adult-supported ecological context.

4. Islamic Values as Meaning-Making Mechanisms

Islamic values functioned in the intervention as meaning-making elements embedded within ecological activities rather than as separate verbal instruction. The concepts of *khalifah fil ardh* (vicegerent) and *amanah* (trust) framed caring for plants as responsibility toward God's creation. Children practiced patience by waiting for plants to grow and continuing their care over time, while gratitude became meaningful during harvesting. *Tadabbur alam* (spiritual reflection on nature) further encouraged children to reflect on natural processes through direct experience. In this way, Islamic values were connected with concrete actions rather than presented only as abstract moral concepts.

This integration gave ecological activities personal, social, and spiritual meaning. Children did not merely learn that plants required water; caring for plants was interpreted as an expression of *amanah*. They did not merely wait for plants to grow; waiting provided an experiential context for practicing patience. Likewise, harvesting was not treated only as the completion of a gardening activity but also as an opportunity to express gratitude. Previous studies have similarly highlighted the relevance of *khalifah fil ardh* and *tadabbur alam* in

connecting Islamic values with environmental responsibility and direct engagement with nature (Afidah and Desanda 2024; Amelia et al. 2025)

The role of Islamic values in this study should therefore be understood as providing an interpretive framework for children's ecological experiences rather than as independently causing behavioral or psychological change. Their contribution lies in connecting ecological responsibility, personal conduct, social participation, and spiritual meaning within the same activity. Broader research on religion and spirituality in child and adolescent mental health suggests that religious and spiritual frameworks may provide sources of meaning-making and coping. However, their mechanisms and effects remain insufficiently understood (Elzamzamy, Naveed, and Dell 2024). In the present study, however, these values are interpreted as supportive meaning-making mechanisms within a broader intervention that also involved repeated ecological routines, peer interaction, and adult guidance.

5. Peer Collaboration and Social Participation

Peer collaboration became more visible as children grew familiar with the ecological routines and the expectations of the activity. During the harvesting stage, children worked in groups, shared tools, divided simple tasks, and interacted with peers more calmly. Conflicts over gardening tools were observed less frequently than during the earlier activities. These patterns suggest that the increasingly familiar activity structure created more opportunities for children to participate in shared tasks and respond to peers' presence and needs.

The social significance of the harvesting stage extended beyond task completion. Sharing equipment and dividing responsibilities required children to coordinate their actions rather than focus only on their immediate individual interests. In this context, the decrease in conflict over tools can be interpreted not merely as improved compliance but as more adaptive social participation. Previous studies on nature-based activities and school gardening similarly indicate that

shared ecological activities can provide opportunities for social interaction, engagement, and cooperation (Greenleaf and Reese 2024; Holloway et al. 2023; Hood and Baumann 2024)

Harvesting also gave children a tangible outcome tied to their sustained participation. Several children expressed happiness and gratitude for the plants they had cared for and communicated their experiences of planting, watering, waiting, and harvesting. These opportunities allowed children to recognize themselves as contributing members of a group and to express a sense of competence that was not based solely on conventional academic performance. Expressions of confidence observed during this stage should therefore be understood as contextually situated responses to participation, achievement, and social recognition rather than as evidence of generalized psychological change.

6. Adult Scaffolding and Contextual Conditions

Adult scaffolding remained an important component throughout the intervention. During the earlier activities, children frequently required repeated instructions because distractibility and impulsive responses made it difficult for them to follow the activity sequence consistently. Teachers responded by providing clear rules, simple language, direct modeling, reminders, and redirection. Even when children became more familiar with the routines, adult support remained relevant in helping them return to tasks and participate in shared activities. The observed patterns should therefore not be attributed to ecological activities alone, but understood within an educational context in which structured adult guidance accompanied children's participation.

Teacher readiness also influenced how the ecological and Islamic dimensions of the intervention were implemented. Islamic values needed to be introduced through concrete actions and brief explanations rather than lengthy or abstract verbal instruction. For example, responsibility could be connected directly with caring for a plant, while gratitude

could be expressed during harvesting. This required teachers to translate religious values into forms that were understandable within children's immediate activities. Such pedagogical responsiveness is particularly relevant in inclusive education, where teacher competence remains an important component of support for children with diverse educational needs (Ar-Robbaniy and Widayat 2024; Nurfadhillah et al. 2024).

The intervention was also shaped by practical and contextual conditions. Gardening activities required sufficient time for preparation, implementation, cleaning, and reflection, while the school schedule was limited. Outdoor activities were also affected by weather conditions and required adjustment when it rained. At the same time, the outdoor and kinesthetic character of the activities provided opportunities for children to engage in purposeful movement, while direct contact with seeds, soil, water, leaves, and harvesting made *tadabbur alam* easier to connect with concrete experience. Parental involvement also emerged when children brought harvested products home and communicated their experiences to their families. These observations indicate that the intervention operated within an interconnected school, teacher, environmental, and family context rather than as an isolated activity.

7. Implications for Inclusive Islamic Education

The findings suggest several implications for inclusive Islamic education. For teachers, nature-based support does not necessarily require complex or expensive facilities. A small garden can provide a meaningful learning space when activities are carefully structured, responsibilities are clearly assigned, routines are repeated, and reflection is integrated into the process. The educational value of the intervention therefore lies less in the garden's size than in the quality of the activity design and the responsiveness of adult guidance.

The study also contributes to inclusive Islamic education by showing how ecological activity, psychosocial support, and religious meaning can be integrated within the same learning process. Values such

as khalifah fil ardh, amanah, patience, gratitude, and tadabbur alam were translated into concrete actions involving planting, caring, waiting, sharing, harvesting, and reflection. In this way, religious values were not separated from children's everyday participation but were experienced through direct engagement with nature, peers, and adults.

Conceptually, the study connects permaculture ecotherapy, Islamic values, and inclusive education within an action-reflection framework. Its contribution is not to establish a standardized therapeutic model, but to propose a preliminary pedagogical and psychosocial framework in which structured ecological routines, Islamic meaning-making, peer participation, and adult scaffolding interact to support children with ADHD in context. This framing extends previous discussions of nature-based intervention by emphasizing the combination of ecological continuity, spiritual meaning, and inclusive educational practice.

The model should remain adaptable rather than fixed. Schools need to consider the availability of safe outdoor space, teacher readiness, children's individual characteristics, family involvement, time allocation, and environmental conditions. Children with ADHD may respond differently depending on their attention patterns, sensory preferences, mood, previous experiences, and level of adult support. For this reason, the intervention should be implemented gradually and reflectively, with activities adjusted according to children's observed needs rather than reproduced mechanically across settings.

Several limitations should be considered when interpreting these findings. The study involved only five children in one inclusive school; therefore, the observed patterns cannot be generalized to all children with ADHD or to all educational contexts. The absence of a comparison group also means that the study cannot establish that the observed changes were caused exclusively by permaculture ecotherapy. Repeated adult support, growing familiarity with the activities, peer interaction, family involvement, and other experiences

during the intervention may also have contributed to the patterns observed.

In addition, the study relied on observational, interview, documentation, and reflection data rather than standardized psychological measures. The findings therefore describe contextually observed educational and psychosocial patterns rather than clinical recovery or measurable reductions in ADHD symptoms. The participatory nature of Classroom Action Research may also introduce interpretive subjectivity because the researchers were involved in both implementing and observing the intervention. Although source and method triangulation and researcher reflexivity strengthened credibility, longer observation and follow-up would be needed to examine whether the observed patterns continued beyond the intervention period. Future research could involve more diverse participants, multiple schools, longer implementation periods, systematic behavioral measures, and comparative designs. A further limitation concerns research ethics administration, as school permission and participant consent were obtained verbally, and no formal institutional ethical clearance was obtained.

C. Conclusion

This study suggests that Islamic value-based permaculture ecotherapy has potential as a complementary form of psychosocial and pedagogical support for children with ADHD in an inclusive school context. Across the connected activities of planting, plant care, and harvesting, the children showed contextually observed patterns of greater task engagement, improved ability to return to activities after distraction, responsibility, patience, cooperation, calmer social participation, gratitude, and self-confidence. These patterns emerged within an intervention that combined structured ecological routines, adult scaffolding, peer collaboration, and Islamic meaning-making through values such as *khalifah fil ardh*, *amanah*, patience, gratitude, and *tadabbur alam*.

The contribution of this study lies in proposing a

preliminary framework that connects permaculture-based ecological continuity, nature-based activity, Islamic values, and inclusive educational support. Rather than positioning permaculture ecotherapy as a standardized therapeutic treatment, the findings indicate its potential as an adaptable educational approach in which ecological responsibility, social participation, and spiritual meaning are integrated into children's everyday learning experiences.

These findings should be interpreted cautiously. The study involved only five children in one inclusive school, included no comparison group, and did not use standardized psychological measures. Therefore, the findings do not establish therapeutic effectiveness or clinically measured improvement in psychological well-being. The model is best understood as a context-specific and preliminary form of psychosocial and pedagogical support. Further research with larger, more diverse samples; multiple school settings; longer observation periods; systematic behavioral measures; and comparative designs is needed to examine the sustainability, mechanisms, and transferability of this approach.

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