

An Ecotheological Study of Patchouli Cultivation Practices among the Congregation of GMIM Kanaan Karowa, Tompasobaru I Region

Sindy Claudia Poluan¹, Agnes Relly Poluan², Marde Christian Stenly Mawikere³

Institut Agama Kristen Negeri Manado

		Abstract
Received:	07 July 2025	This study examines the implementation of ecotheological values in the patchouli (<i>Pogostemon cablin</i>) farming practices of the GMIM Kanaan Karowa congregation in the Tompasobaru I region. Employing a descriptive qualitative approach, data were gathered through in-depth interviews, field observations, and church document analysis. The findings reveal a significant gap between the congregation's strong theological awareness regarding the responsibility to care for creation and the reality of environmentally unfriendly agricultural practices. The community remains dependent on chemical fertilisers, pesticides, and wood-fuelled distillation methods that pose ecological risks. The church's role is still confined to doctrinal teaching, lacking structured ecological action. Therefore, the church must take a leading role in integrating faith with ecological engagement to promote sustainable agriculture in harmony with Christian belief and the integrity of creation.
Revised:	26 July 2025	
Accepted:	23 July 2025	
Keywords:		<i>Ecotheology, Agricultural Practices, Patchouli Cultivation, Church, Sustainability</i>
(*) Corresponding Author:		Shindypoluan@gmail.com
How to Cite:		Poluan, S., Poluan, A., & Mawikere, M. (2025). An Ecotheological Study of Patchouli Cultivation Practices among the Congregation of GMIM Kanaan Karowa, Tompasobaru I Region. <i>International Journal of Education, Information Technology, and Others</i> , 8(3.B), 117-129. Retrieved from https://jurnal.peneliti.net/index.php/IJEIT/article/view/12456

INTRODUCTION

The Tompasobaru region, located in the South Minahasa Regency, North Sulawesi Province, is known for its fertile mountainous terrain and cool climate. These geographical and climatic conditions make the area highly suitable for agricultural activities. The majority of the population in this region, including members of the GMIM Kanaan Karowa congregation in Karowa Village, depend on agriculture for their livelihoods, with key commodities including cloves, coconuts, and nutmeg. In recent years, patchouli (*Pogostemon cablin*) has been increasingly cultivated as a promising alternative crop with significant economic potential.

Patchouli is of high economic value due to its production of essential oil, commonly known as patchouli oil. This oil is extracted through the distillation of the plant's leaves and stems and is widely used in the cosmetics, perfume, food, and pharmaceutical industries (Yusniwati et al., 2020). According to Zuyasna et al. (2021), patchouli is among the significant contributors to the country's foreign

exchange earnings. As noted by Zaini et al. (2023), essential oils are secondary metabolite products found in various parts of plants and are highly competitive in the export market. Emmyzar and Ferry (2004) further explain that the appeal of patchouli oil lies in its fixative properties—that is, its ability to bind and preserve fragrances in perfumes, allowing the scent to last longer.

For the local community, patchouli farming is not merely a source of income but also an integral part of social, cultural, and even spiritual life. However, the intensification of patchouli cultivation has raised new challenges in terms of environmental management. Unsustainable farming practices risk causing environmental degradation, such as declining soil fertility, water pollution from pesticide use, and land deforestation (Karundeng et al., 2021). Sembel (2023) warns that environmental damage often originates from agricultural practices that neglect principles of ecological balance.

Within the context of church life, GMIM congregations uphold a strong theological foundation concerning the relationship between Christian faith and environmental responsibility. This understanding is reflected in GMIM's catechetical materials for prospective communicant members, which refer to Genesis 1:1–2, 7:16–17, 12:5 and Psalm 8:7–9, emphasising that all of nature is God's creation and that humanity is called to care for it. This is also affirmed in the GMIM Confession of Faith, which states that "believers are called to manage and preserve the universe responsibly, through hard and honest work."

An ecotheological approach is therefore highly relevant in bridging the gap between theological teachings and the ecological responsibilities of believers. Ecotheology views humans as God's partners in sustaining creation (Gen. 1:28) and highlights the importance of integrating faith with everyday practices, including in the field of agriculture (Sembel, 2023). Mawikere et al. (2024) assert that the fulfilment of the covenant in Christ encompasses spiritual, social, economic, and ecological transformation, making the care of creation an inseparable part of Christian spirituality.

Nonetheless, the extent to which ecotheological values are understood and implemented in agricultural practices by the GMIM Kanaan Karowa congregation—particularly in the context of patchouli cultivation—remains an open question that has not been widely studied. This issue is of importance, as the role of the local church in fostering ecological awareness could be key to promoting more sustainable farming practices aligned with Christian values.

Therefore, this study aims to examine how ecotheological understanding and implementation are expressed by the congregation in their patchouli farming practices. It also seeks to explore the church's role in fostering ecological awareness within an agrarian community, and to encourage the emergence of a sustainable and theologically grounded model of agriculture. In doing so, this study is expected to contribute to the development of contextual theology while offering practical insights for the church's ministry in rural communities.

RESEARCH METHOD

This study employed a descriptive qualitative approach with the aim of providing an in-depth portrayal and analysis of how ecotheological values are understood and applied in patchouli farming practices by the congregation of GMIM Kanaan Karowa. This approach was chosen as it allows the researcher to explore experiences, understandings, and socio-religious practices in a contextual and holistic manner (Creswell, 2016).

Data collection techniques included in-depth interviews with key informants consisting of congregational farmers, pastors, and special church ministers. These interviews aimed to gather information regarding their theological perceptions, motivations, and attitudes towards the environment and the agricultural practices they engage in. In addition, direct observations were conducted at patchouli farming sites in order to gain a concrete understanding of the cultivation methods employed, and to observe the extent to which principles of sustainability and ecological concern are reflected in daily farming activities.

Supplementary data were obtained through document analysis of relevant written materials such as catechetical resources, church liturgies, the GMIM Confession of Faith, and other ecclesiastical documents related to the faith-based responsibility toward the environment.

All collected data were analysed thematically by applying coding techniques to identify key themes related to the congregation's ecological understanding, attitudes, and practices in light of the Christian faith. This analysis sought to reveal the connection between the church's theological teachings and the congregation's concrete actions in managing natural resources, particularly in the context of patchouli cultivation. To enhance data validity, the principles of source and method triangulation were employed (Patton, 2002), along with member checking, in which interpretations of the data were confirmed with several key informants.

Through this approach, the study seeks to provide a deeper understanding of the integration between Christian faith and ecological awareness within the local context of the GMIM congregation. It also aims to contribute to the development of more sustainable agricultural practices that are consistent with the theological calling to care for creation.

RESEARCH RESULTS AND DISCUSSION

Patchouli Farming Practices and Their Ecological and Theological Implications for the Congregation

The patchouli farming practices carried out by the GMIM Kanaan Karowa congregation in the Tompasobaru I region exhibit a relatively uniform and structured pattern, beginning with land preparation, planting, maintenance, and culminating in the distillation of essential oil. During the land preparation stage, farmers typically clear the area using basic tools and then select patchouli cuttings based on quality. Some farmers plant the rooted cuttings directly, while others use plastic domes for approximately two weeks to retain moisture and improve the plant's survival rate—reaching up to seventy percent. While this technique is

agronomically effective, the use of plastic domes raises ecological concerns due to the accumulation of plastic waste on farmland, which poses risks of soil pollution and dependency on non-degradable materials.

During the maintenance phase, patchouli farming generally involves weeding, mounding, and the application of fertilisers and pesticides. Unfortunately, most farmers still rely heavily on chemical fertilisers and synthetic pesticides such as herbicides, insecticides, and fungicides. This dependency indicates that principles of organic and sustainable agriculture have not yet been fully adopted, as the primary motivation remains achieving maximum yield in a short period. This reflects a disparity between short-term economic goals and long-term ecological awareness. As noted by Karundeng et al. (2021), prolonged use of chemical inputs may degrade soil quality, harm soil biology, and exacerbate reliance on industrial products. The widespread adoption of monoculture practices further aggravates this situation by reducing biodiversity and increasing vulnerability to pests and plant diseases.

Moreover, in the oil distillation process, most farmers continue to use firewood sourced from nearby trees. This practice drives illegal logging, which, over time, contributes to local deforestation and accelerates forest degradation. The impact includes not only the loss of vegetation cover but also heightened risks of erosion and landslides, particularly during the rainy season. Waste from the distillation process, including discharged water and plant residue, is often disposed of indiscriminately without proper management, thereby contaminating soil and water sources. Such practices affirm Sembel's (2023) assertion that agricultural activities lacking ecological consciousness may become the root of systematic environmental degradation.

Nevertheless, not all practices reflect a destructive tendency. Some farmers with access to fertile land have reported ceasing the use of chemical fertilisers, relying instead on the soil's natural fertility. This indicates the potential for adopting more sustainable agricultural methods if supported by adequate ecological education and technical assistance from church institutions and governmental bodies. Such initiatives could serve as entry points for promoting balanced agroecological practices that integrate economic productivity with environmental conservation.

From a socio-economic perspective, patchouli farming has had a significant positive impact on the congregation. Many families have experienced increased income, the creation of new employment opportunities, and the revitalisation of previously unused agricultural land. Income from patchouli cultivation has also enabled some families to fund their children's education to higher levels. However, these economic benefits have brought unintended consequences, including the conversion of food crop land into commercial crop fields, an increased risk of harvest theft, and potential agrarian conflicts within the community due to economic dependency on a single commodity.

The interplay between patchouli farming practices, economic interests, and ecological impacts highlights the importance of a theological approach in

providing moral and spiritual guidance for natural resource management. Within the theological framework of GMIM, ecotheological values form part of the church's official teachings, as articulated in the GMIM Catechism and Confession of Faith. These documents affirm that the universe is God's creation and that humanity is called to manage it with responsibility, honesty, and diligence. This aligns with Reformed theological principles, which assert that humans are not absolute rulers but stewards of God's creation (cf. Gen. 1:28; Gen. 2:15; Ps. 8:7–9).

In the light of ecotheology, as emphasised by Mawikere et al. (2024), Christian faith should give rise to holistic transformation encompassing spiritual, social, economic, and ecological dimensions. Accordingly, congregational farming practices should not be driven solely by profit motives but should be understood as expressions of worship and acts of faithful stewardship over creation. The local church—specifically GMIM Kanaan Karowa—plays a crucial role in fostering ecological awareness among its members through education, pastoral care, and the strengthening of ecological spirituality. This would pave the way for sustainable agriculture that not only enhances the well-being of the congregation but also safeguards the integrity of creation as a tangible manifestation of a living faith working through love (Gal. 5:6).

In conclusion, this study underscores the importance of integrating ecotheological values throughout the entire chain of agricultural activities as a form of the church's witness in addressing environmental challenges and promoting the sustainable flourishing of the community.

The Tension between Theological Awareness and Ecological Practice in Congregational Life

The findings of this study indicate that the GMIM Kanaan Karowa congregation possesses a relatively strong theological awareness regarding ecological responsibility as an integral part of Christian faith. Based on interviews with several congregation members, it emerged that they understand nature as a “blessing from God” which must be preserved and wisely managed. For the majority, farming is not merely an economic activity, but is also regarded as an expression of worship and a calling to care for creation. From their perspective, the management of agricultural land represents a concrete form of obedience to God, as humans are viewed not as absolute owners, but as stewards of the earth (cf. Gen. 2:15; Psalm 24:1).

These statements suggest that the congregation's theological understanding is grounded in solid doctrinal foundations. Congregants recognise that the Word of God, alongside the reasoning granted by God, leads them to avoid greed and consider the environmental consequences of their agricultural practices. This awareness aligns with the GMIM Confession of Faith, which affirms that believers are called to manage and preserve the universe responsibly, through hard work and integrity.

Nevertheless, upon deeper examination of practical realities, a significant gap becomes evident between this theological awareness and the application of

ecothological values in day-to-day farming activities. Pastors and church workers interviewed in this study observed that although members are aware that caring for creation is a matter of faith, in practice they often engage in conventional, inherited farming methods. These practices are carried out with little ecological consideration, driven primarily by urgent economic needs. As a result, the congregation's ecotheological awareness operates largely at a cognitive and emotional level, without extending into concrete behavioural transformation in agricultural practices.

This disparity is exacerbated by limited access to information and sustainable farming knowledge. Congregational leaders highlighted that the lack of training and technical guidance leads members to follow methods that are popular or believed to generate income quickly. In practice, these methods are not always aligned with Christian ecological principles. Congregants are not sufficiently encouraged to question whether the techniques they use reflect their faith values or to consider the impact on soil, water, and biodiversity. This phenomenon confirms Sembel's (2023) observation that ecotheology is not merely a doctrine, but a call to care for creation through concrete actions.

Therefore, the ecotheological awareness of the GMIM Kanaan Karowa congregation may be considered high in conceptual terms but remains low in practical application. This is consistent with the findings of Mawikere et al. (2024), who assert that authentic Christian transformation must encompass spiritual, social, economic, and ecological dimensions. When ecotheological awareness remains at the level of abstract ideas without practical implementation, the faith mandate to care for creation becomes fragmented and risks losing its relevance in the daily lives of congregants.

This situation signals the need for a more systematic and structured intervention through educational and pastoral programmes. The local church must take a more active role in providing theological education that integrates faith and ecology, while also encouraging sustainable agricultural practices through training and technical assistance. Such efforts must be contextual, respecting the local realities of the congregation, while remaining rooted in strong theological foundations. The church should also facilitate dialogue between theology, environmental science, and agricultural technology, so that members do not merely understand their ecological responsibility doctrinally, but are also able to manage it strategically in practical terms.

Thus, the tension between awareness and action identified in this study does not merely reflect technical or economic issues, but represents a pastoral and theological challenge that must be addressed earnestly. The Church, as a community called to be the light and salt of the earth, is summoned to guide its members in cultivating right relationships with God, with one another, and with the whole of God's creation.

The Role of the Local Church in Promoting the Implementation of Ecotheology: Between Proclamation and Concrete Action

This study reveals that the role of the local church—particularly GMIM Kanaan Karowa—in promoting the implementation of ecotheological values remains at an early stage and tends to be limited to the dimension of verbal proclamation. On various occasions, church leaders, including pastors and special ministers, have conveyed teachings on humanity's responsibility towards God's creation through sermons, catechism classes for communicant candidates, and categorical worship services. However, these teachings have not yet been supported by concrete and systematic programmes in the field, and thus have not produced a significant ecological impact on congregational life and practices.

This finding aligns with the observations of several informants who stated that, although the importance of preserving the land and protecting the environment had been preached, such messages have not been translated into tangible and measurable actions. For instance, activities such as reforestation, sustainable agricultural practices, or ecological management of church land have not yet been incorporated into ongoing church programmes. This indicates that the church's current approach remains declarative rather than transformative.

Interviews with congregants also revealed a shared expectation that the church should not only provide moral encouragement verbally, but should also act as a concrete example in terms of ecological responsibility. Members expressed a desire for church-owned land to be managed ecologically as a demonstration of faith that can be observed and emulated by the wider community. This approach is especially crucial in agrarian contexts, where practical models are more easily accepted and adopted than abstract doctrines. Consequently, congregants believe that the church should function not merely as a preacher or spiritual motivator, but also as a facilitator, companion, and implementer of ecological programmes.

Furthermore, special church ministers highlighted the importance of developing concrete strategies to strengthen congregational understanding and skills in applying ecotheology. These strategies include reforestation initiatives, training in the production of organic fertilisers and pesticides, the development of environmentally friendly demonstration gardens, and partnerships with government agencies, universities, and non-governmental organisations engaged in environmental issues. Such initiatives would not only enhance the technical capacity of church members but also reinforce the theological foundation that Christian faith demands active participation in caring for creation.

In light of GMIM theology—as expressed in the GMIM Confession of Faith and catechetical teachings—God is the Creator and Sustainer of the universe, and humanity bears the responsibility to manage creation with accountability, honesty, and integrity. The Church, as the body of Christ in the world, is called to fulfil an educational, prophetic, and transformational role. Therefore, by integrating faith education with ecological practice into a unified church programme, the Church does not merely teach what is right but also demonstrates how to live rightly in relationship with the earth.

In this context, the Church can assume a dual role: as a teacher (through the proclamation of the Word) and as a practical guide (through community-based

ecological action). A church that embodies this model will become an effective agent of social transformation, shaping a farming culture that is sustainable, faith-based, and contextually grounded. As affirmed by Mawikere et al. (2024), a living and accountable Christian faith must encompass holistic transformation, including the ecological dimension, wherein the care of creation is not separated from worship and the spiritual life of believers.

Overall, the Church possesses significant potential to be a pioneer in the practical application of ecotheology. However, this potential requires strategic management and long-term commitment. Adequate resource allocation, the strengthening of internal church capacity, and cross-sectoral collaboration are all essential for translating faith-based teaching into impactful action. Should the Church succeed in this transformative role, it will not only deepen the ecological consciousness of its members but also enhance the social and economic sustainability of the patchouli-farming community—shaping them not only as economic actors but as faithful stewards of creation.

Challenges and Opportunities in the Implementation of Ecotheology: Between Economic Realities and Faithful Responsibility

One of the key findings of this study is the evident tension between the ecological awareness of the congregation and the economic realities they face in the practice of patchouli farming. Although theologically, the GMIM Kanaan Karowa congregation understands environmental stewardship as part of their faith commitment (cf. Gen. 2:15; Ps. 8:7–9), in practice, many farmers feel compelled to intensively use chemical fertilisers and pesticides. This decision does not stem from disregard for the environment, but rather results from a combination of limited access to organic alternatives, urgent economic needs, and pressure to achieve high and rapid yields.

This economic factor is further exacerbated by a lack of knowledge and experience in producing and applying organic fertilisers or pesticides that are effective, affordable, and readily available. The reliance on chemical inputs has become a perceived realistic and immediate solution, despite the long-term detrimental effects on soil fertility and water quality. Moreover, the variation in land characteristics within the congregation—some plots being naturally fertile, others dependent on external inputs—makes it difficult to standardise the application of ecotheological principles across the board.

Furthermore, this study has found that obstacles to transforming farming practices also arise from cultural and social factors. Many patchouli farmers have inherited farming methods from their parents and ancestors, which have been practised for generations and are regarded as proven and effective. These traditions establish strong communal norms, which, in many cases, hinder the space for ecological innovation. In this context, change demands not only new knowledge, but also the courage to step outside long-established social comfort zones. As noted by Zuyasna et al. (2021), resistance to change in agricultural practices is closely tied to communities' collective trust in long-standing traditions.

In addition, the regulatory and spatial planning aspects surrounding agricultural areas reveal weak control and oversight. Numerous patchouli oil distillation units have been constructed near residential areas without due regard for hygiene and sustainability standards. This has led to the unregulated disposal of liquid and solid waste, polluting the environment, increasing public health risks, and degrading nearby soil and water systems.

Nonetheless, amidst these challenges, the study has also identified strategic opportunities to cultivate a more practical and transformative implementation of ecotheology. One such opportunity lies in the spiritual strength and faith-based motivation of the congregation. Pastors and special ministers have affirmed that the teaching of Scripture and the power of prayer possess great potential to awaken environmental concern among congregants, particularly when such teachings are directly related to farming practices and household survival. In this regard, integrating the preaching of stewardship principles with technical training programmes—such as the production of organic fertilisers, waste management, and land-use planning—is vital.

The local church can play a strategic role as a bridge between doctrine and action. For example, by developing ecotheology-based demonstration gardens, offering sustainable agroecological training, and facilitating affordable organic farming techniques, the Church not only transmits teachings but also cultivates habits and capacities for living in accordance with the values of faith. These efforts are consistent with Mawikere et al. (2024), who emphasise that Christian ecotheology should not end in statements of belief but must be realised in concrete transformation across the social, economic, and ecological dimensions of the community.

Moreover, special ministers can act as agents of change by designing more structured categorical programmes. Potential initiatives include establishing environmentally friendly farming study groups, organising workshops on waste processing and soil conservation, and coordinating community-based reforestation activities with regular evaluation. In this way, ecotheology becomes not merely an internalised discourse, but a tangible benefit experienced in everyday life—whether in improved soil quality, enhanced family health, or increased economic well-being of the congregation.

Therefore, the opportunities for implementing ecotheology in the agricultural practices of the GMIM Kanaan Karowa congregation remain open and promising—provided that the Church is able to develop strategies that integrate spiritual, educational, and technical dimensions. This holistic approach will strengthen the synergy between theological awareness and environmental sustainability, establishing the Christian faith as a transformative force in addressing contemporary challenges, including the ecological crisis that threatens the future of agrarian communities today.

Trinitarian Ecotheology: Creation as Gift, Christ's Redemption, and the Church's Vocation in Anticipating the Consummation at the Parousia

Christian ecotheology is grounded in the profound conviction that the earth and all of creation are the good and perfect work of the Triune God. In Genesis 1:1 and 1:31, it is affirmed that “in the beginning God created the heavens and the earth”, and that creation was “indeed very good”. Creation is not merely a backdrop to human life, but a dynamic relationship between the Creator and the universe He has brought into being. God the Father as Creator, God the Son as Redeemer, and God the Holy Spirit as Sanctifier are each intimately involved in the existence and sustenance of the world, revealing that the Trinitarian relationship directly touches ecological reality.

God’s creation is neither random nor meaningless. Psalm 24:1 declares, “The earth is the Lord’s, and everything in it, the world, and all who live in it.” This verse affirms that humanity is not the absolute owner of creation, but rather its steward, entrusted with a sacred mandate (Gen. 2:15). This understanding forms the foundation of Trinitarian ecotheology, which perceives humanity not as the centre of all things (anthropocentric), but as part of a broader community of creation, living before and under God.

Yet sin has disrupted the order of creation. In Romans 8:20–22, Paul writes that all creation “was subjected to frustration” and “groans as in the pains of childbirth”. The ecological suffering evident in the modern world—deforestation, pollution, and greedy exploitation of natural resources—is a concrete manifestation of sin, which not only damages humanity’s relationship with God, but also its relationship with creation. Here, the relevance of the incarnation of Jesus Christ becomes central: through His incarnation, death, and resurrection, Christ has not only redeemed humanity, but also reconciled creation to the Creator (Col. 1:15–20). In this light, Christ becomes the centre of all things, both in heaven and on earth.

The restoration of creation in Christ necessitates the active involvement of the Church as His body in the world. The Church is not merely a spiritual community but also an ecological one, called to embody God’s love through the stewardship of His created world. The GMIM Confession of Faith affirms that human beings are called to “manage and preserve the universe responsibly, with diligence and honesty.” This implies that the ministry of the Church must include an ecological dimension as a tangible expression of obedience to God.

In the context of the GMIM Kanaan Karowa congregation, Trinitarian ecotheology offers a rich theological framework for reflection and action within the practice of patchouli cultivation. While the realities on the ground reveal a gap between theological awareness and ecological practice—such as the use of chemical fertilisers, wood burning for distillation, and neglect of waste management—the understanding of the Triune God’s involvement in creation can serve as a source of spiritual and moral inspiration for transformation.

More than merely an environmental ethic, Trinitarian ecotheology calls the Church to embody a spirituality of creation—an awareness that all things are created, sustained, and will ultimately be renewed by God. Therefore, the Church is called to a holistic ministry: not only to save souls, but also to care for the earth,

the dwelling place of God's people. As Mawikere et al. (2024) assert, the fulfilment of the covenant in Christ involves spiritual, social, economic, and ecological transformation. The Church cannot separate faith from concrete action in a wounded world.

Furthermore, the hope of the Parousia—the second coming of Christ—provides a strong eschatological orientation for ecotheology. In Revelation 21:1–5, John envisions “a new heaven and a new earth”, signalling that the restoration of creation will reach its culmination in God's final work. This hope is not a reason for passivity or fatalism; rather, it serves as a motivation to faithfully steward creation in anticipation of its consummation in Christ. Within Reformed theology, eschatological hope is not escapist but transformative—calling the Church to participate in the work of restoration as both witness and instrument of God's Kingdom on earth.

Thus, Trinitarian ecotheology not only provides meaning to the existence of the earth and all it contains, but also demands real responsibility from believers to live in harmony with creation. The practice of patchouli farming by the GMIM Kanaan Karowa congregation can become a spiritual and social arena for realising the Church's holistic mission: glorifying God, caring for neighbour, and preserving the earth as our common home, while awaiting the fulfilment of God's promise in the new heaven and the new earth.

CONCLUSION

This study affirms the existence of a significant gap between the theological awareness possessed by the GMIM Kanaan Karowa congregation and the practical application of ecotheological values within their patchouli farming practices. At the level of faith understanding, the congregation demonstrates a relatively high awareness of humanity's responsibility as stewards of God's creation. They recognise that caring for and preserving the earth is part of a divine mandate (Genesis 2:15), as well as an expression of fidelity to the Triune God who creates, redeems, and sanctifies creation (cf. Psalm 24:1; Colossians 1:15–20). However, this awareness has yet to be consistently implemented in concrete actions on the ground.

Field observations reveal that the congregation's agricultural practices remain largely shaped by a logic of intensive production and short-term economic gain. The extensive use of chemical fertilisers and pesticides, reliance on wood burning as fuel for patchouli oil distillation, and unregulated waste disposal practices indicate that ecological considerations have not yet become a central factor in agricultural decision-making. This poses a substantial risk of accelerating local environmental degradation, particularly with regard to soil and water quality, which are vital to the community's livelihood.

The Church's role in shaping and guiding the congregation's ecotheological consciousness and practice also remains limited. Although teachings on ecological responsibility have been conveyed through sermons and catechetical instruction, such approaches have not been accompanied by concrete

programmes that could serve as models and collective learning spaces for the congregation. The absence of demonstration plots, technical training, and other forms of practical support has meant that ecotheological values remain largely within the cognitive and normative realm, without sufficiently reaching the level of praxis.

This study further notes that the greatest obstacle to implementing ecotheology lies in the tension between pressing economic needs and an ecological consciousness that is still developing. On one hand, many farmers feel compelled to adopt conventional methods that are perceived as effective and expedient. On the other, longstanding traditions, community pressures, and limited knowledge and skills concerning environmentally friendly agriculture compound the complexity of the issue. Nonetheless, amid these challenges lie significant opportunities for transformation. Spiritual motivation, scriptural teaching, and faith in the redemption of creation through Christ constitute a strong foundation for cultivating a transformative ecological commitment.

Therefore, as a primary recommendation, the local church must adopt a more proactive and transformative role in fostering both ecotheological awareness and action. This can be realised through the integration of preaching with tangible programmes, such as training in the production of organic fertilisers and pesticides, reforestation of critical areas, waste management in distillation processes, and the development of church-owned farmland as a model of sustainable agriculture. The church should also seek to establish partnerships with educational institutions, government agencies, and environmental organisations to enhance the technical capacity of the congregation.

In doing so, the church will not only serve as a centre for spiritual formation, but also as a hub for concrete ecological and social empowerment. The transformation from understanding to action will strengthen the Church's witness as an agent of renewal that serves all of creation, while awaiting the return of Christ and the full restoration of the cosmos (cf. Romans 8:19–23; Revelation 21:1–5). Ultimately, the integration of faith and ecology will not only safeguard environmental sustainability but also realise the holistic well-being of the community—spiritually, socially, and ecologically.

BIBLIOGRAPHY

- Emmyzar, & Ferry, Y. (2004). *Pola budidaya untuk peningkatan produktivitas dan mutu minyak nilam (Pogostemon cablin Benth.)*. Balai Penelitian Tanaman Rempah dan Obat. *Perkembangan Teknologi*, 16(2).
- Hariyani, Widaryanto, E., & Herlina, N. (2015). Pengaruh umur panen terhadap rendemen dan kualitas minyak atsiri tanaman nilam (Pogostemon cablin Benth.). *Jurnal Produksi Tanaman*, 3(3), 205–211. <https://media.neliti.com>
- Karundeng, Y. S. Y., Yatim, H., Katili, H. A. M., & Nurazizah, L. L. (2021). [Article title not provided]. *CELEBES Agricultural*, 2(1). <https://doi.org/10.52045/jca.v2i1.194>

- Mawikere, M. C. S., Hura, S., Mawikere, J. C. R., & Mawikere, D. B. M. (2024). *Konten Berith dengan Abraham yang Misional dan Implikasinya Bagi Misi Yang Holistik*. Tepian: Jurnal Misi dan Komunikasi Kristen.
- Sembel, D. T. (2023). *Ekoteologi dalam perspektif Kristen*. Yogyakarta: CV Andi.
- Yusniwati, Setiawan, R. B., Syarif, Z., & Fitriawati. (2020). Organogenesis langsung tanaman nilam (*Pogostemon cablin* Benth.). Dalam *Seminar Nasional Virtual: Sistem Pertanian Terpadu dalam Pemberdayaan Petani*. <http://repository.ppp.ac.id/500/1/Organogenesis%20Langsung%20Tanaman%20Nilam.pdf>
- Zaini, A. K., Hariyono, D., Pradana, O. C. P., Septiana, & Saitama, A. (2023). Analisis pertumbuhan dan hasil tiga varietas tanaman nilam (*Pogostemon cablin* Benth.) akibat pengaturan jarak tanam. *Jurnal Tanaman Pangan dan Hortikultura*, 5(1). <https://doi.org/10.25181/jplantasimbiosa.v5i1.2934>
- Zuyasna, Marliah, A., Rahayu, A., Hayati, E., & Husna, R. (2021). Pertumbuhan tanaman nilam MV1 varietas Lhokseumawe akibat konsentrasi dan lama perendaman kolkisin. *Agro Bali: Agricultural Journal*. <https://doi.org/10.37637/ab.v0i0.683>