



Integrating Natural Resources and the Environment into Local Government Medium Term Development Plans A Manual



Integrating Natural Resources and the Environment into Local Government Medium Term Development Plans

A Manual

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PREFACE

This manual has been prepared under the auspices of the Green Livelihoods Alliance (GLA) Programme, a strategic partnership initiative implemented by three main Dutch partner organisations: Milieudefensie, Tropenbos International and IUCN – NL, with funding from the Dutch Ministry for Development Cooperation (DGIS). The global programme is aimed at strengthening the role of Civil Society Organisations (CSOs) in forest governance to promote the sustainable governance of forested landscapes in Ghana, the Democratic Republic of Congo, Nigeria, Uganda, Vietnam, Indonesia, the Philippines, Bolivia, Paraguay and Liberia.

The GLA Programme classifies natural resources as International Public Goods with local, national and global benefits that should be safeguarded for the wellbeing and preservation of mankind and modern civilisation.

In Ghana the GLA Programme is being jointly implemented by A' Rocha Ghana, Friends of the Earth Ghana and Tropenbos Ghana with the aim of improving the governance of the Atewa Forest Landscape in the Eastern Region and the Juaboso-Bia Forest Landscape in the Western Region in a bid to conserve the rich flora and fauna of these unique landscapes and safeguard the eco-system services they render to Ghanaians and the world at large. These two landscapes apart from being highly diverse also contain relatively intact high forests with portions designated as Globally Significant Biodiversity Areas (GSBA). However, they are threatened by forest degradation, deforestation and forest fragmentation driven mainly by illegal mining, logging and farming.

The Programme is spearheading the mainstreaming of natural resource governance within the Medium-Term Development Plans (MTDPs) of District and Municipal Assemblies, using the two landscapes as pilots. This is to ensure that natural resource governance issues are integrated within the normal activities of the assemblies and not treated as an afterthought or as an emergency following a catastrophe. This move is based on the conviction that, globally, well governed forest landscapes will benefit local people by enhancing their economic and social development.

This manual provides insights into the concepts of international public goods, ecosystem services, biodiversity conservation and climate resilience

as avenues for integrating environmental issues into local government development planning. It provides guidelines on how to integrate these into local government Medium Term Development Plans (MTDPs); it further proposes templates for this integration. It is hoped that this booklet will help bring forest governance to the doorsteps of Ghanaians by making it part and parcel of decision making at the local level so that the country's forested landscapes will be preserved and conserved to serve mankind today and for posterity.

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The Manual was commissioned by Tropenbos Ghana and developed through participatory processes facilitated by a team from the Kwame Nkrumah University of Science and Technology (KNUST): Dr. Paul Osei-Tutu, Dr. Samuel Boadi, Mr. Vincent Kusi-Kyei and Mr. Joseph Mumuni.

The authors would like to thank Tropenbos Ghana. We are particularly grateful to the Director, Mr. K. S. Nketiah for the useful inputs into the assignment to ensure its successful execution. We are also grateful to Prof. Kyereh Boateng of KNUST for reviewing earlier drafts of the manual and for other useful inputs. We are further grateful to all the institutions and individuals who availed themselves for the stakeholder engagements, particularly the National Development Planning Commission (NDPC), Mr. Paa Kwesi Simmons and Madam Deborah Adjei-Debrah of the Ejisu-Juaben Municipal Assembly, Madam Joyce Afukaar of the Ashanti Regional Town and Country Planning office, and Mr. Prince Anokye of the Department of Planning, KNUST. The sketches in the Manual and the final design of the manual for printing were done by Mr. Joseph Adu.

This manual has been prepared under the auspices of the Green Livelihood Alliance Programme, a strategic partnership initiative implemented by three main Dutch partner organisations: Milieu Defensie, Tropenbos International and IUCN – NL, with funding from the Dutch Ministry for Foreign Affairs (DGIS). In Ghana, the Programme is being implemented by Tropenbos Ghana, A' Rocha Ghana and Friends of the Earth Ghana, with the Dutch Embassy as a strategic partner.

ABOUT THE GREEN LIVELIHOODS ALLIANCE PROGRAMME

The Green Livelihoods Alliance (GLA) Programme in Ghana is being jointly implemented by A' Rocha Ghana, Friends of the Earth Ghana and Tropenbos Ghana with the aim of improving the governance of the Atewa Forest Landscape in the Eastern Region and the Juaboso-Bia Forest Landscapes in the Western Region in a bid to conserve the rich flora and fauna of these unique landscapes and also safeguard the eco-system services they render to Ghanaians and the world at large.

These two landscapes apart from being highly diverse also contain relatively intact high forests that are being threatened by illegal mining, logging and farming in spite of the fact that both contain areas designated as Globally Significant Biodiversity Areas (GSBD). Both landscapes are thus under threat from forest degradation, deforestation and forest fragmentation as a result of these illegal activities.

It is for this reason that the Programme is spearheading the mainstreaming of natural resource governance issues within the Medium Term Development Plans (MTDPs) of District and Municipal Assemblies within the two landscapes. This is to ensure that natural resource governance issues are integrated within the normal day to day administrative activities of the assemblies and not treated as an afterthought or as an emergency following a catastrophe.

Such an approach promises to be a more effective way of governing the country's natural resources than the past methods where natural resource issues were handled in isolation or in response to natural disasters.

For this reason, this manual categorises natural resources as International Public Goods with national and global benefits that should be safeguarded for the wellbeing and preservation of mankind and modern civilisation as we know it today.

The GLA programme is an international programme conceived by Tropenbos International, the International Union for the Conservation of Nature-Netherlands (IUCN NL) and Milieudefensie who in November 2015 signed a strategic partnership with the Dutch Ministry of Foreign Affairs

aimed at strengthening the role of Civil Society Organisations (CSOs) in forest governance.

This move is based on the conviction that, globally, well governed forest landscapes will benefit local people by enhancing their economic and social development and also reduce deforestation.

This global programme is also promoting the sustainable governance of forested landscapes in the Democratic Republic of Congo, Nigeria, Uganda, Vietnam, Indonesia, the Philippines, Bolivia, Paraguay and other low and low-middle income countries.

It is the hope of the Ghana component of this international programme that this booklet will help bring forest governance to the doorsteps of Ghanaians by making it part and parcel of decision making at the local level so that the country's forest landscapes will be preserved and conserved to serve mankind today and for posterity.

EXECUTIVE SUMMARY

The quality of the environment has direct impacts on the quality of our lives as humans. It is therefore imperative that governments make conscious efforts to protect the environment as part of strategies for pursuing development and dignified living conditions for the people. The concepts of International Public Goods (IPGs), Ecosystem Services, Biodiversity Conservation and Climate Resilience provide avenues for the integration of environmental issues into development planning. This manual provides insights into what these concepts are all about and why it is necessary to integrate the environment and natural resources into local government Medium Term Development Plans (MTDPs).

Section 1 provides highlights on what participatory planning is all about. It recommends active participation of stakeholders in development planning in order to achieve true democracy and development that is progressive, inclusive and sustainable.

Section 2 highlights the essence of integrating IPGs, ecosystem services, biodiversity conservation and climate resilience into local government MTDPs. Ghana is morally obliged to be part of global efforts to address the global environmental challenges which include climate change and loss of forests. Ghana is also a signatory to several international environmental conventions. These conventions place obligations on both the national and local governments to protect and ensure sustainable use of our forests, water bodies and environmental resources. Aside the global and national benefits that could be obtained from well-planned and managed natural ecosystems, it also serves local interests such as protection of water sources.

Section 3 provides an overview of local government MTDPs. A review of sampled MTDPs from selected district assemblies revealed that the MTDPs do capture some issues on natural resources and the environment. However, these are typically generic and fail to capture the linkages with national, international and global environmental agenda. This section recommends that the local natural resource and environmental targets in the MTDPs are made specific and linked to national, international and global environmental targets.

Section 4 provides insights into the concepts of IPGs and Ecosystem Services. IPGs, in this context, are benefits from nature that are enjoyed by everybody irrespective of nationality or location. Examples of IPGs are air, water, good climate, biodiversity, etc. It is therefore essential that governments make conscious efforts to sustain these vital services from nature.

Section 5 examines the concepts of climate change, climate resilience, impacts of climate change in Ghana and Ghana's strategies for adaptation and mitigation. Ghana's National Climate Change Policy include strategies to develop climate-resilient agriculture and food security systems; build climate-resilient infrastructure; increase the resilience of vulnerable communities to climate-related risks; increase carbon sinks; etc. It is important that local government MTDPs include strategies to help the local areas achieve these national climate change adaptation and mitigation targets.

Finally, section 6 proposes templates for the natural resource and environment sub-section of the MTDPs. It is important to create awareness among local planning bodies and local people on environmental issues and to use expert knowledge during the planning processes. Civil Society Organisations and local media such as local FM stations offer avenues for public education on natural resource and environmental issues.

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ACRONYMS

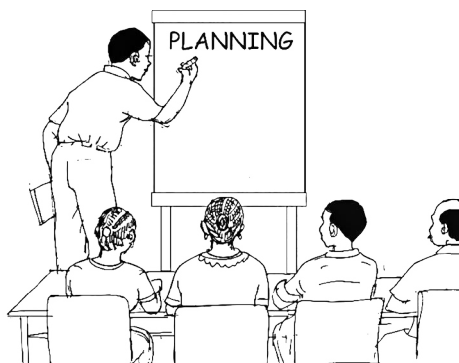
CBD	Convention on Biological Diversity
CSO	Civil Society Organisation
CO ₂	Carbon dioxide
GHG	Greenhouse Gas
DPCU	District Planning Coordinating Unit
GSGDA	Ghana Shared Growth and Development Agenda
IPGs	International Public Goods
KNUST	Kwame Nkrumah University of Science and Technology
MMDAs	Metropolitan, Municipal and District Assemblies
NMTDPF	National Medium Term Development Policy Framework
MOFA	Ministry of Food and Agriculture
MTDP	Medium Term Development Plan
NCCP	National Climate Change Policy
NDPC	National Development Planning Commission
NTFP	Non Timber Forest Product
PES	Payment for Ecosystem Service
REDD+	Reducing Emissions from Deforestation and Forest Degradation
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change

1. PARTICIPATORY PLANNING

Different segments of the Ghanaian society have different developmental aspirations and priorities. Development plans are indispensable if we want to achieve development that is inclusive, sustainable, progressive and beneficial.

1.1 Development Plan

A development plan is a document that specifies the development aspirations, priorities and strategies of a region, nation or a local area for a given period. Ghana has instituted a National Development Planning Commission (NDPC, <http://www.ndpc.gov.gh/>), to spearhead a national development planning agenda. The Commission is the coordinating body for



Ghana's 40 year development plan (2018 to 2057) which was launched in October 2016. Under Ghana's decentralised local government agenda, the 40 year national development plan is expected to guide the development of local government MTDPs developed by Metropolitan, Municipal and District Assemblies (MMDAs) so that the MTDPs shall feed into the national development plan.

1.2 Planning

Planning, in this context, refers to the processes involved in making a development plan. International best practice suggests that the planning process needs to be **participatory**. Literature indicates that participation in any process could be broadly categorized as active participation or passive participation.



Active participation in this context refers to citizen participation in development planning processes where all segments of society are effectively involved in the planning process. The stakeholder groups understand well the planning issues at hand, have the requisite capacity to engage other stakeholders in the planning process and do partake in the process right from the agenda setting stage.

Passive participation, on the other hand in this context, refers to participation in development planning where some segments of society or stakeholders are totally ignored in the planning process or only superficially involved. Superficial involvement here refers to situations where the stakeholder in question is only informed of decisions taken or developments in the planning process; where the stakeholder is only consulted for information that may be used or ignored in the planning process; or where the stakeholder is involved but lacks the requisite capacity to effectively engage other stakeholders on the engagement platform offered.

Participation of stakeholder groups in development planning could be active or passive. Active participation of stakeholders is recommended in order to achieve inclusive development and true democracy.

1.3 How to achieve effective stakeholder participation in development planning

Inclusive and active participation in development planning requires that **systematic identification of all stakeholders** is carried out first or at the beginning so that no segment of society is left out in the planning process. When all the stakeholders are identified, the next issue to consider is **how to involve** them in the planning process. For most stakeholders, it may be necessary to involve them through **representation**. The representatives, by definition, should represent the views and interests of their respective stakeholder groups. There should therefore be an avenue for the representatives to know the position and interests of their stakeholder groups to be carried to the engagement platform and also an avenue for the representatives to communicate back the outcomes of the engagement process to the stakeholder groups. It is generally recommended that stakeholder groups select their representatives themselves. This is easier when the stakeholder groups are organised and have leaders. In instances where stakeholder groups are not organised or do not have the capacity to engage, they would have to be organised and their capacity built to participate.

Effective participation of all stakeholders may make development planning lengthy and expensive. It is nevertheless necessary.

2. INTEGRATING NATURAL RESOURCES AND THE ENVIRONMENT INTO LOCAL GOVERNMENT MEDIUM TERM DEVELOPMENT PLANS: WHY IT IS NECESSARY

2.1 Globalisation

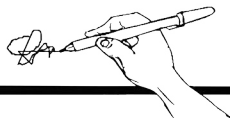


It is often said that we live in a global village. The human inhabitants of the earth no longer live as small independent groups of people. We are one big community with a common destiny, aspirations and problems. As members of one big community, we are all obliged, at least morally, to be part of the solutions to the common problems we face.

We are all part of one big global community. National and local governments have a responsibility to contribute to efforts to address global problems like Climate Change, forest loss and biodiversity loss.

2.2 Ghana is a signatory to multiple international environmental conventions

RAMSAR CONVENTION
UNFCCC
CBD



Ghana has officially committed herself to be part of global efforts to tackle global environmental problems through the signing of international environmental

conventions such as the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD).

The implication of Ghana being a signatory to the United Nations Conventions on Biological Diversity, Climate Change and Desertification for local governments is that, Metropolitan, Municipal and District Assemblies need to make conscious efforts to reduce forest loss and degradation in their respective local areas; identify and help protect high biodiversity areas in their respective local areas from destructive use; and help halt destructive use of tree vegetation, particularly in Ghana's savannah and transition zones.

2.3 It is in the interest of local people

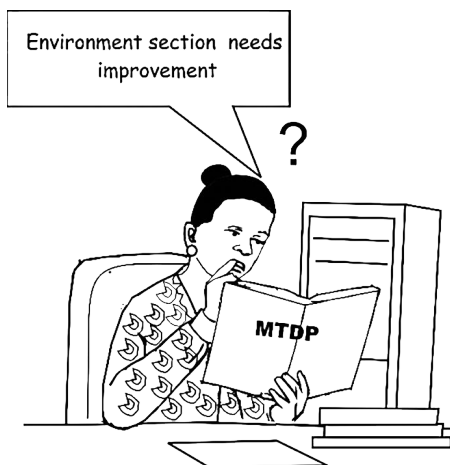
Integrating sustainable use of natural resources and the environment into local government MTDPs does serve national and global as well as local interests. For instance, it serves global climate interests when local communities protect their forests from destructive use. Local interests are also met such as protection of water sources and provision of conducive microclimate for growing certain types of crops such as cocoa. Forests also provide a myriad of livelihood benefits for local people, including food, medicinal products, shelter products, domestic-use items such as wood fuel and pestles, and income through collection, processing and trade of forest products. With the advent of Payment for Ecosystem Service Schemes (PES), it is even possible for local areas to receive payment for environmental services rendered to the global community.

Forests provide global, national and local benefits. Local governments have a responsibility to ensure that the forests in their jurisdictions are managed in such a way that they provide all these benefits.

3. LOCAL GOVERNMENT MEDIUM-TERM DEVELOPMENT PLANS

Medium Term Development Plans spell out the development aspirations and strategies of Metropolitan, Municipal and District Assemblies (MMDAs) in Ghana over a four-year period. As of 24 June 2017, about 120 MTDPs were downloadable from the website of the National Development Planning Commission (NDPC). The MTDPs generally follow a formatting guideline issued by the NDPC in May 2014 for the preparation of the fifth MTDPs, i.e. for the period 2014-2017, under the National Medium-Term Development Policy Framework (NMTDPF- 2014-2017). The MTDPs are typically over hundred pages long and cover a broad range of developmental issues, usually formatted in line with the seven thematic areas of the second Ghana Shared Growth and Development Agenda GSGDA II-2014-2017). These are;

1. Ensuring and Sustaining Macroeconomic stability
2. Enhancing Competitiveness in the Private Sector
3. Accelerated Agricultural Modernization and Sustained Natural Resource Management
4. Oil and Gas Development
5. Infrastructure, Energy and Human Settlements
6. Human Development, Productivity and Employment
7. Transparent and Accountable Governance

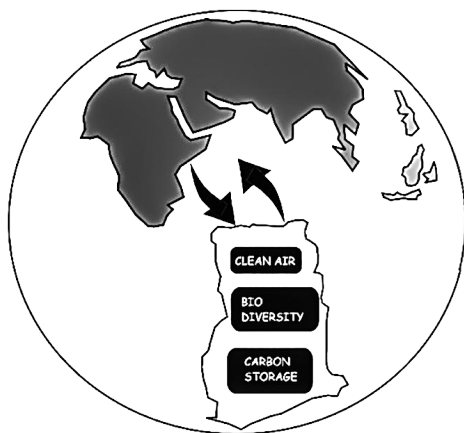


A review of the environmental and natural resource aspects of selected MTDPs revealed that:

- The environmental and natural resource interventions in the plans are mostly generic and not specific enough. An MTDP for instance had in it “Undertake afforestation programmes to mitigate the reduction of forest cover”, without specifying in which forest reserve or land area the afforestation/reforestation is intended to be done and by which stakeholder. It is necessary that the interventions are made specific enough in order that they could be implemented within the four year period of the plans and evaluated at the end of the period.
- The environmental and natural resource interventions typically do not indicate linkages with national and global environmental and natural resource agenda such as the National Climate Change Policy and Adaptation Strategy, United Nations Sustainable Development Goals, etc. Some of the MMDAs have forests and other environmental resources that have national and global significance. It is important that these MMDAs highlight such national and global significant resources in their localities to help obtain national and global support for the implementation of strategies for the conservation of these resources.

4. INTERNATIONAL PUBLIC GOODS AND ECOSYSTEM SERVICES

4.1 International Public Goods

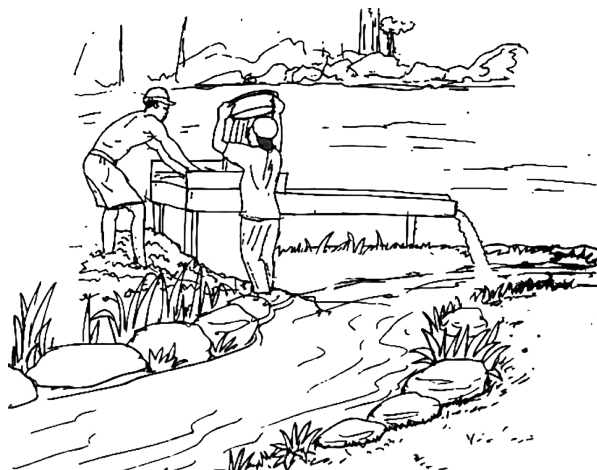


International Public Goods are generally international issues or goods that affect everyone, or goods that should be available to all. IPGs are basic goods and services offered by nature for the public. Among these IPGs are trade, water, climate, food security, raw materials and energy. Examples are clean air and safe drinking water. International Public Goods (IPGs) provide globally-essential benefits. It is essential to ensure the continued

availability of these goods for the sustenance of mankind. In Ghana, everyone breathes in air and desires potable and safe drinking water; and thus is affected by air and water pollution. This concept maintains and grounds a symbiotic relationship in an ecosystem where countries can only address the IPGs by working together. This means rich and emerging economies alike will share the responsibility for them. Ghana is endowed with productive lands and forests. These are vital assets for local and national development. Beyond these, forests and lands provide global benefits such as clean air, carbon sequestration, biodiversity, etc.

Currently the issues of illegal mining activities, locally called “*Galamsey*”, and other environmentally-degrading practices in Ghana have implications on IPGs. With the increasing *Galamsey* menace, supply of gold has compromised the sustainability and protection of Ghana’s natural environment and other ecosystem functions. Many forests and arable lands have been destroyed affecting water supply and agricultural production. Similarly, habitats for organisms and many ecosystem services provided by the natural environment are being destroyed. These threaten

their long term availability, for example, water for people, animals and industrial processes.



Ghana as a member state of the UN has endorsed many international environmental conventions e.g. Convention on Biological Diversity (CBD), 1992, UN Framework Convention on Climate Change (UNFCCC) 1992, and Stockholm Convention on Toxic Chemicals, 2001. There is the need to provide guidelines on how to manage environmental resources so that they can provide not only local and national benefits but also global benefits. This could be achieved through active collaboration with Metropolitan, Municipal and District Assemblies (MMDAs). This manual seeks to equip MMDAs to commit to the direct implementation of these International Conventions through Capacity Building, Training and Networking as a means of shared reasonability to safeguard IPGs.

4.2 Ecosystems and Biodiversity Conservation

An ecosystem is a community of plants and animals interacting with each other in a given area, and also with their non-living environment. The non-living environment includes weather, earth, sun, soil, climate and the atmosphere.

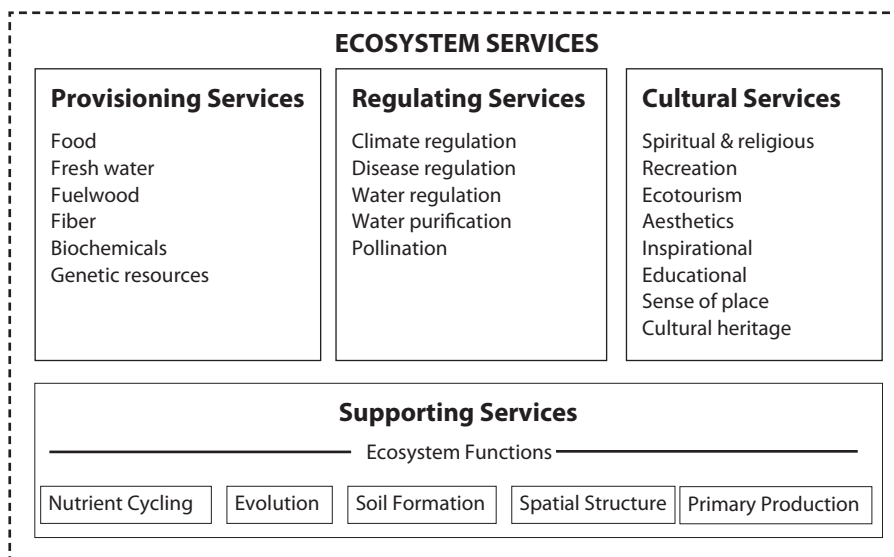


Figure 1: Types of ecosystem and supporting services
(Adapted from the Millennium Ecosystem Assessment, 2005).

*“The Earth as an ecosystem stands out in the entire universe. There’s no place that we know that can support life as we know of, not even our sister planet-Mars, where, we might set up housekeeping someday, but at greater effort and trouble we have to create the things we take for granted here”- **Sylvia Earle.***

Ghana is endowed with immense terrestrial and aquatic biodiversity at the genetic, species and ecosystem levels. The terrestrial ecosystems of Ghana include forest, savannah woodland and coastal savannah shrubs. However, her rapidly growing population which has brought in its wake mounting pressure on natural and environmental resources for competing land uses such as agriculture, mining, settlement expansion and infrastructural development have resulted in a significant decline in the forest estates of Ghana.



Ghana's environmental/natural resource laws focus mainly on the extractives to the detriment of many other essential services. Yet, people seek many services from natural resources. The desired services can be of economic value or for cultural reasons mainly influenced by ethics (values). Ecosystem services are both direct and indirect benefits derived from an ecosystem. These include provision of services such as food and water; regulating services such as floods and disease control; cultural services such as spiritual, recreational and cultural benefits; and supporting services such as nutrient cycling, that maintain the conditions of life in Earth, as illustrated in Figure 1. Providing a deeper understanding on the protection and management of environmental resources is very crucial to national development.

5. CLIMATE CHANGE AND CLIMATE RESILIENCE

“Climate change” means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (UNFCC, 1992).

5.1 Some Evidence of Climate Change in Ghana

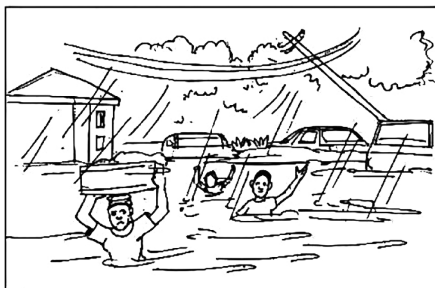
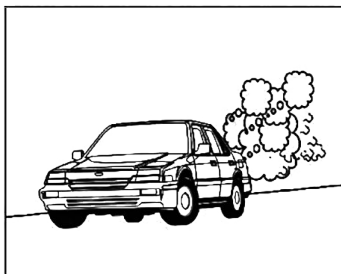
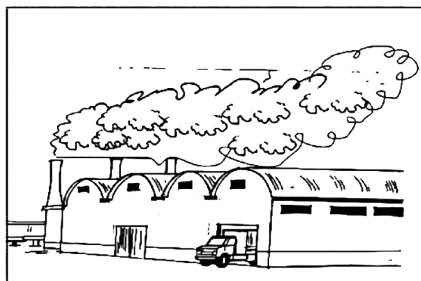
- National data (1960–2000) shows a 1°C rise in temperature and decrease in mean annual rainfall in all agro-ecological zones in Ghana.
- Data (1960–2000), also reveals reduced rainfall levels generally and increasingly erratic rainfall patterns in all ecological zones in Ghana.
- There is a sea level rise of 2.1 mm per year over the last 40 years in Ghana, with a potential increase of 5.8cm by 2020¹. This will affect many communities within the 30m contour of the national coastal zone, where more than 25% of the population lives.
- A greenhouse gas (GHG) inventory in 2006, revealed that Ghana was a carbon sink until the mid-1990s, with carbon being absorbed by the country’s forests and rangelands. Data/figures as at the year 2006 indicated that GHG emissions had increased to about 24 mega-tonnes CO₂ eq. – the equivalent of about 1.1 tonnes (t) CO₂ eq. per person¹.

5.2 Drivers of Climate Change

Generally, greenhouse gas emissions from human activities such as burning coal, oil and gas; cutting down forests and increasing livestock farming are driving climate change. Climate change may be due to natural processes such as volcanic eruptions and persistent anthropogenic changes in the composition of the land use (IPCC, 2011)².

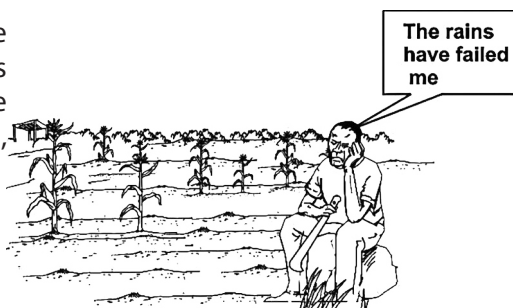
1 Source : <http://library.fes.de/pdf-files/bueros/ghana/10510.pdf>

2 Source: <http://www.un.org/sustainabledevelopment/climate-change-2/>



5.3 Climate Change Impacts in Ghana

Ghana is **vulnerable** to climate change due to reliance on sectors that are sensitive to climate change, such as agriculture, forestry and energy production.



Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change (IPCC, 2008). Vulnerability encompasses factors that affect the degree to which a household's livelihood, property, and other assets are put at risk by identifiable events that occur in nature or society.

5.4 Ghana's vision and Guiding Principles to address climate Change

The vision of the National Climate Change Policy (NCCP) is to “**Ensure a climate-resilient and climate-compatible economy while achieving sustainable development through equitable low-carbon economic growth for Ghana**”. The three objectives of the NCCP are: Effective adaptation, social development and mitigation.

Climate Change adaptation is defined as ‘adjustments in natural or human systems (individuals, communities, economic sectors or nations) in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities’ (IPCC, 2008).

Mitigation is an adaptive act aimed at ameliorating or reversing the root causes of the anthropocentric activities behind Climate Change.

Ghana has initiated various mechanisms on enhanced mitigation actions, including low carbon growth and REDD+. REDD+ encompasses the sustainable use of firewood and charcoal, afforestation and reforestation programmes coupled with increasing yields through climate-smart agriculture to reduce land use change while providing opportunities for new revenues from the carbon stock in bushes and trees in cocoa-growing areas exist.

Resilience means putting institutions, communities or households in a position where climate change is no longer a threat. It reflects the degree of elasticity in a system, its ability to rebound or bounce back after experiencing some stress or shock. The more resilient, the less vulnerable.



5.5 Themes and Strategic Focus Areas for the National Climate Change Policy: Implication for District Assemblies

A. AGRICULTURE AND FOOD SECURITY

Focus Area: Develop Climate-resilient Agriculture and Food Security Systems

- The assemblies should put in place measures to ensure that food production base is protected against climate change at the household and community level through research, capacity building, extension services and mass education.

B. DISASTER PREPAREDNESS AND RESPONSE

Focus Area: Build Climate-resilient Infrastructure

- The assemblies are to help protect hydrological systems (streams, rivers, wetlands) and to mobilize funds to provide basic drainage infrastructure to minimize impacts of floods.

Focus Area: Increase Resilience of Vulnerable Communities to Climate-related Risks

- The assemblies are to design community specific early warning systems, efficient information dissemination mechanisms and evacuation plans to reduce vulnerability.

C. NATURAL RESOURCE MANAGEMENT

Focus Area: Increase Carbon Sinks

- The assemblies are to design and implement strategic programmes for protecting natural resources, create enabling conditions to support national and international climate mitigation programmes through increased community participation.

Focus Area: Improve Management and Resilience of Terrestrial, Aquatic and Marine Ecosystems

- The assemblies are to put in place measures to protect water bodies and or restore degraded ones, conserve wet lands and promote economic activities (e.g. aquaculture) that could be obtained from such resources in a sustainable way.

D. EQUITABLE SOCIAL DEVELOPMENT

Focus Area: Address Impacts of Climate Change on Human Health

- The assemblies are to help build the capacity of community health workers and set up emergency health response teams to handle health issues linked to Climate Change. They are also to draw up effective solid waste management plans, education programmes and promote sanitation.

Focus Area: Minimise Impacts of Climate Change on Access to Water and Sanitation

- Plan for the provision and maintenance of low cost sustainable community water supply systems for domestic, agricultural and industrial purposes.

Focus Area: Addressing Gender Issues in Climate Change

- Ensure equitable/fair representation of vulnerable groups or relevant stakeholders in planning and decision making on Climate Change related policies.

6. INTEGRATING NATURAL RESOURCES AND THE ENVIRONMENT INTO LOCAL GOVERNMENT MEDIUM TERM DEVELOPMENT PLANS: HOW IT CAN BE DONE

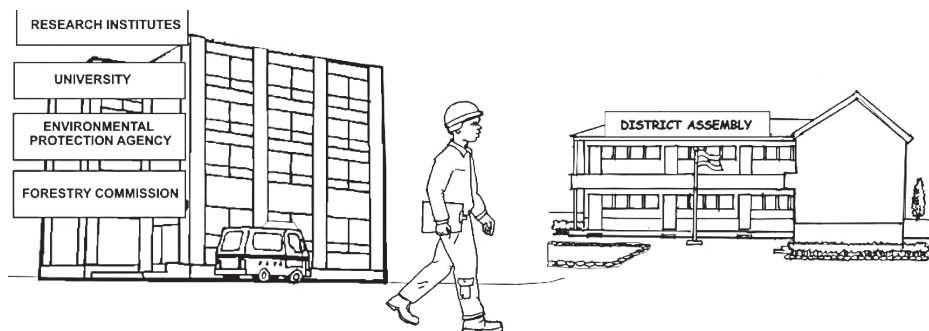
6.1 Awareness creation



To be able to integrate the protection of IPGs, ecosystem services, biodiversity and climate resilience into MTDPs, local governments must be aware of what these concepts mean, their relevance and how this integration can be done. This manual is useful in this regard. Awareness creation and capacity building workshops for local governments are also necessary to get

them to appreciate these concepts and the need to integrate them in local government MTDPs.

6.2 Use of expert knowledge



The integration of IPGs, ecosystem services, biodiversity and climate resilience into MTDPs requires the use of expert knowledge and services during the planning process. Local offices of the Forestry Commission (FC) and the Environmental Protection Agency (EPA) are very useful in this regard. It is therefore recommended that these agencies are co-opted

into the District Planning Coordinating Unit (DPCU) during the planning process to facilitate the integration of these issues into the MTDPs.

6.3 Public participation



In order to get wider public support for the management of natural resources in the local areas in a manner that safeguards the local, national and international/global benefits that these resources provide, it is important that the public is educated on the environment and natural resources, while the people are involved in local development planning. Civil Society Organisations have unique roles to play in this regard. Media organisations too have roles to play, particularly, the local FM Stations and information centres. In modern times, social media platforms like *Facebook* and *WhatsApp* also provide avenues for public awareness creation and participation in development processes of this nature.

7 TEMPLATES FOR NATURAL RESOURCE AND ENVIRONMENT SUB-SECTION OF MTDPs

7.1 Proposed templates for natural resource and environment sub-section of MTDPs

A. Priority development project for the plan period (e.g. the one district one factory priority) and anticipated impacts on natural resources and the environment

Development project priority	Natural Resource(s) that may be impacted	Description of anticipated impact(s)	Mitigation measures

B. Description of natural resource and environment situation and threats

FORESTS [List major forests and vegetation resources in local area]	Local benefits	National benefits	Global benefits	Description of resource situation and threats
WATER BODIES [List major water bodies and wetlands in local area]	Local benefits	National benefits	Global benefits	Description of resource situation and threats

PUBLIC/ GREEN SPACES AND FACILITIES [List public spaces in local area]	Local benefits	National benefits	Global benefits	Description of resource situation and threats
CLIMATE [Describe local (district) situation of perceived or actual climate change and its impacts/threats]	Description of climate change situation and its impacts/threats 			
WASTE MANAGEMENT [Describe local (district) situation of solid and liquid wastes and their management]	Description of situation of solid and liquid wastes and their management 			

C. Local Government strategies for natural resources and the environment

FORESTS [List major forests and vegetation resources in local area]		Local Government strategies	key Stakeholders and Actors	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)
WATER BODIES [List major water bodies and wetlands in local area]		Local Government strategies	key Stakeholders and Actors	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)
PUBLIC/GREEN SPACES AND FACILITIES [List public spaces in local area or public spaces to create if district does not have presently]		Local Government strategies	key Stakeholders and Actors	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)

CLIMATE [Describe local (district) strategies for climate change mitigation and adaptation]. <i>Refer to the National Climate Change Policy (Chapter 6).</i>	Local Government strategies	key Stakeholders and Actors	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)
WASTE MANAGEMENT [Describe local (district) strategies for waste management]	Local Government strategies	key Stakeholders and Actors	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)

7.2 HYPOTHETICAL CASE OF COMPLETED TEMPLATES FOR NATURAL RESOURCE AND ENVIRONMENT SUB-SECTION OF MTDPS

A. Description of natural resource and environment situation and threats

FORESTS [List major forests and vegetation resources in local area]	Local benefits	National benefits	Global benefits	Description of resource situation and threats
1. Tumtum forest reserve	Timber revenues, NTFPs like medicinal products, pestles, fruits, bushmeat, microclimate for agriculture, protection of local streams, etc.	Timber revenue, protection urban water supply sources, research and education, proof of commitment to UNCBD	Biodiversity, carbon Sequestration, water security, research and education	The forest reserve was established in 1970. It is 20,000 hectares large, with 60 timber production compartments and 5 protection compartments. It is managed by the Forest Services Division of the Forestry Commission, primarily for timber but also for environmental protection. The major threats are illegal logging and mining, with poverty and unemployment as underlying causes.
2. Fufuo national park	Revenues, recreation, micro climate for agriculture, national and international recognition of area because of park	Wildlife protection, tourism, revenues, proof of commitment to UNCBD and UNFCCC, research and education	Wildlife protection, biodiversity, carbon sequestration, research and education	The national park was established in 1980. It is 30,000 hectares large and famous for its elephants and antelopes which attract a lot of tourists. It is managed by the Wildlife Division of the Forestry Commission, primarily for biodiversity conservation and tourism. The major threats include animal poaching and illegal logging, with poverty and unemployment as underlying causes.

3. Nananom sacred grove/community forest	Abode of ancestors, place for rituals, spiritual relevance, national and international recognition of area because of community forest, microclimate for agriculture	Cultural heritage, biodiversity , research and education	Cultural heritage, biodiversity, research and education	The sacred community forest was once a dwelling place that converted into a forest when the ancestors moved. It is regarded sacred and has sacred monkeys. The major threats are illegal logging, hunting and farming encroachments, with breakdown of respect for local taboos as underlying cause.
4. Trees on farms and fallow lands	Timber for domestic housing and furniture, shade for crops, environmental protection.	Timber, environmental services like carbon sequestration	Environmental services like carbon sequestration.	These are scattered trees on private farms and fallow lands. Though vested in the state to be managed by the Forestry Commission, local people exercise informal access control and use rights. The threats are illegal and unsustainable 'chainsaw' operations and destruction for farming purposes.
WATER BODIES [List major water bodies and wetlands in local area)	Local benefits	National benefits	Global benefits	Description of resource situation and threats

1. Tutu River	Fish, domestic water, river foods, transport, recreation and tourism, irrigation water, reception and flow of rain water to prevent flooding	Transport, recreation, revenues, urban water supply, research	Biodiversity, food and water security, research	River is shared by this District and two others, namely Soso District and Lolo District. It is used for boat transport and fishing. The water is also drawn for irrigation. The major threats are artisanal mining (galamsey), vegetation clearing and farming at the banks, siltation, pollution through waste disposal and boat accidents.
2. Boadi Lake	Fish, domestic water, water foods, transport, recreation and tourism, irrigation water, reception and flow of rain water to avoid flooding, revenues	Transport, recreation and tourism, revenues, urban water supply, research and education	Biodiversity, food and water security, research	The lake is located at Preko Town, with 10 satellite communities. It is a major source of fish in the district. It is also used for boat transport and irrigation. The major threats include vegetation clearing and farming at the banks, siltation, pollution through waste disposal and boat accidents.
3. Kusi stream	Fish, domestic water, water foods, recreation and tourism, irrigation water, reception and flow of rain water to avoid flooding, sacred and spiritual relevance	Peri-urban water supplies, recreation and tourism, tributary to bigger river	Biodiversity, food and water security	The stream runs through three communities in the District, namely Baako, Mienu and Miensa. It was the main source of water for the communities until recent provision of mechanized wells and boreholes in the communities. The present uses are for fishing and irrigation. The major threats are artisanal mining (galamsey), vegetation clearing and farming at the banks and siltation.
4. Mumuni marshland	Reservoir for rain water to prevent flooding, cultivation of crops like sugar cane and rice, source of water during the dry season.	Demonstration of commitment to Ramsar Convention, reduced flooding, food security, tourism, research and education.	Biodiversity, habitat for migratory species, carbon sequestration, research and education.	The marshland is about 5,000 hectares large. It fills up with water during the rainy season and dries up during the dry season. It receives seasonal migratory birds. The threats are filling up for construction and vegetation removal for farming.

PUBLIC/GREEN SPACES AND FACILITIES [List public spaces in local area]	Local benefits	National benefits	Global benefits	Description of resource situation and threats
1. Recreational Park	Recreation, jobs and income, aesthetic benefits, good reputation for district	Aesthetic benefits, research and education, tourism	Biodiversity, carbon sequestration,	Park developed in 2005 at Tudu, the District Capital. It has children play ground and facilities, and space for outdoor activities. The threats are lack of proper management and regular maintenance of facilities.
CLIMATE [Describe local (district) situation of perceived or actual climate change and its impacts/threats]	The area has experienced erratic rainfall patterns over the years. The timing of the rains has become difficult to predict. The impacts on food production are very visible in some years and less visible other years. There is low awareness among local people of climate change and what is causing it though people have noticed the changes in the rainfall pattern.			
WASTE MANAGEMENT [Describe local (district) situation of solid and liquid wastes and their management]	Waste management is a major challenge in the District. The major towns face challenges with solid waste management. Plastic wastes are thrown everywhere, even in drain gutters. The smaller towns and villages have problem of open defecation.			

B. Local Government strategies for natural resources and the environment

FORESTS [List major forests and vegetation resources in local area]	Local Government strategies	Key Actors and Stakeholders	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)
1. Tumtum forest reserve	1. Fight illegal artisanal mining (galamsey) and illegal logging through collaborative efforts of District Assembly with District Forest Office, Environmental Protection Agency, Assembly Persons, Traditional Authorities, Unit Committees, Community members and law enforcement agencies	District Assembly, Forestry Commission, , Environmental Protection Agency, Assembly Persons, Traditional Authorities, Unit Committees, Community members and law enforcement agencies		
	2. Train and assist community members to establish forest based livelihood activities like bee keeping, mushroom cultivation, etc.			
2. Fufuo national park	1. Fight animal poaching and illegal timber harvests through collaborative efforts of District Assembly with Local Wildlife Office, Assembly Persons, Traditional Authorities, Unit Committees, Community members and law enforcement agencies	District Assembly, Forestry Commission, , Environmental Protection Agency, Assembly Persons, Traditional Authorities, Unit Committees, Community members and law enforcement agencies		

	2. Train and assist community members to establish forest based livelihood activities like bee keeping, mushroom cultivation, etc.			
3. Nananom sacred grove/ community forest	1. Assist community to make and enforce by-laws for protecting community forest. 2. Assist community to develop forest for ecotourism. 3. Train and assist community members to establish forest based livelihood activities like bee keeping, mushroom cultivation, etc.	District Assembly, CSOs, community leaders		
4. Trees on farms and fallow lands	1. Encourage agroforestry and protection of naturally-grown trees on farmlands through collaborative efforts with local Forestry Commission office and MOFA office. 2. Encourage private tree plantations through collaborative efforts with Local Forestry Commission office, including extension services.	District Assembly, Forestry Commission, MOFA, CSOs		

WATER BODIES [List major water bodies and wetlands in local area)	Local Government strategies	Key Actors and Stakeholders	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)
1. Tutu River	<ol style="list-style-type: none"> 1. Fight mining (galamsey) pollution through collaborative efforts of District Assembly with local Water Resources Commission office, Assembly Persons, Traditional Authorities, Unit Committees, Community members and law enforcement agencies. 2. Prevent destruction of vegetation along river banks 3. Plant trees at degraded portions of river 4. Regulate fishing and transport activities (to prevent accidents) 5. Prevent disposal of solid and untreated wastes into water through making and enforcing by-laws 6. Promote aquaculture to create jobs and income 	District Assembly, Law Enforcement Agencies (Military Taskforce and Police), community leaders		

2. Boadi Lake	<ol style="list-style-type: none"> 1. Assist communities to make and enforce by-laws for protecting the lake 2. Regulate water abstraction in collaboration with traditional authorities, Assembly Persons, Unit Committees 3. Plant trees at degraded portions of lake banks 4. Regulate fishing and transport activities in collaboration with traditional authorities, Assembly Persons, Unit Committees 5. Prevent disposal of solid and untreated wastes into water through making and enforcing by-laws. 	District Assembly, community leaders, Forestry Commission		
3. Kusi stream	<ol style="list-style-type: none"> 1. Assist community to make and enforce by-laws for protecting the stream 2. Regulate water abstraction in collaboration with traditional authorities, Assembly Persons, Unit Committees 3. Prevent illegal mining activities (galamsey) 4. Plant trees at degraded portions of stream banks 	District Assembly, community leaders, Forestry Commission		

	<p>5. Regulate fishing activities in collaboration with traditional authorities, Assembly Persons, Unit Committees</p> <p>6. Prevent disposal of solid and untreated wastes into water through making and enforcing by-laws</p> <p>7. Promote aquaculture to create jobs and income.</p>			
4. Mumuni marshland	<p>1. Make and enforce by-laws to prevent filling of marshlands for infrastructural development</p> <p>2. Protect vegetation at the marshland</p> <p>3. Protect birds and other animals at the marshland through by-laws</p> <p>4. Plant trees at degraded portions of marshland.</p>	District Assembly, community leaders, Forestry Commission, Environmental Protection Agency		
PUBLIC/GREEN SPACES AND FACILITIES	Local Government strategies	Key Actors and Stakeholders	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)
1. Recreational Park	<p>1. Institute a District Management Committee to oversee management of the recreational park. Also institute yearly accounting by the Management Committee and Park Manager to District Assembly.</p>	District Assembly, private sector actors		

	2. Replicate recreational park in other major towns in the District, especially those with natural settings that could be developed into recreational parks.			
CLIMATE [Describe local (district) strategies for climate change mitigation and adaptation]	Local Government strategies	Key Actors and Stakeholders	Timeline (Indicate year by which time activity is expected to be done, e.g. Year 1)	Budget Estimate (Ghana Cedis)
	<ol style="list-style-type: none"> Public education on climate change and climate change impacts through collaborative efforts of District Assembly with local Forestry Commission office, Environmental Protection Agency office, Information Services Department and Local FM Stations. Improve local resilience and adaptation to climate change through identification and promotion of crops well adapted to climate variability. Construct and clean the gutters in the towns to help avoid floods during heavy rains. 	District Assembly, MOFA, Forestry Commission, Environmental Protection Agency, CSOs		

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