



SCALING AGROFORESTRY THROUGH INCLUSIVE POLICY IN GHANA

Policy Insights & Actions Framework

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1. Executive Summary

Agroforestry offers a promising pathway for advancing climate resilience, sustainable land use, and rural livelihoods in Ghana. Commissioned by the Netherlands Enterprise Agency (RVO), this project, led by i4Policy applies the ADDIS – Decision Thinking methodology to co-develop solutions with those most affected. Phase 1 mapped the institutional and policy landscape shaping agroforestry in Ghana. Phase 2 deepened this work through participatory engagements (including two Policy Hackathons in Tamale and Kumasi and a Multistakeholder Workshop in Accra), bringing together farmers, civil society, researchers, and public sector actors.

This Policy Insights and Actions Framework presents the key contributions that emerged through this process. It highlights five priority challenges and their corresponding solutions, identified and refined collaboratively. Together, these insights offer a roadmap for shaping policy in ways that reflect on-the-ground realities and support a participatory approach to agroforestry development in Ghana.

2. Introduction

Agroforestry presents a potential approach to enhancing rural incomes and bolstering Ghana's resilience to climate change. Integrating trees into farming systems offers a nature-based solution to restore degraded land, boost productivity, and diversify farmer incomes. Agriculture accounts for about 20% of Ghana's GDP, and cocoa alone contributes an estimated 3–4% while employing roughly 17% of the workforce¹. Yet tree-based farming remains a marginal practice for most smallholders. Adoption continues to be limited by sub-optimal policy coordination, unclear tree and land tenure arrangements, and insufficient financial and technical support.

This Policy and Insights Framework responds to that gap. Through a participatory process involving agroforestry ecosystem stakeholders, including farmers, local institutions, NGOs, and policymakers, it identifies practical solutions and entry points for reform. The recommendations that follow aim to support and establish the framework for creating the enabling conditions necessary to scale up agroforestry in Ghana. The goal is to ensure agroforestry becomes not just a promising idea, but a practical, supported, and scalable choice for farmers across Ghana.

¹ Ghana's cocoa sector contributes approximately 3–4% of national GDP and supports around 17% of the workforce, underscoring its central role in the economy. Sources: anangtawiah.com and OPEC Fund.

3. Context Analysis

Despite its potential, agroforestry remains underdeveloped in Ghana. While the practice is widely recognised as a climate-smart approach that can boost rural incomes, improve soil health, and support biodiversity, its adoption remains limited by disjointed policies, fragmented mandates, and institutional silos. Tree-based farming systems in Ghana, with the notable exception of cocoa, are still seen as uncertain opportunities and peripheral economic activities, with smallholders perceiving them as risky due to unclear land tenure, limited technical support, and uncertain financial returns.

Commissioned by the Netherlands Enterprise Agency (RVO) and supported by the Netherlands Embassy, i4Policy conducted an extensive analysis of Ghana's agroforestry sector. The research adopted a two-phase approach.

The first phase of this project focused on mapping the landscape of actors, institutions, and policies influencing agroforestry. This research, grounded in reviews of policies, laws, and international frameworks, as well as stakeholder interviews and Focus Group Discussions, highlighted core structural challenges that limit agroforestry adoption. This culminated in a research report titled: [Agroforestry Development in Ghana: A Participatory Approach to Progress.](#) The report findings identified a total of eight umbrella challenges to large-scale agroforestry adoption in Ghana. Among these, socioeconomic barriers, such as the high upfront costs of establishing agroforestry systems, deter many farmers, particularly given the long timelines for economic returns. Unclear land and tree tenure systems further reduce incentives, with a deficient application of benefit-sharing arrangements often excluding farmers from meaningful financial gains. Institutional fragmentation, especially among the state institutions, undermines coordination and policy coherence. Meanwhile, environmental pressures such as illegal logging, unsustainable mining, and the expansion of monocultures degrade landscapes and constrain opportunities for agroforestry diversification.

This second phase built on these findings, adopting a participatory approach designed to validate, expand, and prioritise solutions to these umbrella challenges. Policy Hackathons in Tamale and Kumasi, followed by a Multistakeholder Workshop in Accra, brought together farmers, traditional leaders, civil society representatives, researchers, and

government officials. Participants worked collaboratively to break down the umbrella challenges, identify sub-challenges within the umbrella categories, and co-define a set of priority solutions. This Policy Insights and Action Framework distils those contributions into actionable recommendations designed to help unlock the full potential of agroforestry in Ghana and guide future policy development efforts.

4. Methodology

This document is grounded in a participatory process designed to gather insights from those most directly affected by agroforestry policy and practice in Ghana. Using the ADDIS - Decision Thinking framework², developed by i4Policy, the process follows an approach to collaborative policymaking. [The ADDIS model](#) - comprising five stages, allows stakeholders to set the agenda (Agenda-Setting) through engagements, drafting phase to document the challenges, decision-making process to prioritise solutions, Implementation, and sense checking to monitor and improve. The ADDIS model creates a shared language between public officials, communities, and citizens, ensuring inclusive and transparent governance.

Phase 1: Agenda Setting - High-Level Stakeholder Workshops

The research conducted ten expert interviews and two stakeholder workshops in Accra and Kumasi with stakeholders across the agroforestry ecosystem. The expert's interviews initially helped identify emerging problems and challenges within the ecosystem. The findings from the expert interviews and stakeholder workshops provided a foundation for the subsequent stakeholder workshops. Furthermore, the term 'used' findings from the interviews to shape discussions during the workshops.

The Phase One findings identified agroforestry challenges. The team consolidated the challenges and grouped them under five main thematic areas, represented below.

- **Technical Capacity and Knowledge Gaps:** This refers to the limited training, skills, and support available for farmers and institutions involved in agroforestry.
- **Crop Diversification Challenges:** This refers to the difficulties in integrating multiple crops into agroforestry systems.
- **Socioeconomic Challenges:** This refers to the economic barriers that discourage agroforestry, such as the high cost of inputs, long return periods on investment, and limited access to finance or insurance.
- **Environmental & Agricultural Challenges:** This refers to the degradation of natural resources that undermines agroforestry efforts.

² <https://decisionthinking.org/the-addis-methodology/>

- **Tree Registration & Land Tenure Challenges:** This refers to legal and bureaucratic uncertainties about tree ownership and land rights.

Phase 2: Drafting of Solutions - Extended and Deeper Consultations

Phase two was a more expansive stage, where stakeholders had the opportunity to further break down the broad challenges above into sub-challenges and draft solutions aimed at solving these. We adopted a [hackathon](#) and multistakeholder (MSW) workshops approach to gaining a more inclusive, solution-oriented engagement to ensure that recommendations reflected real stakeholder experiences. Two regional Policy Hackathons were held in the Middle Zone (Kumasi) and the Northern Zone (Tamale). The participants were broad-based, including farmers, NGOs actors and local authorities, who collaborated to deepen understanding of key barriers and co-create context-specific solutions.

The Hackathons centred around the five challenge areas from Phase 1. However, because this was an expanded phase, participants had the opportunity to propose new challenges and solutions, which we categorised as “Other”. This would later be used to identify emerging challenge areas for policy consideration.

Collectively, across the Tamale and Kumasi Hackathons, over three hundred individual (non-unique) agroforestry sub-challenges and proposed solutions were identified under both the five challenge areas and the newly introduced open “Other” category. This was later synthesised by conducting a group of similar challenges and solutions. Annexes 1 to 6 depict broader summaries of the policy challenges and solutions. Following the synthesis and analysis of the collected sub-challenges, “other” and proposed solutions, 21 priority challenge areas were identified.

Leveraging the synthesised outcomes of the two Policy Hackathons, an MSW was convened in Accra. High-level participants from ministries, public agencies, farmer groups, research institutions, and representatives from the private sector connected to the agroforestry sector were invited. During this workshop, the insights gathered were further refined and validated, with participants prioritising the most urgent challenges and actionable solutions to advance agroforestry in Ghana.

The MSW participants further prioritised the 21 identified challenges from the two Policy Hackathons through a voting and prioritisation exercise

conducted during the MSW. Participants assessed each challenge alongside its proposed policy solution, considering both relevance and feasibility. From this process, the highest-priority challenges from the twenty-one top policy interventions were identified. However, other identified policy solutions, not highly prioritised areas, are still presented to guide a holistic policy development.

See Figure 1 below for a highlight of the prioritised policy areas.

Legend / Key for Prioritisation Scores (Scale: 1–6 with decimals)

Score range	Colour swatch	Priority level
1.0 – 1.5		Highest ranked
>1.5 – 2.5		High ranked
>2.5 – 3.5		Medium ranked
>3.5 – 4.5		Low ranked
>4.5 – 5.0		Lowest Priority

Note that the themes/categories are colour-coded as follows:

Category	Colour Code
Technical capacity and knowledge gaps	
Socioeconomic Challenges	
Tree Registration and Land Tenure Challenges	
Crop Diversification Challenges	
Other/Environmental & Agricultural Challenges	

Table 1: Hackathon prioritisation of policy challenges and insights

Policy Hackathon	Report Alignment Tags	Category	Challenge	Potential Solution	AVG (within categories)	AVG (overall)
Tamale	Capacity Building, Scaling Proven Models	Technical Capacity and Knowledge Gaps	Low extension agents to farmer ratio / low extension services staff per farmer population [mentioned several times]	1) Employing more extension agents 2) More efficient communication to farmers through mass media	1.3	1.3
Tamale	Inclusive Governance, Capacity Building	Technical Capacity and Knowledge Gaps	Language and cultural barriers among stakeholders, farmers, and implementers	1) Develop agroforestry training manuals in local languages 2) Disseminate agroforestry programmes and benefits in local languages via radio, TV, mobile phones, and community information services	3.5	3.5
Kumasi	Inclusive Governance, Policy & Governance Reform	Technical Capacity and Knowledge Gaps	Challenges in integrating indigenous approaches into the adoption of modern agroforestry modules	Broader consultation with stakeholders especially farmers, during the development of agroforestry modules	2.3	2.3
Kumasi	Capacity Building, Farmer Incentives, Scaling Models	Technical Capacity and Knowledge Gaps	Underresourced extension agents - inadequate information and knowledge	Capacity building, increasing staff numbers, and provision of logistics for extension officers	1.9	1.9
Kumasi	Unified Policy, Data for Decision-Making	Technical Capacity and Knowledge Gaps	[Lack of] a policy on access to information	Intensify the implementation of the policy on access to information	4.9	4.9
Kumasi	Farmer Incentives, Infrastructure Gaps	Socioeconomic Challenges	High cost of transportation	COCOBOD and the private sector to set up community-based nurseries, closer to farmers	3.9	3.9
Kumasi	Policy & Governance Reform, Inclusive Governance	Socioeconomic Challenges	A lack of benefit-sharing opportunities	Advocate for a benefit-sharing policy / A clear-cut policy on benefit-sharing	4.1	4.1

Policy Hackathon	Report Alignment Tags	Category	Challenge	Potential Solution	AVG (within categories)	AVG (overall)
Kumasi	Financing Barriers, Farmer Incentives	Socioeconomic Challenges	Inadequate financial support for farmers	Governments and banks should provide loan facilities to farmers at lower interest rates	2.6	2.6
Tamale	Inclusion & Equity, Inclusive Governance	Socioeconomic Challenges	Low participation of women and youth in decision-making on agroforestry	1) Involve women and the youth in the decision-making process 2) Ensure gender-sensitive extension approach and decision-making strategies	2.6	2.6
Tamale	Financing Barriers, Market & Incentives	Socioeconomic Challenges	Inadequate capital investment in agroforestry systems	1) Incentives for agroforestry farmers 2) Loans with low interest rates for farmers	2.0	2.0
Kumasi	Land & Tenure, Policy Enforcement	Tree Registration & Land Tenure Challenges	A high amount of money is collected before the land can be allocated for you to cultivate	The government should regulate the payment amount for sharecropping	4.0	4.0
Kumasi	Land & Tenure, Unified Policy	Tree Registration & Land Tenure Challenges	No clear policy on tree tenure and tree registration (tree ownership)	Clear policy on land tenure and tree ownership (tenants and landlords)	1.6	1.6
Tamale	Land & Tenure, Capacity Building	Tree Registration & Land Tenure Challenges	Limited knowledge of tree registration, especially in the north	Public sensitisation on tree registration	1.7	1.7
Tamale	Capacity Building, Research Support	Tree Registration & Land Tenure Challenges	Hectic registration process in terms of tree registration (administration)	1) Digitalised tree registration process 2) Publication of the cost of tree registration	1.7	1.7
Tamale	Inclusion & Equity, Market & Incentives	Crop Diversification Challenges	Limited knowledge of research into quality seeds for raising	1) Bridge the gap between research and farmers 2) Expose farmers to research and research findings, workshops, and field visits	2.8	2.8
Kumasi	Farmer Incentives, System Diversification	Crop Diversification Challenges	Community specification on some crops (some communities prioritise some crops)	The government should help regulate the prices of less preferred commodities to help garner the interest of farmers	5.4	5.4

Policy Hackathon	Report Alignment Tags	Category	Challenge	Potential Solution	AVG (within categories)	AVG (overall)
Kumasi	Infrastructure Gaps, Scaling Proven Models	Crop Diversification Challenges	Lack of incentives for diversification	Provide support to farmers to diversify	3.9	3.9
Kumasi	Policy Enforcement, Inclusive Governance	Crop Diversification Challenges	Lack of tree planting materials (seedlings)	Build capacity in local nursery production for planting	3.7	3.7
Tamale	Unified Policy, Policy & Governance Reform	Other	Unregulated nomadic trade movement	1) Creation of designated livestock corridors 2) Collaborate with the district assembly to regulate the movement of livestock	1.7	1.7
Tamale	Policy Enforcement, Environmental Protection	Other	Lack of a comprehensive policy on agroforestry (currently has scattered agroforestry policies in different documents)	Develop one clear national policy on agroforestry for Ghana	2.3	2.3
Tamale	Policy Enforcement, Land & Tenure	Environmental & Agricultural Challenges	Felling of fresh trees for commercial purposes (e.g., shea, dawadawa, etc.)	Clear-cut policy to ban and discourage the felling of shea, dawadawa, and other economic trees	2.7	2.7

5. Ghana Agroforestry Policy Insights to Address Challenges

The process resulted in a synthesised list of stakeholder insights that can inform Ghana's agroforestry policy development. It is organised into five pillars to reflect the challenge areas, but also an emerging pillar that reflects insights from the "Other" open classification. Also, the insights highlighted key policy concerns emanating from the two hackathons, which can promote targeted policy interventions.

5.1 Pillar One: Bridging Technical and Knowledge Gaps for Transformative Agroforestry

Stakeholders acknowledge that addressing the technical and knowledge gaps in agroforestry is critical for the sustainable development of the sector. The following policy framework is structured around the key thematic groups of challenges identified through participatory stakeholder engagements, with corresponding policy solutions designed to strengthen agroforestry systems nationwide.

1. Expanding Extension Services and Capacity Building

A significant challenge facing agroforestry development is the inadequate extension service coverage, characterised by a low extension agent-to-farmer ratio and insufficient technical training on agroforestry, for both extension agents and farmers. This has limited the effective transfer of agroforestry knowledge and practices at the grassroots level. This is exacerbated because agroforestry is a multidisciplinary field, and extension officers will need diverse skills to provide holistic support. To remedy this, the Government of Ghana and stakeholders should prioritise the recruitment of additional extension agents to improve outreach and service delivery on agroforestry. Furthermore, continuous professional development programs should be instituted to enhance the technical competencies of extension personnel and equip farmers with the necessary skills. The use of mass media and innovative digital technologies should be promoted to support the widespread and timely sharing of agroforestry information. These technologies can help build the capacities of both extension officers and farmers, while also connecting farmers with

agroforestry needs to specialised extension officers and research institutions.

2. Accelerated Knowledge Dissemination and Awareness

The dissemination of agroforestry knowledge is currently constrained by ineffective communication tools, low awareness of agroforestry benefits, and language and cultural barriers that impede understanding. To address these issues, the agroforestry policy should support the development and distribution of training materials in local languages and implement comprehensive public awareness campaigns through radio, television, and community outreach programs. Social media also plays a role in awareness through tools such as WhatsApp and TikTok. These efforts will be optimised by coordination among stakeholders to ensure consistent and accurate messaging. Additionally, the promotion of incentives such as carbon credit schemes will be integrated into awareness initiatives to motivate adoption.

3. Promoting Technical Expertise and Research

Technical knowledge gaps exist in critical areas, including tree-crop-soil compatibility, species selection, and sustainable management practices. The absence of widespread demonstration fields and research tools, including sustainability and tree suitability maps, further restricts the capacity for innovation and knowledge transfer. The policy should promote investment in establishing demonstration fields within each district to provide practical learning opportunities. Research efforts will be intensified to develop comprehensive databases and maps to guide species selection and management practices. Moreover, technical specialists should be deployed to provide expert support to extension services and farmers, complemented by targeted training programs.

4. Building Institutional and Funding Frameworks

Limited institutional arrangements and inadequate funding have hindered the effective mainstreaming of agroforestry into national agricultural development. To overcome these constraints, the policy should strengthen existing institutions and establish dedicated bodies focused on agroforestry development. Enhanced budgetary allocations should be made to support capacity-building initiatives, research, and extension

services. Ghana's agroforestry policy should foster public-private partnerships to mobilise additional resources and promote sustainable financing mechanisms for agroforestry programs.

5. Fostering Indigenous Knowledge Integration

Traditional and indigenous knowledge systems remain underutilised in agroforestry policy and practice. Recognising the value of these knowledge systems, the Government should formally integrate indigenous practices into agroforestry policies and extension programs. Engagement with local communities and traditional authorities will benefit from intensified efforts to ensure that agroforestry interventions are culturally appropriate and locally relevant, thereby enhancing acceptance and sustainability.

6. Driving Farmer Motivation and Adoption

Low motivation among farmers to adopt agroforestry practices is linked to perceived risks, inadequate incentives, limited awareness of benefits, and high startup costs. To stimulate adoption, the Government could implement sensitisation campaigns that clearly communicate both the short- and long-term advantages of agroforestry. Direct incentives, including subsidies, access to premium markets, and carbon credit opportunities, could also be introduced to provide tangible benefits to farmers. Additionally, benefit-sharing mechanisms could be developed to reward early adopters and encourage widespread uptake.

Implementation Priorities

1. Urgent investment in extension services (recruitment + training).
2. Contextual knowledge delivery via local-language tools and demos.
3. Research funding for technical tools (species databases, sustainability maps).
4. Policy mechanisms to institutionalise agroforestry and incentivise uptake.

Zone Specificity: *Solutions must prioritise overcoming language barriers, acute extension shortages, and integrating traditional knowledge. Southern zones may require distinct approaches tailored to market access and urbanisation pressures.*

5.2 Pillar Two: Cultivating Resilience and Integrated Crop Diversification for Agroforestry

The crop diversification challenges identified by stakeholders reveal both shared and zone-specific issues, each requiring targeted policy interventions to address. The challenges and corresponding solutions have been grouped thematically to inform a robust government policy framework.

1. Promoting Seed and Planting Material Access and Knowledge

Stakeholders highlighted limited access to quality seeds and planting materials as a critical barrier to crop diversification. The challenges included limited knowledge of research into quality seeds, non-accessibility of certified seed outlets, and inadequate information on fast-growing or indigenous species suitable for local conditions.

2. Addressing Land, Labour, and Financial Constraints

Both hackathons reported significant constraints related to land availability, labour intensity, and financial support. In Tamale, the unavailability of land, unsuitable soils for diversification, and the labour-intensive nature of crop diversification were prominent.

Solutions included promoting livelihood diversification, educating farmers on soil-species compatibility, and adopting climate-smart agricultural practices such as residue retention. Financial challenges, such as a lack of subsidies and high production costs, were addressed through proposals to support farmers with seedlings and livestock, provide incentives for agroforestry farmers, and involve traditional authorities in benefit-sharing arrangements.

3. Promoting Knowledge, Technical Know-How, and Training For Mixed Cultivation

A lack of technical know-how on combining crops and trees, divided

attention resulting in low output, and limited knowledge on pest and disease management were common challenges. Stakeholders in both hackathons called for enhanced farmer education on the short- and long-term benefits of agroforestry, targeted training in agroforestry practices, and education on compatible species and soil types. Linking farmers to pest and disease management agencies and promoting climate-smart practices were also emphasised.

4. Creating Sustainable Markets, Incentives, and Benefit Sharing

Market access and incentives emerged as key issues, particularly in Kumasi, where the lack of market linkages for diversified crops, community preferences for specific crops, and limited incentives for diversification were noted. Stakeholders recommended establishing market linkages, creating markets for agroforestry products, regulating prices for less-preferred crops, and standardising crops to incentivise farmers. In Tamale, the focus was on providing incentives for agroforestry farmers and involving traditional authorities in benefit-sharing mechanisms to address cultural and traditional differences.

5. Supporting Processing, Storage, and Infrastructure

Kumasi stakeholders placed strong emphasis on the lack of storage and processing facilities, which hinder the preservation and value addition of diversified crops. Solutions included government provision of storage facilities, establishment of more processing factories, and building capacity in local nursery production to ensure a steady supply of planting materials.

Implementation Priorities

- Establish and support local seed and seedling outlets, and ensure regular farmer exposure to research and best practices through targeted extension and demonstration programs.
- Facilitate access to land and finance, promote labour-saving technologies, and implement targeted subsidy and incentive schemes for agroforestry farmers.
- Raise awareness of existing programmes and roll out nationwide training programmes on agroforestry systems, crop-tree compatibility, and integrated pest management, with special focus on climate resilience.

- Develop and strengthen market infrastructure and value chains for diversified crops, and introduce incentive and benefit-sharing mechanisms to encourage adoption.
- Invest in rural infrastructure, including storage facilities and processing plants, and support the development of local nurseries for the production of planting materials.

In summary, the policy framework for crop diversification in Ghana's agroforestry sector must address both universal and zone-specific challenges. By merging similar challenges and aligning solutions, this approach ensures that interventions are both efficient and contextually appropriate, supporting sustainable agricultural transformation across diverse agro-ecological zones.

5.3 Pillar Three: Inclusive Socioeconomic Empowerment for Sustainable Agroforestry Development

The socioeconomic challenges facing agroforestry in Ghana, as identified by stakeholders in Tamale and Kumasi, can be grouped into thematic areas, each with corresponding policy solutions. This structure enables a focused approach for government intervention, taking into account both shared and zone-specific issues.

1. Strengthening participation and inclusion of women and youth in agroforestry governance and resource access.

Participation and inclusion remain significant hurdles, with both hackathons reporting low involvement of women and youth in agroforestry decision-making and restricted access to land and resources for these groups. Policy responses should prioritise the inclusion of women and youth in all agroforestry governance structures, ensure gender-sensitive extension services, and mainstream gender considerations into resource access. Securing land rights for women and youth through affirmative action and policy reforms is essential to foster equitable participation.

2. Establishing transparent benefit-sharing and incentive schemes at the community level.

Benefit sharing and incentives are insufficiently structured, leading to a lack of direct benefits for communities and weak motivation for agroforestry adoption. Stakeholders recommend the development of transparent, bottom-up benefit-sharing schemes and the introduction of direct incentives such as subsidies, carbon credits, and premium pricing for agroforestry products. Ensuring that rewards and benefits are clearly communicated and accessible at the community level will further encourage adoption.

3. Enhancing market access and value chain development through digital linkages and premium pricing.

Market access and value chain development challenges are especially pronounced in Kumasi, where the activities of middlemen, lack of premium prices, and limited market opportunities undermine profitability. Solutions include linking farmers directly to buyers through digital platforms, strengthening market infrastructure, instituting premium pricing for agroforestry products, and building capacity on market opportunities such as carbon trading.

4. Improving access to finance and credit, especially for marginalised groups.

Financial access and credit issues, such as high interest rates and difficulties in accessing loans, are barriers for both established and aspiring agroforestry practitioners. The formation of farmer cooperatives and Village Savings and Loan Associations (VSLAs), provision of low-interest loans, and targeted financial support for women and youth are recommended to improve access to capital.

5. Investing in processing, storage, and rural infrastructure to support value addition and market reach.

Processing, storage, and infrastructure gaps, particularly the absence of local processing factories and storage facilities, hinder value addition and market access. Government and private sector investment in processing and storage infrastructure, as well as improvements in rural transport

networks, are needed to support agroforestry value chains and reduce post-harvest losses.

6. Integrating cultural and traditional leadership into policy design and outreach.

Cultural and traditional issues, such as conservatism, resistance to change, and limited engagement of traditional authorities can slow the adoption of agroforestry. Addressing these challenges requires intensified sensitisation campaigns tailored to local cultures, active involvement of traditional authorities in policy processes, and integration of cultural context into extension services.

7. Supporting labour and productivity through incentives and technology.

Labour and productivity constraints, including competition for labour between food and tree crops and the high labour demands of agroforestry, can be mitigated by providing incentives for labour support, promoting labour-saving technologies, and educating farmers on the productivity and long-term benefits of agroforestry systems.

Implementation priorities for the government should therefore include:

1. Strengthening participation and inclusion of women and youth in agroforestry governance and resource access.
2. Establishing transparent benefit-sharing and incentive schemes at the community level.
3. Enhancing market access and value chain development through digital linkages and premium pricing.
4. Improving access to finance and credit, especially for marginalised groups.
5. Investing in processing, storage, and rural infrastructure to support value addition and market reach.
6. Integrating cultural and traditional leadership into policy design and outreach.
7. Supporting labour and productivity through incentives and technology.

By systematically addressing these grouped challenges with targeted policy solutions, Ghana can create a more inclusive, equitable, and

sustainable agroforestry sector that responds to the distinct needs of various stakeholders while improving socioeconomic conditions.

5.4 Pillar Four: Environmental & Agricultural Systems for Resilient Landscapes and Sustainable Productivity in Agroforestry

1. Promote Sustainable Land Management and Soil Health

Land degradation, declining soil fertility, continuous monocropping, and improper agrochemical use are widespread challenges in both zones. Stakeholders emphasised the need to promote sustainable land management practices, including integrated soil fertility management, the use of compost and organic fertilisers, and the adoption of climate-smart agriculture. Spatial planning and land use diversification should be prioritised to maintain long-term soil health and productivity.

2. Conserve Forests and Biodiversity

Deforestation, illegal tree felling, and biodiversity loss, driven by commercial felling, illegal mining, charcoal production, and urban expansion, are acute, especially in Tamale. Solutions include enforcing bans and bylaws on illegal tree felling and bushfires, establishing and incentivising community woodlots and agroforestry programs, and promoting the planting of bamboo and indigenous species. Urban green belts should be created and protected, particularly in rapidly urbanising areas.

3. Strengthen Water Management and Climate Adaptation

Both zones face challenges related to overreliance on rain-fed agriculture, high irrigation costs, water pollution, and land degradation from illegal small-scale mining (galamsey), and climate variability. Policy needs to promote water harvesting technologies, borehole and well construction for dry season irrigation, and the development of buffer zones between farms and water bodies. Further, emphasis is on the need for climate-smart agriculture and early warning systems to build resilience against erratic rainfall and drought.

4. Advanced Integrated Pest and Input Management

Pest and disease management, overuse of agrochemicals, and high input costs are common issues. Both cities recommend promoting integrated

pest management (IPM), supplying organic agrochemicals, educating on safe and effective input use, and providing the right chemicals for pest and rodent control. These measures will help reduce environmental and health risks.

5. Foster Tree-Crop-Livestock Integration

Conflicts between tree, crop, and livestock systems, such as poor livestock management, herdsman's activities, and negative tree-crop-animal interactions, are particularly pronounced in Tamale. Policy should encourage tree-crop-livestock integration through agrosilvopastoral systems, introduce ranch systems and designated livestock corridors, and support research and demonstration of best integration practices.

6. Enhance Pollution Control and Environmental Protection

Air and water pollution from chemicals and industrial activity are more pronounced in Kumasi. Solutions include promoting tree planting for air quality, creating buffer zones, regulating chemical use, and enforcing environmental protection laws while promoting organic alternatives.

Zone-Specific Differences

Tamale places greater emphasis on land degradation, soil infertility, bush fires, and the impacts of herdsman and livestock management. Water scarcity and fire management are particularly acute, with a strong need for borehole irrigation and enforcement of bylaws regarding bushfires. Kumasi, on the other hand, focuses more on illegal logging, industrial pollution, continuous cropping, and the need for urban green belts. Water pollution and the overuse of weedicides and pesticides are also more prominent in Kumasi, alongside challenges from rapid urbanisation and sand winning.

Implementation Priorities

1. Strengthen enforcement of environmental and land use laws, including bans on illegal tree felling, regulation of bush fires, and enforcement of land reclamation.
2. Scale up sustainable land management and soil fertility initiatives by promoting integrated soil fertility management, spatial planning, and organic amendments.
3. Expand water management and climate adaptation infrastructure, such as water harvesting, smart irrigation systems, and buffer zones.

4. Promote community-based reforestation and agroforestry programs, focusing on woodlots, bamboo, indigenous species, and urban greenbelts.
5. Support integrated tree-crop-livestock systems with ranching, livestock corridors, and research on best practices.
6. Enhance pollution control and environmental protection through tree planting, buffer zones, and stricter regulatory enforcement.

In summary, this policy framework provides a comprehensive and locally responsive approach to overcoming environmental and agricultural challenges in Ghana's agroforestry sector.

5.5 Pillar Five: Secure Tenure and Transparent Tree Registration for Sustainable Agroforestry

1. Awareness, Education, and Accessibility

A persistent challenge in both Tamale and Kumasi is the limited knowledge and awareness of tree registration processes and land tenure rights among farmers and stakeholders. In the north, this is particularly acute, with many farmers unaware of the benefits or procedures for registering trees or securing land rights. The lack of education on these matters leads to underutilisation of available systems and missed opportunities for securing tenure and accessing incentives. To address these gaps, the framework recommends comprehensive public sensitisation and education campaigns, including community awareness initiatives and training on tree registration and land documentation. These efforts should employ local languages and participatory methods to ensure inclusivity and effectiveness.

2. Complexity, Cost, and Bureaucracy of Registration

Both hackathons report that tree registration processes are often cumbersome, bureaucratic, and costly, with hidden fees and complex administrative procedures that discourage participation, especially among smallholders. In Kumasi, high costs associated with stool land allocation and sharecropping further complicate access. The policy response is to streamline and digitalise the registration process, decentralise services to the community level, regulate and reduce fees, and ensure that procedures are transparent and user-friendly. This will lower barriers to entry and encourage broader participation in tree registration.

2. Policy, Legal, and Institutional Gaps

The absence of unified national policies on tree tenure, tree ownership, and tree registration is a major barrier. Both statutory and customary tenure systems are often ambiguous, and contracts between tenants, caretakers, and landowners lack standardisation and enforceability. The framework calls for the development and enforcement of clear national policies that integrate statutory and customary systems, the creation of standard contract templates, and the establishment of special agroforestry zones with well-defined rules and boundaries. Strengthening institutional coordination among agencies is also essential for effective policy implementation.

3. Tenure Security, Rights, and Benefit Sharing

Insecure land tenure, frequent land disputes, and the exclusion of women, youth, lessee, and migrants from secure rights and benefit sharing are widespread, particularly in Tamale. These issues are compounded by inadequate documentation and the lack of accessible conflict resolution mechanisms. Policy solutions include guaranteeing secure, documented tenure rights for all stakeholders, with affirmative action for vulnerable groups, and developing clear benefit-sharing arrangements for those who nurture or plant trees. Compensation mechanisms for tree nurturing and for damages caused by third parties should also be established.

4. Land Access, Scarcity, and Expansion

Land scarcity, high costs of allocation, and unclear boundaries between government, stool, and family lands are common constraints. In Tamale, rapid population growth and small plot sizes exacerbate the issue, while Kumasi faces challenges related to community expansion and land disputes. The framework recommends regulating land allocation and sharecropping payments, rezoning and demarcating boundaries, promoting cooperative land-use models, and facilitating access to land for youth and marginalised groups.

5. Inclusivity and Community Participation

Limited opportunities for gender and youth inclusion and insufficient community involvement in policy and resource management are significant barriers to equitable agroforestry development. The policy framework advocates for institutionalising community participation in

natural resource management, implementing affirmative action for gender and youth inclusion, and involving traditional authorities in policy formulation and implementation.

Zone-Specific Differences

Tamale's challenges are characterised by limited awareness of tree registration, bureaucratic and costly processes, ambiguous ownership under customary and state law, insecure tenure for women and youth, and frequent land disputes. The region also faces challenges related to small landholdings and rapid population growth. In contrast, Kumasi's stakeholders highlight high costs associated with stool land, lack of clear policy on tree tenure and ownership, insufficient transparency and accountability, and the need for legal counsel on succession and contract matters. Community expansion, scarcity of land for agricultural expansion, and the need for youth incentives are also prominent in the southern zone.

Implementation Priorities

1. Launch comprehensive sensitisation and education campaigns on tree registration and land tenure, targeting all stakeholders and using local languages.
2. Digitalise and decentralise tree registration processes to the community and district levels, ensuring affordability, accessibility, and transparency.
3. Develop and enforce a unified national policy on tree and land tenure that integrates statutory and customary systems, with standard contracts and clear guidelines.
4. Guarantee secure, documented tenure rights for all, especially women, youth, tenants, and migrants, and establish robust conflict resolution mechanisms.
5. Promote cooperative land use and collective registration models to facilitate land access for youth and marginalised communities.
6. Institutionalise community participation and the involvement of traditional authorities in all aspects of tree registration and land tenure reform.
7. Establish clear benefit-sharing mechanisms and compensation systems for tree nurturing and damages.

In summary, the "Secure Tenure and Transparent Tree Registration for Sustainable Agroforestry" pillar provides a comprehensive, actionable roadmap for addressing the complex challenges of tree registration and land tenure in Ghana. By merging similar challenges and aligning solutions, this framework ensures secure tenure, transparent registration, and inclusive participation, laying the foundation for sustainable agroforestry development in Ghana.

5.6 Emerging Pillar: Resilience, Institutional Strengthening, Inclusivity, and Continuity in Agroforestry

1. Policy Coherence, Continuity, and Institutional Gaps

A lack of an overarching national agroforestry policy, combined with poor coordination among stakeholders, undermines sector growth in both zones. Tamale participants highlighted scattered policy documents and poor project continuity due to political transitions, while Kumasi emphasised the need for a dedicated agency and clarity on value chains. The recommended solutions include developing and enacting a single, clear national agroforestry policy, establishing a dedicated agroforestry directorate or agency, enacting legislation to ensure policy continuity across governments, and improving inter-agency coordination mechanisms.

2. Inclusivity, Gender, and Youth Participation

Limited opportunities for gender and youth inclusion, as well as disparities in land ownership, were reported in both cities, alongside traditional power dynamics. Policy responses should institutionalise affirmative action for gender and youth inclusion, promote community participation in natural resource management, provide incentives and support for youth in agroforestry, and involve traditional authorities in policy formulation and implementation.

3. Community Engagement and Conflict Resolution

Stakeholders in both zones noted limited community involvement in species selection and project design, as well as communal conflicts and the limited power of chiefs in resource management. The framework recommends involving communities in tree species selection and project planning, strengthening the roles of traditional authorities, and

establishing alternative conflict resolution mechanisms to ensure local buy-in and reduce disputes.

4. Project Management and Technical Issues

Both cities face challenges related to project continuity, including political changes, managing long gestation periods, negative interactions between trees, crops, and animals, and limited post-harvest management. Kumasi also noted the need for value chain support. Policy solutions should include enacting national legislation for project continuity, supporting research to reduce tree crop gestation periods, promoting intensive and ranch systems, strengthening post-harvest management, and supporting value chain development.

Zone-Specific Differences

Tamale's challenges are more pronounced in bureaucratic registration, unclear tenure, limited access to gender, scattered policies, poor continuity, and communal conflicts. There is also a greater need for education on documentation and benefits, and for involving traditional authorities in resource management. Kumasi, meanwhile, faces succession planning, stool land administration, youth access to land and capital, the need for a dedicated agroforestry agency, and a focus on value chain development and urban green belts.

Implementation Priorities

1. Develop and enact a unified national agroforestry policy and establish a dedicated coordinating agency for effective governance.
2. Institutionalise affirmative action and community participation to ensure gender and youth inclusion in agroforestry.
3. Legislate for project continuity and support research to improve management practices, reduce gestation periods, and enhance value addition.
4. Empower traditional authorities and communities in decision-making, conflict resolution, and resource management.

In summary, the Agroforestry Governance and Systems Resilience Pillar addresses the institutional, social, and technical barriers to sustainable agroforestry in Ghana. By merging and aligning solutions to the diverse “other” challenges, this pillar ensures robust governance, inclusivity, and

resilience, supporting the long-term growth and sustainability of agroforestry in both Tamale and Kumasi.

6. Roadmap for implementation

This policy brief is part of a larger effort shaped by the ADDIS Decision Thinking methodology, a framework developed by the Innovation for Policy Foundation (i4Policy) to support inclusive and collaborative policy processes.

Phase 1 of this work mapped the landscape: identifying barriers to agroforestry adoption and key institutional challenges. Phase 2, now completed, expanded that foundation through participatory Policy Hackathons and a Multistakeholder Workshop, transforming early insights into actionable recommendations.

The next step is to revisit the Drafting phase to deepen these proposals and move towards collective decision-making. This approach ensures that agroforestry solutions are grounded in evidence and shaped collaboratively with the communities they directly impact. An Agroforestry Technical Working Group (ATWG) will be established to carry this work forward. This group will work to refine and prioritise policy measures, making sure they are informed by diverse local experiences and positioned for practical implementation and formal adoption. The Gantt chart below shows a high-level overview of a guide timeline to establish the ATWG and begin prioritisation of potential actions.

Participation remains central to this process. Moving forward, regular consultation will help ensure that each step reflects the realities on the ground. The goal is to keep developing a common understanding of Agroforestry institutional instruments that work in practice and resonate with the people they aim to serve. When communities see their ideas reflected in the outcomes, they are more likely to engage, adapt, and drive change. Agroforestry is more likely to succeed when solutions are shaped by stakeholders who know the realities of the field firsthand.

[illegible]

7. Risk Management

Effective implementation requires anticipating challenges and planning ahead. To support the work of the multistakeholder Technical Working Group (TWG), the Ghana Agroforestry TWG (ATWG), the table below outlines key risks that could affect progress and practical steps to manage them. These measures are designed to keep the process inclusive, coordinated, and responsive as potential solutions move toward formal adoption.

Risk	Mitigation Strategies
Lack of sustained stakeholder engagement	Establish clear roles, regular meeting schedules, and transparent communication channels.
Power imbalances affecting decision-making	Ensure diverse representation, use facilitation methods that elevate underrepresented voices.
Policy misalignment or slow institutional uptake	Involve relevant ministries early; build cross-sectoral alliances.
Conflicting interests between stakeholder groups	Use consensus-building tools to surface and manage trade-offs.
Insufficient resourcing or funding gaps	Develop a resource mobilisation plan; engage development partners and private sector contributors.
Lack of follow-through after the recommendation phase	Secure institutional commitments (e.g., MoUs); assign lead entities for implementation tracking.

8. Immediate Next Steps

A key lesson from this process is that inclusive engagement must move beyond one-off consultations. To ensure lasting impact, those most affected must remain at the center of defining problems and shaping solutions. This reflects core principles of multistakeholder governance: participation, equity, and shared authority³.

The proposed Ghana ATWG is a step toward embedding these principles in practice. Designed as a multi-stakeholder platform, the Ghana ATWG will bring together stakeholder representatives from farmers, policymakers, traditional authorities, researchers, and private sector actors. It will serve as a space for co-interpretation of findings and joint development of policy pathways, building on the outcomes of the ADDIS – Decision Thinking methodology (see [Section 4](#)).

Grounded in participation, shared ownership, and inclusivity, the ATWG will institutionalise coordination across sectors and power structures. It aims to ensure that public input is actively translated into policy. This sustained, structured approach to collaboration reflects standards for multistakeholder governance, ensuring that agroforestry policy in Ghana is both effective and democratically grounded.

³ Multistakeholder governance refers to policy processes that actively include diverse actors—such as government, civil society, academia, traditional authorities, and the private sector—in decision-making. These values are summarized in the [“Multistakeholder AI Development: 10 building blocks for inclusive policy design”](#) developed by UNESCO and the Innovation for Policy Foundation.

Annex

Annex 1: Summary of Challenges and Solutions on Technical and Knowledge Gaps

Challenge Category	Key Challenges	Policy Solutions
Extension & Capacity	Low agent-to-farmer ratio, limited training	Recruit/train agents, mass media outreach
Knowledge Dissemination	Poor tools, low awareness, and language barriers	Local language materials, multi-channel outreach
Technical Know-How	Compatibility gaps, lack of demo fields, and research needs	Demo fields, technical training, and research funding
Institutional Gaps	Weak institutions, limited funding	Create/strengthen institutions, increase/PPP funding
Indigenous Knowledge	Underutilised in policy	Integrate traditional knowledge
Farmer Motivation	Reluctance, low incentives	Sensitisation, direct incentives, and benefit-sharing

Annex 2: Summary of Challenges and Solutions on Crop Diversification

Grouped Issue	Main Challenges (Merged)	Key Policy Solutions (Merged)
Seed/Planting Material Access	Limited knowledge/access to quality seeds, inadequate planting materials	Bridge research-farmer gap, expand certified outlets, education, MoFA advice, promote indigenous species
Land/Labour/Financial Constraints	Land unavailability, labour intensity, high production costs	Livelihood diversification, climate-smart practices, support with inputs, incentives, traditional authority involvement

Knowledge & Technical Know-How	Lack of technical know-how, divided attention, pest/disease management	Training, education on compatibility, link to pest agencies, climate-smart practices
Market/Processing/Storage	Lack of market, storage, processing, and infrastructure	Establish market linkages, create markets, regulate prices, provide storage, build local nurseries
Incentives & Benefit Sharing	Lack of incentives/support, benefit-sharing, cultural/traditional differences	Incentives, involve traditional authorities, standardize crops, develop benefit-sharing mechanisms

Annex 3: Summary of Socio-Economic Challenges and Solutions

Grouped Issue	Key Challenges (Merged)	Policy Solutions (Merged)
Participation & Inclusion	Low women/youth participation, access barriers	Gender/youth inclusion, secure access, targeted incentives
Benefit Sharing & Incentives	Inadequate benefit sharing, lack of incentives	Community schemes, subsidies, premium prices, carbon credits
Market Access & Value Chain	Market gaps, middlemen, lack of premium pricing	Digital linkages, market infrastructure, price regulation
Financial Access & Credit	High loan rates, lack of capital	Cooperatives, VSLAs, low-interest loans, financial empowerment
Processing & Infrastructure	No factories, poor access, lack of storage	Invest in processing, rural roads, local storage facilities
Land & Tenure Issues	Litigation, unclear tenure, women/youth exclusion	Clear policies, secure rights, conflict resolution
Cultural & Traditional Issues	Conservatism, authority exclusion	Engage authorities, sensitization, cultural integration

Labour & Productivity	Labour competition, high demand	Labour incentives, technology, farmer education
Knowledge & Capacity	Knowledge gaps, language barriers	Capacity building, local language extension, more AEAs

Annex 4: Summary of Environmental & Agricultural Challenges and Solutions

Grouped Issue	Key Challenges (Merged)	Policy Solutions (Merged)
Land Degradation & Soil Fertility	Land degradation, declining fertility, mono-cropping, improper agrochemical use	Sustainable land management, integrated soil fertility, climate-smart practices, spatial planning
Deforestation & Biodiversity Loss	Felling of economic trees, illegal logging, biodiversity loss, charcoal production	Ban illegal felling, enforce by-laws, establish woodlots, promote bamboo/indigenous species, urban green belts
Bush Fires & Land Use	Bush fires, slash-and-burn, mechanized farming, sand winning	Enforce by-laws, community fire prevention, modern farming, land reclamation
Water Management & Climate Change	Water scarcity, expensive irrigation, pollution, climate variability	Water harvesting, smart irrigation, buffer zones, boreholes, climate-smart agriculture
Pest, Disease & Input Management	Pest/disease, overuse of chemicals, high input costs	Integrated pest management, organic agrochemicals, compost, safe input education
Tree-Crop-Livestock Integration	Livestock-crop conflicts, herdsman, negative interactions	Agro-silvopastoral systems, ranching, livestock corridors, research and demonstration
Knowledge & Technical Capacity	Limited knowledge on tree/crop compatibility, climate resilience, low extension	Farmer education, demonstration plots, participatory/local language training

Pollution & Environmental Protection	Air/water pollution, industrialization, sand winning	Tree planting, buffer zones, enforce laws, promote organic alternatives
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Annex 5: Summary of Tree Registration & Land Tenure Challenges and Solutions

Grouped Issue	Key Challenges (Merged)	Policy Solutions (Merged)
Registration & Tenure	Bureaucracy, unclear tenure, gender access	Digitalization, clear policy, affirmative action, and education
Awareness & Education	Limited knowledge, lack of info, low awareness	Sensitization, training, local language campaigns
Registration Process	Bureaucracy, hidden costs, high fees	Digitalization, decentralization, fee regulation, simplified procedures
Policy & Legal Gaps	No clear policy, ambiguous contracts, scattered laws	Unified national policy, standard contracts, special agroforestry zones
Tenure Security & Rights	Insecure tenure, exclusion, disputes	Secure/documented rights, affirmative action, conflict resolution, benefit sharing
Land Access & Expansion	Scarcity, high costs, unclear boundaries	Regulate allocation, re-zone lands, cooperative models, facilitate youth/women access
Inclusivity & Participation	Gender/youth exclusion, limited community involvement	Community participation, affirmative action, traditional authority involvement

Annex 6: Summary of Other Emerging Challenges and Solutions

Grouped Issue	Key Challenges (Merged)	Policy Solutions (Merged)
Policy & Institutions	Scattered policy, poor continuity, weak coordination	National policy, dedicated agency, legislation for continuity
Inclusivity & Community	Gender/youth exclusion, limited community involvement	Affirmative action, community engagement, traditional authority participation
Environmental Management	Bush burning, livestock movement, urbanization	Enforcement, livestock corridors, urban green belts, community planning
Project Management & Technical	Project discontinuity, management issues, post-harvest	Policy for continuity, research, improved management, value chain support