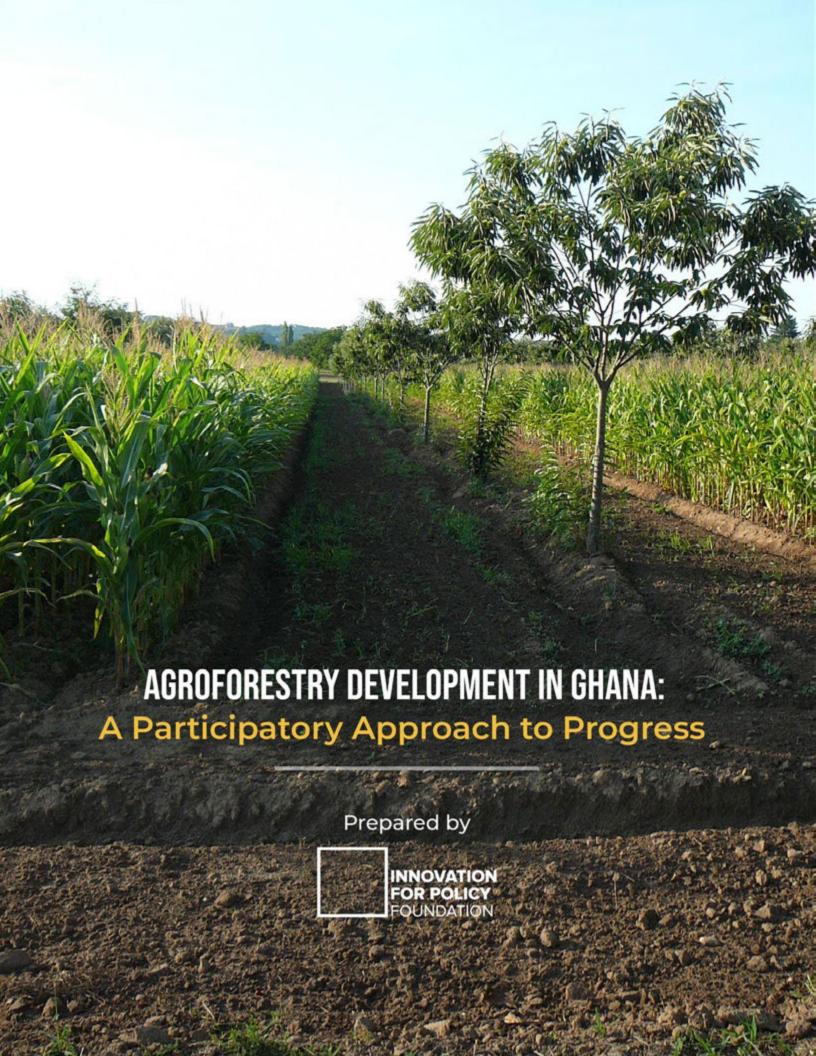
Agroforestry Development in Ghana: A Participatory Approach to Progress

Commissioned by the Netherlands Enterprise Agency



This study was commissioned by RVO (Netherlands Enterprise Agency)

This report is the opinion of the consultant alone, and not the opinion of RVO or the government of the Netherlands, December 2024.

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Executive Summary

This report, Agroforestry Development in Ghana: A Participatory Approach to Progress, offers an in-depth examination of the current state of agroforestry in Ghana, its critical role in sustainable development, and the challenges and opportunities it presents. Agroforestry, which integrates trees with crops and livestock, is recognised globally as a vital tool for addressing environmental, economic, and social challenges. Agroforestry in Ghana holds immense potential for enhancing agricultural productivity, conserving biodiversity, mitigating and adapting to climate change, and improving livelihoods. However, despite its benefits, agroforestry adoption remains constrained by various systemic issues.

The current agroforestry landscape in Ghana is heavily dominated by cocoa farming. Cocoa-based agroforestry systems, championed by institutions like COCOBOD, Ghana's Cocoa Board, have gained traction due to the economic importance of cocoa as Ghana's most significant export crop. Frameworks such as the Modified Taungya System (MTS) and Dynamic Agroforestry (DAF) have been pivotal in integrating trees into agricultural systems while addressing land degradation and deforestation. However, agroforestry definitions and practices in Ghana remain focused on cocoa farming, while there is limited focus on other crops such as cashews, shea, and oil palm. This limited scope has excluded large sections of Ghana's ecological zones, such as the savannah and transition zones, from benefiting fully from agroforestry practices. This restriction highlights the need for a broader understanding and implementation of agroforestry systems encompassing diverse crops and regions.

This report highlights the critical roles played by various stakeholders in advancing agroforestry in Ghana. Governmental bodies, such as the Forestry Commission (FC), the Ministry of Food and Agriculture (MoFA), COCOBOD, and District Assemblies, are central to policy formulation and implementation. Traditional authorities and local communities, including smallholder farmers, are vital to the success of agroforestry systems, as they directly engage in adopting and maintaining these practices. The private sector and NGOs, led by organisations such as Swissco, Rainforest Alliance, Tropenbos Ghana, Agro Eco, Kuapa Cocoa, Meridia and Netherlands Development Organisation (SNV), contribute to agroforestry advocacy and development through investments, technical innovations, and certification programmes. International development partners provide critical funding, technical expertise, and policy alignment. For instance, the World Bank supports sustainable land-use and agroforestry-related projects, while embassies like the Netherlands Embassy and the Swiss Embassy, as well as the Netherlands Enterprise Agency (RVO) facilitate capacity building and resource mobilisation. Global institutions such as the United Nations Development Programme (UNDP), Food and Agriculture Organisation (FAO), and

United Nations Environment Programme (UNEP) advocate for agroforestry's integration into climate resilience and sustainable development strategies. Additionally, the European Union (EU) attempts to drive policy alignment through initiatives such as the Forest Law Enforcement, Governance, and Trade (FLEGT) and the European Union Deforestation-free Regulation (EUDR).

There are several systemic challenges hindering agroforestry development in Ghana. Socioeconomic barriers, including the high costs of establishing agroforestry systems, significantly deter farmers. The financial burden of acquiring seedlings, fertilisers, equipment, and labour often outweighs the perceived benefits, especially given the delayed economic returns associated with agroforestry. Farmers also face disincentives due to unclear land and tree tenure systems. Facets of the current legal framework can complicate ownership rights, at times making it difficult for farmers to benefit from timber and other forest products. Inefficient benefit sharing arrangements for naturally occurring trees leave farmers with little to no financial incentives to protect or nurture these resources. Furthermore, some historical differences between key governmental agencies exacerbate a fragmented agroforestry sector, resulting in inefficiencies and duplication of efforts.

Environmental challenges such as deforestation, land degradation, and biodiversity loss also pose significant threats to agroforestry. Illegal logging and galamsey (illegal gold mining) undermine reforestation efforts and negatively impact agroforestry initiatives. Monoculture farming practices, particularly in cocoa cultivation, have depleted soil nutrients, reduced fertility, and contributed to habitat loss for native plant and animal species. This environmental degradation affects agricultural productivity and discourages farmers from adopting sustainable land-use practices. The over-reliance on cocoa-based agroforestry systems limits diversification and reduces resilience to market fluctuations and climate shocks for other crops.

To address these challenges, key recommendations include:

- Developing a national agroforestry policy with a clear definition, harmonised institutional roles, and policy alignment. Establishing a unified national agroforestry policy framework aligns with Ghana's broader environmental and agricultural strategies. This framework should provide a clear and inclusive definition of agroforestry, harmonise institutional roles, and address existing policy gaps to ensure coordinated and effective implementation across sectors.
- Simplifying land and tree tenure systems to incentivise farmer participation and ensure equitable benefit-sharing. Clarifying land and tree tenure rights is essential for fostering trust and participation among farmers. Current complexities in ownership discourage investment in agroforestry, as farmers are often unable to fully benefit from the trees they plant. Establishing

transparent and equitable benefit-sharing mechanisms, particularly for timber and carbon credits, will incentivise farmers to adopt agroforestry practices. Financial support mechanisms, such as subsidies and cost-sharing programmes, are also needed to offset the high initial costs. Additionally, capacity-building initiatives should focus on equipping farmers with the technical knowledge and resources necessary to sustain agroforestry systems.

- Promoting crop diversification to expand agroforestry beyond cocoa and support underserved ecological zones. Mainstreaming agroforestry beyond cocoa to include crops such as cashews, shea, oil palm, and timber species and livestock can enhance resilience, create alternative income streams, and ensure that all ecological zones benefit. Currently, agroforestry efforts are concentrated in cocoa-growing areas, and there is less focus on other regions with significant potential. Broadening the scope of agroforestry initiatives to the savannah and transition zones will help mitigate environmental degradation and improve food security.
- Enhancing stakeholder collaboration through multi-stakeholder platforms and participatory approaches. Collaboration among stakeholders is essential for the success of agroforestry in Ghana. Traditional authorities, local communities, government agencies, the private sector, civil society organisations, and international partners all have critical roles to play. Platforms that promote multi-stakeholder dialogue and knowledge sharing can enhance coordination and inclusivity, ensuring that agroforestry practices are tailored to local needs and contexts. A participatory governance approach will also help bridge institutional silos and align policies across forestry, agriculture, and land management.
- Leveraging technology for land mapping, tree registration, and transparent monitoring. Digital tools can be transformative in addressing tenure complexities, tracking agroforestry adoption, and improving monitoring. Innovations such as land mapping, tree registration systems, and remote sensing can enhance transparency and accountability while providing farmers with verifiable proof of land and tree ownership. Strengthening data collection mechanisms will also support evidence-based policymaking and attract investment in agroforestry initiatives.

In conclusion, agroforestry offers Ghana a transformative opportunity to achieve its environmental and socio-economic goals. By addressing systemic barriers through a participatory and inclusive approach, Ghana can establish a robust agroforestry sector that supports sustainable growth, enhances livelihoods, and contributes to global climate action. This report lays the foundation for advancing agroforestry development in Ghana, emphasising the importance of collaboration, innovation, and policy coherence in achieving long-term success.

1. Introduction

Agroforestry in Ghana is a vital component of the agricultural and forest sectors, particularly in cocoa farming, which serves as a cornerstone of the country's economy. With approximately 7,985,710 hectares, representing 35.10% (Faolex, 2024) of the country's land area, under forest cover, agroforestry plays a crucial role in maintaining ecological balance and supporting agricultural productivity. Many farmers integrate shade trees into their cocoa farms, increasing productivity while promoting environmental benefits. The cocoa farming landscape in Ghana offers substantial opportunities to enhance the density of shade trees, further supporting ecological balance and farm productivity. Efforts by cooperatives and support programs are steadily advancing, providing farmers with training, resources, and market access to encourage the adoption of diversified and sustainable agroforestry practices.

Despite its promise, agroforestry methods in Ghana are yet to realise their full capacity, limited by structural and systemic constraints that must be overcome to realise its full potential. Some of the main challenges in the sector are:

- Land and Tree Ownership: Ghana's separation of land and tree ownership can discourage farmers from planting and maintaining trees due to unclear tenure arrangements and potential conflicts.
- **Socioeconomic Disincentives:** Farmers are often not entitled to revenues generated by naturally occurring trees on their land.
- **Environmental and Agricultural Impacts:** Illegal mining degrades land and water resources, undermining agroforestry efforts.
- **Financial and Technical Barriers**: Lack of financial incentives and limited extension services hinder the adoption of agroforestry.

Several potential solutions exist to address these challenges, each aimed at fostering sustainable growth and improving agroforestry practices in Ghana. Addressing agroforestry challenges in Ghana requires financial support, such as subsidies and carbon credits, stronger governance, and simplified benefit-sharing frameworks. Global initiatives like REDD+ can provide essential funding and align with sustainability goals.

Commissioned by the Netherlands Enterprise Agency (RVO), i4Policy conducted an analysis of Ghana's agroforestry sector. This report synthesises i4policy's findings, highlighting the sector's key challenges and opportunities while offering actionable insights to promote sustainable development and enhance agroforestry's contribution to Ghana's environmental and economic goals.

The report is organised as follows.

- <u>Section 2</u> outlines the methodology and approach used by i4Policy, detailing the Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) conducted with various stakeholders, including decision-makers, farmers, civil society, and others. This chapter identifies the key challenges and opportunities in Ghana's agroforestry sector.
- <u>Section 3</u> examines the current state of agroforestry in Ghana, focusing on the Eastern, Central, Ashanti, Western, Western North, Bono, and Ahafo regions. It discusses governance, the state's role and agroforestry's significance in local livelihoods while exploring its potential and the need for regional promotion.
- <u>Section 4</u> outlines the key challenges hindering the large-scale adoption of agroforestry practices. This includes examining overlapping jurisdictions regarding land and tree tenure, economic disincentives—particularly in the cocoa sector—the agricultural and environmental impacts of implementing these practices, gaps in knowledge, and the lack of collaboration among stakeholders.
- <u>Section 5</u> identifies opportunities for actors to drive meaningful reforms and facilitate the widespread adoption of agroforestry. It outlines specific recommendations, including policy reforms, farmer incentives, capacity building, and collaborative governance.
- Section 6 presents a roadmap for designing and implementing a participatory process that can effectively lead stakeholders to identify solutions to the problems and thus generate pathways for an eventual policy reform process.

The <u>annexes</u> provide an expanded overview of agroforestry policies and programmes.

2. Methodology

This report aims to explore the significant barriers to agroforestry adoption in Ghana and suggest practical recommendations for future collaborative processes. The report used qualitative methods to evaluate the challenges and opportunities within Ghana's agroforestry sector. The methodology is built around key components, including:

FGDs and KKIIs: Engaging diverse stakeholders—farmers, traditional leaders, government officials, and private sector representatives—to identify challenges and future visions.

Policy Analysis: A comprehensive review of national and international frameworks, such as the Forestry Development Master Plan, Timber Resource Management Act, and the Convention on Biological Diversity, among others.

KII Approach and FGDs

The KIIs primarily focus on policymakers and programme implementers to gain an understanding of policy issues. These experts were drawn from development partners and provided insights on the policy gaps, past and present programmes and identifying opportunities for scaling the agroforestry system.

The involvement of multiple stakeholders is crucial to the success of agroforestry initiatives. Accra's FGD participants were policymakers, development partners and NGOs. The participation of an agroforestry farmer and financial services providers delivered private sector perspectives. Kumasi's FGDs were more diverse, with more farmers, farmer cooperatives and traditional rulers attending the discussion. To address existing obstacles, it is essential to implement enabling policies developed through participatory, inclusive, and responsive approaches. Such processes ensure that Ghana's agroforestry and climate resilience policies are effective and relevant but also equitable and sustainable. By engaging a diverse range of stakeholders—farmers, private sector actors, government agencies, and international partners—the policy environment can be reshaped to simultaneously advance environmental goals and socioeconomic development, fostering a resilient and sustainable agricultural sector in Ghana.

Furthermore, participatory approaches are critical for amplifying marginalised voices, including women farmers, smallholders, youth, and rural communities. Women, in particular, play pivotal roles in agroforestry, from tree planting and seedling cultivation to small-scale farming. Yet, they often face unequal access to land, resources, and decision-making platforms. Ensuring their inclusion in policy development can enhance the effectiveness and equity of agroforestry initiatives. Several women

participated in the data collection process, including a cashew farmer from the Ashanti and Ahafo Regions.

However, future efforts must prioritise expanding this work to ensure greater representation and a deeper understanding of women's perspectives. A collaborative governance model that prioritises inclusivity and shared accountability can drive the growth of agroforestry while ensuring long-term sustainability and resilience in Ghana's agriculture and forestry sectors.

These methodological approaches provided a comprehensive foundation for identifying the challenges and opportunities in Ghana's agroforestry sector. The following chapter examines the sector's current state, offering insights into its potential and existing gaps.

3. Setting the Scene: Mapping Ghana's Agroforestry Landscape

3.1. Current State of Agroforestry in Ghana

Agroforestry in Ghana is widely understood as a sustainable land-use system integrating trees with crops and, in some cases, livestock. The review of Ghana's policy statements for the past three decades and engagements with stakeholders reveal very little focus on livestock as part of the agroforestry practices. By definition, agroforestry varies depending on the perspectives and priorities of different stakeholders. COCOBOD, Ghana's Cocoa Board, and therefore, a key actor in the agroforestry sector, defines agroforestry as

"... including trees that are not cocoa into the cocoa cropping mix".

COCOBOD is the state agency mandated to encourage and facilitate the production, processing, and marketing of good-quality cocoa, coffee, and shea nuts in all forms in the most efficient and cost-effective manner. It is also responsible for handling beans that fall below its quality standards. These beans, commonly referred to as "black beans," are often purchased by specific off-takers who use them to produce cosmetic products, pharmaceutical products, and food and beverage items. COCOBOD leans towards a cocoa-centric definition of agroforestry, which has greatly influenced emerging concepts such as Dynamic Agroforestry (DAF) as explained in Box Note 1. However, this can risk excluding crops other than cocoa in the transition towards

agroforestry. <u>Box 1</u> spotlights two emerging agroforestry practices currently being promoted in Ghana.

Box Note 1: Agroforestry Approaches – Dynamic Agroforestry (DAF) & Modified Taungya System (MTS)

Dynamic Agroforestry (DAF) is an innovative farming approach that integrates a variety of plant and animal species synergistically to create diverse, productive, and resilient farming systems. It promotes sustainable land use, enhances soil fertility, and increases biodiversity, offering a regenerative alternative to traditional monoculture cocoa farming.

DAF presents significant opportunities for transforming Ghana's cocoa industry, but several challenges hinder its adoption. Establishing a DAF plot involves high financial costs for acquiring seedlings and shade trees, often beyond smallholder farmers' means. Labour requirements, particularly for land clearing, pruning, and planting cover crops, also pose a barrier, as these costs are higher when compared to traditional cocoa cultivation practices. Additionally, the success of DAF depends on selecting optimal combinations of crops and shrubs to integrate with cocoa, which requires technical assistance and training to empower farmers with the necessary knowledge.

Despite these challenges, DAF presents an opportunity to enhance environmental conservation, and improve farmer livelihoods by providing sustained investment, support, and commitment to overcoming these barriers.

The Modified Taungya System (MTS) is a cornerstone agroforestry programme that allows farmers to grow food crops alongside trees on degraded forest reserves. This combination of short-term agricultural benefits and long-term forestry gains evolves from the traditional taungya model, in which farmers interplant food crops with tree species and cultivate the land until tree canopy growth inhibits further farming.

Under the enhanced MTS in Ghana, farmers benefit from food crops, forest products, and timber revenues, with a structured benefit-sharing model that allocates 40% of tree value to farmers. The system reduces vulnerability by offering profitability and resilience, addressing food security in the short term while ensuring long-term timber resource development. Thus, MTS emerges as a win-win solution for advancing Ghana's forestry development and climate adaptation.

However, several challenges affect MTS adoption and sustainability. Unclear land and tree tenure laws create uncertainty (for both systems), discouraging long-term farmer investment. Limited financial resources also make it difficult for farmers to sustain tree plantations once food cropping is no longer viable. Additionally, when tree canopy closure occurs, farmers must relocate or transition to alternative livelihoods, which is difficult in areas with scarce farmland. Disputes over timber

revenue distribution have also raised concerns about the equity of benefit-sharing arrangements.

Despite these challenges, MTS remains a key agroforestry approach in Ghana, contributing to forest conservation, rural livelihoods, and climate resilience. Strengthening tenure security, improving financial support mechanisms, and exploring more flexible agroforestry models could further enhance its long-term sustainability and impact.

DAF is seen as a promising alternative that will not only sustain cocoa production but also promote sustainability and resilience in cocoa farming systems while conserving the environment—COCOBOD, <u>Kuapa Cocoa</u>, a cocoa growing Cooperative, and <u>SWISSCO</u>, the Swiss Cooperative for Sustainable Cocoa, are key stakeholders also driving DAF in cocoa agroforestry in Ghana. COCOBOD and its allied institutions are the major drivers of agroforestry, even though the <u>Forestry Commission</u> (FC) has been identified as the key institution responsible for regulating the utilisation of forest and wildlife resources, the conservation and management of those resources and the coordination of related policies. Instead of driving DAF, the FC promotes the <u>Modified Taungya System (MTS)</u> as its chosen agroforestry system.

While DAF and MTS have distinct focuses and benefits, the lack of coordination in their implementation highlights institutional silos and competing priorities. A harmonised approach could leverage the strengths of both systems to address diverse stakeholder needs and ecological zones, with DAF suited to cocoa farming in the forest belt and MTS addressing land restoration in transition zones. Coordinated efforts could optimise resources, reduce inefficiencies, and create broader benefits for farmers and communities. By addressing financial, technical, and governance challenges and establishing a unified national framework, Ghana can maximise the potential of these agroforestry systems to enhance sustainability, improve livelihoods, and strengthen resilience across the agricultural sector.

There is potential for the Ministry of Agriculture to play a larger role in agroforestry. While agriculture (through crops and livestock) plays a crucial role in deforestation in Ghana, the current approach to agroforestry remains narrowly defined. To address this, the landscape needs to move from a narrow definition to one that reflects a broader range of perspectives, as captured by stakeholders in the Kumasi focus group discussion (FGD):

"Stakeholders define agroforestry as a sustainable land-use system combining the cultivation of food crops, trees, and livestock. It integrates agricultural practices with forestry technologies to minimise burning and chemical use, achieving economic, social, and environmental benefits."

The expert interviews and the FGDs highlighted key agroforestry areas, including providing shade to crops, carbon credits and environmental benefits, biodiversity, food security, income diversification, and agroforestry-based tourism.

Agroforestry-based tourism is a key area that encapsulates many benefits but has yet to be extensively discovered or explored. However, some agroforestry tourism projects exist, including Mole Park, Kakum National Park, and private sector initiatives such as His Majesty's Place Farm and Agritourism (See Box 2). Another emerging focus area is carbon credits, which offer double the advantages of income and environmental production. A farmer from the Kumasi FGD found this approach novel and expressed interest in participating and partnering with organisations to help them earn carbon credits from his agro plantations. This highlights the need to promote such programmes, as they provide farmers with additional income streams while incentivising sustainable land-use practices that contribute to environmental conservation and climate resilience.

Another participant pointed out that agroforestry protects the environment and that trees are a key carbon removal source. It also provides agronomic benefits such as shade and economic benefits such as food. Trees can also provide fuel, wood, and income for those in the savannah ecological zone.

Box Note 2: His Majesty Place Farms Agroforestry and Agritourism Center, Takoradi, Western Region

What They Do

His Majesty's Place Farms Agroforestry and Agritourism Center combines sustainable agroforestry practices with agritourism to create a dynamic enterprise that prioritises environmental conservation, education, and economic development. The centre showcases diverse agroforestry systems, including alley cropping, silvopasture, and home gardens, tailored to the region's ecological and agricultural context. It provides training and extension services to local farmers, equipping them with knowledge and tools to adopt improved agroforestry techniques. Additionally, the centre promotes agritourism by developing visitor facilities, organising guided tours, and offering recreational activities such as nature trails and bird watching. Research and development activities further enhance its role by studying agroforestry practices to improve sustainability and productivity.

Relevance to Agroforestry

The centre plays a crucial role in advancing agroforestry practices in Ghana. It

enhances local farmers' capacity to implement sustainable land-use systems, bridging gaps in knowledge and practice. The centre fosters wider adoption of these practices in the region by demonstrating agroforestry's economic, social, and environmental benefits. It also serves as a platform for research, education, and community engagement, highlighting the multifaceted potential of agroforestry systems to contribute to ecological restoration and economic resilience.

Tree and Land Tenure

His Majesty's Place Farms Agroforestry and Agritourism Center acquired its land from the community and has tenure over the property's trees. The farm has been developed over the past 30 years to benefit the local community significantly. The Agroforestry and Tourism Center not only maintains the road leading to the community but also provides recreational activities for its residents. Although no carbon credit system is currently in place, the farm plans to explore additional income-generating opportunities. Additionally, the owner highlighted the centre's educational benefits to neighbouring communities as a meaningful contribution to local development.

Uniqueness

The centre's integration of agroforestry with agritourism sets the centre apart, providing visitors with educational and recreational experiences while showcasing sustainable practices. Its community-centred approach actively involves local stakeholders in all its operations, ensuring that economic benefits are equitably shared and social inclusion is prioritised. The centre also leverages a 30-hectare forest reserve within its concession to educate visitors on the ecological importance of diverse tree species, using local and botanical naming systems to foster deeper understanding. Furthermore, its focus on financial sustainability is evident through multiple revenue streams, including tourism fees, educational programs, and potential carbon credit revenues, ensuring the longevity of its initiatives.

Conclusion

His Majesty Place Farms Agroforestry and Agritourism Center exemplifies how environmental stewardship and community-driven economic development can be seamlessly integrated. Its innovative approach is a pioneering model in Ghana, inspiring similar initiatives to combine agroforestry with agritourism for sustainable impact across the region.

3.2 Ghana's Agroforestry Landscape Taxonomy Mapping: (Mis)alignment on the Definition of Agroforestry

The meaning, understanding, and focus of agroforestry varies depending on the stakeholder. The overriding consideration differs for farmers, NGOs, State agencies, development partners, and the private sector.

Ghana's agroforestry landscape is centred around cocoa in the forest region, with little focus on cash crops like cashew and shea, which are grown in the middle and savannah ecological belts. Secondly, the private sector is underrepresented in agroforestry, which can affect financing, market access, and commercial development adoption. Several farmers growing these crops, lamented the seeming neglect of the cashew tree crop and farmers in the middle belt, in agroforestry policies and programmes. They called for a more inclusive national agroforestry programme. Third, stakeholders highlighted the importance of integrating livestock into agroforestry policy programmes, particularly in the savannah and middle belts, where livestock rearing plays a significant role in agriculture.

The section below explores the diverse perspectives on agroforestry in Ghana, highlighting shared elements, variations, and unique interpretations that collectively shape the country's agroforestry landscape.

A taxonomy is presented to organise these perspectives, providing a structured understanding of policy and practical applications.

3.2.1 Consensus on Core Elements

There is general agreement among stakeholders on certain foundational aspects of agroforestry. First, agroforestry is recognised as an integrated system combining trees, crops, and sometimes livestock to enhance productivity and resilience. This integration supports a sustainable approach to land use, addressing ecological concerns like soil fertility, biodiversity conservation, and carbon sequestration while providing economic benefits such as diversified income sources from timber, fruit, and honey. Socially, agroforestry is valued for creating employment opportunities and improving livelihoods, particularly for marginalised groups like smallholder farmers and women.

3.2.2 Variations and Limitations in Agroforestry Landscape Understanding

Despite this consensus, stakeholder perspectives diverge in emphasis. Farmers and NGOs often focus on the immediate practical benefits of agroforestry, such as providing crop shade, additional timber income, and environmental protection. On the other hand, donor agencies and government bodies, such as the FC, emphasise technical and policy-oriented aspects, including canopy management and structured

land-use frameworks. Additionally, Ghana's reliance on cocoa farming has influenced a cocoa-centric interpretation of agroforestry, where non-cocoa trees are integrated to provide shade and enhance yields. In contrast, NGOs and advocates of DAF adopt a broader ecosystem approach, promoting systems that mimic natural forests by integrating diverse plant and animal species.

3.2.3 Distinct Stakeholder Perspectives

The varying definitions reflect the priorities of distinct stakeholder groups. Donor agencies focus on agroforestry as a tool for landscape restoration, biodiversity conservation, and carbon sequestration, aligning with global environmental goals. Farmers view agroforestry as a livelihood support mechanism, emphasising tangible benefits like income diversification and crop protection. The FC presents a policy-driven perspective, describing agroforestry as a balanced land-use system that ensures environmental sustainability while allowing community benefits, exemplified by models like the MTS. NGOs adopt a community-centred approach, integrating crops, livestock, and trees to maximise productivity and ecosystem health.

3.2.4 Taxonomy of Agroforestry in Ghana

The taxonomy below organises these diverse perspectives, capturing the breadth of agroforestry definitions and their focus areas within the Ghanaian context.

Table 1: Taxonomy of Agroforestry Perspectives in Ghana

Category	Description	Stakeholders
Integrated Land- Use Systems	Combining trees, crops, and livestock for sustainable productivity and resilience.	Farmers, FC, MoFA
Sustainability Frameworks	Agroforestry as a sustainable alternative to harmful land-use practices.	Donor Agencies, NGOs
Livelihood Enhancement	Agroforestry provides economic support and improved livelihoods through diverse income sources.	Farmers, NGOs, Donor Agencies
Technical and Policy Models	Agroforestry as a structured, policy-driven framework addressing land-use planning and biodiversity goals.	FC, Donor Agencies, MoFA

Agroecological Approaches	Agroforestry mimics natural ecosystems with diverse species integration.	NGOs, DAF advocates
Cost and Labour- Intensive	Agroforestry is expensive to practise due to input and labour costs. Also, it has longer maturity durations.	
Cocoa processing and logistics	Agroforestry in cocoa-growing areas is a valuable practice that aligns with their sustainability goals, supports environmental conservation, and enhances the long-term productivity of cocoa farming	

Agroforestry in Ghana is shaped by a rich interplay of perspectives, reflecting the diverse priorities of its stakeholders. While consensus exists on core elements like integration and sustainability, variations in emphasis highlight the country's complex and multifaceted nature of agroforestry. The taxonomy provides a structured framework for understanding these perspectives, offering valuable insights for developing inclusive policies and practices. By aligning these diverse interpretations, Ghana can leverage agroforestry's full potential to achieve sustainable agricultural development, environmental conservation, and improved livelihoods.

Box Note 2: Ghana's Forestry Commission and Agroforestry Programmes

Introduction

Ghana's Forestry Commission (FC) is a key driver of agroforestry practices. It implements various programmes to restore degraded landscapes, engage communities, and integrate forestry technologies into agricultural systems. Its initiatives reflect a commitment to balancing environmental restoration with socioeconomic development.

On-Reserve and Off-Reserve systems

On-reserve agroforestry activities involve partnerships with local communities, offering them a share of tree planting and maintenance benefits. A Modified Taungya System (MTS), introduced in 2002, has resulted in the planting of 95,000 trees on reserve land. This system initially provides the entire share of benefits to the community for the first four years, encouraging participation. The benefit-sharing model shifts after this period, when food crop cultivation becomes difficult due to canopy closure. When the timber matures, the benefits are shared among the

Forestry Commission (40%), the farmers (40%), the traditional landowners (15%) and the forest-adjacent community (5%). The farmer is entitled to 100% of the benefits from the crops, mostly a mixture of cocoyam, plantain, maize, and vegetables such as tomatoes, onions, peppers and garden eggs. The Commission also collaborates with over 300 private sector organisations on on-reserve projects, with benefit-sharing arrangements varying based on specific agreements.

Off-reserve agroforestry programmes focus on providing farmers with tree seedlings for integration into their farming systems. The "Green Ghana Project," initiated in partnership with COCOBOD, promotes tree planting and has contributed to raising awareness about the importance of trees. Data collection for off-reserve trees is ongoing through collaboration with various organisations to establish a comprehensive database. This database will be crucial for supporting initiatives such as carbon sequestration projects, as it enables farmers to register their trees and quantify their carbon holdings.

Modified Taungya System (MTS)

The MTS, implemented in 2002, is a cornerstone of the FC's agroforestry efforts. Under this system, farmers grow food crops alongside timber trees on reserve lands. Farmers benefit fully from food crops during the first four years, after which benefit-sharing agreements distribute returns from timber plantations. Typically, farmers and communities receive 40%, with the remaining 20% allocated to other stakeholders. While MTS effectively supports short-term food production and long-term timber benefits, maintaining farmer incentives after canopy closure poses a significant challenge.

Green Ghana Project

The Green Ghana Project is a national reforestation initiative designed to raise awareness and promote tree planting. The annual Green Ghana Day in June encourages citizens and institutions to participate in reforestation efforts. Collaborations with partners like COCOBOD have expanded the project's reach. The programme supports tree planting on reserve through controlled partnerships with over 300 private-sector entities and off reserve, where seedlings are provided to farmers for integration into their agricultural systems.

Tree Registration and Database Development

To improve tree management and enhance the benefits of agroforestry, the FC has developed a tree registration system with support from partners such as IDH. This system aims to document tree plantations on and off reserve, enabling farmers to register trees for carbon credits, prove ownership, prevent illegal ownership, and support sustainable harvesting. However, complex interactions and difficulties between adhering to land and tree tenure have delayed the FC's rollout of comprehensive tree tenure programs. Comprehensive data collection remains a critical need.

Community Engagement and Applied Research

Community participation is central to the FC's agroforestry strategy. Communities within a 5km radius of forest reserves are actively involved in plantation maintenance, supported by applied research initiatives focusing on non-timber forest products. These efforts aim to diversify agroforestry crops beyond cocoa, addressing issues of crop compatibility and promoting broader agroforestry potential.

Challenges

Despite significant progress, the FC faces several challenges in its agroforestry efforts:

- **Farmer Incentives**: While equitable, the current benefit-sharing model for onreserve areas is sometimes seen as inadequate for maintaining long-term farmer motivation.
- **Data Gaps**: Limited data on off-reserve tree species and agroforestry practices, particularly for non-cocoa crops, hinders comprehensive planning and monitoring.
- **Crop Compatibility**: Integrating cash crops like rubber and coconut with trees is challenging due to resource competition, limiting agroforestry's scalability.
- **Illegal Activities**: Illegal logging and land use reduce the effectiveness of restoration efforts and threaten forest sustainability.

3.3 Stakeholders and Actors in Ghana's Agroforestry

Agroforestry in Ghana is a multifaceted sector involving diverse stakeholders, each contributing to developing and implementing agroforestry practices. These actors span government institutions, traditional authorities, local communities, private sector players, civil society organisations, and international bodies. Their collective efforts are essential for addressing environmental conservation, climate resilience, and socioeconomic development through agroforestry. Some of the key actors driving agroforestry are presented below. The list is not exhaustive and will require indepth stakeholder analysis. Table 2 presents a snapshot of the stakeholders and their focus areas.

3.3.1 Governmental Bodies

Government institutions are central in shaping agroforestry policies, regulations, and enforcement mechanisms. The Government of Ghana (GoG) provides overarching policy direction and institutional frameworks. Key ministries include the Ministry of Lands and Natural Resources (MLNR), which oversees land administration and natural resource management, and the Ministry of Environment, Science, and Technology, which focuses on sustainable resource management and environmental protection.

The FC, an agency under the MLNR, is pivotal in managing forest resources, regulating timber rights, and implementing reforestation initiatives. Similarly, COCOBOD leads efforts to promote cocoa-based agroforestry, addressing deforestation while ensuring sustainable cocoa production for export. MoFA integrates agroforestry into broader agricultural policies to support farming systems and rural livelihoods. Additional governmental stakeholders include the Environmental Protection Agency (EPA), which enforces environmental laws, and District Assemblies, which contribute to local planning and grassroots implementation of agroforestry projects.

3.3.2 Traditional Authorities and Local Communities

Traditional authorities and local communities are foundational to agroforestry in Ghana. Traditional Authorities and Stools are stool lands' custodians, influencing land use and resource allocation decisions. Smallholder farmers and rural communities are at the heart of agroforestry systems, directly implementing these practices to sustain their livelihoods. Stool Land includes any land or interest in, or right over, any land controlled by a stool or skin, the head of a particular community or the captain of a company, for the benefit of the subjects of that stool or members of that community or company. The Office of the Administrator of Stool Lands (OASL) administers the stool lands. Despite their critical role, they are often excluded from higher-level decision-making processes, underscoring the need for inclusive governance structures. Local chiefs act as intermediaries, facilitating agreements between farmers and governmental bodies and supporting the adoption of agroforestry practices within their communities.

Table 2: Government Stakeholders and Actors in Ghana's Agroforestry

Governmental Bodies

1. Ministry of Lands and Natural Resources

Oversees land administration and the sustainable management of natural resources, including forest reserves.

Agencies	Departments	About	Programmes
Forestry Commission		RMSC will develop integrated forest and wildlife management systems, facilitate and monitor their implementation, and actively cooperate with stakeholders to benefit all segments of society.	Tree Registration with ITC and other partners
	Forest Services Division (FSD)	The Forest Services Division (FSD) is a division of the Forestry Commission. Its mandate is to protect, sustainably manage and develop the country's forest resources in trust for their owners.	Tree Registration with ITC and other partners, Modified Tuangy System

Lands Commission

The Office of the Administrator of Stool Land

2. Ministry of Food and Agriculture

Agencies Dep	partments /	About	Programmes
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COCOBOD The board's mission is to encourage and facilitate the efficient and cost-effective production, processing, and marketing of high-quality cocoa, coffee, and shea nuts in all their forms.	Cocoa Research Institute Of Ghana Cocoa Health and Extension Division	The Cocoa Research Institute of Ghana researches cocoa, cashews, kola nuts, shea, coffee, and soil to improve agricultural yields and promote sustainable farming practices. Its expert team strives to advance knowledge and innovation for global benefit. The Cocoa Health and Extension Division (CHED) controls cocoa swollen	Dynamic AgroForestry
3. Ministry of Environment, S	(CHED)	shoot virus disease, rehabilitates old and unproductive cocoa farms, and provides extension services.	
Agency About		About	
Environmental Protection Agency		Ghana's Environmental Protection Agency (EPA)'s mission is to protect and enhance the environment while addressing global environmental challenges through research, innovation, good governance, and partnerships.	
4. Ministry of Local Government and Rural Development			
Agency		About	
Metropolitan, Municipal and District Assemblies		Facilitate local-level planning, implementation of agroforestry projects, and grassroots engagement.	

Source: Authors

3.3.3 Private Sector

Generally, the private sector can significantly contribute to agroforestry by providing investments, technical expertise, and market opportunities. Timber concessionaires and operators harvest and process timber under Timber Utilisation Contracts (TUCs), adding value to forest resources. Domestic and international investors also play an important role by financing agroforestry systems and participating in carbon credit markets. Organisations such as the Rainforest Alliance facilitate certification programmes to ensure sustainable agriculture and forestry practices, particularly in cocoa agroforestry systems.

Table 3: Private Sector Stakeholders and Actors in Ghana's Agroforestry*

Private sector
Oil Palm
Agencies
Wilmar Africa Ltd. (Fritol oil)
GOPDC (Ghana Oil Palm Development Company)
Presco Ghana
Timber
Agencies
John Bitar & Co. Ltd.
Samartex Timber & Plywood Company
Cocoa

Agencies	About	Programmes	
Coop and HALBA	HALBA is part of the Coop Group and a leading manufacturer at the forefront of sustainable Swiss chocolate, innovative snacks and high-quality baking & cooking ingredients.	Planting seeds for change: Sankofa 2.0 in Ghana's cocoa sector	
Cocoa Mama			
Olam Ghana	Implements agroforestry practices in its sustainabi systems and environmental resilience.	lity programme to improve cocoa farming	
Barry Callebaut	Supports cocoa farmers through agroforestry programmes to improve yields, biodiversity, and climate adaptation.		
Nestlé Ghana	Encourages agroforestry in cocoa farming to align with its global sustainability goals and carbon reduction commitments.		
Ecom	ECOM is a world-leading soft commodity services group specialising in coffee, cocoa, and cotton.		
Cargill	Cargill has been sourcing cocoa from Ghana for over 40 years and in 2008 opened its state-of-the-art cocoa processing facility in Tema. In 2016 Cargill added a Licensed Buying Company (LBC) to its Ghanaian footprint. The LBC operations bring innovative ways to trade with our farmers placing emphasis on our sustainability and traceability efforts.		
Meridia	Meridia is a SaaS (Software as a Service) provider that uses GIS (Geographic Information Systems) to facilitate land mapping and land rights documentation.	Meridia has mapped more than 100,000 land parcels, provided legal land documentation to more than 10,000 farmers, and registered more than 50,000 shade trees in Ghana, the Ivory Coast, and Indonesia.	

Source: Authors

Note*: This is not an exhaustive list of private sector players operating within Ghana's agroforestry sector and should, therefore, serve as a guide

3.3.4 Civil Society Organisations and NGOs

Civil society organisations (CSOs) and non-governmental organisations (NGOs) are critical in advocating for agroforestry and supporting community-led initiatives. Tropenbos Ghana focuses on research and policy advocacy to enhance sustainable forest management. Rainforest Alliance and SWISSCO provide farmers with technical assistance and training to effectively adopt agroforestry practices. The Green Livelihoods Alliance promotes community-based conservation efforts that align with environmental and social objectives. These organisations work closely with local communities to advance agroforestry systems that support livelihoods and biodiversity conservation.

Table 4: Civil Society/NGO Stakeholders and Actors in Ghana's Agroforestry

Civil Society/NGOs		
Agencies	About	Programmes
Netherlands Enterprise Agency	RVO of the Netherlands provides financial support and facilitates the creation of public-private partnerships (PPPs). The programme aims to stimulate green growth and advance climate transition plans by clustering businesses, governments, and social organisations into PPPs. While not currently part of the programme, Ghana could benefit from its model to support multi-stakeholder agroforestry, particularly for large-scale farmers. A similar PPP approach could enhance sustainability, making Ghana a strong candidate for future programme expansions on climate resilience.	Partnering for Green Growth (P4G)
Agro Eco	By organising farmer groups, implementing certification programmes, and establishing market linkages, Agro Eco supports cocoa farmers, exporters, and organisations in	

Civil Society/NGOs			
Agencies	About	Programmes	
	achieving long-term success in Africa's agricultural sector.		
Netherlands Development Organisation (SNV)	Working with farmers and businesses to introduce climate- smart farming practices and cocoa traceability and siting systems that increase quality yields whilst managing sustainable farm expansion and reducing deforestation.		
Tropenbos Ghana	Generate, communicate and advocate the application of information that optimises forest benefits through participatory and collaborative approaches.	Green Livelihoods Alliance	
Rainforest Alliance	The Rainforest Alliance is an international non-profit organisation that uses social and market forces to mitigate climate change, protect nature, and improve the lives of farmers and forest communities. It works at the nexus of nature, business, markets, and people.		
Kuapa Kokoo	Kuapa Kokoo is a Fairtrade-certified cocoa farmers cooperative in Ghana. Its goals are to supply quality cocoa products and improve the livelihoods of its members.	Sankofa Project - Ghana - Agroforestry Technical Assistance Facility B-BOVID Outgrower Scheme Strengthening	
Swiss Platform for Sustainable Cocoa (SWISSCO)	The Swiss Platform for Sustainable Cocoa (SWISSCO) fosters collaboration between the cocoa and chocolate industry, the public sector, non-governmental organisations, and research institutes.	SWISSCO	
International Trade Centre (Intracen)	Supporting the competitive ability of micro, small, and medium-sized businesses can lift individuals, communities, and countries out of poverty, enabling trade-led growth and creating a more equitable world.	Netherlands Trust Fund – Phase V – Agribusiness and Digital Technology	

Civil Society/NGOs			
Agencies	About	Programmes	
IDH	Brings together public and private stakeholders to make global agricultural markets more sustainable and more inclusive		
Nature and Development Foundation	NDF is working to mainstream responsible forest management and legal trade through sector-wide engagement that increases the uptake of best practices.		

Source: Authors

Note*: This is not an exhaustive list of all NGOs/CSOs operating within Ghana's agroforestry sector and should, therefore, serve as a guide

3.3.5 International Organisations and Development Partners

International organisations and development partners provide crucial funding, technical expertise, and policy guidance to support agroforestry in Ghana. The World Bank plays a significant role in financing agroforestry-related initiatives, such as projects that integrate sustainable land-use practices and climate resilience. The Netherlands and Swiss Embassy have supported agroforestry programmes, offered financial resources, and fostered partnerships between Ghanaian and international stakeholders. The United Nations (UN) promotes sustainable development initiatives that integrate agroforestry, while the Food and Agriculture Organization (FAO) provides capacity-building and technical assistance for sustainable agroforestry systems. The United Nations Environment Programme (UNEP) advocates for including agroforestry in climate resilience strategies, and the United Nations Development Programme (UNDP) funds projects that enhance livelihoods through sustainable agroforestry. Additionally, the European Union (EU) influences forest governance through initiatives like the European Union Deforestation Regulation (EUDR) and the Forest Law Enforcement, Governance, and Trade (FLEGT), incorporating agroforestry into sustainable forestry practices. However, while the EUDR is designed to ensure deforestation-free supply chains, its implementation could burden Ghanaian farmers disproportionately—particularly smallholders in the cocoa and agroforestry sectors.

Although companies selling the end product are legally responsible for compliance, traceability costs and logistical challenges often trickle down the supply chain, increasing financial and administrative pressures on farmers. Many may struggle to meet the stringent documentation and verification requirements, potentially limiting market access and exacerbating existing inequalities within the sector. This highlights the need for support mechanisms, investment in traceability infrastructure, farmer training and capacity building, and policies that protect smallholder farmers from bearing the full cost of compliance.

Table 5: International Organisations & Development Partners in Ghana's Agroforestry

International Organisations & Development Partners				
Agencies	About	Programmes		
Netherlands Embassy	The Netherlands government is committed to	Planting seeds for change: Sankofa		

Agencies	About	Programmes
	promoting sustainable initiatives, projects, and sectors in Ghana, including horticulture and cocoa	2.0 in Ghana's cocoa sector
Switzerland Embassy	Collaborated on agroforestry projects to promote sustainable cocoa production in Ghana	Planting seeds for change: Sankofa 2.0 in Ghana's cocoa sector
World Bank	The World Bank Group supports countries in building a better future through green, resilient, and inclusive development (GRID).	Forest Carbon Partnership Facility (FCPF), Forest Investment Program (FIP), High Forest Biodiversity Conservation Project
Food and Agriculture Organization (FAO)	FAO aims to support sustainable transitions to agroforestry that meet the needs of farmers while contributing to the Sustainable Development Goals (SDGs) and broader objectives	
European Union (EU)	The European Union is actively promoting agroforestry practices in Ghana. It aims to support sustainable livelihoods by investing in critical infrastructure and strengthening integrated business models within the agricultural sector. The EU is particularly focusing on value chains that can benefit from agroforestry techniques, such as cocoa production with shade trees.	European Union Ghana Agriculture Programme (EU-GAP) In Savannah Ecological Zone
United Nations Development Programme (UNDP)	The project focuses on supporting the government and partners (COCOBOD, Forestry Commission and Global Share Alliance) on two commodities in the northern savannah zones to help farmers integrate agroforestry practices	The UNDP Green Commodities Programme
African Development Bank (AfDB)	Technical and financial assistance facilities on agroforestry	Ghana - Agroforestry Technical Assistance Facility B-BOVID Outgrower Scheme Strengthening

International Organisations & Development Partners				
Agencies	About	Programmes		
Finnish Ministry of Foreign Affairs	Supports value chains in sustainable forestry, mining and circular economy in developing countries	Planting seeds for change: Sankofa 2.0 in Ghana's cocoa sector		

Source: Authors

Note*: This is not an exhaustive list of international organisations and developing partners operating within Ghana's agroforestry sector and should, therefore, serve as a guide

3.4 The Role of Government and Other Institutions - Policies, initiatives, and support systems/Ghana's Policies on Land Rights and Resource Access

Ghana's approach to land rights and resource access presents a complex picture shaped by the interplay of customary practices and formal legal frameworks. The policy landscape highlights a tension between centralised state control and the rights of local communities and farmers. This imbalance affects equity and sustainability in Ghana's forest sector. Forests account for 41 per cent of Ghana's land area or roughly 9.3 million ha (Food and Agriculture Organization of the United Nations, 2016). Many of these lands are degraded due to myriad factors such as expanding agriculture, fuel wood harvesting, population increase, land tenure insecurity, and mineral and mining exploitation by both domestic and foreign entities (Blay et al., 2008; Forestry Commission of Ghana, 2015; Damnyag et al., 2012).

Ghana's attempt to leverage policy to protect and conserve its forests dates back to 1927 when the Forest Act was passed. Since then, various domestic and international guidelines have been adopted toward sustainable forest use, as illustrated in Figure 1 below:





The Forest Act
(Cap. 157) is
enacted, granting
the government
extensive control
over forest reserves
and prioritising
state authority in
forest
management.

The Concessions
Act further
centralises control
over stool lands,
vesting them in
the President in
trust for the stool.
This act regulates
concessions and
limits the
autonomy of local
landowners.

The Trees and Timber
Act strengthens state
control over forest
resources by
introducing strict
regulations on felling,
export, and ownership
of timber. The act
burdens landowners
and concession
holders with complex
registration processes.

The United Nations
Framework
Convention on
Climate Change
(UNFCCC) is adopted,
setting the framework
for international
cooperation on
climate change
mitigation.

Ghana's Constitution

This document establishes the legal basis for trees as natural resources under Clause 275 (6), which states that naturally occurring resources on Ghanaian land and waters are owned by the Republic and held by the President for the people.



The United Nations Convention to Combat Desertification (UNCCD) is adopted, promoting a coordinated policy approach to combat desertification, but lacking actionable guidelines for local contexts.

The Timber Resources
Management Act introduces
Timber Utilisation Contracts
(TUCs), restricting access to
timber resources and
prioritising formally recognised
entities over smallholder
farmers.

The Forestry Commission Act establishes the Forestry Commission as the central authority for regulating and managing forest resources. The act concentrates revenue collection and management within the Commission.

The Timber Resources
Management Act 617
(Amendment) Act reinforces
state oversight in granting
timber rights and offers
incentives to attract investors,
further marginalising local
stakeholders.



The United Nations Convention on Biological Diversity (CBD) stresses the importance of benefit-sharing from the use of biological resources and acknowledges the role of local communities and traditional knowledge in conservation efforts.

The National Environmental Policy emphasises sustainable development and integrated environmental management,

The Forest and Wildlife Policy aims for the sustainable development of forest resources while recognising the need for improved governance and benefit-sharing mechanisms.

The Tree Crops Policy promotes the sustainable development of tree crops, but addresses challenges related to unclear land tenure, limited financial support

for smallholders, and institutional fragmentation.

The Timber Resource
Management and Legality
Licensing Regulations aim to
reform timber rights allocation
and introduce a legality licensing
scheme for timber products.
However, they also introduce
bureaucratic complexities,
reinforce centralised oversight,
and create market access barriers
for smaller operators.

The EU Regulation on Deforestation-free Products (EUDR) emphasises the consumption of deforestation-free commodities, impacting Ghana's cocoa and agroforestry sectors. It introduces due diligence requirements for operators but acknowledges the need to support smallholders and recognise agroforestry systems.

Refer to Annex 1 for further details on policies related to Agroforestry.

3.4.1 Support Programmes: The role of government and other institutions in promoting sustainable agroforestry practices

Ghana's agroforestry sector faces critical challenges, including deforestation, illegal mining, and fragmented governance, which have hindered its ability to address pressing environmental and socioeconomic issues. Between 2001 and 2023, the country lost 1.64 million hectares of tree cover, a 24% reduction. Agricultural expansion alone accounted for 78% of forest loss over 29 years, with activities such as cocoa farming and tree crop cultivation exerting immense pressure on remaining forests. Illegal mining, particularly galamsey, has devastated 34 of the country's 288 forest reserves, destroying over 4,700 hectares of forestland. The COCOBOD has reported that cocoa production has fallen to less than 55% of its seasonal output, largely due to illegal mining wiping out farmlands, including over 100,000 acres in the Mankurom community. These challenges underscore the urgent need for continued and enhanced agroforestry support.

Existing agroforestry programmes, such as the Modified Taungya System (MTS), have made strides in integrating sustainable practices into forest and agricultural management. Still, uncoordinated efforts and financial barriers have limited its impact. Institutional silos between organisations mean that policies can at times be fragmented and resource allocation inefficient. Farmers face significant financial and technical barriers, including the high cost of establishing agroforestry systems, limited access to seedlings and training, and unclear land and tree tenure systems. These issues have left many smallholder farmers without the incentives or resources to adopt agroforestry practices. While afforestation projects - establishing a forest in an area where there was no forest before or not for a long time - and support programmes are ongoing, the lack of alignment and coordination among stakeholders has constrained their effectiveness.

To unlock the full potential of agroforestry in Ghana, sustained and coordinated support is essential. Scaling up afforestation efforts and integrating agroforestry into national land restoration strategies can mitigate deforestation while creating economic opportunities for farmers. A unified national agroforestry policy would harmonise the roles of key institutions, ensuring more efficient governance and resource allocation. Introducing carbon credit schemes and financial incentives, such as subsidies, can offset the high costs faced by farmers and encourage broader adoption of agroforestry. Additionally, addressing illegal mining through stricter enforcement and alternative livelihood programmes is crucial to protecting forests and farmlands. Tailored agroforestry models that account for regional differences, such as cocoa in the forest belt and cashew in savannah zones, can maximise the sector's benefits. By empowering farmers with technical knowledge, affordable

inputs, and coordinated institutional support, Ghana can establish a resilient agroforestry sector that supports sustainability, enhances livelihoods, and strengthens environmental resilience.

Government-Led Programmes

Ghana's agroforestry landscape is shaped by various programmes and initiatives implemented by government agencies, international donors, and collaborative initiatives. These programmes promote sustainable forest management, restore degraded landscapes, mitigate climate change, and improve livelihoods.

The government, primarily through the FC, has spearheaded initiatives such as the Forestry Development Master Plans (1996–2020 and 2016–2036). These plans focus on sustainable forest management, agroforestry, community participation, and benefit-sharing mechanisms. The Ghana Tree Crop Diversification Project (GTCDP), set to launch in 2024, aims to strengthen the resilience of cocoa, coconut, cashew, and rubber value chains using agroforestry. Additionally, the National Cocoa Rehabilitation Programme, launched in 2023, integrates agroforestry practices with disease-resistant cocoa varieties to rehabilitate farms affected by the Cocoa Swollen Shoot Virus Disease (CSSVD). These government-led initiatives demonstrate the importance of agroforestry in addressing land degradation, improving productivity, and supporting rural livelihoods.

Below is an organised discussion of the key policies and programmes driving agroforestry in Ghana.

Table 6: Agroforestry Policies and Programmes in Ghana

Category	Programme/Policy	Description	Key Stakeholders
Government- Led Programmes	Forestry Development Master Plans	Two plans (1996–2020 and 2016–2036) focused on sustainable forest management, agroforestry, community participation, and benefit-sharing mechanisms.	Forestry Commission, local communities

	MTS	A collaborative programme where farmers grow food crops and trees on degraded forest reserves. Benefitsharing: 40% farmers, 40% government, 15% landowners, 5% community.	Forestry Commission, farmers, landowners
	Ghana Tree Crop Diversification Project (GTCDP)	A World Bank-funded project launched in 2024 will use agroforestry practices to improve the resilience of cocoa, coconut, cashew, and rubber value chains.	World Bank, Forestry Commission, farmers
	National Cocoa Rehabilitation Programme	Launched in 2023 to rehabilitate cocoa farms affected by CSSVD, integrating disease- resistant cocoa varieties with agroforestry practices.	Cocoa Board, Forestry Commission, farmers
Donor- Supported Programmes	Ghana Forest Investment Programme (GFIP)	Established in 2010 to support REDD+ implementation, addressing deforestation through projects like ENFALP and ELCIR+.	World Bank, Forestry Commission, local communities
	Green in Ghana Project	Strengthens integrated natural resource management in savannah and cocoa landscapes, promoting agroforestry for sustainable cocoa production.	World Bank, NGOs, local farmers
	Sankofa (Dua Pa) Project	Promotes dynamic agroforestry in cocoa regions, training farmers in high-density planting and systematic stratification for resilience and income generation.	Kuapa Cocoa, Swissco, local farmers, International Trade Centre (ITC), Netherlands Trust Fund V

Collaborative Initiatives	Enhancement of Carbon Stocks (ELCIR+) Project	Integrates agroforestry with REDD+ activities to reduce deforestation while providing financial benefits to local communities.	CSIR-FORIG, Forestry Commission, local communities
	Ghana REDD+ Strategy (2016–2035)	A national strategy to reduce deforestation and enhance carbon stocks through agroforestry and sustainable forest management.	Forestry Commission, REDD+ partners
	Cocoa and Forests Initiative (CFI)	Launched in 2017 to end deforestation in the cocoa supply chain through sustainable agroforestry practices and forest restoration.	Ghana, Côte d'Ivoire, cocoa companies, NGOs
	European Union's FLEGT Initiative	Promotes legal timber production and sustainable forest governance, indirectly supporting agroforestry.	European Union, Forestry Commission, private sector
	Tree Registration Project	Started in 2023 to operationalise tree ownership for cocoa farmers, incentivising agroforestry by clarifying tree tenure and ownership rights.	Forestry Commission, cocoa farmers
Private Sector- Led	Meridia's Tree registration and land mapping	Verify field data to assess EUDR compliance in real-time.	Merida, FC

Refer to <u>Annex 2</u> for further details on programmes related to Agroforestry.

Donor-Supported Programmes

Donor agencies play a pivotal role in Ghana's agroforestry development. The Ghana Forest Investment Programme (GFIP), established in 2010, supports REDD+ implementation and addresses deforestation through projects like the Enhancing

Natural Forest and Agro-Forest Landscape Project (ENFALP) and Enhancement of Carbon Stocks ELCIR+. The Green in Ghana Project strengthens integrated natural resource management, particularly in savannah and cocoa landscapes, by promoting agroforestry for sustainable cocoa production.

The Sankofa (Dua Pa) Project is a notable initiative focusing on cocoa regions' DAF. This programme trains farmers in high-density planting and systematic stratification, enhancing income and resilience. Through the Netherlands Trust Fund V, the International Trade Centre (ITC) has been a key partner in this project, working alongside Kuapa Cocoa and SWISSCO to integrate agroforestry into the cocoa value chain. These donor-supported programmes highlight the role of international collaboration in advancing agroforestry in Ghana.

Collaborative Initiatives

Collaboration between governments, NGOs, and private entities has led to impactful agroforestry initiatives. The Ghana REDD+ Strategy (2016–2035) and the Enhancement of Carbon Stocks (ELCIR+) project integrate agroforestry with carbon reduction activities, benefiting local communities while combating deforestation. The Cocoa and Forests Initiative (CFI), launched in 2017, is another key collaborative effort to end deforestation in the cocoa supply chain through sustainable agroforestry practices and forest restoration.

The European Union's Forest Law Enforcement, Governance, and Trade (FLEGT) Initiative indirectly aids agroforestry by fostering sustainable timber production and governance. Furthermore, the Tree Registration Project, launched in 2023, establishes tree ownership for cocoa farmers, clarifying tree tenure and encouraging agroforestry practices.

Private Sector-Led Programmes

Private sector companies also contribute significantly to Ghana's agroforestry landscape. Meridia's tree registration and land mapping initiative addresses land tenure and ownership issues, enabling farmers to secure their rights and participate in agroforestry programmes. Companies such as SWISSCO and Kuapa Cocoa actively promote agroforestry in cocoa regions, fostering innovation and resilience among smallholder farmers.

Traditional authorities and local communities are essential to the agroforestry landscape, with custodians of stool lands influencing land use decisions and smallholder farmers implementing agroforestry systems. However, their exclusion

from decision-making highlights the need for inclusive governance. The private sector drives innovation and investment in agroforestry, with timber concessionaires and investors scaling operations and integrating value chains. Civil society organisations (CSOs) and NGOs advocate for environmental protection and community rights, while international organisations such as the UN, FAO, and EU provide technical assistance, funding, and governance support. Together, these stakeholders advance agroforestry as a sustainable development and environmental conservation tool.

This report engaged with a cross-section of stakeholders to gain insights. However, the private sector is not actively participating in agroforestry, particularly in providing financing and technical expertise. Key areas such as investing in agroforestry innovations and developing targeted technological solutions—such as digital land mapping and tree registration—remain largely untapped by private enterprises.

3.5 Role of Technology in Agroforestry in Ghana

Technology can play a transformative role in addressing challenges and enhancing the implementation of agroforestry in Ghana. With a focus on land and tree ownership, data management, and stakeholder engagement, technological interventions are increasingly critical for fostering sustainability and inclusivity in agroforestry practices.

3.5.1 Tree Registration and Land Mapping

Initiatives like Meridia's tree registration and land mapping projects exemplify the application of technology in agroforestry. Meridia is an end-to-end solution for land and property documentation for individuals and communities in emerging markets where accurate maps and effective land administration systems do not often exist. The technology is applied to land and tree registration in Ghana among food and tree crop farmers. The tree registration collaborative project by IDH, Resource Management Support Center (RMSC), and other Cocoa and Forest initiative partners, such as SWISSCO, intended to operationalise the tree ownership right to enable farmers to register their trees in the FC national database. These projects, and similar ones, leverage digital tools to address long-standing issues related to land tenure and tree ownership. Key outcomes include:

• **Improved Data Accuracy:** Digital mapping enhances the precision of tree and land ownership records, resolving discrepancies between oral agreements and formal documentation.

- Facilitation of Carbon Credit Tracking: Accurate tree ownership data enables farmers to participate in global carbon credit markets, fostering partnerships with international stakeholders.
- **Empowerment of Local Stakeholders:** By digitising land and tree ownership, chiefs and farmers receive updated land agreements and comprehensive data sets, reducing disputes and increasing land security.

However, challenges persist, such as high implementation costs and limited access to digital tools for many farmers. Additionally, data produced through these systems remains proprietary, stored on cloud platforms accessible only through the implementing organisation, limiting broader stakeholder use.

3.5.2 Data Management and Intelligent Systems

Ghana's agroforestry sector faces significant data gaps, including unreliable information on farm sizes, the number of farmers, and plantation acreage. Al-powered systems and data platforms have the potential to address these issues by:

- Automating the collection and analysis of agroforestry data.
- Enabling real-time monitoring of plantation health, crop diversity, and land use.
- Supporting decision-making for policymakers through predictive modelling and comprehensive datasets.

The lack of baseline data is a critical barrier to effective policy-making and monitoring. Intelligent systems can address this gap, improving policy relevance and ensuring resource allocation aligns with actual needs.

3.5.3 Collaborative Land Documentation

Meridia's work demonstrates how technology can complement traditional land governance systems. By mediating between farmers and chiefs, Meridia digitises oral agreements into written contracts and ensures all stakeholders have access to essential data:

- Farmers receive hard copies of their agreements, providing a sense of ownership and security.
- Chiefs access digitised land records on laptops and tablets, ensuring land allocation and agreement transparency.
- Stools are equipped with indentures and formalised land maps, reducing disputes and enabling chiefs to make informed decisions about resource allocation.

These interventions bridge traditional practices with modern technological tools, ensuring that documentation aligns with community needs while facilitating transparency.

3.5.4 Highlighted Projects and Frameworks

- 1. Tree Registration and Carbon Credit Systems: Meridia's registration projects enable farmers to track tree ownership and participate in carbon credit initiatives, creating opportunities for global collaborations.
- **2. Tree Registration**: Tree registrations help farmers or those who plant trees secure proof of ownership from the FC, per the current policy on tree tenure/ownership in Ghana. The exercise is expected to encourage farmers to plant more trees on their farms to improve the country's forest cover.
- **3. Community-Led Documentation**: By engaging chiefs and farmers, Meridia helps to formalise land-use agreements and align them with agroforestry goals. This community-driven approach ensures that digital tools are used inclusively and effectively.
- **4. The EU Deforestation Regulation (EUDR)** is a set of rules that aims to reduce deforestation and forest degradation for nine commercial crops. TraceX is software that offers various solutions to help farmers become compliant and overcome the traceability challenges in Ghana's cocoa sector.

3.6 The Role of Agroforestry in the Livelihoods of Farmers and Local Communities

Agroforestry enhances the livelihoods of farmers in Ghana by offering income diversification opportunities through the integration of crops like cocoa with timber trees, mahogany, and beehives, which provide additional revenue streams. The sector also generates employment in activities such as tree planting, maintenance, and ecosystem restoration, creating economic opportunities for rural communities. Farmers need clear financial and environmental benefits to encourage widespread adoption, ensuring agroforestry practices align with their economic priorities and ecological sustainability goals.

The farmers participating in both FGDs highlight the importance of income diversification but believe they can earn more from other programmes, like carbon credits. Some communities represented at the Kumasi FDG could not immediately remember any benefits of agroforestry community-based development projects. **Box** 3 showcases the story of Nyamkye Agribusiness, a sustainable agroforestry model.

Box Note 3: Agroforestry and Livelihood Empowerment for Nyamekye Agribusiness

Business Features

Nyamekye Agribusiness, established in 2012, is a diversified agricultural enterprise specialising in sustainable farming practices. However, the founder has been actively engaged in agroforestry farming since 1996. The enterprise combines fish farming, grasscutter and rabbit rearing, beekeeping, poultry, nursery operations, and agroforestry to contribute to Ghana's food security and economic growth. Nyamekye Agribusiness exemplifies environmentally friendly and innovative agricultural practices.

Agroforestry Practices

Nyamekye Agribusiness integrates trees into its farming systems to enhance ecological interactions and promote sustainability. Key agroforestry practices include:

- A nursery produces 40,000 cashew seedlings annually, alongside 5,000 mahogany and cedar seedlings.
- A 70-acre plantation where cashew is the primary crop, intercropped with cedar and mahogany trees.
- Incorporation of beehives within the cashew plantation to improve pollination and demonstrate sustainable agricultural methods.

Awards and Recognition

The founder has earned notable accolades for his commitment to agroforestry and sustainable farming:

- **1996**: Best District Agroforestry Farmer.
- 2021: Best District Livestock Farmer.

These recognitions underscore his contributions to sustainable agriculture and community development.

Benefits of Agroforestry

Nyamekye Agribusiness has experienced both direct and indirect benefits from agroforestry, including:

- **Economic Gains**: Sufficient income to meet housing needs and educate three daughters through university. Revenue is generated from cashews, timber, and other forest products.
- **Social Recognition**: Awards and community acknowledgement for exemplary practices.
- Environmental Impact: Carbon sequestration, improved air quality, and

- biodiversity support.
- **Community Opportunities**: Employment in nursery management, planting, and maintenance.
- **Healthcare Benefits**: Provision of herbal medicines from tree species.

The founder takes pride in these achievements, which extend beyond financial rewards to fulfil social and environmental goals.

Challenges

Despite its successes, Nyamekye Agribusiness faces several challenges in its agroforestry practices:

- Limited education on tree species and soil requirements.
- Inadequate access to quality nursery seeds (excluding cashews).
- Financial constraints that restrict scaling operations.
- Persistence of traditional farming methods that limit innovation.

Conclusion

Nyamekye Agribusiness stands out as a model agroforestry enterprise that integrates sustainable farming practices with innovative solutions. While challenges remain, the business's economic, social, and environmental achievements underscore agroforestry's potential to transform livelihoods and promote sustainability in Ghana. Addressing current obstacles will enable Nyamekye Agribusiness to scale its impact further and inspire other agroforestry farmers.

While agroforestry offers immense sustainability and economic growth potential, its adoption faces significant barriers. The next chapter explores these challenges, examining systemic issues that hinder progress.

4. Challenges to Sustainable Agroforestry Growth in Ghana

Agroforestry is a land-use system that combines trees, crops, and cattle to provide economic, environmental, and social advantages. At its core, agroforestry supports sustainability by minimising destructive practices like burning and excessive chemical usage while increasing land production. The system has several advantages:

- economically, it plays a crucial role in "reducing household risks and diversifying incomes while providing nutritional benefits to vulnerable women and children, men, and youth who are locked out of the mainstream market economies" (Bernard F., et al., 2019);
- environmentally, it increases soil fertility, conserves biodiversity, and sequesters carbon; and
- socially, it creates job opportunities and improves livelihoods (Tropenbos International, Tropenbos Ghana, & Nitidae, 2023).

However, Ghana's agroforestry sector faces challenges that hinder its widespread adoption and potential impact. These include land tenure issues, limited financial and technical resources, and sub-optimal stakeholder collaboration. The next section discusses the major challenges and concerns uncovered through our research, offering insights into the systemic barriers that must be addressed for agroforestry to thrive.

4.1 Legal and Policy Frameworks

Agroforestry in Ghana is a multifaceted practice with cross-cutting implications for various sectors, requiring clear policy and legal frameworks. These frameworks must address the needs of diverse stakeholders while setting the agenda for national growth. However, the absence of a unified national agroforestry policy creates significant gaps. While the Ghana Agroforestry Policy was initiated in 1986, its relevance and implementation still need clarification. One FGD participant highlighted how the lack of a cohesive policy results in unsystematic efforts and implementation challenges.

4.2 Tree Ownership: Tree Tenure and Land Tenure

Tree ownership and land tenure complexities are significant challenges to agroforestry in Ghana. Discussions in expert interviews and FGDs in Accra and Kumasi revealed critical issues around property rights and benefit-sharing mechanisms. The constitution of Ghana decrees that all naturally occurring resources, including trees, are vested in the state, with the Forestry Commission mandated to manage their

development and exploitation. Landowners and farmers require permits to harvest forest resources, creating a co-ownership structure between landowners and the state. However, the benefit-sharing framework needs to be more consistently enforced, with reports of timber companies harvesting resources without compensating landowners. This undermines farmers' motivation to adopt agroforestry practices, especially when financial benefits are unclear or inaccessible.

Additionally, complexities arise in land tenure arrangements, particularly in tripartite relationships involving the government, landowners, and farmers. This dynamic makes it difficult to allocate resources and enforce benefit-sharing agreements. Disputes over multiple land ownerships and dual tenure systems further complicate agroforestry investment in sharecropping scenarios, where farmers and landowners share resources, and customary and statutory laws overlap, leading to confusion and exclusion of farmers from tree ownership benefits. A FGD participant noted how these tenure complexities disincentivise tree nursing, leading some farmers to cut down existing trees to plant and claim ownership rights.

4.3 Tree and Land Registration

Tree and land registration initiatives have been identified as potential solutions to address tenure challenges. The FC's Resource Management Support Centre (RMSC), with support from IDH, is implementing a tree registration project to clarify ownership and streamline benefit-sharing. However, challenges such as high registration costs, lack of farmer awareness, and gaps in statutory and customary laws remain significant barriers. Farmlands under customary laws are often unregistered, further complicating ownership claims.

While progress is being made with initiatives like tree registration, the opacity of benefit-sharing and inconsistencies in enforcing land tenure rights remain barriers to agroforestry's success in Ghana. A combination of legal reforms, cost-effective registration processes, and community-based customary practices could provide a more inclusive and sustainable approach to addressing these challenges.

4.4 Socioeconomic Disincentives

4.4.1 High Agroforestry Costs to Farmers

Socioeconomic barriers significantly hinder the widespread adoption of agroforestry practices in Ghana. Among these, the financial costs of establishing and maintaining agroforestry systems present a significant challenge. Farmers struggle to access essential inputs such as seedlings, fertilisers, equipment, labour, and technical expertise. They also lamented how illegal mining and urbanisation have escalated labour costs for agroforestry plantations. Some also highlighted difficulties obtaining

seedlings and labour for her cashew-based agroforestry systems. Dynamic agroforestry, a labour-intensive method, has been described as prohibitively expensive by others. Although agroforestry offers long-term environmental and productivity benefits, the lack of financial incentives or subsidies prevents many farmers from adopting these sustainable practices.

4.4.2 Benefit-Sharing Formula

The absence of adequate application of benefit-sharing mechanisms further discourages agroforestry adoption. The exact benefits from agroforestry for stakeholders varies depending on where the information is coming from and how benefits are defined. As Tropenbos Ghana (2023) notes, "Farmers and landowners obtain limited or no benefits from nurturing naturally occurring trees on their cocoa farms and are concerned about the risk of damage to the cocoa farm when a timber company harvests these trees." Farmers view tree care and planting as unprofitable without adequate financial rewards, further diminishing interest in agroforestry systems. The Kumasi FGD suggested traditional approaches, such as the Abusua system, where farmers rent lands and share proceeds with landowners, as practical solutions to tenure issues. Additionally, some stakeholders emphasised the need for greater transparency and accountability in benefit-sharing frameworks, believing that governing authorities should clear up confusion surrounding tree tenure and ownership.

4.5 Environmental and Agricultural Challenges in Ghana's Agroforestry

4.5.1 Deforestation and Land Degradation

Deforestation is one of the most critical environmental issues affecting agroforestry in Ghana. Illegal logging and galamsey (illegal gold mining) undermine reforestation efforts, threatening forest-dependent livelihoods and essential ecosystem services. Monoculture farming, particularly cocoa cultivation, exacerbates land degradation by increasing erosion and reducing soil fertility. This combination of factors discourages farmers from adopting sustainable agroforestry practices, as degraded land results in diminished productivity and economic returns.

4.5.2 Biodiversity Loss

Monoculture systems also contribute to biodiversity loss, eliminating habitats for native flora and fauna. This disrupts crucial ecosystem services, such as pollination, insect control, and nutrient cycling, which are essential for successful farming. Reduced biodiversity exacerbates environmental imbalances, decreasing yields and long-term sustainability for farmers.

4.6 Challenges of Crop Diversification

4.6.1 Focus on Cocoa

The over-reliance on cocoa-based agroforestry systems restricts opportunities for diversified agricultural practices. While cocoa remains Ghana's primary agricultural export, an intense focus on the cocoa sector limits the inclusion of resilient crops like cashews, rubber, and timber species. COCOBOD, a leading institution in agroforestry initiatives, prioritises cocoa due to its economic importance. Future agroforestry initiatives could expand this focus to other ecological zones, such as the savannah and transition areas, where crops like cashew and shea could thrive. Farmers have expressed frustration over this vision. In addition, Cocoa crops are highly sensitive to weather changes, such as rising temperatures and less predictable rainfall patterns that result from climate change. However, tree crops such as shea, cashew and timber also face risks due to human practices, including annual crop cultivation. Diversification could offer additional approaches to using more resilient tree crops in and outside cocoa-producing zones.

Dynamic agroforestry projects, such as those led by SWISSCO and Kuapa Cocoa, aim to establish centres of excellence but primarily focus on cocoa. One key informant emphasised the need to expand attention to other crops, as cocoa is not the only source of deforestation or income. Without diversification, farmers remain vulnerable to environmental and economic risks.

4.6.2 Incompatibility of Certain Cash Crops

Some cash crops, such as rubber and coconut, are incompatible with agroforestry systems because they require tree removal. This conflict forces farmers to choose between economic gain and environmental sustainability. Addressing this issue requires innovative solutions that align crop requirements with agroforestry principles, ensuring economic viability and ecological health.

4.7 The Politics of Agroforestry

4.7.1 Changes in Political Regime

Ghana's political cycles can significantly influence agroforestry, leading to policy duplications, differing strategies, and a lack of consensus on a unified national agenda. Successive governments can prioritise new initiatives over continuing existing policies, undermining the continuity and effectiveness of agroforestry programmes.

4.7.2 Fragmented Institutional Arrangements

Unclear institutional framework for agroforestry has led to power struggles among state institutions, with no clear consensus on who holds ultimate responsibility.

During one FGD, representatives exhibited conflicting accounts of data retention and information. Such siloed operations can limit data sharing and hinder the development of holistic agroforestry policies. While some ministries and departments have shown an ability to cooperate and work together harmoniously, there is room for improvement in institutional cooperation in the agroforestry sector.

The FC and, by extension, the MLNR is the primary body with legal authority to oversee agroforestry. However, the concept of agroforestry inherently combines agricultural and forestry practices. Other state institutions, such as MoFA, the EPA, and the Ministry of Local Government and Rural Development (Municipal and District Assemblies), also play critical roles. Since agroforestry aims to support farming systems and forestry is essentially a form of agriculture, this raises questions about where and how agroforestry initiatives are administered. COCOBOD, which supervises cocoa production, is more prominent in driving agroforestry due to its involvement in addressing forestry degradation. Additionally, COCOBOD has the resources and support of development partners to promote sustainable cocoa production for export. However, the Ministry of Food and Agriculture (MoFA) is potentially the best-suited body to lead the design and implementation of agroforestry policies given their stake in tree crops, and (district) directors are likely to hold a broader view on agroforestry which encompasses livestock, farming systems, land tenure, and forest conservation. This view is supported by other international NGOs, who asserted that agriculture is integral to forested landscapes, and MoFA is already making strides in coordinating these efforts.

A stronger cross-ministry collaboration would be a significant step towards harmonising the currently siloed agroforestry-related projects and programmes. competition among institutions for control and influence over agroforestry highlights agroforestry's potential to attract development financing, making every stakeholder eager to establish dominance. It also highlights the fractured nature of agroforestry programmes, and potential for further cross-ministry collaboration.

4.7.3 National and Local-Level Politics

Political interference (corruption, nepotism, and cronyism) can affect the distribution of agroforestry resources at both the national and local levels. Farmers report that seedlings intended for free distribution are diverted to political party affiliates, who sell them at inflated prices. Additionally, the allocation of tree logging licences can exclude land and tree owners from benefiting, reducing their motivation to participate in agroforestry initiatives.

4.8 Technical Capacity and Knowledge Gaps

A greater understanding of agroforestry systems and their benefits is essential for effective implementation in Ghana. Many farmers are unaware of how integrating trees into farming systems can increase yields, improve soil health, and provide alternative income sources. The delayed financial returns from agroforestry further deter adoption, particularly among farmers seeking immediate economic benefits. Moreover, agroforestry is often perceived as requiring technical skills that many smallholder farmers lack, reducing interest in these activities.

The lack of practical guidance exacerbates these challenges. Ghana's overburdened agricultural extension system provides limited support for agroforestry, and extension personnel often lack specialised knowledge. Structured, hands-on training opportunities are scarce, leaving farmers without clear direction on how to adopt agroforestry practices. As one KII observed,

"The extension services need a lot of help, especially the agricultural extension, as they are so overstretched. The whole system is not functioning. Ghana has about 3,000 cocoa extension officers covering a minimum of 3.5 million farmers — clearly a problem. They are supposed to be helping farmers adopt sustainable practices, but how can they do so in such a limited space? Tech can help, but you still need people."

Existing initiatives can fail to address the varying ecological demands of different regions, such as cocoa-growing areas versus savannah zones, limiting their overall effectiveness. Furthermore, Ghana lacks reliable data on land use, tree registration, and agroforestry practices, making it challenging to evaluate programme performance. Farmers struggle with the tree registration process due to vague criteria and the absence of user-friendly digital platforms, discouraging participation. Cost and connectivity barriers also prevent many rural farmers from utilising technologies such as Geographic Information Systems (GIS) and mobile applications, which could improve management and monitoring.

Finally, disparate data systems among stakeholders hinder effective collaboration. The absence of coordinated data-sharing platforms results in duplication of efforts and missed opportunities for unified initiatives. Without improvements in data collection, training programmes, and technology adoption, agroforestry implementation in Ghana will remain a significant challenge.

5. Growing Beyond Barriers: Unlocking Ghana's Agroforestry Potential

Despite the challenges outlined, agroforestry has enormous potential to improve Ghana's environmental, agricultural, and socioeconomic landscapes. To address these challenges, sustainable agroforestry practices, policy harmonisation, and strengthened governance frameworks must be adopted. Clear, equitable policies and streamlined processes may lower bureaucratic barriers, empower farmers as partners, and promote broader prosperity. Ghana can overcome existing constraints and realise the transformational potential of agroforestry by adopting an integrated strategy that promotes sustainable growth and resilient livelihoods.

Below, we outline potential solutions to the uncovered core challenges and explore actionable steps to foster collaboration, enhance equity, and drive long-term progress in agroforestry.

5.1 A Standardised Definition and Unified Policy

To align stakeholders, it is essential to establish a unified, shared national definition of agroforestry that incorporates diverse perspectives. A standardised definition would help harmonise efforts and ensure consistency across policy and programme development sectors.

Equally important is the development of a unified policy on agroforestry practices. As mentioned in <u>Chapter 4</u>, the lack of such a policy is causing a myriad of challenges. Such a policy would provide a clear framework for integrating agroforestry into national development strategies, outlining responsibilities, resource allocation, and implementation guidelines for all stakeholders. A cohesive policy would reduce fragmentation, align efforts, and ensure that agroforestry initiatives are sustainable, inclusive, and impactful.

Without a clear and agreed-upon definition or policy, stakeholders may pursue conflicting objectives, challenging the achievement of a cohesive and effective strategy. By fostering a shared understanding and establishing a unified policy, Ghana can enhance collaboration, streamline implementation, and leverage agroforestry's full potential to support sustainable agricultural development, environmental conservation, and improved livelihoods. This alignment is vital for achieving the goal of a thriving and sustainable agroforestry sector.

5.2 Policy and Governance Opportunities

A coordinated national agroforestry policy is critical for coordinating efforts across several agencies and industries. As outlined in <u>Chapter 4</u> and <u>Chapter 5</u>, Ghana's agroforestry policies are fragmented, with competing aims across agricultural, forestry, and land-use programs. For example, although forestry regulations encourage shade-grown cocoa systems, agricultural policies frequently promote monoculture techniques. A unified framework would align these goals, establishing agroforestry as a cornerstone of sustainable development.

5.3 Integrating Customary and Statutory Systems for Tree and Land Tenure

Another significant opportunity for change in Ghana is simplifying the dual land tenure structure. The presence of statutory and customary tenure systems causes land and tree ownership uncertainty, inhibiting farmer involvement. A standardised system might give clear principles for ownership and benefit-sharing, decreasing uncertainty for farmers, landowners, and traditional leaders. For example, recognising all trees planted on private or community lands as farmer-owned—without costly registration—could stimulate widespread agroforestry adoption. Simplification would help lower the legal and bureaucratic hurdles that presently limit progress. Also, policymakers can adopt community-driven cooperative agroforestry systems that promote group land ownership. Cooperatives can access resources to secure land and develop local governance systems that protect farmlands. It also leads to strong negotiations with governments on tree ownership and can guarantee benefits to members of the cooperative.

For instance, automatic ownership assignment policies could ensure that all trees planted on private or community lands are recognised as farmer-owned without formal registration. Decentralised verification processes involving local authorities or agricultural cooperatives could further reduce bureaucracy and costs. Legislation establishing default ownership clauses—where individuals or groups who plant trees are automatically deemed owners—would eliminate ambiguity and encourage widespread agroforestry adoption.

Community-based approaches also hold promise in addressing tree ownership challenges. Participatory mapping initiatives can empower communities to collectively document and validate tree ownership, fostering trust and accountability. Shared ownership models could allow groups or cooperatives to claim collective rights to trees, making them eligible for shared benefits such as carbon credits. Establishing local tree committees to oversee planting and ownership rights within communities could further streamline the process and promote local stewardship.

Strengthening legal and institutional frameworks is a foundational strategy. Furthermore, supportive regulations safeguarding farmers' rights to the trees they plant and preventing exploitation or land grabs are crucial for fostering trust and participation.

Capacity building and awareness campaigns are vital to overcoming ownership barriers. Farmer education programmes can provide essential knowledge on tree planting, ownership rights, and the economic benefits of agroforestry, including carbon credits. Agricultural extension services should be expanded to assist farmers in navigating these challenges, while community campaigns can raise awareness of simplified ownership models and the available incentives.

Public-private partnerships offer additional opportunities to address tree ownership challenges. Collaboration with NGOs and private companies can provide technical and financial support for tree planting and ownership verification. Businesses can also be incentivised to invest in agroforestry by linking their contributions to simplified ownership models. Engagement with carbon market stakeholders can ensure streamlined processes and direct benefits for farmers.

Monitoring and accountability mechanisms are necessary to ensure the success of these initiatives. Local verification agents trained within communities can serve as efficient and accessible resources for confirming ownership. Transparent reporting systems, such as an open-access platform tracking tree ownership and benefit distribution, can foster trust and ensure equitable outcomes.

5.4 Stakeholder Inclusion in Governance

Inclusive governance is required for successful agroforestry strategies. Participatory platforms that bring together farmers, traditional authorities, government agencies, businesses, and other ecosystem players can promote shared ownership and responsibility. Farmers must have a say in policy choices, ending their historical isolation from governance processes.

Traditional authority, such as chiefs and stools, play an important role in land governance under Ghana's customary tenure system. Local government may be strengthened by using their powers to codify agreements, manage disputes, and guarantee fair benefit sharing. Furthermore, emphasising capacity development for excluded groups, such as women and tenant farmers, is critical for inclusive decision-making.

Multi-stakeholder platforms that bring together government agencies, business actors, traditional authorities, and communities may improve coordination, encourage shared ownership, and guarantee that agroforestry efforts are responsive to local needs.

5.5 Leveraging International Frameworks

Global frameworks offer valuable options for finance and technical assistance. Programs like REDD+ (Reducing Emissions from Deforestation and Forest Degradation) provide financial incentives for sustainable forestry practices consistent with Ghana's agroforestry objectives (Ghana REDD+ Strategy, 2016). Similarly, the Paris Agreement emphasises the need for nature-based solutions, including access to resources such as the Green Climate Fund (Tropenbos, 2018).

These frameworks also encourage knowledge exchange. Collaboration with nations such as Côte d'Ivoire, which has incorporated agroforestry into national programs, might provide useful insights. Furthermore, accords such as the United Nations Convention on Biological Diversity (CBD) link agroforestry to larger conservation aims, which bolsters Ghana's efforts.

5.6 Farmer Incentives, Partnerships and Financial Support from Private Sector

Financial incentives like carbon credits, benefit-sharing models, and cost-sharing mechanisms can offset the high initial costs of tree planting, encouraging farmers to adopt agroforestry practices that deliver long-term environmental and financial benefits according to one of the Focus Group Discussions. Carbon credit and ecosystem payment schemes provide additional revenue streams by compensating farmers for planting trees, protecting biodiversity, and managing water resources. Cost-sharing initiatives reduce the financial burden by distributing expenses among stakeholders while subsidising inputs like seedlings and fertilisers help smallholder farmers engage in agroforestry. Simplifying tree registration processes and reducing associated costs are also vital for increasing participation.

Integrating tree ownership into carbon credit schemes is essential to incentivise agroforestry. Farmers should automatically qualify for carbon credit programmes upon planting trees on their land, bypassing complex verification processes. Private sector involvement is essential for expanding agroforestry. Engaging financial institutions that offer patient and low-interest capital can support farmers in scaling up operations. For instance, the Mastercard Foundation has partnered with major financial institutions to offer SME loans that are less than 10% per annum. This is much lower than the annual national lending rate of about 30%. Such schemes could have

a sustainability component that supports agroforestry farmers. Partnerships can mobilise resources, improve market access, and create certification systems—such as those for shade-grown cocoa—that support premium markets, benefiting farmers financially while promoting sustainability.

5.7 Diversification of Agroforestry Systems

Diversification beyond cocoa is critical for enhancing economic stability and environmental resilience. Integrating crops such as cashews, shea, rubber, and wood can create additional revenue streams, reduce dependence on cocoa, and boost biodiversity. Similarly, integrating livestock into agroforestry systems can improve soil fertility while providing supplementary income opportunities. In addition, livestock integration can further improve natural biodiversity while providing alternative income sources for farmers.

Additionally, reforestation and land rehabilitation efforts that employ natural regeneration methods can repair degraded areas and combat deforestation caused by unlawful mining. If implemented economically, agroforestry provides alternative livelihoods for people impacted by practices like galamsey, converting degraded land into productive landscapes.

5.8 Capacity Building and Knowledge Sharing

Training centres are vital in teaching farmers agroforestry principles, including crop integration and sustainable livestock management. Strengthening extension services is equally important for ensuring rural farmers have access to this knowledge. Tailored educational programmes that reflect regional differences can further boost adoption rates. Field schools and demonstration plots provide practical evidence of agroforestry's benefits, helping to overcome resistance through targeted education and sensitisation. Programmes that address the specific needs of women and youth are essential for promoting inclusive growth.

To address technical gaps, centres of excellence can be established to provide training, research, and capacity building. Strengthening cooperatives enhances seedling distribution and resource sharing. Additionally, improving access to technology and capacity-building initiatives equips farmers with the tools and skills they need to adopt agroforestry practices successfully.

5.9 Technology for Data and Decision-Making

Digital tools may simplify operations such as tree registration and carbon credit tracking, lowering costs and boosting transparency. Centralised databases that consolidate land use and agroforestry methods might help make data-driven choices and improve benefit-sharing systems.

Remote sensing and land mapping technologies can help monitor land health and improve land usage. These methods can help identify regions suitable for reforestation or diversification, resulting in a more effective agroforestry industry.

Technology can be a driving factor that accelerates tree and land registration and builds data hubs to support decision-making and traceability systems within the agroforestry ecosystem. It can also strengthen capacity building, narrow knowledge and resource gaps, and ensure farmers have the necessary tools and skills to succeed.

5.10 Stakeholder Collaboration and Engagement

Effective collaboration is essential for the success of agroforestry. Multi-stakeholder platforms that include government agencies, businesses, NGOs, and communities can align objectives, reduce inefficiencies, and foster collective ownership. Empowering cooperatives and supporting community-based initiatives can improve resource sharing and promote environmentally sustainable practices.

To enhance stakeholder cohesion, efforts could focus on:

- Streamlining workflows and fostering bilateral or multilateral discussions to integrate land and tree ownership measures.
- Establishing data-sharing agreements to improve coordination and decisionmaking.
- Building multi-stakeholder platforms for resource pooling and knowledge exchange.
- Engaging traditional structures to formalise agreements and resolve disputes effectively

Collaboration among diverse stakeholders ensures a more unified and impactful approach to advancing Ghana's agroforestry sector.

5.11 Scaling Successful Agroforestry Models

Initiatives such as the Sankofa project and DAF systems show sustainable, diverse farming possibilities. The MTS can also offer improved state partnerships with communities, individual farmers and commercial companies in scale agroforestry. Expanding these models can boost soil health, biodiversity, and farmer earnings. Certification programs for agroforestry goods can attract premium markets and provide extra incentives.

Carbon markets provide substantial prospects. Expanding tree registration systems and utilising initiatives such as

Lastly, agroforestry and tourism models could help create economic incentives for farmers. Tourism can increase farmers' revenue streams, encouraging them to invest in and maintain their agroforests.

Ghana can realise agroforestry's transformational potential by tackling systemic problems, diversifying systems, and increasing financial and institutional support. Leveraging the abovementioned proposals could enhance livelihoods and food security while contributing to global environmental and development goals. Despite these challenges, they also present innovative solutions and collaborative intervention opportunities.

While this report highlights key opportunities and challenges, it likely only scratches the surface. Complex issues, such as tree ownership, are particularly difficult to address fully within a short timeframe. However, there is scope to focus on specific areas and implement meaningful solutions that lay the groundwork for long-term sustainable agroforestry policies in Ghana. The next chapter explores how continued participatory processes can deepen understanding, uncover additional insights, and prioritise feasible collaborative actions in 2025.

6. The Road Ahead: A Participatory Blueprint for Agroforestry Success

Addressing the challenges facing Ghana's agroforestry sector requires innovative and inclusive approaches. Participatory processes offer a powerful means to foster collaborative governance, ensuring diverse stakeholders contribute effectively to shaping solutions. Overcoming current obstacles demands adopting supportive policies developed through collaborative, inclusive, and adaptive frameworks. Broad participation in public decision-making related to agroforestry has the potential to strengthen the sector, drive sustainable practices, and significantly advance agroforestry initiatives across Ghana.

This is backed by calls from experts engaged and participants from the focus group discussions,

"There is unequal stakeholder engagement in policy discourse—all stakeholders should have an equal say and a voice in the discussions and engagements to factor in farmers' views. Communities don't have a voice in the use of agroforestry produce. Dialoging is required to create common knowledge and needs to be driven by clear government policy and commitment. This ensures policy harmony."

When implemented effectively, citizen engagement strategies benefit governments and citizens alike. Participatory methods in public decision-making offer significant benefits¹. They enhance the quality of policies by combining technical expertise with practical experience, allowing citizens and decision-makers to learn from each other. These processes also improve effectiveness by addressing real needs, ensuring smoother implementation, and reducing opposition through inclusive engagement. Additionally, participatory methods empower citizens by fostering inclusion and ownership, enhancing decisions' legitimacy.

The participatory approach proposed in this report addresses Ghana's agroforestry challenges by fostering collaboration among diverse stakeholders, including smallholder farmers, landowners, policymakers, and environmental organisations. The goal is to develop equitable and practical approaches and solutions that build trust and mutual understanding, ensuring outcomes that balance environmental

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¹ Participatory Methods in public decision-making have the potential to transform governance by improving policies, implementation and legitimacy. Examples include participatory budgeting in Brazil, which integrated local knowledge with technical expertise to improve service delivery; gram sabhas in India, which facilitated consensus in village-level planning; and rural deliberations in Malawi, which empowered marginalized groups to achieve more equitable outcomes (Heller, P., & Rao, V., 2015). James Fishkin's Deliberative Polling®, used in Texas and China, has also shown how informed citizen engagement builds support and shapes effective policies (Fishkin, 2009). For more information visit the <u>Decision Thinking website</u>, a tool designed by i4Policy to explore different ways of introducing participatory methods in public decision-making.

preservation with economic growth. It is important to note that the challenges identified and the proposed approach will be discussed, amended, and finalised in collaboration with RVO as part of a potential Phase 2 of this project. This report serves as a preliminary suggestion, laying the groundwork for further refinement and alignment.

Our research and groundwork identified two key focus areas critical to advancing agroforestry in Ghana.

Developing a Common Understanding of Agroforestry in Ghana

The first is the challenge of achieving a common understanding of agroforestry, and the second centres on the need for a robust collaborative governance structure to support agroforestry initiatives. We believe these to be a continuation of laying the groundwork for sustainable agroforestry practices to be developed over the long-run in Ghana. With a clear, collectively developed and championed definition of what agroforestry means in Ghana, key stakeholders can then build policies from this core understanding.

Enabling Inclusive Governance & Forming a Technical Working Group

Equally important is the need for inclusive and diverse governance that empowers historically excluded groups to actively participate in decision-making. Inclusive governance means ensuring everyone affected is given a seat at the table, ensuring the definition of agroforestry and any policies subsequently developed are done in a way that maximises their chances of success. Multi-stakeholder platforms can promote shared ownership, strengthen traditional authorities' roles in codifying agreements and managing disputes, and ensure fair benefit-sharing. Capacity-building efforts for marginalised communities further enhance inclusivity, creating a governance structure that is equitable, responsive, and capable of driving a thriving agroforestry sector across Ghana.

Already, community-driven associations such as Kuapa Cocoa, which aims to set up a centre of excellence to support stakeholders, could serve as platforms for ongoing engagements in agroforestry. Building on these existing efforts, we propose the establishment of a technical working group or steering committee of key decision-makers in Ghana's agroforestry sector. This group would provide a formal mechanism to sustain collaboration and ensure that the priorities identified are addressed in a coordinated and effective manner. With representatives from initiatives like Kuapa Cocoa, policymakers, agroforestry practitioners, and community leaders, the committee can oversee implementation, monitor progress, and adapt strategies as challenges emerge. The composition of this group would be determined collaboratively with RVO during Phase 2, should this approach be considered.

Alongside these two potential areas of focus, a broader participatory process will further explore the challenges and potential solutions within Ghana's agroforestry sector. This process will also help determine which challenges align with RVO's remit and available resources, guiding the next steps for targeted action.

6.1 The Participatory Process

The participatory process will employ the combination of 2 methods: decentralised consultations and a policy hackathon:

- Decentralised Consultations: These consultations would ideally take place across Ghana's regions, ensuring the representation of diverse voices, including marginalised groups. Discussions would be conducted in local languages, making the process accessible and inclusive. Participants would explore region-specific challenges and identify tailored solutions to feed into a broader deliberation.
- 2. **Policy Hackathon:** A policy hackathon will convene a curated group of stakeholders to analyse insights from the decentralised consultations collaboratively. Participants will use innovative tools such as modified <u>World Café</u> discussions and role-playing scenarios to co-create actionable policy recommendations. The hackathon will focus on generating feasible and impactful solutions that address key challenges within the agroforestry sector.

The success of any participatory process relies heavily on thoughtful planning, design, and effective execution, particularly in ensuring inclusivity, practical logistics, and active stakeholder involvement. One KII emphasised the need for clear policies that recognise farmers' ownership of agroforestry trees, ensuring they are adequately rewarded for their role in reducing carbon emissions. Tree and land tenure systems don't support farmers to pursue agroforestry. Participatory processes, as suggested above, will enable some of the issues highlighted throughout this report, to be discussed more deeply and in a more action-oriented way.

Drawing on i4Policy's experience in public engagement and the specific context of Ghana's agroforestry sector, the following key considerations are essential for designing and implementing this process.

6.1.1 Inclusivity and Representation

An effective participatory process requires actively including diverse stakeholders to ensure all voices are represented. Here are some considerations to guarantee inclusivity in the participatory process:

1. **Diverse Stakeholder Engagement**: Effective participation demands the inclusion of voices across the agroforestry spectrum, such as:

- Smallholder farmers and large-scale operators to ensure representation of diverse agricultural practices and priorities.
- Marginalised groups are often underrepresented in decision-making but play critical roles in local agriculture.
- Landowners and tenant farmers, whose perspectives are vital for addressing systemic land-use challenges.
- 2. **Local Language Accessibility**: Recognising the linguistic diversity in Ghana, the consultations and hackathons must employ hosts and facilitators proficient in local languages. This measure will lower barriers to participation and foster meaningful dialogue.
- 3. **Gender Equity in Participation**: To amplify diverse voices, gender equity must be integrated into the design of invitations, recruitment methods, and facilitation strategies, drawing from frameworks in participatory governance.

6.1.2 Logistical Feasibility

Practical planning is essential to remove barriers and ensure participants can fully engage. Here are some considerations around logistics:

- Travel and Accommodation Support: Many stakeholders, especially smallholder farmers and rural community representatives, face financial constraints limiting their participation. Provisions for travel, subsistence, and accommodation are essential to ensure equitable access.
- Venue Selection and Accessibility: Venues for consultations and the main Policy Hackathon should be selected based on their accessibility for persons with disabilities, proximity to participants, and suitability for fostering dialogue
- 3. **Technology Integration**: To complement in-person engagements, digital platforms can facilitate wider participation, particularly for those in remote locations. Leveraging online tools for pre-event surveys and feedback can provide a more comprehensive understanding of stakeholder priorities.

6.1.3 Deliberative Support

Effective facilitation and clear documentation are key to guiding discussions and capturing valuable insights. Below are key elements to ensure a well-structured and impactful participatory process:

1. **Skilled Facilitation**: Skilled facilitators trained in deliberative techniques are necessary to guide discussions, manage power dynamics, and ensure all voices are heard. Methods like role-playing, the World Café, and other interactive formats can enhance engagement and creativity.

- 2. **Documentation**: Employing note-takers and audiovisual tools will ensure accurate recording of discussions. Sharing summaries and outcomes with participants builds transparency and trust in the process.
- Feedback Loops: Participants should receive regular updates on how their inputs shape policy recommendations to maintain momentum and legitimacy. Structured feedback mechanisms will reinforce their sense of ownership and commitment.

Agroforestry offers a pathway to sustainable development that balances people's and the environment's needs. By addressing structural challenges and fostering meaningful stakeholder collaboration, Ghana can develop sustainable practices tailored to its unique context, ensuring the resilient and prosperous futures of its farming communities.

As we conclude this phase of the project, we look forward to discussing what Phase 2 could look like. Building on these initial insights, the next phase offers an opportunity to refine strategies, strengthen collaboration, and continue supporting the development of agroforestry in Ghana.

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8. Annex

8.1 Annex 1: Expanded Policies Related to Agroforestry

Policies	Year	Туре	Link	Summary
United Nations Framework Convention on Climate Change (UNFCCC)	1992	International Convention	https://treaties.un. org/doc/source/re centtexts/unfccc eng.pdf	The UN Framework Convention on Climate Change (UNFCCC) sets out the basic legal framework and principles for international climate change cooperation to stabilise atmospheric concentrations of greenhouse gases (GHGs) to avoid "dangerous anthropogenic interference with the climate system." To boost the effectiveness of the 1992 UNFCCC, the Kyoto Protocol was adopted in December 1997. It committed industrialised countries and countries in transition to a market economy to achieve quantified emissions reduction targets for a basket of six GHGs. The Kyoto Protocol's first commitment period took place from 2008 to 2012. The 2012 Doha Amendment established the second commitment period from 2013 to 2020. In December 2015, parties adopted the Paris Agreement, which requires all parties to determine, plan, and regularly report on the nationally determined contribution (NDC) that it undertakes to mitigate climate change. Parties also submit aggregate progress on mitigation, adaptation, and means of implementation, which are reviewed every five years through a Global Stocktake.
United Nations Convention on Biological Diversity (CBD)	2011	International Convention	https://www.cbd.in t/doc/legal/cbd- en.pdf	The Convention on Biological Diversity (CBD) is the international legal instrument for "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources" that has been ratified by 196 nations. Its objective is to encourage actions, leading to a sustainable future. Humankind is concerned about the conservation of biodiversity. The Convention on Biological Diversity covers biodiversity at all levels: ecosystems, species, and genetic resources. It also covers biotechnology, including through the Cartagena Protocol on Biosafety. It covers all possible domains directly or indirectly related to biodiversity and its role in development, ranging from science, politics, and education to agriculture, business, culture, and much more.

				The CBD's governing body is the Conference of the Parties (COP). This ultimate authority of all governments (or Parties) that have ratified the treaty meets every two years to review progress, set priorities and commit to work plans. The Secretariat of the Convention on Biological Diversity (SCBD) is based in Montreal, Canada. Its primary function is to assist governments in implementing the CBD and its work programmes, organise meetings, draft documents, coordinate with other international organisations, and collect and spread information. The Executive Secretary is the head of the Secretariat.
United Nations Convention to Combat Desertification (UNCCD)	1994	International Convention	https://treaties.un. org/doc/Treaties/19 96/12/19961226%20 01- 46%20PM/Ch_XXV II_10p.pdf	The Convention was adopted on 17 June 1994 by the Intergovernmental Negotiating Committee for the elaboration of an international convention to combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa (established pursuant to resolution 47/1883 of the General Assembly dated 22 December 1992), during its Fifth session held at Paris. The Convention was opened for signature at Paris by all States and regional economic integration organizations on 14 and 15 October 1994. Thereafter, it remained open for signature at the United Nations Headquarters in New York until 13 October 1995.
Regulation on Deforestation- free Products	2023	International Convention	https://eur- lex.europa.eu/legal = content/EN/TXT/P DF/?uri=CELEX:32 023R1115	By promoting the consumption of 'deforestation-free' products and reducing the EU's impact on global deforestation and forest degradation, the new Regulation (EU) 2023/1115 on deforestation-free products is expected to bring down greenhouse gas emissions and biodiversity loss. The Regulation is part of a broader plan of action to tackle deforestation and forest degradation first outlined in the 2019 Commission Communication on Stepping up EU Action to Protect and Restore the World's Forests. This commitment was later confirmed by the European Green Deal, the EU Biodiversity Strategy for 2030 and the Farm to Fork Strategy.
Ghana's Constitution	1992	Constitution	Ghana Constitution (constitutionnet.or g)	This document ultimately underpins the law and interpretation of the law regarding trees. Naturally occurring trees are considered a natural resource under clause 275 (6) "(6) Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered

					by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana.
Forest (Cap. 157)	Act	1927	Law	https://faolex.fao.o rg/docs/pdf/gha40 761.pdf	This Act provides for the protection of forests and the creation and management of forest reserves. The President may, by executive instrument, constitute as a forest reserve - (a) lands which are the property of the Government; (b) stool lands, at the request of the relevant authority; (c) private lands, at the request of the owner; (d) lands that ought to be protected in order to (i) safeguard the water supply of the district, or (ii) assist the well-being of the forest and agricultural crops grown on those lands or in the vicinity of those lands, or (iii) secure the supply of forest produce to the inhabitants of villages situated on those lands or in the vicinity of those lands. The Act sets out the procedure for the creation of a forest reserve and establishes rules relative to rights in land affected by a notice to constitute a forest reserve (including a judgement by the Reserve Settlement Commissioner and a related appeal).
					The ownership of land within a proposed forest reserve shall not be altered by its constitution as a forest reserve. A forest reserve shall be managed by (a) the owner under the direction of the Forestry Commission or (b) the Government for the benefit of the owner. A right in a forest reserve shall not be alienated by sale, lease, mortgage, charge, or transfer unless the right holder has given a written notification of that intention to the Forestry Commission. A Regional Minister may, on the request of the Forestry Commission, stop a public or private way or water course in a forest reserve where an alternative exists or will be created.
					The Act creates the Forests Improvement Fund, which shall be under the control of the Minister responsible for Forests. Payments from the Fund may be made in respect of costs incurred in connection with exploitation and silvicultural work and for forest reserve improvement works. The Act defines offences in respect of forest reserves and provides with respect to powers of enforcement.
Concession Act	าร	1962	Law	https://faolex.fao.o rg/docs/pdf/gha16 8936.pdf	This Act concerns concession granted on stool lands to which the Administration of Lands Act, 1962 applies. Such concessions shall continue in force according to the terms of the concession, provided that: (a) such terms may be varied by agreement between the parties to the concession, subject to written consent of the Minister, and (b) roads on land specified in the concession shall be open for all persons authorised by the Minister (sect. 2). The Minister may apply to the

				Tribunal established under section 8 of this Act for the termination of a
				concession on the basis of reasons specified in section 3. The Minister may also apply for the modification of terms of a concession agreement under section 4. Holders of mining concessions shall pay rent in accordance with section 10. Transfer of concession rights shall be invalid without the consent of the Minister. Forest Reserves and timber concessions (lands referred to in subsection (2) or subsection (4) of section 4 of the Forests Ordinance) are hereby vested in the President in trust for stools concerned
Trees and Timber Act	1974	Law	https://faolex.fao.o rg/docs/pdf/gha93 274.pdf	The Act requires persons who wish to fell trees for exportation to first register a property mark with the Forestry Commission, and only properly marked logs shall be exported. The Minister may establish protected areas outside of forest reserves for purposes of preventing the waste of trees and timber. Provision is made for farming within such areas.
				The act consists of 2 sections divided into 4 Parts: Property marks (I); Protected areas (II); Export Levies (III); and General (IV). The Chief Conservator of Forests shall divide Ghana into such areas as he thinks fit and shall assign to each area a distinctive mark ("locality mark"). No person shall cut or fell any growing tree for export unless he has registered a property mark at the office of the Chief Conservator. Section 4 provides for the registration of property marks. The Chief Conservator of Forests may refuse to register a property mark pursuant to section 5. Section 6 contains rules for the marking of logs. No person shall buy, sell, export, or be in possession of any log which is not duly marked in accordance with the provisions of this Decree. The Commissioner responsible for lands may, by executive instrument, declare any area other than a Forest Reserve, which consists mainly of standing trees, to be a protected area for purposes of prevention of waste of trees or timber (sect. 12). Continuation of farming in protected areas shall take place exclusively under the license granted by the Commissioner under section 13. Section 14 prohibits the felling of trees, starting of fires and new farming in protected areas. Regulation-making powers of the Commissioner in respect of protected areas are outlined in section 15, and general regulation-making powers in regulation 17
Timber Resources Management Act	1997	Law	https://faolex.fao.o rg/docs/pdf/gha16 665.pdf	This Act provides for the protection of timber resources in Ghana and related matters. No person shall harvest timber from any land to which section 4 of this Act applies unless that person holds timber rights in the form of a timber utilization contract entered into under this Act (sect. 3). Section 4 lists the lands in respect of which timber rights may be

				granted. These are lands that were previously subject to timber rights which have expired and are suitable for re-allocation, unallocated or stool land suitable for timber operations in timber production areas, or alienation holdings. A Timber Rights Evaluation Committee is established under section 5, and its functions are described in section 6. The Committee shall evaluate timber utilization contracts. The Minister shall grant such rights after a recommendation of the Committee. Section 8 outlines the terms of the contract. Various other conditions are specified in sections 9 to 14. Section 14 makes provisions for the suspension or termination of contracts, and section 16 for the transfer of timber rights. (22 sections).
Forestry Commission Act	1999	Law	https://faolex.fao.o rg/docs/pdf/gha34 739.pdf	The Forestry Commission is established under Section 1 as a corporate body. The Minister responsible for forestry shall have ministerial responsibility for the Commission. The objects and functions of the Commission are outlined in section 2. They include regulation of the utilization of forest and timber resources of Ghana, management of the nation's forest reserves and protected areas, assistance to the private sector and other bodies in relation to the implementation of forest and wildlife policies, the development of forest plantations, restoration of degraded forests, and afforestation for industrial purposes. The Commission shall be divided into four Divisions: Forest Services Division; Forest Products Division; Timber Export Development Division; and Wildlife Division. The Commission shall be at liberty to re-organise the Divisions established by this Act. (32 sections)
Timber Resources Management Act 617 (Amendment) Act	2002	Law	https://faolex.fao.o rg/docs/pdf/gha68 409.pdf	This Act amends the Timber Resources Management Act 1997 with respect to the granting of timber rights, duration and maximum size of the area of a timber right, disqualification of rights for involvement in illegal timber operations and benefits and incentives for a person who invests in any forestry or wildlife enterprise.
National Environmental Policy	2012	Policy	https://faolex.fao.o rg/docs/pdf/gha17 4489.pdf	The National Environmental Policy is a national policy with a multi-sectoral approach. The objective of the National Environmental Policy is sustainable development based on integrated and coordinated environmental management to ensure citizens' quality of life and their living and working environments, equal access to land and other natural resources, more efficient use of social, cultural and natural resources, public participation and environmental governance. Agricultural development and the sustainable use of the land in an agricultural economy will be ensured in an environmentally sustainable

and socially equitable manner. Environmental, social and economic impact assessments of all existing and future irrigation projects will be carried out, especially in the savanna areas. Forestry development strategies will integrate the development, management, and conservation of forest resources, land and water resources, protected areas, energy resources, biodiversity, ecosystems, habitats, genetic resources, and flora and fauna. In order to ensure environmental sustainability, the Policy stresses coastal zone management, water resources management, energy conservation, environmental protection, sustainable use of renewable energy resources, sustainable use of mineral resources, waste management, urban planning, and public health. The environmental quality control programme will be improved. A precautionary approach will be applied for environmental pollution, environmental degradation, import and use of hazardous chemicals, marine pollution, transboundary movement of waste, ozone layer depletion and climate change, in line with international environmental conventions. Furthermore, measures will be taken to preserve ecosystems, with a special emphasis on critical ecosystems and invasive alien species. The use of toxic and hazardous chemicals (pesticides, herbicides and fertilizers) will be regulated to safeguard human life and the environment. Public awareness will be raised, and institutional capacity building on environmental protection will be improved to participate effectively in the process of achieving sustainable development goals. Environmental education will be expanded to develop information and skills and will be integrated into the national education system. An environmental information system will be developed to supply reliable data and information regarding the right to live in a clean and healthy environment. Equitable access to all environmental resources, benefits, and services will be provided using a gender-sensitive approach. Environmental Impact Assessment will be carried out regarding the use of non-renewable resources, interests and needs of present and future generations, environmental impacts related to resource exploitation, use of alternative technologies with lesser environmental impacts, sustainable use of renewable resources and investment policies. Public participation in environmental governance be ensured.

Climate change and Disaster Risk Reduction will be integrated into National Development Policies regarding agriculture, environment, health and energy efficiency. Public awareness will be raised on climate change adaptation and mitigation and disaster risk management to increase resilience to disasters.

				The Environmental Protection Agency shall be responsible for ensuring the integrated and coordinated implementation of the policy and the associated activities during the stipulated period. The Environmental Protection Agency and the sector Ministry, in close collaboration with the National Development Planning Commission and other relevant government and non-governmental organisations, shall develop mechanisms to ensure that environmental conditions are effectively mainstreamed into the development of policies and programmes. In order to ensure that the national policy is successfully implemented, the Environmental Protection Agency, in consultation with the Ministry of Environment, Science and Technology and the National Development Planning Commission and other relevant institutions, will develop a new National Environmental Action Plan detailing strategies and action plans, and setting targets and time frames for the Medium Term. The Ministry of Environment, Science and Technology carries the overall responsibility for monitoring, evaluation and review of this Policy through the Cross-Sectoral Planning Group.
Forest and Wildlife Policy	2012	Policy	https://faolex.fao.o rg/docs/pdf/gha14 4198.pdf	The overall aim of the present Forest and Wildlife Policy is the conservation and sustainable development of forest and wildlife resources for the maintenance of environmental stability and continuous flow of optimum benefits from the socio-cultural and economic goods and services that the forest environment provides to the present and future generations whilst fulfilling Ghana's commitments under international agreements and conventions. Its specific objectives are as follows: 1) to manage and enhance the ecological integrity of Ghana's forest, savannah, wetlands and other ecosystems for the preservation of vital soil and water resources, conservation of biological diversity, and enhancing carbon stocks for sustainable production of domestic and commercial produce; 2) to promote the rehabilitation and restoration of degraded landscapes through forest plantation development, enrichment planting, and community forestry informed by appropriate land-use practices to enhance environmental quality and sustain the supply of raw materials for domestic and industrial consumption and for environmental protection; 3) to promote the development of viable forest and wildlife based industries and livelihoods, particularly in the value added processing of forest and wildlife resources that satisfy domestic and international demand for competitively-priced quality products; 4) to promote and develop mechanisms for transparent governance, equity sharing and citizens' participation in forest and wildlife resource

management; 5) Promoting training, research and technology development that supports sustainable forest management.

The guiding principles of the Policy therefore incorporate the following: 1) Maintaining the ecological integrity of the forest and sayannah ecosystems; 2) Employing multi-sectoral approaches to planning and management of forest and wildlife resources: 3) Recognizing multistakeholder interests in forests and wildlife and forging a common vision to protect, manage and use the resources; 4) Encouraging collaborative resource management among communities, government and other stakeholders; 5) Ensuring the capture of the contribution of the forest and wildlife sector in national development thereby integrating forest and wildlife issues into national development policies and programmes; 6) Integrating traditional and scientific knowledge to promote sustainable forest management; 7) Increasing forest and tree cover through natural regeneration, afforestation and reforestation; 8) Promoting value addition of timber and non-timber forest resources; 9) Mainstreaming relevant international agreement and conventions into planning and management in the forestry sector; 10) Deepening decentralization of forest administrative functions; 11) Promoting publicprivate sector partnerships and investment in forestry sector; 12) Promoting capacity development for stakeholders in the forestry and wildlife sector: 13) Mainstreaming gender and vulnerability issues into forestry development planning and management; 14) Promoting transboundary, regional and international cooperation in forestry and wildlife management; 15) Promoting good governance in the forestry and wildlife sector; 16) Securing sustainable funding for the forestry and wildlife sector.

Part 2.1.1 establishes that the National Forest Plantation Development Programme (NFPDP) aims at restoring Ghana's lost vegetation, creating massive employment for the youth, increasing food production, including agricultural productivity and reducing the pressure on natural forests, which is not capable of meeting the increasing demands to satisfy both domestic and export markets for wood.

With a view to the implementation of this Policy, the government will: 1) Institute an annual forestry forum where all stakeholders will meet to review actions and plan programmes; 2) Decentralise the forestry governance system to local levels to ensure transparency, accountability and equity and to define the roles of Traditional Authorities, local government (District Assemblies), NGOs, Community-based

					Organizations (CBOs) in forest and wildlife management; 3) Enact specific legal provisions governing the establishment and management of Protected Areas; integrate forest law into Judicial and Law enforcement training programmes and clarify and consolidate forest-related laws and regulations into Forest Law. The government shall also develop financial mechanisms for forestry to achieve more secure, predictable funding sources for the sector. The text of the Policy consists of 6 Parts as follows: Preamble (1); Overview of the Forest and Wildlife Sector (2); The Policy Framework (3); The Forest and Wildlife Policy Statement (4); Policy Strategies (5); Supporting the implementation of the Forest and Wildlife Policy Objectives and Programmes (6).
Tree Policy	Crop	2012	Policy	https://faolex.fao.o rg/docs/pdf/gha18 0168.pdf	The Tree Crops Policy (TCP) in Ghana takes into account the major policy and strategic documents that have been developed and are currently being implemented in Ghana. This policy is mainly based on the Food and Agriculture Sector Development Policy II (FASDEP II), which was developed in 2008 by the Ministry of Food and Agriculture through an intensive stakeholder consultation process. FASDEP II provides the framework for the sustainable development of the agriculture sector. The TCP has integrated the strategies of the METASIP and is therefore consistent with the ECOWAS Agriculture Policy and NEPAD's Comprehensive Africa Agriculture Development Programme (ECOWAP/CAADP), which provide an integrated framework to support agricultural growth, rural development and food security in the African Region (pag. 1).
					The Policy aims to provide a comprehensive and holistic approach to the sustainable development of the Tree Crop sub-sector and proper targeting of support to the TC value chains. This policy document is the first of a set of tools (under-listed) developed by the GoG to support the TC sub-sector. Altogether, there are three tools: 1) Policy document, which provides orientation and guidelines for strategic actions and clearly defines the vision, objectives, and strategies to support the development of the TC sub-sector; 2) Strategic Plan, which provides guidelines for the development of the TC value chains identified as a priority and provides detailed and operational strategic programmes and budgets for the implementation of the policy. 3) Implementation Manual, which provides methods and tools to transform the strategies into real operations on the field and allows for effective coordination of activities (pag. 2).

The Positive Impact of this Policy on Food Security is one of the significant objectives of FASDEP II and MDG 1. The formulation of a policy for the TC sub-sector and the support for its sustainable development, which should have a direct and positive impact on food security: GPRS I and GPRS II emphasised the need for the country to make tree crops a pivot of the country's development agenda. GPRS II stated that tree crop development should be used as a strategy to reduce poverty (pag. 5). The Government's objectives in terms of rural employment, food security, contribution to GDP and improvement of rural livelihoods cannot be reached without strong support from the banking system, with loans at affordable rates and of sufficient duration (pag. 19).

TCP has been formulated based on the following guiding principles: Promotion of Good Agricultural Practices and improved technologies: Promotion of agribusiness and market development; Increased access to credit and finance; Promotion of Public-Private Partnerships; Improvement of the production and investment environment; Promotion of out-grower scheme models; Development of FBOs and VC committees; Mitigation of impacts on the environment through regulation and promotion of sustainable management practices; Increased coordination between MDAs and DPs; Support to rural employment through small-scale farming and processing: Decentralised planning and implementation; Mainstreaming of gender and consideration of the impact on vulnerable groups. These principles have been developed into objectives that will be the main focus of the TCP. Six major objectives have been identified to promote the sustainable development of the TC sub-sector in Ghana: 1. Support increased production and productivity; 2. Promote investment and increase processing capacities; 3. Improve marketing through VC development: 4. Promote sustainable practices for environmental protection; 5. Support Research and Development; and 6. Improve coordination and management of the Policy (pages. 27 and 28).

The objective of the strategy is to address both the negative environmental effects of TC cultivation, including pollution, deforestation, loss of biodiversity, declining soil fertility and erosion, climate change, bush fire, and the positive effects, such as carbon sequestration and soil conservation. The footprint of the TC sub-sector should be reduced to a minimum through the promotion of protective measures and improved regulation (pag. 47).

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Timber Resource Management and Legality Licensing Regulations	2017	Regulation	https://faolex.fao.o rg/docs/pdf/gha17 3919.pdf	These Regulations reform the law in Chana with respect to the granting of timber rights and related matters. They (a) regulate the identification of land suitable for the grant of timber rights, (b) regulate the terms and conditions for small and large-scale timber rights, (c) regulate other sources of timber, and (d) provide for a legality licensing scheme. The Forestry Commission shall identify lands suitable for the grant of large-scale timber utilisation contracts. The Regulations set out the procedures for the identification of lands (including owner consent). An inventory of forests and timber on public lands, existing forest reserves, stool lands and any other lands shall be prepared. The allocation of large-scale timber rights and small-scale timber utilisation contracts shall be based on a competitive procedure. Procedures are set out in the Regulations. Where the Evaluation Committee considers that it is appropriate to grant small-scale timber rights in an identified area, the Evaluation Committee shall cause this to be published. The regulations set out terms and conditions of (large- and small-scale) Timber Utilisation Contracts. A timber utilisation contract is not renewable. The holder of a timber right shall negotiate a social responsibility agreement with communities in and around the contract area at the value of five per cent of the stumpage fee. A social responsibility agreement Shall take into account the terms in the Social Responsibility Agreement Guidelines and Code of Conduct. Other rights of timber harvesting are timber utilisation permits (for a rural community group or a non-governmental organisation) and Legality Licensing. As a requirement of the Voluntary Partnership Agreement between Chana and the European Union, Chana has, through stakeholder consultation, developed a legal standard to underpin the implementation of this Agreement. The legal standard is linked to the Legality Assurance System through the legality matrix. This document presents the legal definition, the legality

of the Commission responsible for verification and validation of applications for licences performs its functions in a credible, transparent and independent manner; (b) establish measures to ensure that the processes of verification and validation under these Regulations are not interfered with; (c) settle complaints made in respect of the division or department of the Commission responsible for verification and validation of applications for licences and in respect of the verification and validation process. It shall also make recommendations to the Minister.

The Regulations furthermore, among other things, establish general rules regarding licences, regulate inspection and investigation by the Committee, require a harvesting plan for timber operations in a contract area to be drawn up in accordance with the Logging Manual prepared by the Commission, provide rules relative to timber operations, require a stumpage fee to be paid, require chainsaws to be registered, requires chainsaw users to mark stumps, prohibit the felling of the species of timber specified in the Eighth Schedule except under a restricted species permit issued by the Commission with the approval of the Minister, provide for public access to information on forest resource management, and define general offences.

8.2 Annex 2: Further Details on Programmes Related to Agroforestry

Programs	Year	Туре	Agency	Partners	Link	Summary
Forestry Development Master Plan 1996 – 2020	1996	Government of Ghana	Ministry of Land and Forestry	Local communities	https://faolex. fao.org/docs/ pdf/qha14420 8.pdf	The overall aim of the present Forestry Development Master Plan is to provide a basis for achieving sustainable utilization and development of forest and wildlife resources, modernization of the timber industry and conservation of the environment, and thereby ensure the realisation of the objectives of the Forest and Wildlife Policy. At the same time, the various proposals have had to take into account the need to improve the state of the environment, the complexities of land tenure, and the importance of appropriate and efficient land use. The Plan also recognizes the urgent need to address problems of unemployment and poverty and to support the role of women in development. In particular, the goal of the Forestry Development Master Plan is identical to the aims of the Policy from which the following objectives are derived: i) Management and enhancement of Ghana's permanent estate of forest and wildlife resources; ii) Promotion of viable and efficient forest-based industries, particularly in secondary and tertiary processing; iii) Promotion of public awareness and involvement of rural people in forestry and wildlife conservation; iv) Promotion of research-based and technology-led forestry and wildlife management, utilization and development; v) Development of effective capacity and capability at national, regional and district levels for sustainable forest and wildlife management. These objectives can be scheduled into three-time horizons, namely, Phase I - 1996 to 2000, Phase II - 2001 to 2010, and Phase III - 2011 to 2020. Phase I concentrates on: Sustainable Forest and Savannah Management; Expansion and Diversification of Forest-based Products; Forest Industry Rationalization, and Wildlife and Protected Area Conservation. Phase II shall comprise: 1) Maintenance of

sustainable forest management and National Parks management systems;2) Maintenance of commercial production systems and development of product harvesting, handling and marketing facilities; 3) Promotion of total value-added processing and competitive marketing. Phase III shall entail:1) Maintenance of sustainable forest and wildlife management systems; 2) Maintenance of commercial production systems and improved product harvesting and marketing; 3) Maintenance of competitive valueadded processing industries. Part IV lays down provisions relating to implementing procedures. The correct and efficient enforcement of the present Plan is incumbent upon the following bodies. agencies and institutions: the Ministry of Lands and Forestry, the Forestry Commission, the Forestry Department, the Wildlife Department, the Timber Export Development Board, the Forest Products Inspection Bureau, the School of Forestry, Institute of Renewable Natural Resources (IRNR, Forestry Research Institute of Ghana, Timber Trade Associations, Traditional Communities and District Assemblies. Part V dealing with monitoring and evaluation, establishes that the Ministry of Lands and Forestry shall be responsible for proper coordination of all programmes, projects and activities under the Master Plan and will monitor implementation through regular reporting by sector agencies. The text consists of 6 Parts as follows: Introduction (I); Sectorial Profile: the Current Situation (II). This Part consists of the following chapters: General Description and Current Policy (1); Sustainability of Forest Resources (2); Protection of Forest Resources (3); Consumption of Wood Energy and Non-timber Products (4): Viability of the Timber Industry and Wood Processing (5); Conservation of Wildlife Resources and Biodiversity (6); Public Participation (7); Sectorial Masterplan (III); This Part is made up of the following chapters: Development Themes (1): Goals and Objectives (2): Phase

						Programmes and Activities (3); Implementation (IV); Monitoring and Evaluation (V); Conclusion (VI). Three Annexes are enclosed.
Forestry Development Master Plan for 2016 – 2036	2016	Government of Ghana	Ministry of Land and Forestry	Local communities	https://faolex. fao.org/docs/ pdf/qha17438 5.pdf	The Forestry Development Master Plan is a national policy with a sectoral approach. The timeframe of the policy is 20 years between 2016 and 2036. The objective of the Master Plan is to ensure sustainable forest management, ecosystem preservation, biodiversity conservation, wildlife protection, environmental protection, soil conservation, land use planning, sustainable use of forest resources, afforestation, rehabilitation and restoration of degraded landscapes, and plant cultivation, in a socially equitable manner. In order to make forestry more productive and sustainable, (i) forestry protection measures will be
						taken to ensure sustainable management and utilization of forests, wildlife, wetlands, and savannah ecosystems, (ii) protected area management systems will be improved, (iii) climate-smart agriculture will be supported, and (iv) forest management certification will be
						Forest enterprises will be modernized as a means of job creation for the rural and urban poor. Equitable benefit sharing and public participation will be promoted in forest and wildlife resource management.
						The capacity building of forestry institutions and the public will be improved through training, research-based, and technology-led development in the field of sustainable forest and wildlife management. Therefore, public awareness will be raised of the value, multiple uses, and benefits of forests. Fiscal measures will be taken for natural forest and wildlife management, timber plantation development, plant and machinery, development of tertiary processing activities, woodfuel processing, and micro/small forest-based enterprises. Forest and wildlife-based industries will be developed to satisfy domestic and international demand for competitively-priced quality products. Wood marketing,

						export development, trade promotion and the domestic wood market will be developed for a sustainable supply of timber and woodfuels. The Master Plan seeks to contribute to reducing Green House Gas (GHG) emissions from deforestation and forest degradation and climate and temperature regulation. The Ministry of Land and Natural Resources shall be responsible for monitoring the implementation of this Master Plan. The Policy, Planning, Monitoring and Evaluation Directorate within the Ministry of Land and Natural Resources shall be the Plan Implementation and Coordination Unit to manage the programs. The monitoring and evaluation information will be shared with the Ministry of Finance and Economic Planning, National Development Planning Commission, Ghana Statistical Service, Ministry of Environment, Science, Technology, and Innovation, Environmental Protection Agency, development partners, Policy, Planning, Monitoring and Evaluation Directorate, Civil Society Organizations, the private sector and decentralized entities, and other partners intervening in the forestry sector.
Ghana REDD+ Strategy (2016-2035)	2016	Government of Ghana	Forestry Commissi on of Ghana	National REDD+ Secretariat (NRS) of Ghana, Forest Carbon Partnership	https://faolex. fao.org/docs/ pdf/qha17887 6.pdf	The National REDD+ Strategy denotes the suite of interventions that seek to reduce emissions from deforestation and forest degradation whilst incorporating the role of conservation, sustainable forest management and enhancement of forest carbon stocks in developing countries. Ghana undertaking REDD+ activities is required to develop a national strategy that clearly articulates measures aimed at addressing the drivers of deforestation and forest degradation and other associated issues, including land and tree tenure, forest governance, gender and safeguards. The strategy document is structured along four sections: Section 1: Introduction and Background Ghana's Vision for REDD+ is to significantly reduce emissions from deforestation and forest degradation over the next

twenty years whilst at the same time addressing threats that undermine ecosystem services and environmental integrity in order to maximize co-benefits from forests. Section 2: Achieving REDD+ provides an overview of the drivers of deforestation and degradation and an assessment of activities to reduce emissions from forest loss. Forest degradation and deforestation in Ghana are primarily driven by: Agriculture expansion; Logging; Fuel-wood harvesting/charcoal production; Wildfires; Infrastructure development: and Mining/sand winning. Section 3: Governance of REDD+ in Ghana outlines the enabling environment and governance arrangement which will support the implementation of REDD+ activities in Ghana. Section 4: Tracking REDD+ describes Ghana's approach to a full tracking system for monitoring, measuring, reporting and verifying emissions fluxes associated REDD+ with implementation.

The goals set by Ghana for REDD+ implementation are to: 1. Significantly reduce emissions from deforestation and forest degradation over the next twenty years while enabling carbon stock enhancement through sustainable forest management and forest restoration strategies such as forest plantation establishment. 2. Preserve Ghana's forests in order to sustain their ecosystem services, conserve biological diversity, and maintain a cultural heritage for generations to come; 3. Transform Ghana's major agricultural commodities and Non-Timber Forest Products (NTFPs) into climate-smart production systems and landscapes; 4. Expand platforms for cross-sector and public-private collaboration and sustainable economic development; 5. Generate innovative, substantial and sustainable economic and non-economic incentives and benefits to improve livelihoods across all regions of Ghana. Gender considerations are essential to REDD+ as they have the potential to enhance the effectiveness and efficiency of conservation, poverty reduction and climate mitigation efforts. It is, therefore, imperative to mainstream gender considerations into REDD+ implementation. The principal driving principle is to ensure that both men

						and women are fully recognized as REDD+ stakeholders and that they have equal access, use and control of forest resources as well as equitable share of associated benefits. In order to fully realize the vision and goals of REDD+, Chana has set five key criteria to guide the implementation of REDD+ activities: 1. Economic development —how does the activity contribute to the nation's development? 2. Environmental sustainability— how does the activity contribute to the sustainable use of Ghana's forest resources? 3. Measurable—how will the activity be monitored, evaluated and measured? 4. Inclusive—has the activity considered all possible stakeholders and engaged them in the process, with consideration of their rights and potential impacts? 5. Marketable—how will the activity generate revenue and benefits, either through markets, funds, or alternative mechanisms? In pursuing REDD+ in Ghana, principles will guide all aspects of planning and implementation, such as Recognition of the rights of all stakeholders, including land owners, land users, marginalised groups, women and children; REDD+ should maintain and enhance the integrity of Ghana's forests and its environment in order to safeguard ecosystem services.
Cocoa and Forests Initiative (CFI)	2017	Government of Ghana	Ministry of Land and Forestry	N/A	https://www.i dhsustainabl etrade.com/u ploaded/2017/ 03/Ghana- Framework- Final-NO- 1.pdf	The Cocoa & Forests Initiative is currently implemented in Côte d'Ivoire and Ghana, which produce approximately 60% of the world's annual supply of cocoa, and Colombia, where cocoa is being seen as an opportunity to support the peace process. The Initiative, launched in 2017, is chaired by the governments of Côte d'Ivoire, Ghana and Colombia and is facilitated by IDH, the Sustainable Trade Initiative and the World Cocoa Foundation (WCF). The Cocoa & Forest Initiative is generously supported by P4F, BUZA, Danida and SECO. Following the Statement of Intent, Frameworks for Action have been signed by the government and leading chocolate and cocoa companies in Cote d'Ivoire,

						Conservation of National Parks and forested land, as well as restoration of forests that have been degraded by cocoa farm encroachment. - Sustainable intensification and diversification of income in order to increase farmers' yields and livelihood, to grow "more cocoa on less land" and thereby reduce pressure on forests. - Engagement and empowerment of cocoa-growing communities. In particular, mitigation of the social impacts and risks of land-use changes on affected cocoa farmers and their communities. In Côte d'Ivoire and Ghana, these Frameworks for Action have been translated into National Implementation Plans. The first phase ran from 2018-2021 based on specified timelines, roles and responsibilities, monitoring and evaluation, and governance. The implementation plans for the second phase, from 2022-2025, have also been shaped by public, private and civil society stakeholders through a series of strategic and technical discussions.
National Cocoa Rehabilitation Programme	2023	Government of Ghana	COCOBO D	N/A	https://cocob od.gh/news/p resident- akufo-addo- launches- national- cocoa- rehabilitation -programme	The programme, which has already been successfully piloted in some of the worst CSSVD-affected cocoagrowing areas, is now being expanded to all the cocoagrowing regions in the next phase of the programme. The government has allocated over USD200 million of the \$600 million syndicated loan facility it secured from the African Development Bank (AfDB) to the national rehabilitation programme. The launch took place at a durbar at Sefwi Wiawso in the Western North Region on Thursday, 24th September. Present at the launch was Nana Kwasi Katakyie Bumakama II, paramount chief of the Sefwi Wiawso traditional area and subchiefs of the area. Under the National Cocoa Rehabilitation Programme, COCOBOD bears the full cost of the two-year-long rehabilitation process, which involves the cutting of the

						diseased trees, treating the farms and replanting with disease-tolerant, early-bearing, high-yielding cocoa varieties. COCOBOD also gives an amount of GH¢1000.00 per hectare to each farmer who has been affected by the disease. In the case of tenancy, both affected tenant farmers and their landowners are compensated. In the next phase of the rehabilitation programme, some 20,000 hectares of diseased cocoa farms will be rehabilitated by the middle of next year.
Tree registration project	2023	Government of Ghana	Forestry Commissi on	IDH, World Cocoa Foundation	https://cfigha na.mlnr.gov.g h/co- creation-to- design-tree- registration- pilot-to- support- farmers-to- register- trees-on-the- national- system-to- receive-tree- ownership- right- documentati on/	In Ghana, the initiative is hosted by the Ministry of Lands and Natural Environment (MLNR) and facilitated by IDH and the World Cocoa Foundation (WCF).Principal Objective To operationalize tree ownership rights for 1000 smallholder cocoa farmers through the registration of trees into the Forestry Commission National database and issued with relevant documentation to demonstrate ownership rights by November 2023. Specifically To sensitize about 15,000 smallholder farmers on the needs and benefits of registering their trees on farms through an interactive radio program from October to November 2023 Develop a cost calculation for farmers to obtain tree ownership right documentation. Agreement with CFI signatories on the service delivery model and cost distribution on the support to farmers to obtain tree ownership right documentation. Geographical Scope and Specific Tasks The Tree Registration pilot will be implemented in selected cocoa-growing communities in the Tarkwa District in the Western Region of Ghana. The details of the community and the names of the potential beneficiary farmers, farm locations, farm sizes, contact details and all other relevant information.

						The specific project activities will include farmer sensitisation, data collection training, tree registration data collection, verification and validation, and issuance of relevant tree ownership rights documentation for farmers who want to own trees on their farms.
Ghana Tree Crop Diversification Project (GTCDP)	202	Government of Ghana	Tree Crops Developm ent Authority (TCDA)	World Bank	https://projec ts.worldbank. org/en/projec ts- operations/pr ocurement- detail/OP002 95673	The Government of Chana has been granted a \$200 million IDA-World Bank Credit Facility for the implementation of a six-year project titled "Tree Crops Diversification Project. The Development Objective (PDO) of the project is to improve economic, climate, and social resilience in selected tree crop value chains in Ghana, i.e., Cocoa, Coconut, Cashew and Rubber. These objectives are to be achieved through three interrelated technical components, all of which support the soft and hard solutions to promoting the tree crops sector development. The components are (i) Institutional Strengthening and Value Chain Governance; (ii) Improving Tree Crops Productivity and Climate Resilience; and (iii) Support for Post-Harvest Management, Value Addition, and Market Access. The fourth project component focuses on project management and monitoring. The project is to be implemented by the Ghana Cocoa Board (COCOBOD) with a focus on cocoa and the Tree Crops Development Authority (TCDA) with a focus on coconut, cashew, and rubber. The six-year project aims to benefit over 52,000 farmers and create thousands of jobs, prioritising the inclusion of women and youth.
Enhancement of Carbon Stocks (ELCIR+) project	2013	Multilateral Institution	African Developm ent Bank Group	N/A	https://www.a fdb.org/en/do cuments/doc ument/ghana -engaging- local- communities -in-redd- enhancemen t-of-carbon- stocks-elcir- appraisal- report-44805	The Engaging Local Communities in REDD+/Enhancement of Carbon Stocks (ELCIR+) project objective is to mobilize and invest funds to reduce deforestation and forest degradation and also financially benefit local communities. This will lead to emission reductions and the protection of carbon reservoirs as part of the REDD+ agenda. The project forms part of the Ghana Investment Plan for the Forest Investment Program. The investment plan is expected to be cofinanced through basket funding with the World Bank and the International Finance Corporation (IFC). The Bank financed portion of the project supports:(i)restoration of degraded agricultural

						landscapes, (ii) climate-smart agriculture, (iii) livelihoods improvement and, (iv) capacity building. The project will be implemented over 5 years(2014 –2018) with a total cost of US \$ 15.826 million.
European Union's Forest Law Enforcement, Governance, and Trade (FLEGT) initiative	2021	Multilateral Institution	African Developm ent Bank Group	N/A	https://www.fao.org/in-action/forest-governance-value-chains/background/fao-eu-flegt-programme-phase-iii/en/	The FAO-EU Forest Law Enforcement, Governance and Trade (FLEGT) Programme seeks to reduce and eventually eliminate illegal logging. With the support of its donors, the FAO-EU FLEGT Programme funds projects created by governments, civil society and private sector organizations in Latin America, Africa and Asia to improve forest governance. The Programme works in support of the European Commission's Action Plan on FLEGT to promote the legal production and consumption of timber by granting funds to projects and assisting them at all stages, from the original design through to the final outcome. Decreasing illegal logging contributes to the Sustainable Development Goals by alleviating poverty (SDG 1), ensuring food security (SDG 2), mitigating climate change (SDG 13) and managing forests sustainably (SDG 15). The FAO-EU Forest Law Enforcement, Governance and Trade (FLEGT) Programme seeks to reduce and eventually eliminate illegal logging. With the support of its donors, the FAO-EU FLEGT Programme funds projects created by governments, civil society and private sector organizations in Latin America, Africa and Asia to improve forest governance. The Programme works in support of the European Commission's Action Plan on FLEGT to promote the legal production and consumption of timber by granting funds to projects and assisting them at all stages, from the original design through to the final outcome. Decreasing illegal logging contributes to the Sustainable Development Goals by alleviating poverty (SDG 1), ensuring food security (SDG 2), mitigating climate change (SDG 13) and managing forests sustainably (SDG 15).
UNDP Green Commodities Programme	2023	Donor	UNDP	Government of Ghana	https://www. undp.org/facs /green- commodities	Sustainable commodities can only be achieved if developing countries align their stakeholders behind a shared vision for the future of their commodity sectors and engage and commit all actors in an effort to

Chana Forest	2010	Donor	Ministry of	World Bank	-programme https://mlnr.g	generate change. The typical sequence is for UNDP as a neutral broker to bring together all stakeholders into a commodity and country-specific National Commodity Platform, which then collaboratively creates a National Action Plan. Platforms are led and owned by the government, driven by participants and enabled by UNDP through its country offices and GCP. A steering committee for the platform provides coordination and helps reach decisions by consensus. The National Action Plans articulate all agreed courses of action. The need for coordinated action by all commodity stakeholders around a common agenda drives National Commodity Platforms and National Action Plans. The Forest Investment Programme (FIP) is a targeted
Investment Programme (GFIP)			lands and Natural resources		ov.gh/index.p hp/programs - projects/gha na-forest- investment- program-fip/	programme under the Strategic Climate Fund (SCF) of the Climate Investment Fund (CIF). The FIP aims to finance country-specific efforts to address the underlying causes of deforestation and forest degradation and to overcome barriers that have hindered past efforts to do so. Ghana was among eight (8) countries in the world selected as a pilot country for the FIP in March 2010. Each pilot country had to develop a Forest Investment Plan for the approval of the Climate Investment Fund Subcommittee. Ghana prepared its Investment Plan together with stakeholders, and was approved by the CIF subcommittee in November 2012. The Investment Plan outlined three (3) projects and secured a total funding of 50 Million Dollars from the SCF, which is being disbursed through Multilateral Development Banks (World Bank, African Development Bank and International Finance Cooperation). The African Development Bank also gave a grant worth 5 Million Dollars to support project 2 of the GFIP.

						to address the underlying drivers of deforestation and catalyse transformational change by providing upfront investment to support the implementation of the REDD+ strategy and generate information and experience for policy and regulatory changes, with the ultimate aim of reducing the emissions of GHG within the LULUCF sector in Ghana. The GFIP is being implemented in the High Forest Zone of Ghana, covering the Western and the Brong-Ahafo Regions The three projects under the Investment Plan are; I. Project 1 (Enhancing Natural Forest and Agro-Forest Landscape Project- ENFALP) – USD 30M ii. Project 2 (Engaging Local Communities inREDD+/Enhancing carbon Stock –ELCIR+) – USD15M iii. Project 3 (Engaging the private sector inREDD+) – USD 10M- This project was later discontinued by IFC because the private sector could not meet the fiduciary requirements of the bank. However, the total allocated budget has been taken up by the Government of Ghana as a concessional loan for private sector investment in plantations.
Green in Ghana project	2010	Donor	Ministry of lands and Natural resources	World Bank	https://projec ts.worldbank. org/en/projec ts- operations/pr oject- detail/P171933	The objective of the Landscape Restoration and Small-Scale Mining Project for Ghana is to strengthen integrated natural resource management and increase benefits to communities in targeted savannah and cocoa forest landscapes. There are five components to the project, the first component being institutional strengthening for participatory landscape management. This component will also enhance multipurpose land and water management models at the national level through the acquisition of remote sensing data and geological surveys, which will allow the production of updated maps with additional layers of information. It will also support the development of spatial planning tools for mapping and monitoring impacts and effective monitoring of sustainable cocoa

						production. The second component is enhanced governance in support of sustainability. This component aims to strengthen the regulatory framework for ASM, with a focus on modernizing regulatory instruments and building the capacity of key government agencies involved in ASM regulation and compliance monitoring (such as Minerals Commission [MC], FC, and EPA), as well as district management committees. The third component is sustainable crop and forest landscape management. This component aims to link improved food production and ecological integrity through investments in production and forest landscapes through the promotion of climate-smart agriculture, conservation, and restoration activities. The fourth component is the project monitoring and knowledge management. This component aims to support robust project management and monitoring (including financial, internal audit, and procurement management; monitoring and evaluation (M and E); E and S risk management; supervision, implementation, and monitoring of the grievance redress mechanism [GRM]; monitoring implementation of the Gender Action Plan; and so on); better communication outreach and dissemination; appropriate stakeholder engagement; and adequate knowledge management. Finally, the fifth component is the contingent emergency response. A Contingent Emergency Response Component (CERC) with zero allocation
Sankofa (Dua Pa) project	2018	Donor	Kuapa Cocoa	Swissco	https://ndfwe stafrica.org/w p- content/uplo ads/2022/01/S ankofa- poster.pdf	Swissco, in partnership with Kuapa Cocoa, runs the Sankofa project, a consortium of partners that started in 2019 and is working to build a community of practice that encourages knowledge sharing. Therefore, the project will set up a Centre of Excellence to help scale up cocoa production's current organic support systems. The project provides support for skills training to offer stakeholders interested in the space who don't have the know-how to adopt cocoa agroforestry. Kuapa Cocoa is leading the Sankofa project. The project partners promoted climate-smart agriculture, such as dynamic agroforestry in Ghana, through a multi-stakeholder approach, thereby scaling up previous efforts towards

Sharing Mechanism for REDD+ Implementati on in Ghana	2014	Research	CSIR-Forestry Research Institute of Ghana	Forestry Commission of Ghana	https://www.forestcarbonpartnership.org/system/files/documents/FC%20BS%20Final%20Report.pdf	income diversification, climate resilience and biodiversity conservation. What the project was about This project was built on a two-year pilot that successfully introduced dynamic agroforestry (DAF) in the landscape around three municipal districts in two regions (Ahafo and Western North) in Chana. In the pilot, 16 lead farmers were empowered to install and maintain their own DAF plots with extensive training. DAF is a very systematic approach that is know-how intensive and is characterised by an extremely high plant density and diversity, systematic stratification, and high pruning intensity. Within DAF, the production of premium quality associated crops such as yam, maize, cassava, and plantains was promoted, accompanied by skills and technological capacity training. The goal was to increase the income of farmers and to improve their resilience to market and production risks. Ghana's REDD+ Readiness Preparation Proposal (R-PP) emphasizes among others equitable benefit sharing is a critical component in the preparation for effective REDD+ implementation. The challenges facing Ghana in developing an effective, efficient and equitable benefit-sharing mechanism for REDD+ are those that relate to land/tree tenure, carbon rights definition, determination of benefit distribution mechanism, management of the benefit-sharing process (transparency and accountability), determination of beneficiary stakeholders and dispute/conflict resolution mechanism. To address these issues, the CSIR-Forestry Research Institute of Ghana (CSIR-FORIG) was commissioned by the Forestry Commission of Ghana to undertake a study with the goal of providing recommendations to address issues of land/tree tenure, carbon rights and benefit sharing are critical for the implementation of REDD+ in Ghana. Two main approaches were adopted for executing the study namely: desk and field studies.
Green	2021	NGO	Green	Friends of the	https://greenl	The Green Livelihood Alliance in Ghana aims to mobilize

Livelihoods Alliance (GLA) Programme			Livelihood s Alliance	Earth Ghana, A Rocha Ghana, Tropenbos Ghana	ivelihoodsalli ance.org/cou ntries/ghana	Local Community and Civil Society campaigns, capacity strengthening, and advocacy based on empirical evidence to create a social movement that defends forests and biodiversity and supports communities to protect their environmental rights that reduce the drivers of deforestation. The program will campaign for climate justice, execute non-violent direct actions and participate in Ghanaian, regional and international movements that implement dialogue and dissent strategies towards local communities, and public and private actors. We will achieve this by mobilising people and bringing together the knowledge needed to address complex governance issues for climate-smart landscapes through a landscape approach involving local communities, and private, public and civil society actors.
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This is a publication of

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This publication was commissioned by the ministry of Foreign Affairs. $\hbox{@}$ Netherlands Enterprise Agency | June 2025

Publication number: RVO-115-2025/RP-INT

NL Enterprise Agency is a department of the Dutch ministry of Economic Affairs that implements government policy for Agricultural, sustainability, innovation, and international business and cooperation. NL Enterprise Agency is the contact point for businesses, educational institutions and government bodies for information and advice, financing, networking and regulatory matters.

 $Nether lands\ Enterprise\ Agency\ is\ part\ of\ the\ ministry\ of\ Economic\ Affairs.$