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Harnessing benefits for climate change mitigation through irrigation-free indigenous tree restoration: sharing knowledge and building capacity

TREE RESTORATION, CLIMATE CHANGE MITIGATION AND CROSS-SECTORAL POLICY COHERENCE IN NIGERIA

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Authors:

Nicola Favretto (University of Leeds, UK)
Martin Dallimer (University of Leeds, UK)
Lindsay C Stringer (University of York, UK)
Saminu Ado (Bayero University Kano, Nigeria)
Ibrahim Baba Yakubu (Bayero University Kano, Nigeria)
Jibrin M Jibrin (Bayero University Kano, Nigeria)
Aliyu Barau (Bayero University Kano, Nigeria)

For further information and feedback please contact:

Aliyu Barau, Bayero University Kano, Nigeria, E.: asbarau.urp@buk.edu.ng
Martin Dallimer, University of Leeds, E.: m.dallimer@leeds.ac.uk

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This policy analysis report was produced as part of an international collaboration between Bayero University Kano (BUK), Nigeria, and Universities of Leeds and York, UK. **The collaboration, funded by the UK PACT Green Recovery Challenge Fund, aims to develop innovative training to support cost-effective irrigation-free indigenous tree restoration within smallholder farms in northern Nigeria, accelerating emissions reductions. By working with stakeholders at all levels, the collaboration will facilitate Nigeria's progress towards its Nationally Determined Contributions and the Sustainable Development Goals.** The success of achieving international commitments that are linked to land, food production and climate change mitigation, depends on strategies that directly involve local participation. UK PACT (Partnering for Accelerated Climate Transitions) is a £60m flagship programme under the International Climate Finance (ICF) portfolio. It is part of the UK's £5.8bn commitment to International Climate Finance by 2021 to tackle climate change. The programme is funded by the Department for Business, Energy and Industrial Strategy (BEIS).

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Preface

Northern Nigeria is subject to land degradation, driven by climate change and unsustainable land use practices. Poverty in the region is high, with land degradation exacerbated by migration, conflict and low recognition of the rights of women, who are disproportionately impacted by poverty and land degradation and engage largely in unskilled, labour intensive agricultural work, lacking access to finance, training and decision-making. The Nigerian government prioritises uptake of farmer managed natural regeneration of vegetation and non-irrigated indigenous tree restoration to mitigate climate change and deliver livelihood and poverty reduction benefits to smallholder farming communities.

To inform restoration, this policy analysis report assesses cross-sectoral policy coherence to support irrigation-free indigenous tree restoration in Nigeria to achieve mitigation and sustainable development goals. It identifies key barriers, solutions and leverage points for changes to policy to strengthen coherence and widespread uptake of indigenous tree restoration in Nigeria, with particular focus on the Gender Equality and Social Inclusion (GESI) implications of the identified policies, and the role of partnerships and access to finance as key enablers of change. This report builds on evidence of existing good tree restoration practices detailed in the training manuals developed in this project[1], and on data collected in two capacity building workshops for policy makers in Kano and Jigawa States in March 2022.

[1] Favretto N, Dallimer M, Stringer LC, Ado S, Baba Yakubu I, Jibrin JM, Barau A. 2021. *Harnessing benefits for climate change mitigation through irrigation-free indigenous tree restoration: sharing knowledge and building capacity. Best practice guidelines manual: Version for institutional stakeholders*. UK and Nigeria: University of Leeds and Bayero University Kano.

1 Introduction

This report uses the Intersectionality Based Policy Analysis framework to understand if environmental and development policy in Nigeria supports irrigation-free indigenous tree restoration to achieve mitigation and development goals. Four guiding questions were set to meet the objectives of this analysis:

1) To what extent do current policies recognise and mainstream the role of trees (including irrigation-free indigenous tree restoration, Farmer Managed Natural Regeneration (FMNR), and agroforestry) in fostering mitigation and development goals in Nigeria?
2) What is the level of policy coherence across sectors, and what are the barriers, opportunities and leverage points to strengthen coherence of tree restoration across Government levels?
3) To what extent is GESI considered in the identified policies?
4) To what extent do existing policies recognise partnerships and access to finance as key enablers of change?

Climate change poses severe environmental, economic and societal challenges, hampering progress towards the Sustainable Development Goals (SDGs). Limited evidence, capacity and awareness of sustainable land management practices jeopardise progress for countries to achieve their Nationally Determined Contributions (NDCs) as well as limit the capacity of smallholder and subsistence farmers to grow sufficient, nutritious food. As climate change and development are cross-cutting issues, mitigation and sustainable land management need to be mainstreamed into policy across a range of sectors and levels. This makes effective tree restoration planning for climate mitigation and socio-economic development necessary across all sectors and allows efforts to address cross-cutting challenges and recognise sectoral interdependencies and policy leverage points.

Northern Nigeria, which includes the states of Kano and Jigawa, is subject to land degradation and desertification, driven by both climate change and unsustainable land use practices. Almost 70% of the population is involved in agriculture, which is the backbone of the regional economy, making this a key barrier to sustainable development. Poverty in the region is the highest in Nigeria, with land degradation exacerbated by migration, conflict and low recognition of the rights and roles of women. Women are disproportionately impacted by poverty and land degradation, given their prominent roles in farming households and that they largely engage in unskilled, labour-intensive agricultural work, lacking access to finance, training and decision-making.

State and national government ministries have identified improved uptake of Farmer Managed Natural Regeneration of Vegetation (FMNR) and irrigation-free indigenous tree restoration, as priorities that will mitigate climate change, accelerate progress towards emissions reduction, and deliver substantial benefits to farming communities: improving yields, diversifying livelihoods, enhancing food security and reducing poverty. Irrigation-free indigenous tree restoration is a novel approach, with substantial additional benefits compared to FMNR. When well-managed, it can help maximise climate change mitigation by, for example, increased tree establishment, improved soil health, enhanced vegetation and soil carbon sequestration. It also offers wider socio-economic and environmental conservation benefits, such as increased yields from food and fodder production, livelihood diversification of smallholders (providing new enterprise opportunities to farmers and marginalised groups, particularly women), provision of habitat and food for wildlife, increased biodiversity and ecosystem function, and increased availability of traditional medicines.

As mitigation of climate change and socio-economic development are amongst the most crucial cross-cutting issues in Nigeria, government departments have taken steps to explore synergies and integration among sectors. However, implementation challenges exist due to the tendency of government ministries and departments to operate in silos. Greater communication, information sharing and collaboration are sought to overcome relative isolation and support more effective and coherent operations to reach shared goals across sectors.

According to the Organisation for Economic Co-operation and Development (OECD), policy coherence is defined as "the systematic promotion of mutually reinforcing policy actions across government departments and agencies creating synergies towards achieving the agreed objectives". Analyses of coherence is key to assess where multi-sectoral policies are supporting or conflicting with one another. Coherent policy approaches can improve effectiveness and reduce competition for limited budgets and resources. This report is designed to assess the effectiveness of cross-sectoral structures to support irrigation-free indigenous tree restoration in Nigeria to achieve mitigation and sustainable development goals.

2. Key policy documents and analysis methods

This analysis followed a multi-step qualitative document analysis approach. First, internet searches on Nigeria's government websites were undertaken to collate a full set of official policy documents and strategies across the climate change, agriculture, forestry, national development and energy sectors (Table 1). We focused on the climate mitigation and socio-economic development implications of these documents with relation to gender equality and inclusion, with a view to identifying the primary role of irrigation-free indigenous tree restoration in delivering environmental and social empowerment benefits, with analysis also exploring wider cross-sectoral linkages including climate adaptation, sustainable land management, stakeholder engagement and financing towards a green recovery. Documents available in English were assessed. In case of revisions to earlier versions, the latest policy document was considered. Wherever the policies were not available online, stakeholders working for government departments were contacted in order to obtain the official documents.

Table 1. Policy documents identified and analysed across the climate change, agriculture, forestry, national development and energy sectors in Nigeria.

Sector	Policy document
Climate change	• National Climate Change Policy 2021-2030 • Nationally Determined Contribution 2021 • National Action Plan on Gender and Climate Change 2020 • National Adaptation Plan Framework 2020 • National Adaptation Strategy and Plan of Action on Climate Change for Nigeria 2011
Agriculture	• Agriculture Promotion Policy 2016-2020
Forestry	• National Forest Policy 2020
National development	• National Development Plan 2021-2025 • Economic Sustainability Plan 2020
Energy	• National Energy Policy of Nigeria 2018

The Intersectionality Based Policy Analysis framework[2] was used to understand if the policy and strategic documents support irrigation-free indigenous tree restoration in Nigeria to achieve mitigation and development goals. Four guiding questions, detailed in the introduction, were set to meet the objectives of this analysis.

The documents identified in Table 1 were systematically analysed through qualitative content analysis to address the Intersectionality Based Policy Analysis framework's key categories in line with our research questions. Cross-sectoral coherence was assessed by using a subjective scoring system, based on the expert knowledge and understanding of the authors. The scoring system and its criteria (adapted from England et al., 2018)[3] are detailed in Table 2.

[2] Hankivsky et al. 2014. An intersectionality-based policy analysis framework: critical reflections on a methodology for advancing equity. *International Journal for Equity in Health* 2014 13:119

[3] England et al 2018. Climate change adaptation and cross-sectoral policy coherence in southern Africa. Reg Env Ch

Table 2 Scoring criteria to assess coherence of tree restoration for climate mitigation and sustainable development policy in Nigeria.

Type of coherence	Description of coherence	Score
High coherence	The policy aligns strongly across climate change, agriculture, forestry, national development and energy statements. Policy devotes specific attention to the ten keywords listed below this table (including climate mitigation, national development, livelihood diversification, job creation and green recovery) in relation to tree restoration, and considers gender equality and inclusion. It includes detailed complementary activities and plans (i.e. objectives, assumptions, solutions).	3
Partial coherence	Although the policy supports climate mitigation and sustainable development inter sector alignment in relation to tree restoration, it is less clear and distinct as to how it could be achieved. Some activities and plans (i.e. objectives, assumptions, solutions) are included but the document lacks comprehensive detail.	2
Limited coherence	The policy supports climate mitigation and sustainable development inter-sector alignment in relation to tree restoration and considers gender equality and inclusion (particularly in the form of general statements). No details on activities or plans are provided.	1
No coherence	No evidence that sectoral statements are co-ordinated and/or aligned.	0
List of thematic keywords: (i) Climate change mitigation, greenhouse gas emission*, (ii) Climate change adaptation, (iii) Tree, forest, (iv) Restoration, soil fertility, sustainable land management, (v) Farmer Managed Natural Regeneration (FMNR), agroforestry, (vi) Poverty, livelihood* poor farmers, (vii) Gender, women, youth, (viii) Partnership, participation, inclusive*, stakeholder engagement, (ix) Financing, access to finance, (x) Resilience, green recovery, job creation.		

The content analysis was carried out in two steps. First, a set of keywords covering the thematic focus of this analysis was developed and included the keywords listed in Table 2. Subsequently, each of the identified sectoral policies was assessed against the ten thematic keywords. Notes were collated about the discursive content identified in each document under each keyword, to inform the results and address the Intersectionality Based Policy Analysis framework's categories. The level of coherence of each policy document against each keyword was scored from three (high coherence) to zero (low coherence) using the scoring criteria in Table 2. This enabled cross-comparison of (i) the main emphases in each sector, including the identification of the barriers, opportunities and leverage points to strengthen coherence and mainstreaming of irrigation-free indigenous tree restoration, (ii) the emphasis on GESI mainstreaming, and (iii) the extent to which policies recognise the importance of partnership models and access to finance, in line with our research questions (see Results).

The second step involved validation of the findings via two workshops attended by policy makers, extension workers, representatives of smallholder farmers and women's associations, and traditional leaders in March 2022 in Kano and Jigawa States. A total of 107 participants (78 males and 29 females) attended the workshops: Jigawa (45 males, 16 females), Kano (33 males, 13 females). Through group activities facilitated by the authors, the participants were asked to address the four following questions covering cross-sectoral integration and financing of irrigation-free tree restoration and the importance of GESI, with a view to identify the policy solutions needed to upscale (and finance) best practices across sectors.

- Identify examples of GOOD PRACTICES across sectors,
- What are the BARRIERS? Identify specific types of barriers (with examples),
- Identify SOLUTION(S) to each of the identified barriers, and

- Which STAKEHOLDER GROUP has the influence/power to lead on changing things?

Answers from different groups were presented, merged, synthesised and ranked in a feedback session at the end of each workshop (as presented in the recommendations and conclusions).

3. Results

Table 3 presents the level of coherence of each policy document assessed against the identified thematic keywords. The table is followed by four sub-sections that address the research questions outlined in the introduction: Section 3.1 (question 1 on the role of trees in climate-development policy), Section 3.2 (question 2, outlining the coherence scoring), Section 3.3 (on GESI) and Section 3.4 (on the role of partnership and financing).

Table 3. Coherence of policy documents for identified climate mitigation and sustainable development keywords for Nigeria (score 3 = high coherence; 2 = partial coherence; 1 = limited coherence; 0 = no coherence).

Climate										
Policy	**Climate change mitigation, greenhouse gas emissions**	**Climate change adaptation**	**Tree, forest**	**Restoration, soil, fertility, sustainable land management**	**Farmer Managed Natural Regeneration, agroforestry**	**Poverty, livelihoods, poor farmers, job creation**	**Gender, women, youth**	**Partnership, participation, inclusiveness, stakeholder engagement**	**Financing, access to finance**	**Resilience, green recovery**
National Action Plan on Gender and Climate Change 2020	(3) Promotes multi-sector gender-sensitive mitigation. Identifies action steps, indicators, responsible institutions and outcomes.	(3) Promotes multi-sector gender-sensitive adaptation. Identifies action steps, indicators, responsible institutions and outcomes.	(1) Mentions the use of trees to improve integrated water resource management. Identifies limited activities and plans.	(2) Aims to enhance local participation in forestry and agriculture. Identifies action steps, indicators, responsible institutions and outcomes.	(0) No details or evidence provided.	(3) Promotes alternative livelihoods and local participation. Identifies action steps, indicators, responsible institutions and outcomes.	(3) Aims to mainstream gender considerations across all climate programmes / policies. Sets specific objectives, action steps, indicators, responsible institutions and outcomes.	(3) Identifies national institutions with mandates related to gender and environment. Sets specific objectives, action steps, indicators, responsible institutions and outcomes.	(2) Provides list of institutions to fund implementation and calls for partnership building and coordination with general details of the modalities.	(0) No details or evidence provided.

National Adaptation Plan Framework 2020	(0) No details of mitigation measures, activities or plans.	(1) Supports adaptation and-development in the form of general statements. No details on activities or plans.	(0) No details or evidence provided.	(1) Calls for ecosystem-based adaptation approaches with no details on activities or plans.	(0) No details or evidence provided.	(1) Aims to enhance rural livelihoods. No details on activities or plans.	(1) Calls for a fully gender-responsive NAP approach with no details on activities or plans.	(2) Mandates a multi-sectoral approach to managing climate impacts. Some assumptions are included but lacks comprehensive detail.	(1) Stresses the need for coherent approaches to fund adaptation through multi-stakeholder engagement with no details on activities or plans.	(0) No details or evidence provided.
National Adaptation Strategy and Plan of Action on Climate Change for Nigeria 2011	(1) Promotes low carbon economy through integration of adaptation with mitigation. No detailed activities or plans.	(3) Sets adaptation as an integrated component of sustainable development. Identifies action steps and responsible institutions.	(3) Fosters afforestation and reforestation to enhance human welfare. Sets specific objectives and action steps.	(3) Fosters adoption of improved agricultural systems. Sets specific objectives and action steps.	(0) No details or evidence provided.	(3) Fosters increased adaptation through improved livelihoods. Sets specific objectives and action steps.	(3) Supports adaptation by vulnerable groups, including women, children and youth, the elders, and people with disabilities. Sets specific objectives and action steps.	(3) Lays out partnership roles and responsibilities for national adaptation. Outlines actions and responsibilities.	(2) Calls for increased allocation of financial resources to climate change issues. Outlines guidelines for funding the national strategy.	(0) No details or evidence provided.

National Climate Change Policy 2021-2030	(2) Aims for greenhouse gas emissions reduction. Some recommendations are included but lacks detail.	(2) Supports adaptation measures to promote development. Some activities are included but lacks detail.	(2) Promotes reforestation for community development. Some activities are included but lacks detail.	(2) Promotes sustainable land-use systems to foster agriculture and development. Some activities are included but lacks detail.	(0) No details or evidence provided	(1) Promotes socio-economic development in general. No details on activities or plans are provided.	(2) Refers to mainstreaming gender, children, youth and other vulnerable groups into all climate change interventions. Some activities are included but lacks detail.	(2) Promotes international partnership and coordinated cooperation. Some activities are included but lacks detail.	(2) Mentions finance mobilisation and investment as key enabling conditions. Some activities and recommendations are included but lacks detail.	0) No details or evidence provided.
Nationally Determined Contribution 2021	(2) Promotes agricultural / forestry measures to move to a low-carbon, climate-resilient status. Lacks detail.	(1) Calls for measures in the agriculture, forestry and other land uses sector to foster adaptation by 2050, but no details on activities or plans.	(1) Calls for improved natural forest management and forest restoration with no details on activities or plans.	(1) Mentions climate smart agriculture approaches to foster development and reduce emissions with no details on activities or plans.	(1) Mentions the use of agroforestry to reduce emissions with no details or evidence.	(1) Mentions the role of nature-based solutions to achieve sustainable development and job creation, but no details or evidence provided.	(2) Calls for climate mitigation measures that are gender neutral and that enhance social inclusion, but lacks detail.	(2) Acknowledges the importance of multi-stakeholder engagement processes in developing and validating the NDC. Lacks detail.	(2) Outlines the need for an investment plant to finance low-carbon transition. It provides some figures but lacks detail.	(0) No details or evidence provided.

Table 3 (continued). Coherence of policy documents for identified climate mitigation and sustainable development keywords for Nigeria (score 3 = high coherence; 2 = partial coherence; 1 = limited coherence; 0 = no coherence).

Agriculture										
Policy	**Climate change mitigation, greenhouse gas emissions**	**Climate change adaptation**	**Tree, forest**	**Restoration, soil, fertility, sustainable land management**	**Farmer Managed Natural Regeneration, agroforestry**	**Poverty, livelihoods, poor farmers, job creation**	**Gender, women, youth**	**Partnership, participation, inclusiveness, stakeholder engagement**	**Financing, access to finance**	**Resilience, green recovery**
Agriculture Promotion Policy 2016-2020	(0) Reducing CO2 emissions stated as minor goal with no indication of how it could be achieved.	(0) Sets the need to improve knowledge for adaptation. No details or evidence provided.	(1) Mentions the use of trees to reduce erosion and conserve water. Some activities included but lacks detail.	(1) Aims to unlock the potential of agriculture to enhance fertility through improved conservation. Some activities are included but lacks detail.	(0) No details or evidence provided	(1) Job creation stated as Federal priority. Some activities are included but lacks detail	(2) Fosters full inclusion of youth and women in the agricultural sector. Some activities are included but lacks detail.	(2) Calls for greater collaboration across Federal, State and local levels to maximise engagement. Some activities are included but lacks detail.	(3) Promotes enhanced access to finance for agriculture. Some activities are included.	(0) No details or evidence provided.

Table 3 (continued). Coherence of policy documents for identified climate mitigation and sustainable development keywords for Nigeria (score 3 = high coherence; 2 = partial coherence; 1 = limited coherence; 0 = no coherence).

Forestry										
Policy	**Climate change mitigation, greenhouse gas emissions**	**Climate change adaptation**	**Tree, forest**	**Restoration, soil, fertility, sustainable land management**	**Farmer Managed Natural Regeneration, agroforestry**	**Poverty, livelihoods, poor farmers, job creation**	**Gender, women, youth**	**Partnership, participation, inclusiveness, stakeholder engagement**	**Financing, access to finance**	**Resilience, green recovery**
National Forest Policy 2020	(2) Promotes the role of forestry in mitigation. Some activities are included but lacks detail.	(2) Promotes the role forestry in adaptation. Some activities are included but lacks detail.	(3) Fosters forest conservation for development. Includes complementary activities and plans.	(0) No details or evidence provided.	(2) Supports agroforestry to enhance livelihoods Some activities included. Lacks detail.	(2) Aims to upscale the contribution of forests to economic development. Some activities are included but lacks comprehensive detail.	(2) Promotes participation of women and vulnerable groups in forest resources management. Some activities included but lacks detail.	(2) Promotes stakeholders participation in forest resources management, research and development. Some activities included but lacks detail	(2) Promotes investment of the public and private sectors in forest resource management and utilisation. Some activities included but lacks detail	(0) No details or evidence provided.

Table 3 (continued). Coherence of policy documents for identified climate mitigation and sustainable development keywords for Nigeria (score 3 = high coherence; 2 = partial coherence; 1 = limited coherence; 0 = no coherence).

National Development										
Policy	**Climate change mitigation, greenhouse gas emissions**	**Climate change adaptation**	**Tree, forest**	**Restoration, soil, fertility, sustainable land management**	**Farmer Managed Natural Regeneration, agroforestry**	**Poverty, livelihoods, poor farmers, job creation**	**Gender, women, youth**	**Partnership, participation, inclusiveness, stakeholder engagement**	**Financing, access to finance**	**Resilience, green recovery**
National Development Plan 2021-2025	(0) Supports development of decarbonisation pathways, but no details or evidence provided.	(0) Supports climate adaptation in sustainable production practices, but no details or evidence provided.	(0) No details or evidence provided.	(0) No details or evidence provided.	(0) No details or evidence provided.	(1) Promotes inclusive job creation, but limited details are provided.	(3) Targets women empowerment and the mainstreaming of gender issues at all policy levels. Sets specific action steps and indicators.	(0) Calls for strategic partnerships and collaboration, but limited details are provided.	(2) Calls for increased access to finance and technical support for businesses and projects in environmentally sustainable sectors. Some activities and plans are included.	(0) No details or evidence provided.
Economic Sustainability Plan 2020	(0) No details or evidence provided.	(0) No details or evidence provided.	(0) No details or evidence provided.	(0) No details or evidence provided.	(0) No details or evidence provided.	(0) Supports job creation through adoption of agricultural programme, but does not relate to achieving climate-development goals.	(0) No details or evidence provided.	(0) Fosters partnership, but not to achieve any climate-development goal.	(0) Aims to engage with multilateral and donor agencies to access funding for crisis response. No action relates to achieving climate-development goals.	(0) Supports resilience-building in the post-COVID-19 economy. Does not relate to climate-development.

Table 3 (continued). Coherence of policy documents for identified climate mitigation and sustainable development keywords for Nigeria (score 3 = high coherence; 2 = partial coherence; 1 = limited coherence; 0 = no coherence).

Energy										
Policy	**Climate change mitigation, greenhouse gas emissions**	**Climate change adaptation**	**Tree, forest**	**Restoration, soil, fertility, sustainable land management**	**Farmer Managed Natural Regeneration, agroforestry**	**Poverty, livelihoods, poor farmers, job creation**	**Gender, women, youth**	**Partnership, participation, inclusiveness, stakeholder engagement**	**Financing, access to finance**	**Resilience, green recovery**
National Energy Policy of Nigeria 2018	(1) Promotes conservation and carbon management best practices in the nation's energy supply chain. Limited details are provided.	(0) No details or evidence provided	(1) Encourages cultivation of fast growing tree species to accelerate forest regeneration. Limited details are provided.	(0) No details or evidence provided	(0) No details or evidence provided	(0) Mentions job creation, rural and agricultural development. No details or evidence provided.	(2) Promotes gender sensitivity and special attention to rural energy needs. Some activities are included but lacks detail.	(1) Targets effective coordination of national energy planning, programmes and policy implementation. Limited details are provided.	(1) Aims to ensure the availability of adequate funding for the energy sector. Limited details are provided.	(0) No details or evidence provided.

3.1 Mainstreaming of the role of trees into policy to foster mitigation and development goals in Nigeria

While most policies mention the use of trees to address climate-development dimensions, limited concrete actions are identified or suggested. One exception is found in the National Forest Policy 2020, which prioritises the use of indigenous multipurpose trees and agroforestry systems to achieve socio-economic, cultural and environmental benefits. Findings from each sectoral document analysed are presented below, ordered chronologically from the most to the least recent.

The National Climate Change Policy 2021-2030 supports implementation of adaptation and mitigation measures that promote low-carbon development. In achieving this goal, some generic measures in the forestry sector are identified, which refer to the promotion of agro-forestry, reforestation and afforestation, including community-based forest management and recovery. No further details are provided as to how this should be achieved. Similarly, the Nationally Determined Contribution 2021 calls for improved natural forest management and forest restoration but does not outline any detailed activity or plan.

Limited focus on the role of trees is observed in the National Action Plan on Gender and Climate Change, which envisages nursery establishment and tree planting as a way to enhance water resource management in gender-based programmes. To foster mitigation and development the plan advocates the integration of gender-responsive approaches in the implementation of the Paris Agreement, Nigeria's NDCs, as well as into energy and transport sector policies.

The National Adaptation Strategy and Plan of Action on Climate Change 2011 aims to increase afforestation and reforestation to enhance human welfare and address climate change risks. It calls for implementation of sustainable forest management through community-based forest resources management programmes and provision of extension services to Civil Society Organisations (CSOs), communities and the private sector to help restore natural forests. Supporting actions include the development of community-based sustainable forest management plans, implementation of broad afforestation and re-greening programmes within the framework of the National Forest Policy, and provision of business incentives for investment in tree planting, in collaboration with State Governments. Additionally, forestry extension services for adaptation should be expanded at the State level to transfer skills, knowledge, and resources.

In the Agriculture Promotion Policy 2016-2020, tree planting is identified as an erosion control measure in drought-prone areas to reduce land degradation and enhance soil fertility. The document calls for enhanced investments in long-term soil improvement through tree planting. Tree planting is also foreseen as a strategy to promote water conservation and reduce desertification and is envisaged to be included in dedicated erosion control and reforestation programmes.

Limited mention of the role of trees is made in the National Development Plan 2021-2025, which includes an indicator to monitor the number of trees planted in the effort to reverse deforestation trends across vulnerable communities. Similarly, the Economic Sustainability Plan 2020 does not pursue any climate-development goal, neither does it mention the role of trees. Some reference to the use of trees is found in the Nationally Determined Contribution 2021, which calls for increasing forest protection, reducing the area of forestland used for fuelwood harvesting, and promoting agroforestry to achieve a low-carbon transition.

In contrast, and as expected, trees play a key role in the National Forest Policy 2020 to address the underlying causes of deforestation, forestland degradation and desertification. The document prioritises the use of indigenous species and environmentally friendly technologies in plantation development by encouraging the planting of improved varieties of indigenous multipurpose trees

(including gum Arabic shea butter, locust beans, breadfruit, and medicinal plants species) for income generation and soil improvement. It promotes the development and conservation of non-timber forest products (such as edible fruits and foods, fodder and medicine derived by over 150 indigenous woody plants in the country) to increase their contribution to the national economy. To achieve this objective, it calls for sustained capacity building and empowerment in non-timber forest products' management and conservation with the active involvement of stakeholders. Agroforestry is promoted as a key approach to reduce rural poverty through market-driven, locally-led tree cultivation systems to generate income and build assets. The overall objective is to foster large-scale agroforestry and forest plantation development using indigenous species (complemented with exotic species) in order to realise the potential of Nigeria's native forests for their economic, social, cultural and environmental values and achieve sustainable forest management. Agroforestry is portrayed as an approach to improve the health and nutrition of the rural poor and assist them to better adapt to climatic change, and to benefit from emerging carbon markets through tree cultivation. In order to achieve the full economic potential of multipurpose tree species, the document demands the Federal and State Governments to assist farmers to have access to markets for better prices for their commodities, and for State and Local governments to provide assistance to individuals and communities in land preparation, planting and maintenance of cultivated estates.

While no mention of indigenous trees is made in the National Energy Policy of Nigeria 2018, the document calls for cultivation of improved and fast growing tree species to accelerate forest regeneration for energy production. The establishment of private and community woodlots for supply of fuelwood is encouraged.

3.2 Policy coherence across sectors

A wide range of policy measures relevant to the promotion of irrigation-free indigenous tree restoration to achieve climate change mitigation and sustainable development in Nigeria were identified in the cross-sectoral analysis. A detailed list of recommendations is provided in the concluding section.

Most policy documents refer to multiple key themes related to tree restoration and the wider thematic areas assessed across climate mitigation, adaptation, national development, livelihoods diversification, job creation, gender equality and inclusion and green recovery. However, the level of integration of these themes into sectoral policies remains partial, with some of the policies achieving low coherence scores as they set limited or no concrete actions or ways forward to address the stated priorities. The policies are ranked in Table 4 according to their coherence scores in decreasing order.

Table 4. Total coherence scores of the analysed policy documents.

Policy	Total coherence score
National Adaptation Strategy And Plan Of Action On Climate Change For Nigeria 2011	21
National Action Plan on Gender and Climate Change 2020	20
National Forest Policy 2020	17
National Climate Change Policy 2021-2030	15
Nationally Determined Contribution 2021	13
Agriculture Promotion Policy 2016-2020	10
National Adaptation Plan Framework 2020	7
National Development Plan 2021- 2025	6
National Energy Policy of Nigeria 2018	6
Economic Sustainability Plan 2020	0

The National Adaptation Strategy and Plan of Action on Climate Change 2011 sets the basis of the National Adaptation Plan. Since 2021 and updated version has been under development as part of a three-year project funded by the Green Climate Fund (GCF) and assisted by the UN Environment Programme (UNEP). The strategy recognises that adaptation goals are highly complementary to those of development, therefore adaptation must be mainstreamed into the national sustainable development agenda and across sectors, including in climate change (with actions focused on raising national adaptation awareness and knowledge, putting in place policies and programmes to increase access to climate information and outline measures for managing climate risks, and entailing a programme of communication, education and outreach to raise awareness). Leadership is attributed to the Federal government, which should be responsible for setting up agricultural extension services for adaptation (e.g. supporting the training of trainers), and promoting poverty reduction through integration of adaptation with mitigation.

The National Action Plan on Gender and Climate Change 2020 sets agriculture, forestry and land use as priority sectors to achieve mitigation and identified a number of concrete actions focused on building women's capacity for gender-sensitive planning, implementation, monitoring and evaluation, and calling for practical community training on sustainable agricultural practices and forest management. Actions aim at enhancing local communities' participation in the forestry and agricultural sectors and providing alternative livelihood opportunities for women affected by climate change.

The National Forest Policy 2020 acknowledges the need to strengthen cross-sectoral coordination in policy implementation, as well as to integrate climate change into national forestry programmes in a participatory manner to support forest related responses to climate change. It aims to harmonise existing sectoral policies to eliminate and resolve areas of conflict. It identifies major constraints to private sector investment that limit capacity to achieve forestry development goals. It suggests overcoming them through a range of finance-focused measures aimed at supporting small-scale forest enterprises, developing adequate markets and expanding value chain opportunities (as detailed in Section 3.4).

The National Climate Change Policy 2021-2030 points out the critical role of mainstreaming climate change concerns in all national and relevant sectoral policies, planning and development processes as a way to achieve its objectives. It identifies a number of policies, strategies and action plans that are related to addressing climate change by integrating environmental management into socio-economic development activities in Nigeria, and calls for inclusive governance and the institutionalisation of an integrated approach to climate change management that explicitly integrates mitigation and adaptation considerations in all sectors. This requires promotion of sector specific legislative and regulatory amendments to establish and/or strengthen the enabling frameworks for mitigation and adaptation actions, as well as alignment and strengthening of the capacity of relevant institutions to manage climate-related challenges. The private sector is considered a critical partner for a comprehensive climate response and strategy, as it can play a major role in leveraging available financial resources by making business cases for climate mitigation and adaptation.

Nigeria's multi-sectoral approach to address climate change is mandated in the 2020 National Adaptation Plan Framework, which recognises the differences in the way climate change affects different sectors – including agriculture, forestry, water resources, planning and budget, housing and transportation – with a view to providing a platform for a coordinated and coherent national adaptation response. The plan stresses the need to leverage the private sector and non-governmental organisations to incentivise access to climate finance for adaptation. In addressing climate change as a cross-cutting developmental issue, it calls for alignment with other sectoral national developmental plans, such as the 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction, the Paris Agreement, and Agenda 2063. Despite the range of opportunities to foster cross-sectoral coordination, the plan lists a number of barriers to

access adequate financial resources to enable action, which include (i) a lack of clear policies and regulatory frameworks on climate change, (ii) low provision of climate funding in national budget lines, (iii) low government capacity to develop "bankable" projects and absorb funding through the bureaucratic processes, (iv) a lack of awareness of the various sources of climate finance, (v) limited engagement of the private sector, and (vi) siloed approaches to climate change which hamper multi-functional solutions and sources of funding. Another major challenge is that private sector operators often lack information, capacity, appropriate financing and institutional arrangements to enable a cross-sectoral climate-development focus.

The National Development Plan's 2021- 2025 mission is to effectively guide the implementation of programmes and policies that promote rapid multi-sectoral growth and development of Nigeria's economy. It identifies key challenges, focused on the insufficient level of funding for environmental projects and the low level of awareness and advocacy on environmental issues due to low budgetary provisions and low capacity of government staff to address cross-sectoral issues. Opportunities are identified to create sustainable supply chains, integrate responsible investments and leverage sustainable finance by drawing in the private sector and other funds for social, economic and environmental projects. In terms of cross-sectoral integration, the document prioritises the enactment and effective implementation of the Climate Change Bill, which supports development of decarbonisation pathways in line with a new climate change adaptation and mitigation economy. Measures should be taken to strengthen coherence across policies and ensure that they do not simultaneously discourage and encourage emission reductions across sectors.

According to the National Energy Policy of Nigeria 2018, a comprehensive and integrated approach to energy planning across the various sectors of the economy is imperative. In pursuing coherence across multi-sectoral energy plans and activities, the policy calls for consistency with the overall national development goals.

3.3 Mainstreaming GESI into sectoral policies

Ensuring that national climate mitigation efforts in Nigeria mainstream GESI considerations is key to enable women, youth and other vulnerable groups to access, participate in, contribute to and benefit from climate change initiatives, programmes, policies and funds. Making GESI perspectives an integral part of all policy and governmental activities and programmes is the main goal of the National Action Plan on Gender and Climate Change, and its importance is also recognised in a number of policies detailed below.

Regarding policy action, adding GESI components into policy documents or ensuring women's participation in existing activities can be considered a valuable starting point. However, this analysis shows that meaningful GESI mainstreaming materialises when the experiences, knowledge and interests of women and disadvantaged groups are fully integrated into the design, implementation, monitoring and evaluation of sectoral policies, with the aim of fostering equality.

To achieve these goals, a range of cross-sectoral enabling actions are identified. The National Action Plan on Gender and Climate Change 2011 advocates the following:

- Integrating gender concerns in the implementation of the Paris Agreement and Nigeria's NDCs;
- Integrating gender and climate change into agriculture, water, health and energy and transport sector policies, programmes and legislation;
- Building capacities of women and men in gender-sensitive planning, implementation monitoring and evaluation of agricultural and forestry programmes/projects;
- Increasing participation of vulnerable groups in climate change policies and negotiations at local, state, national and international levels;

- Establishing a gender responsive monitoring and evaluation system for the collection and dissemination of sex disaggregated data on climate change issues;
- Conducting capacity assessment of institutions at federal and state levels on gender and climate change awareness and application;
- Conducting capacity development training for federal and state institutions on gender mainstreaming in policies and programmes.

Similarly, the National Adaptation Plan Framework 2020 promotes a gender-responsive national adaptation process that engages women and men equally. It aims to address issues of gender-based equity by targeting women farmers and other vulnerable groups such as youth, who have limited access to critical resources. This follows the basis of the National Adaptation Strategy and Plan of Action on Climate Change 2011, which calls for gender mainstreaming into Nigeria's adaptation strategy through a variety of actions, including:

- Reviewing national agricultural and related policies and programmes to better address the impacts of climate change on women and other vulnerable groups and ensure effective participation;
- Identifying policy gaps and updating policy through a broad consultative process with stakeholders that ensures gender inclusion;
- Training to be delivered to government staff on gender awareness tools;
- Advocacy: CSOs/NGOs should advocate for State welfare agencies to acquire the capacity to address current and predicted climate change impacts affecting the welfare of vulnerable groups;
- Schools: CSOs/NGOs should work with schools to help build climate change adaptation skills and knowledge among youth in the community.

The National Climate Change Policy 2021-2030 promotes low-carbon, climate-resilient and gender-responsive sustainable socio-economic development, focused on mainstreaming gender, children and youth and other vulnerable groups into all climate change interventions as a key strategic objective. These vulnerable groups are expected to be involved in the design and implementation of climate change management programmes, which should support responses that are complementary to the goals of gender equality, women's empowerment, and climate change adaptation and mitigation. Ensuring gender-equitable, socially inclusive, transparent and climate-smart benefit sharing are stated goals in the policy actions identified across the forestry and agriculture sectors. The policy sets the need to enhance the skills and capabilities of staff in relevant institutions to mainstream gender concerns into national responses to climate change. Incorporation of gender perspectives is also foreseen in climate finance processes.

A key goal of the Agriculture Promotion Policy 2016-2020 is to maximise the contributions of women and youth to agricultural production and to eliminate discriminatory practices in the employment of women and youth, with a view to expanding their wealth creation opportunities. The policy states the importance of expanding training of key leaders and influencers across the ministries to ensure that gender and youth considerations are integrated into decision making, as well as to expand capacity building for women and youth for entrepreneurship, including technical training and access to financial services (e.g. launching entrepreneurship platforms). It notes that policy implementation limits inclusion of women in agriculture, therefore implicit and explicit gender biases should be avoided in land allocation policy, and the relevant gender policy documents should be reviewed to identify and implement activities that shift behaviours at the institutional level. As an area of thematic intervention, expansion of wealth creation opportunities for youth and women should be pursued by building their capacity for entrepreneurship (i.e. technical training and access to financial services), and by facilitating dialogue with farmer groups and service providers to institutionalise change.

According to the National Development Plan 2021-2025 empowerment of women is instrumental to inclusive development and overall well-being of the population. The plan aims to ensure equity, capacity building, and inclusion of women and youth in agriculture and food security. It is envisaged that the Government should leverage the National Agricultural Gender Policy and existing initiatives across national to subnational levels to do this. Suggested actions include strengthening the legislative and policy framework to promote deeper integration of women into economic and social development, strengthening the enforcement of existing gender policies and promoting deeper integration of women into economic and social development. The mainstreaming of gender issues in existing policies should be achieved by providing technical support to ministerial departments and other stakeholders. Reviewing existing policies and strategies with a gender lens will identify bottlenecks and ensure more effective incorporation of gender issues and social protection of the vulnerable groups at all stages of policymaking and implementation. Further policy mainstreaming includes:

- Adopting gender responsive budgeting and establishing a gender management system for monitoring and evaluation;
- Building the capacity of all relevant public servants charged with implementation to ensure that gender and consideration of children are systematically incorporated into programming;
- Supporting the economic empowerment of women by facilitating access to financial literacy financing, providing skill-building training;
- Facilitating access to funds through digital finance tools as well as access to advisory services in order to equip women entrepreneurs with the tools needed to grow their businesses into viable enterprises;
- Delivering Government training to women in business associations at the national and state levels;
- Tracking gender related data by strengthening data collection capacity and management systems;
- Promoting inclusion of youth and women in job creation and diversification.

The Nationally Determined Contribution 2021 calls for climate mitigation measures that are gender neutral and that enhance social inclusion. It stresses the need to review policies for gender mainstreaming, and to ensure adequate institutional coordination and the provision of budgetary allocation for gender-related activities. It mentions the importance of building women's capacity and to monitor policy using gender-verifiable indicators to ascertain the success of gender-related programmes across sectors.

The National Forest Policy 2020 promotes the active involvement of women and other vulnerable groups in forest policy development, implementation and sustainable management of forest resources, with a view to improving their socio-economic status. It calls for a number of actions, including (i) creating awareness to enable women and other vulnerable groups to appreciate the benefits derivable from involvement in forest resources management, (ii) building capacity on gender issues, (iii) supporting women, youth and vulnerable groups to undertake forestry development and agroforestry, and (iv) promoting awareness campaigns and education programmes on sustainable management practices in schools to stimulate and sustain the interest of the youth.

The National Energy Policy of Nigeria 2018 promotes gender sensitivity with special attention to rural energy needs. It stresses the need to encourage gender mainstreaming in energy programmes and projects, including in their design and implementation at the micro- and macro-policy levels. Monitoring and evaluation of the impacts of rural energy projects on poverty alleviation and gender equality are considered essential.

3.4 Acknowledging the role of partnerships and access to finance as enablers of change

The role of partnerships and access to finance as enablers of change is widely acknowledged across most of the policy documents analysed, which outline a range of specific goals and actions to enhance multi-stakeholder collaboration across sectors and strengthen financing mechanisms. Annex I provides a list of key stakeholders to be involved, as identified in the documents.

The National Action Plan on Gender and Climate Change identifies a range of national institutions with mandates related to gender and environment as key enablers of change. It aims to strengthen institutional understanding on gender and climate change by conducting capacity assessment and development of institutions at federal and state levels on gender and climate change awareness and gender mainstreaming in policies and programmes, with a view to review existing and develop new policies for institutions to mainstream gender and climate change. The plan promotes the mobilisation of climate finance to implement gender-sensitive adaptation initiatives and sets the need to ensure gender-responsive budgeting, to be achieved through capacity building, by monitoring institutional budgets for gender-responsive implementation, and by increasing budgetary allocation to gender-sensitive programmes and projects.

According to the National Adaptation Plan Framework 2020, integration is crucial to making adaptation sustainable in every sector. Integration must be both vertical (between government and other stakeholders across multiple levels), and horizontal (within each particular stakeholder group and sector, including improved coordination across government agencies). The plan outlines a multi-stakeholder engagement approach to fund mobilisation for effective climate adaptation that involves all tiers of government - including the federal, state, and local levels - in vertical integration, as well as pursuing institutional arrangements to connect ministries, departments and agencies at sectoral levels. Low capacity, lack of awareness among potential beneficiaries, and the difficult process of accessing sustainable finance from the banking sector are reported as major challenges that limit access to climate finance. The plan stresses the need to leverage the private sector and NGOs to mobilise financial resources from multiple public and private sources for the national adaptation plan process. The sources can be divided into three main categories: budgetary allocation from federal and state governments, international climate financial support and private sector funding. In reaching this goal, adequate partnerships should be established to gather consensus and recommendations in the adaptation plan process across key groups, including the private sector (i.e. industry, insurance and banking), CSOs (i.e. strategic partners in socioeconomic development), and development partners. The latter play a key role in leveraging existing international collaborations and partnerships that are important for successful adaptation actions, providing technical and financial support for the attainment of development goals.

Similarly, the National Action Plan on Gender and Climate Change 2011 acknowledges the need to foster both vertical and horizontal integration to share ideas, information and experiences in climate change adaptation. Through a multi-stakeholder approach, key roles are identified for the following players:

- Federal Government: provides policy and legislative leadership and financial resources.
- States and local governments: lead in the regions and at the grassroots level.
- Private sector: seizes opportunities presented by climate change.
- CSOs: catalysts at the adaptation frontline.
- International agencies and NGOs: provide technical and financial assistance.

The plan calls for strengthening inter-ministerial and inter-agency coordination and cooperation in adaptation, which should be integrated into national, sectoral, State and Local Government planning and into the plans of universities, research and educational organisations, CSOs, the private sector and the media. Measures should be grounded in inclusive and participatory approaches to be used to review national agricultural and related cross-sectoral policies and

programmes for adaptation. In pursuing this route, focus should be on incorporating local knowledge and experiences into Nigeria's adaptation strategy, informed by local real-life experiences and the lessons learned.

The action plan identifies the need to mobilise substantial financial resources for adaptation in a number of ways, by:

- Undertaking a detailed financial needs assessment to determine the economic costs of adaptation in Nigeria;
- Reviewing all multilateral mechanisms for finance, and creating an enabling environment to access available funding (e.g. from the Global Environment Facility, the Green Fund, the Adaptation Fund, the Convention on Biological Diversity, the United Nations Convention to Combat Desertification);
- Revising the National Fiscal Policy to incorporate the cost of adaptation and mainstreaming it in the States' Annual Budgets;
- Policy and programmes should be open to emerging climate change-driven forest management initiatives, such as REDD+;
- The private sector should explore opportunities to obtain carbon credits for adaptation practices (i.e. improved soil management and agroforestry) to increase access to finance.

The National Climate Change Policy 2021-2030 recognises the critical importance of strengthening the capacity to attract domestic and international financing for low carbon and climate resilient development. Facilitating an enabling environment for enhanced public and private sector participation and financial investments is key to achieve the policy goals. This includes facilitating sustainable regulatory frameworks and incentives, as well as financial mechanisms for the implementation of initiatives such as the REDD+ Strategy and the Great Green Wall Initiative. The main policy direction is to mobilise and align national climate financial mechanisms with global ones, including the Green Climate Fund and others available through private sector arrangements. The policy calls for the development and implementation of a National Climate Finance Strategy that is gender-responsive and socially inclusive. Key enabling mechanisms may include establishing a National Climate Change Trust Fund, mainstreaming climate finance into national and subnational budgets with appropriate monitoring and tracking systems, and private sector participation in the use of Green Bonds and other innovative financial instruments.

The Agriculture Promotion Policy 2016-2020 aims to strengthen institutional linkages and partnerships for ensuring climate smart agricultural governance, policies, legislation and financial mechanisms. The document calls for greater collaboration between Federal and State Governments, with participation and inclusiveness focusing on measures to maximise the full participation of stakeholders including farmers' associations, cooperatives and other groups, as well as NGOs, CBOs, CSOs, development partners and the private sector. Local level action is implemented by creating explicit partnerships with Local Government Areas with a focus on operational and investment execution issues. The policy highlights the limited availability of financial services in agriculture and stresses the need to improve financing options and de-risk value chains. A policy objective is to enhance availability of credit under reasonable conditions for farmers and promote incentives for microfinance banks to develop appropriate financial products that are relevant in rural areas, for farmers, women and youth.

Financing for socio-environmental projects is supported by the National Development Plan 2021-2025, which calls for increased access to finance and technical support for businesses and projects in environmentally sustainable sectors by setting up incubators and adopting innovative financing tools. Government should incentivise investment in medium and small enterprises operating in sustainable forestry.

The Nationally Determined Contribution 2021 acknowledges the importance of multi-stakeholder engagement processes in developing and validating the document, calling for a "whole of society" approach that engages all relevant actors, including Federal, State and Local government and vulnerable groups and sub-national entities. As regards financing, the document outlines the need for an investment plan to finance a low-carbon transition and provides estimates of the needed investment across sectors to achieve its goals over the implementation period 2021-2030 (USD 177 billion, mostly focused in the power sector).

The National Forest Policy 2020 promotes partnership across stakeholders including the private sector, communities, societies, NGOs and CBOs to facilitate forest development. In order to foster effective stakeholder participation, it stresses the need to build capacity and develop institutions in forest resources management, research and development at all levels. To achieve successful policy implementation, the document notes that adequate and timely financing is a key enabler, and a favourable investment climate for private and public investments in the sector should be developed through a coordinated government programme of support (across Federal, State and Local Governments through a tripartite arrangement) based on investments by the public sector, private sector (e.g. encouraging public-private partnerships), development partners, and international funding. The policy document provides some specific recommendations to improve financing of tree planting for socio-economic and environmental development, including:

- Providing incentives to encourage investment in plantation development by the private sector, communities, individuals and CSOs in public or privately owned lands;
- Developing innovative financial sources for funding the National Forestry Trust Fund and its access for plantation development;
- Reforming the forest revenue system to create an enabling environment for sustainable forest management, involving all stakeholders in decision-making about forest revenue system formulation, revenue collection and sharing.

Targeted measures are also proposed to overcome barriers to private sector investment, i.e.:

- Providing adequate financial mechanisms and technical assistance support for small and medium scale forest enterprises;
- Developing markets for forest environmental services (biodiversity conservation, watershed protection and carbon sequestration);
- Developing appropriate forest product value chain mechanism to enhance investment opportunities.

4. Recommendations and conclusions

Combining literature review with workshop validation, the cross-sectoral analysis presented in this policy report has identified a range of recommendations and suggested actions relevant to the promotion of irrigation-free indigenous tree restoration to achieve climate change mitigation and socio-environmental development in Nigeria. Key recommendations are presented, grouped across two main themes: (i) mainstreaming tree restoration, climate change and sustainable development into policy and enhancing financing systems, and (ii) promoting GESI dimensions. For each thematic set of recommendations, a summary of findings is presented as follows: barriers, and solutions and leverage points (Tables 5 and 6). Finally, best practices covering all the themes and key stakeholders as enablers of change are summarised. An extensive list of potential financing mechanisms to enable cross-sectoral policy implementation and support implementation and upscaling of irrigation-free tree restoration, as identified in previous multi-stakeholder workshops carried out in 2021 under this project, is presented in Annex II.

RECOMMENDATIONS (1). Mainstreaming tree restoration, climate change and sustainable development into policy and enhancing financing systems

a. Fostering tree restoration and planting:
- Promoting market-driven, locally-led tree restoration and agroforestry using indigenous species in order to foster sustainable development.
- Encouraging the planting of indigenous multipurpose trees to produce non-timber forest products for income generation and soil improvement.

b. Cross-sectoral harmonisation of tree restoration and climate change into sectoral policies:
- Integrating mitigation, adaptation and sustainable development considerations into national, sectoral, State and Local Government planning across all sectors, and into the plans of universities, research and educational organisations, CSOs, the private sector and the media.
- Incorporating local knowledge and best practice lessons of tree restoration into Nigeria's cross-sectoral policies.

d. Promoting capacity building and extension services:
- Promoting adoption of irrigation-free tree restoration practices among small-holder farmers and expanding extension services at the State level.
- Establishing a programme of communication, education and outreach to raise awareness.

e. Creating an enabling financing environment and leveraging resources to support tree restoration and value chain development:
- Developing a coordinated programme of support and mainstreaming and monitoring restoration into national and subnational budgets.
- Providing incentives to encourage investments in plantation development through microfinance.
- Developing markets for forest environmental services.
- Mobilising climate finance to implement gender-sensitive and socially inclusive tree restoration by ensuring gender-responsive budgeting.

Table 5. Barriers, solutions and leverage points.

Barriers	Solutions and leverage points
1. POLITICAL BARRIERS: • Lack of political will and continuity. • Insecurity / conflict. • Corruption and lack of demand for accountability.	• Promoting good governance. • Increasing national security. • Ensuring continuous orientation of policy makers and political office holders on the need to restore the trees and nature. • Setting up advocacy and pressure groups (media, environmental organisations, professional associations) to keep the government focused on restoration priorities. • Environmental professionals should join politics at all levels. • Awareness raising "all the way".
2. SOCIAL, CULTURAL, RELIGIOUS BARRIERS: • Illiteracy.	• Promoting consumption of local tree products (not just for export).

• Limiting cultural norms and traditions. • Socio-religious factors. • Indifference, exclusion and socio-cultural inhibition. • Lack of awareness of the importance of indigenous trees and their uses. People are keen to eat foreign products (perception that they are better).	• Raising public awareness of the nutritional value of the products (in schools, hospitals, etc) and all their benefits, • Awareness raising through arts, imams and pastors.
3. INSTITUTIONAL, LEGAL, STRUCTURAL BARRIERS: • Limited availability of / awareness of / and access to funding. • Rigid bureaucracy. • Policies already exist but they lack of implementation, policy fragmentation (lack of synergy). • Land Use Act gives too much power to governors. • Lack of legal backing. • Lack of harmonisation across sectors. • Inter-agency rivalry on project implementation (competing interests). • Lack of policy awareness to end users. • Lack of monitoring and evaluation of policy implementation. • Top-down decision making processes.	• Harmonising policy, strengthening institutions and coherence. • Fostering good governance where formal and traditional institutions co-exist. The Land Use Act should recognise the role of informal institutions and should be revised through a bottom-up approach. • Using import regulations (restrictions) to favour development of local production markets (i.e. reviewing the National Policy on Trade to protect local value chain development). • Setting enabling legal and regulatory frameworks - leveraging private donations and investments by creating a safe investing environment. • Using taxation of contractors based on environmental impact assessment. • Identifying and implementing international best practices. • Stakeholder lobbying. Creating synergy through co-creational activities among stakeholders. Assigning roles to all actors and stakeholders. • Increasing access to (and awareness of) funding. Timely release of funds for implementation and transparency in in budget spending. • Increasing funding for Corporate Social Responsibility (for the private sector, CSOs, CBOs) and for influencers (traditional institutions and religious leaders). • Setting dedicated national and local budgets for tree restoration. • Fostering collaboration between academia and government to draft funding proposals. • Strengthening monitoring and evaluation frameworks.
4. ECONOMIC, RESOURCE AVAILABILITY AND CAPACITY: • Lack of capacity of farmers and extension workers. • Slow release of funds.	• Implementing value chain and cost-benefit analysis to increase evidence of the added value of tree restoration and incentivise adoption and commercialisation.

• Lack of private sector participation. • Limited evidence on alternative value chains and capacity to extract added value(s) from trees. • Lack of capacity and limited availability of experts (and equipment) to train extension workers. • Over reliance on foreign aid.	• Setting up interest-free loans and microcredit systems. • Mobilising research grants for capacity building. • Undertaking training of the trainers (via experts and peer-to-peer). • Delivering capacity building across grassroots organisations. • Strengthening community engagement and ownership. • Setting a carbon tax policy. • Reinforcing existing organisational structures (farmers clubs, traditional leadership structures, women's groups) and establishing platforms for local community participation.

RECOMMENDATIONS (2). Promoting GESI dimensions

a. Better mainstream GESI into policy:

- Review sectoral policies, programmes and legislations to better address the impacts of climate change on women and vulnerable groups and ensure their effective participation in negotiations.
- Establish a gender-responsive monitoring and evaluation system for the collection and dissemination of gender-related data on climate.

b. Foster gender-sensitive capacity building and awareness raising:

- Conduct capacity development training for National, Federal and State level institutions in gender-sensitive planning, implementation monitoring and evaluation.
- Support the economic empowerment of women by facilitating access to financial literacy financing, providing business skills building training.

Table 6. Barriers, solutions and leverage points

Barriers	Solutions and leverage points
1. POLITICAL BARRIERS: • Low political will. • Insecurity / conflict. • Corruption. • Social exclusion of women in politics.	• Citizen participation enables good governance: it creates GESI awareness among citizens and enables their participation. • Ensuring GESI mainstreaming in political positions, government interventions and donor agencies is key. • Government should act as guarantor.
2. SOCIAL, CULTURAL, RELIGIOUS BARRIERS: • Illiteracy. • Limiting cultural norms and traditions and socio-religious factors. • Lack of sensitivity to gender and social inclusion. • Lack of awareness of the importance of indigenous trees.	• Environmental management stewardship (i.e. conservation and sustainable practices to enhance ecosystem resilience and human well-being) is a powerful tool to promote stakeholder awareness raising and training for GESI-sensitivity. • Enhancing opportunities for GESI groups to participate in the education system as educators reinforces the "empowerment" and "transformative" impacts.

	• Advocacy through religious/traditional leaders maximises the reach of GESI capacity building and awareness raising.
3. INSTITUTIONAL, LEGAL, STRUCTURAL BARRIERS: • Misinterpretation of policy on gender. • Land assigned to women is often under men's control. • Unclear roles of "who" should be leading the change. • Focusing on terminology like GESI might perpetuate the subordination role of the so-called "disadvantaged" groups. • Achieving change can take a long time. • Bureaucratic bottlenecks and lack of continuity due to changes in government.	• Identifying target GESI groups allows to reach out more groups. GESI inclusion in policy formulation must be bottom-up. • Stakeholder awareness raising and training for GESI-sensitivity should be delivered widely across governmental organisations and institutions (while ensuring GESI mainstreaming in political positions, government interventions and donor agencies funding). • Policy must be aware of the amount of time needed to achieve GESI "transformation": set long-term targets. Funding must be adequate to pursue transformation (long-term funding). • Revise GESI-pushing ideology (equality vs equity): avoid portraying GESI groups as "victims/disadvantaged". • We need to question "who" is "marginalised person": people in poverty, with disability, internally displaced people (IDPs), people with less opportunity, vulnerable groups? We must recognise that not "all" women are vulnerable. • Setting up an enabling legal/legislative environment for GESI is key to drive for change. • Increase access to funding to GESI groups through quota allocations. • Having dedicated GESI staff on board in tree restoration projects, and getting women organisations involved in the decision-making and implementation of the projects, strengthens capacity to co-deliver impact towards empowerment and transformation.
4. ECONOMIC, RESOURCE AVAILABILITY AND CAPACITY: • Time poverty: in the short term, tree restoration competes with more productive activities carried out by women. • Economic constraints and limited access to loans. • Limited access to information. • Lack of access to land. • Lack of capacity. • Lack of added value associated with tree products.	• Expanding access to loans and microcredit is a pressing priority to foster GESI-sensitive tree restoration for livelihoods development. • Empower women in processing and value chain addition. • Adequate funding is needed for the promotion of empowerment through skills acquisition training.

Best practices in mainstreaming tree restoration, climate change and sustainable development into policy, enhancing financing systems, and promoting GESI:

- State and Local government prioritise extension services through technical training and education. Agricultural research institutions train the extension officers and give them formal certification: "training of the trainers".
- Annual tree planting campaigns (National, State, Local levels).
- International programmes: Arid-zone afforestation programme, AFR100 (African landscape restoration initiative), AGOA (Africa Growth Opportunity Act). Opportunity to benefit from these initiatives.
- National and State programmes: Agricultural Climate Resilience in Semi-Arid Landscapes (ACRESAL), Second Forestry Afforestation Programme (FAP), NAGGW, NEWMAP, FADANA 2 and 3, Women and Youth Empowerment programme, Better Life for Rural Women programme, Women in Forestry, Social Security Intervention programme, Nigeria Conservation Fund (NCF), Fight Against Desertification Encroachment (FADE), National forest and environmental policies, UNDP Komadugu / Yobe basin wetland development.
- Community programmes: individual/community tree restoration programmes e.g. through WOFAN, microcredit schemes.
- Farmers Managed Natural Regeneration, Danbawa shelterbelts, agro-forestry projects and agroforestry policy at National and State levels to encourage tree restoration and value chain development.
- Kano State Policy of Environment and Kano State Forest Law: in process of development Approval granted pending on second reading from the assembly.
- Agricultural policy gives access to inputs, financial services and training. National and State Gender policy, National Cash policy.
- Carbon credits schemes.
- Sharia law regulates access to land for women and children.

Key stakeholders as enablers of change:

Multi-stakeholder cooperation (see extensive list in Annex I):

- Political institutions: Government (Federal to Local levels driven by the Ministries of Environment and Agriculture, National Assembly). Top down and bottom up (sideways). The national level institutions are the key leaders to leverage action across sectors and actors.
- Religious / traditional institutions and community leaders (community level).
- NGOs, CBOs.
- Research centres and educational institutions.
- Legal / legislative backing.

This report underpins the final sustainability and legacy workshop of this UK PACT project, with the aim to reach major institutional stakeholders to identify and stimulate changes to policy, to widespread uptake of irrigation-free indigenous tree restoration in Nigeria for environmental and socio-economic development.

Annex I. List of cross-sectoral stakeholders to foster tree restoration and development

National, State, Federal and Local public stakeholders:

- Federal and State Ministries of Agriculture and Forestry;
- Federal and State Ministries of Budget and National Planning;
- Federal and State Ministries of Communication;
- Federal and State Ministries of Environment;
- Federal and State Ministries of Information;
- Federal and State Ministries of Transport;
- Federal and State Ministries of Women Affairs and social development;
- Federal Ministry of Budget and National Planning;
- Federal and State Ministries of Education;
- Federal and State Ministries of Finance;
- Federal and State Ministries of Health;
- Federal and State Ministries of Science and Technology;
- Federal and State Ministries of Water Resources;
- Federal and State Ministries of Youth;
- Inter-Ministerial Committee on Climate Change;
- Local Government agencies include: LG Education Department, LG Health Department, and LG Welfare Department, Community Development and Cooperative Offices, Education Trust Funds;
- National Bureau of Statistics;
- National Centre for Women Development;
- National Council for Development Planning;
- National Directorate of Employment;
- Universities and research centres;

Other stakeholders:

- Private sector, Community Development Associations, NGOs and CSOs;
- Development partners, i.e. World Bank, Africa Development Bank, UNDP, UNFCCC, UNEP, WMO, UNIDO, UNIFEM and other climate funding institutions.
- Global finance agencies, i.e. Global Climate Fund, GEF, Adaptation Funds;
- Faith based groups and Red Cross.

Annex II. Financing mechanisms to support policy implementation and upscaling of restoration practices

- Internal Mechanisms via the Federal Ministry of Environment (e.g. Green Bonds and Ecological Fund);
- National governmental organisations and agencies (e.g. FRIN, NGGW, ADP);
- The Great Green Wall, through NAGGW (Great Green Wall Multi-Actor Accelerator)
- International governmental programmes (e.g. UKPACT, CIDA, USAID);
- Funds operated by the Global Environment Facility (GEF) Under the United Nations Framework Convention on Climate Change (UNFCCC), including the GEF Trust Fund, the Least Developed Countries Trust Fund and the Special Climate Change Trust Fund;
- World Bank Group via the International Finance Corporation (IFC);
- African Development Bank (AfDB);
- United Nations Environment Programme (UNEP);
- International Centre for Research in Agroforestry (ICRAF);
- Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and Economics of Land Degradation (ELD) initiative;
- Adaptation Fund under the Kyoto Protocol via the UNFCCC;
- Foreign governments – bilateral and multilateral agreements (including economic schemes such as PES, REDD+, subsidy schemes, agro-environmental schemes, and carbon accounting and offsetting)
- National NGOs, farmers associations and youth associations;
- Tax collection: multiple trade organisations and businesses which make use of marketable forest and tree-derived products, i.e.:
    - Wood Cutters Association;
    - Native and Medical Doctors Associations;
    - Site Renting for Agro Forestry Cultivation;
    - Firewood Sellers Association;
    - Recreational/Event Centres;
    - Forestry Pensioners Association;
    - Seed Companies;
    - Agro Products Processing Companies;
    - Food Stuffs Marketers Association e.g. 'Dawanau' Market, Yankaba Market;
    - Commercial Marketers Association e.g. Singer;
    - Zoological Gardens;
    - Forestry Staff and Student Associations;
    - Pharmaceutical Society Of Nigeria;
    - Hunters Association;
    - Saw Mills Association;
    - Bakeries Association;
    - Barbeque (SUYA) Spots;
    - Self-Help Groups;
    - Philanthropists;

Tax collection: corporations and government-affiliated entities:

- Corporations (e.g. banks, telecommunication companies);
- Oil Companies/ fillings stations;
- National Union of Road Transport Workers (NURTW), National Association of Road Transport Owners (NATO), Association of Tricycle Operators;
- Sand, Rock and Coal Miners;
- Oil Tanker Drivers and other heavy truck drivers associations;
- Political Office Holders