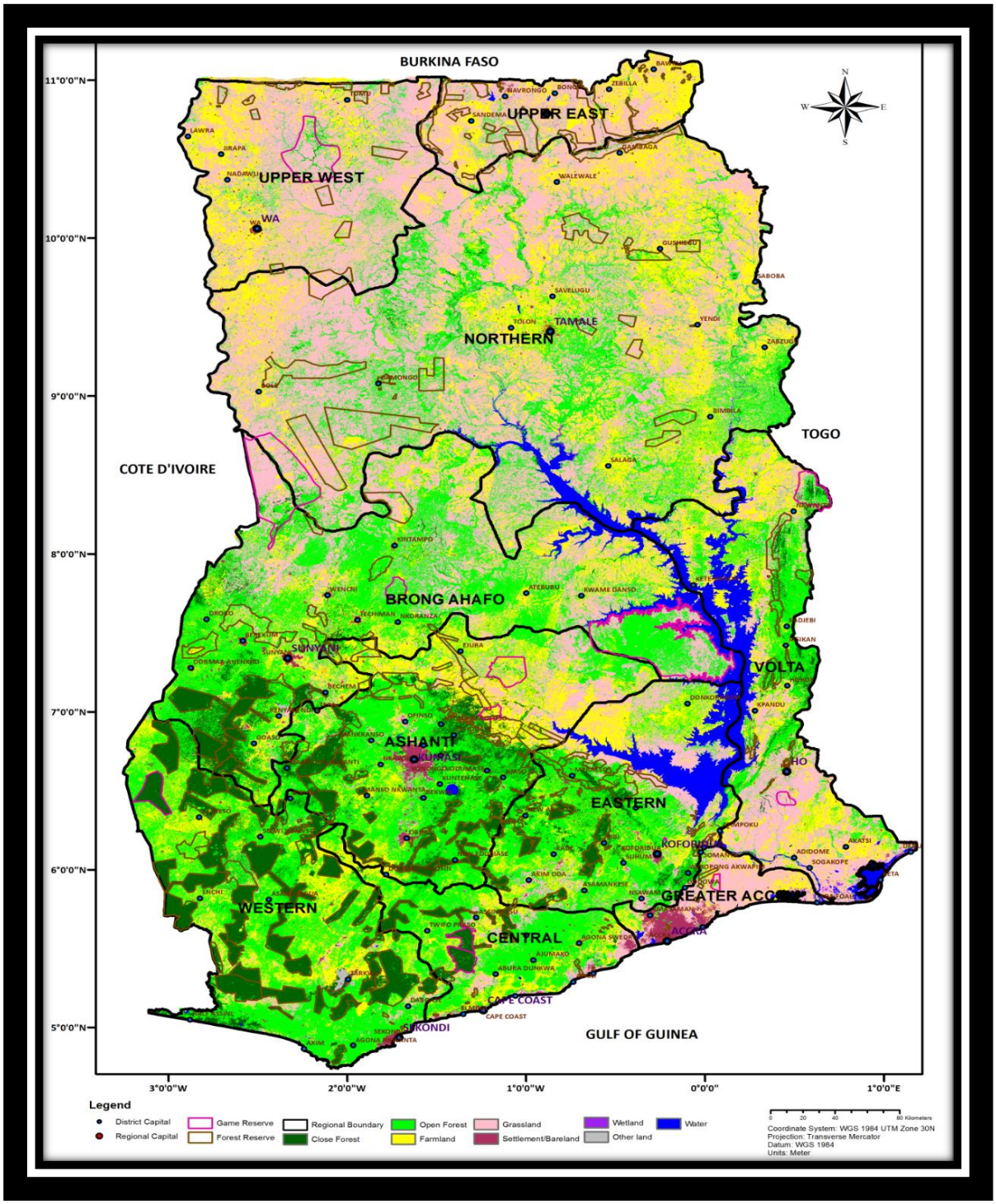
GEF-SGP OP7 COUNTRY PROGRAMME STRATEGY – GHANA.

GEF/SGP COUNTRY PROGRAMME STRATEGY FOR OP7

MAP OF GHANA



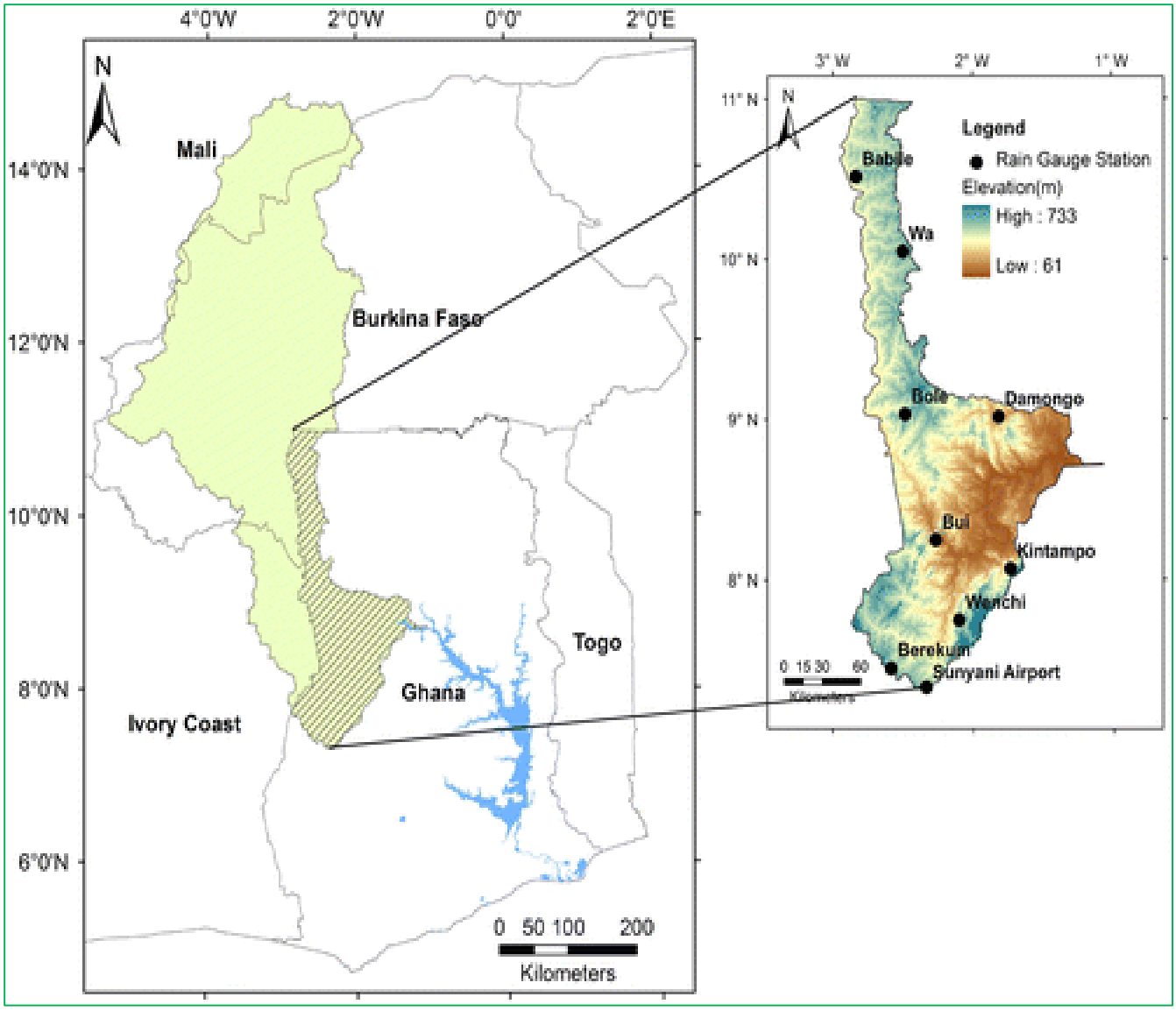


Figure 1: The Black Volta Basin Landscape in Ghana

Figure 2: OP7 Priority Black Volta Sub-Basins in Ghana

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The Small Grants Programme (SGP), is a corporate programme of the Global Environment Facility (GEF) that finances community-led initiatives to address global environmental and sustainable development issues. Launched in 1992, it is implemented by the United Nations Development Programme (UNDP) on behalf of the GEF Partnership. It is specifically designed to generate local action by empowering civil society organizations (CSOs) and poor and vulnerable communities, including indigenous peoples and women. It aligns its operational phase strategies with those of the GEF and cofinancing partners, and provides a global portfolio of *innovative*, *inclusive, and impactful* projects that address global environmental and sustainable development issues. The GEF Small Grants Programme in Ghana has successfully gone through six operational phases supporting community level initiatives that simultaneous promote environmental management, sustainable economic growth and social development within the GEF focal areas. The programme integrates poverty reduction as a critical entry point in environmental management and human development.

The sixth operational programme of the GEF Small Grants Programme in Ghana targeted the socio-ecological production landscape of the Black Volta Basin. The programme contributed to the transformational changes in biodiversity conservation, climate change mitigation and adaptation, sustainable land management and chemical and waste management within the landscape. It focused on **equity** (through poverty alleviation and sustainable environmental management); **efficiency** (through environmental conservation and sound economic and resource based management); and **empowerment** (through good governance and increased participation of the civil society in the development process). Women's needs were given considerable attention and support in all the initiatives. The grants also helped persons with disabilities to enhance their role and capacities within the development process.

Through the alternative livelihood component, the programme under OP6 invested US$3.35 million directly to support 5,000 rural farmers (45% women) to engage in climate smart agriculture (cashew and groundnuts cultivation), agroforestry, woodlot establishment, kiln-charcoal production, apiculture, trading in biodiversity products, establishment of fruit orchards, rearing of small ruminants, processing of agricultural products like shea butter and *moringa olifera*; plastic and waste management and sustainable community mining. These activities have generated off-farm jobs in less endowed and environmental fragile areas within the landscape.

The implementation of the field activities have contributed directly to global environmental benefits, and the UN Sustainable Development Goals, particularly poverty reduction (goal 1); zero hunger (goal 2); gender equality (goal 5), clean water and sanitation (goal 6), affordable and clean energy (goal 7), reduced inequality and social inclusion (goal 10), sustainable communities (goal 11); climate action (goal 13), life on land (goal 15), and partnership (goal 17).

Building on its experience and best practices, the Seventh Operational Programme (OP7) has aligned its operational strategies to "*promote and support innovative, inclusive and scalable initiatives, to foster multi stakeholder partnerships at the local level to tackle global environmental issues in the Black Volta socio-ecological production landscapes.*" The programme will focus on GEF-7 objectives, UNDP's Country Development Programme and the UN Sustainable Development Goals, Ghana's Climate Change Policy and Action Plan, the Forest and Wildlife Policy and Ghana Forestry Development Master Plan, National Climate-smart Agriculture and Food Security Action Plan and the National Strategic Energy Plan (2006-2020). This has been done with the view to translating the strategies in these documents into community

and local level actions. Under OP7 therefore, the SGP Ghana will contribute to relevant transformational changes targeted by each of GEF's focal area strategies and Ghana's commitment to international agreements.

Over the years, the best practices of the GEF SGP have been incorporated into national level policies and programmes. For example, the SGP piloted models have served as inputs into the formulation of national biodiversity, strategic energy, wildfire management and the sustainable management of sacred landscapes. The programme delivery mechanism was adopted to implement the UNDP Climate Change Adaptation programme.

2.0 SUMMARY: KEY RESULTS/ACCOMPLISHMENTS

The GEF Small Grants since its inception, has supported 359 projects and developed the capacities of 310 Civil Society Organizations (CSOs) in four different socio-ecological production landscapes with a total grant of US$16.2 million (40% GEF). The programme's key thematic areas are biodiversity conservation, chemical and waste management, sustainable land management, climate change and international waters. Significant results achieved over the years include:

Biodiversity conservation. The programme has implemented 138 community-based biodiversity projects serving as a priority conservation area for 8 important species of flora and fauna including the white-breasted guinea fowl, the colobus monkey, chimpanzee, hippopotamus, African crocodiles and the honey badger. 100 community-managed sacred landscapes (measuring 2,520 ha) have been surveyed, mapped, inventoried, and digitized on the national map. 2,300 ha of riverine forest have placed under CREMA (Community Resource Management Area). Two biological corridors linking off-reserved landscapes to forest reserves have been established in the savannah ecosystem. About 1,500 farm families are involved in the conservation of threatened native species.

Local to global chemical coalitions. Integrated pest management and alternatives to the use of the POPs pesticides for controlling pest have been introduced to over 3,000 household farmers. Two community waste compost enterprises employing 15 persons each have been established to annually process 10 tons of waste into organic manure and Neem into pesticides thus avoiding 2 tons of chemicals. Alternative technologies to the extraction of gold without mercury has been introduced successfully to 5,000 small scale miners and the concept of community mining is being practiced.

Sustainable land management. Within the northern savannah ecosystem 1,250 ha of degraded agricultural lands are under sustainable land management involving 2,200 farmers. These farmers are practicing innovative climate-smart ecological farming through the adoption of organic agriculture with a minimal dependency on agrochemical inputs. This has led to enhanced nutrient and biomass recycling, biological pest control and stabilized yields, while improving the overall resilience, and ecological efficiency of the savannah ecosystem.

Transfer of low carbon technologies at the community level. The programme has supported the upscaling of innovative low carbon technologies including the use of improved kiln charcoal production technology and energy saving wood stoves for domestic, institutional, and commercial use in the coastal and northern savanna areas. Over 5,500 improved and efficient cooking and fish smoking stoves have been manufactured and distributed to institutions, commercial operators, cottage industries and fish smokers. The programme is piloting eco-charcoal certification in selected wood fuel producing areas within the

Black Volta Basin landscape. The programme has introduced a flagship bamboo bicycle project which is now medium scale enterprise in the export sector.

International recognition. Three projects received two international recognitions and one was adjudged 2nd Runner up. The bamboo bicycle project received 2013 award by International Road Federation in ARoad award on promoting innovative transportation system, it also received UN Habitat/Dubai International Best Practice Award and Dubai City Council/UN Habitat award for innovation and judicious use of natural resources in 2013. The Ghanaian bamboo bicycle was celebrated at COP19 in Warsaw in 2013. The biodiesel project won 2012 Seed Award whilst the Women in Dry land management project won the Equator 2014 Award.

Lessons Learnt. The implementation of the programme has revealed that networking and strengthening community and civil society groups operating within a landscape generates constructive dialogue with government at national and district level environmental planning and policy development. Implementing proven working models generates further scaling up, replication and mainstreaming of new innovative technologies. This is increasing resource flow to communities and local CSOs through effective use of local assets and innovative environmental financing mechanisms.

3.0 COUNTRY PRIORITIES AND STRATEGIC ALIGNMENT

3.1 Alignment with National Priorities

In keeping with its international obligations and international diplomacy, Ghana has made commitment under the various multilateral environmental agreements (MEAs) for which the GEF serves as financial mechanism and ratified several Rio-conventions which jointly seek to bridge the gap between economic development and environmental conservation (Table 1).

Table 1:List of relevant conventions and national/regional plans or programmes

Conventions + national planning frameworks	Date of ratification / completion
GEF-7 National Dialogues	
Convention on Biological Diversity (CBD)	August 29, 1994
CBD National Biodiversity Strategy and Action Plan (NBSAP)	August 29, 1994
Nagoya Protocol on Access and Benefit-Sharing (ABS)	May 20, 2011
UN Framework Convention on Climate Change (UNFCCC)	June 9, 1995
UNFCCC National Communications (1st, 2nd, 3rd)	May 1-2, 2001
UNFCCC Nationally Appropriate Mitigation Actions (NAMA)	November, 2010
UNFCCC National Adaptation Plans of Action (NAPA)	April, 2002
Nationally Determined Contributions (NDCs) for Paris Accord	September, 2015
UN Convention to Combat Desertification (UNCCD)	December 27, 1996
UNCCD National Action Programmes (NAP)	April, 2002
Stockholm Convention (SC) on Persistent Organic Pollutants (POPs)	May 03, 2003
SC National Implementation Plan (NIP)	January 21, 2003
Minamata Convention (MC) on Mercury	September 24, 2014
UN 2030 Sustainable Development Goals (SDGs)	June 2019
Voluntary National Reviews (VNRs) for the UN SDGs	June, 2019

Conventions + national planning frameworks	Date of ratification / completion
Strategic Action Programmes (SAPs) for shared international water-bodies (IW)	November, 2013
Others (list)	
Minamata Convention on Mercury	September 24, 2014
Medium-term national development policy framework – Agenda for Jobs (2018-2021)	June 2018

3.2 Gaps and Opportunities

Despite the numerous past interventions, the spatial distribution of environmental projects in Ghana are not balanced. There are several environmental threats in the savannah rural landscapes contributing to habitat destruction due to illegal logging, illicit hunting, incessant wildfires, unsustainable farming practices, inadequate livelihood support systems, and weak institutional capacity to support conservation and production. These rural landscapes are characterized by low land productivity, increasing food insecurity, destruction of forest ecosystems and vegetation cover, dryness of water sources, land degradation, and widespread poverty. There are increasing use of agrochemicals in farming and cultivation of lands along the steep slopes, and water courses. These have led to excessive erosion, reduction in soil fertility, loss of flora and fauna, and streams drying up. Generally, the uses of natural resources within the rural landscape are not managed sustainably. The project's approach to implementing national environmental programmes are not yielding the desired impacts. There is the need for a landscape approach where synergies could be developed with the civil society groups to create greater impact and mainstream best practices.

There are, however, opportunities within these landscapes that can be utilized to promote sustainable environment management. Ghana is addressing climate change issues and environmental sustainability through the implementation of the National Climate Change Policy (NCCP), Ghana National Climate Change Master Plan Action Programmes for Implementation: 2015–2020, and its Nationally Determined Contributions. Other relevant sectorial policies and strategies are the Plantation Development Programme, Planting for Food and Jobs and Agenda for Jobs (2018-2021). These programmes focus on tackling unsustainable mining practices, whilst promoting afforestation, sustainable land management and food security. They also focused on assisting local authorities to mainstream green economy in local development plans and develop local capacities to compute the indicator values based on the SDGs metadata requirements. In the medium-term, the national development policy framework – Agenda for Jobs (2018-2021) and the other social development programmes focus on measures to ensure fair and balanced allocation of national resources across ecological zones, gender equality, income and socio-economic groups, including persons with disabilities (PWDs). They seek to empower vulnerable people to access basic necessities of life. These interventions provide opportunities for the implementation of the OP7 objectives in Ghana.

3.3 OP7 Strategic Priorities

Based on the needs and opportunities available at the country and landscape levels, the prioritized initiatives for OP7 are summarized in Table 2. It also identifies the potential for complementarity and synergy with other on-going interventions and pipeline projects for which the GEF Small Grants Programme can partner.

Table 2: SGP Ghana's alignment with SGP OP7 Strategic Initiatives and Country Priorities/Projects/Programmes

1. SGP OP7 Strategic Initiatives - Global	2. SGP Ghana Programme's OP7 Priorities	3. GEF/SGP Ghana's complementarity with GEF, UNDP, & other programmes
Community-based conservation of threatened ecosystems and species Key objectives/focus: 1.1) Improve management effectiveness of protected areas through ICCAs and shared governance with private sector and government. 1.2) Improve community-led biodiversity friendly practices and approaches, including promoting blue economy (e.g. agriculture, fisheries, forestry, tourism, infrastructure, etc.) 1.3 Enhance community led actions for protection of threatened species.	• *Promote effective ecosystems management through community landscape and waterscape strategies to conserve biodiversity, sustainably develop the ecosystem goods and services whilst enhancing sustainable utilization biodiversity products for livelihood development. This will help achieve the Aichi CBD targets by 2020.* • *Support public-private partnership approach for the conservation and utilization of biodiversity products in the CREMAs and community conserved areas (ICCAs).*	Contributes to UNDP SDC Outcome 4: Biodiversity & Land Management Contributes to UNDP CPD Output 2.1, 2.2. Prevention, resilience, climate change: SDGs 1.5.1 and 11.5.1 and 13.1.1.
Sustainable agriculture and fisheries, and food security. 2.1) Increase efficiency and effectiveness of overall food production and value chain, including in vulnerable ecosystems (mountains, SIDS, etc.). 2.2) Increase diversification and livelihood improvement 2.3) Remove deforestation from supply chain and expanded restoration of degraded lands.	• *Support climate-resilient agriculture and food systems by integrating the elements of in-situ conservation of genetic resources, climate smart agriculture, agroecological innovative farming and land-based organic providers (i.e. bio-deposit) to reduce use of chemical based fertilizers while also reducing emission from ozone depleting substances such as nitrites and nitrates.* • *Promote sustainable fishing within the Bui Dam and conservation of sacred groves to protect threatened species.*	Contributes to: UNDP Climate Adaptation Project. CPD output 3.1 World Bank Sustainable Land and Water Management Project - Eradicating poverty: SDG 1.3.1. & 1.1.1.
Low-carbon energy access co-benefits Support implementation of Paris Agreement and the NDCs 3.1) Promote renewable and energy efficient technologies providing socio-economic benefits and improving livelihoods. 3.2) Promote off-grid energy service needs in rural and urban areas.	• *Support the mainstreaming of eco-certification sustainable woodfuel production and efficient renewable energy technologies within the Black Volta Basin Landscape for improved livelihood.*	Fits into UNDP SDC thematic outcome 2: Energy & mitigation and CPD output 1.1. Addresses actions under National Climate change policy. Prevention, resilience, climate change: SDGs 1.5.1 and 11.5.1 and 13.1.1.
Local to global coalitions for chemicals and waste management 4.1) Reduce and promote alternative to mercury use in artisanal and small-scale gold mining.	• *Promote integrated plastics/solid waste management and circular economy* • *Establish systems of local certification of organic producers in*	It contributes to UNDP SDC Outcome 5: Waste & Chemicals Management. It will build new partnership mechanisms with funding

1. SGP OP7 Strategic Initiatives - Global	2. SGP Ghana Programme's OP7 Priorities	3. GEF/SGP Ghana's complementarity with GEF, UNDP, & other programmes
4.2) Promote plastics/solid waste management and circular economy. 4.3) Reduce/remove use of chemicals in agriculture. 4.4) Enhance local to global coalitions on chemicals, waste and mercury management.	*vegetable through producer-consumer agreements and eventually graduating to national government policy that will influence markets.* • *Reduce and promote alternative to mercury use in artisanal and small-scale gold mining by popularizing community mining concept as a model for small scale gold mining in Ghana.*	for sustainable management solutions of chemicals and waste at national and/or sub-national level. Prevention, resilience, climate change: SDGs 1.5.1 and 11.5.1 and 13.1.1.
CSO-Government-Private Sector Policy and Planning Dialogue Platforms 1) Promote/enhance community voices and participation in global and national policy, strategy development related to global environment and sustainable development issues	• *Promote/enhance community voices and participation for Black Volta Communities in global and national policy, strategy development related to global environment and sustainable development issues.*	Part of UNDP CDP Output 2.2 & 3.3 to reach out to the wider society in environmental management and empower CSOs. Strengthening data for sustainable development: SDG 17.18.1.
Enhancing social inclusion 7.1) Promote targeted initiatives 7.2) Mainstream social inclusion in all projects (e.g. women/girls, indigenous peoples, youth, and persons with disabilities)	***Enhancing social inclusion*** • Promote targeted initiatives that will involve create wealth and empowerment for the Youth and Persons with disabilities. • Mainstream social inclusion in all projects to be approved.	Part of the UNDP and National Social Inclusion programme. Gender equality: SDG 5.2.1. Inclusive and accountable governance systems and processes
Knowledge Management *1) Capture knowledge and lessons from projects and activities* *2) Improve capacities of CSOs/CBOs* *3) Conduct South-South Exchanges to promote technology transfer and replication of good practices*	***Knowledge Management*** • *Capture knowledge and lessons from projects and activities.* • *Improve capacities of CSOs/CBOs.* • *Conduct South-South Exchanges to promote technology transfer and replication of good practices especially in the small scale mining sector.*	Contribute to UNDP Waste' Recovery Platform, a digital one-stop shop for stakeholders to exchange data, innovation, and solutions for waste recovery.
Results Management, Monitoring & Evaluation. *1) Administer new M&E strategy in country programme and project design, implementation and overall decision making using participatory mechanisms*	***Results Management, Monitoring & Evaluation*** *1) Administer new M&E strategy in country programme and project design, implementation and overall decision making using participatory mechanisms.*	Part of the UNDP comprehensive monitoring and evaluation system.

4.0 OP7 PRIORITY LANDSCAPES AND STRATEGIC INITIATIVES

4.1 Grant making within the Priority Landscape

4.1.1 Process for selecting priority landscapes and seascapes

The landscape selection and baseline assessment process were guided by the CPS Consultation and Scoping exercise. This process produced consensus for the selection of the landscape, priority areas and activities and a plan for delivering OP7 outcomes in the country (Appendix 1).

Landscape Delimitation and Baseline Assessment

Following initial discussions with the National Steering Committee and other stakeholders within the environment cluster, it was proposed that the geographical scope for OP7 should be delimited to the Black Volta River Basin. This was to consolidate the gains made under OP6 and to mainstream innovative technologies that will transform the landscape. Following this decision, a stakeholder consultation workshop attended by 42 different stakeholders and organizations was held in Wenchi from October 15-17, 2019 to evaluate the qualification of the Black Volta Basin (BVB) as the landscape for the OP7. The relevance of the BVB as the OP7 landscape was based on the following criteria:

a) the landscape is an international water ecosystem drained by the Black Volta Rivers and inhabited by indigenous peoples, with Bui and Mole National Parks as the most important ecosystems of global importance;
b) the landscape provides safe haven for globally threatened species including the *white-breasted guinea fowl (Agelastes meleagrides); the red & olive colobus monkey (Colobus angolensis), hippotamus (Hippopotamus amphibious), honey badger (Mellivora capensis), lions (Panthera leo), Leopards (Panthera pardus), Elephants (Loxodonta africana), and Buffalos (Syncerus caffer);*
c) the landscape communities are among the poorest of the poor districts in Ghana. The poverty incidence is very high (92.4% in Wa West and 79.4% in Bole);
d) greater proportion of the landscape have poor access to grid electricity;
e) the landscape is facing climate change vulnerability marked by rising temperatures, declining rainfall totals and increased variability, and high incidence of weather extremes and disasters.

4.1.2 Description of the Selected Landscapes for OP7

Description of the Black Volta Basin Landscape

The Black Volta River Basin is a trans-national river system that stretches from North to South through Mali, Burkina Faso, Ghana and Cote d'Ivoire, and from Burkina Faso, Cote d'Ivoire and Ghana from West to East (Figures 1&2). The landscape covers an area of about 18,384km^2 constituting 14% of the entire BVB. It covers the following administrative districts in Ghana: Lawra, Jirapa-Lambussie, Wa East, Wa West, Sawla/Tuna/Kalba Bole, Central Gonja, Kintampo North and South, Tain, Jaman North & South, districts and Berekum, Sunyani and Techiman Municipalities (Figure 2).

Climate variability:

Annual rainfall varies from about 1043mm to 1270mm. The minimum potential evaporation is about 1450mm/year to about 1800mmm/year and average runoff is about 243mm/year. The mean monthly

runoff from the basin varies from a maximum of 623mm to a minimum of about 2mm. The annual potential evapotranspiration of the basin ranges from 1600mm to 1800mm.

Vegetation

The vegetation of the landscape consists of predominantly sub-humid savannah, mainly tall grasses interspersed with dominant trees like Sheanut (*Vitellaria paradoxa*), Dawadawa *(Parkia biglobosa*), Teak (*Tectona grandis*), Kapok (*Ceiba pentandra*), Cashew (*Anacardium occidentale*) and Mango (*Mangifera indica*). Vegetation is about 60% grasses and 40% savannah woodland with stretch of forest along the river basin. Soils are susceptible to various forms of erosion during the rainy season. Most part of the basin fall within the Savannah zone as shown in Figure 3. The southern portion fall within the moist semi-deciduous and the transitional vegetation zone.

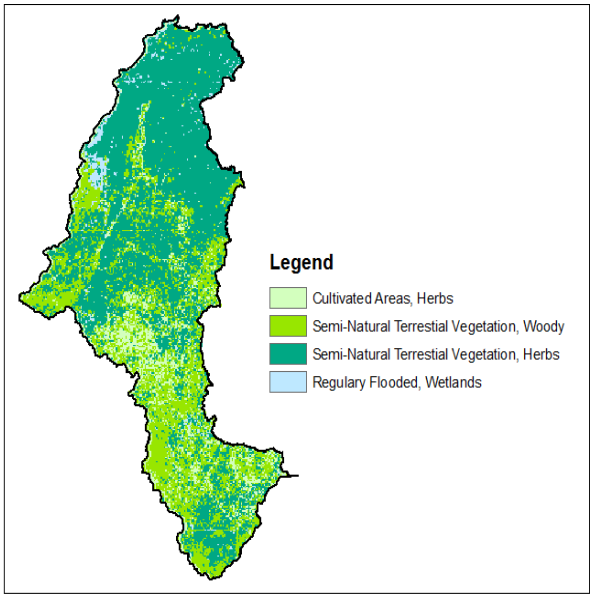


Figure 3: Vegetation Cover

Landuse occupancy, cultural belief and Local knowledge practices

The BVB is a mosaic landscapes encompassing productive agricultural lands; towns, villages and hamlets; farmlands with adjacent, cashew, teak and mango plantations; natural forests/savannah woodlands; sacred groves; national park, fallow grasslands, wetlands, and water bodies (streams, rivers, ponds and lake). Different traditional farming systems that promote the conservation of biodiversity are practiced along the slopes and in the plains. Local knowledge about agricultural biodiversity is strong, with farmers practicing bush fallow system, traditional slash and burn agriculture, agroforestry that integrates trees on cocoa, cashew and food crop farms. Cultural beliefs prohibit certain farming practices like farming close to river bodies, scared sites (groves, ancestral burial grounds). Crop production in the landscape contribute 37.5% of yam, 11.3% of cassava, 17.2% of maize and 28.7% of rice with respect to the national totals. Fishing population along the banks of the river is also increasing with adverse implications for the integrity of the newly emerging Lake environment.

Biodiversity and typology of the BVB Landscape

Two distinct biomes can be found in the landscape. These are semi-natural terrestrial vegetation woody and semi-natural terrestrial vegetation herbs (Figure 3). The woodland is mostly found in the southern eastern parts of the basin, and is densely wooded with tall to medium tall grasses such as *Andropogon* and *Pennisetum spp*. Three typologies of landscapes are distinguishable within the BVB as follows:

a) Low lying cultivated savannah landscape. This is the grass savannah, mostly found in the middle portion of the landscape. These areas are semi-natural terrestrial herb vegetation found mostly in the northern part of the landscape. It is mainly grassland interspersed with trees and shrub in some areas. Tree species found in this type of savannah include *Acacia spp, Balanites aegytiaca,*

Leptadenia pyrotecnia, Aristida spp, Schoenfeldia gracillis, Cenchurus biflorus and *Anogeissus leicarpus*.

b) Wooded savannah landscape. These areas are the riverine forest around the Volta, Tain rivers and the southern moist deciduous and the banks of the Black Volta lake. The Woodland savannah, mostly found in the southern parts of the basin, is densely wooded with tall to medium tall grasses such as Andropogon and Pennisetum spp. Main tree species associated with woodland savannah include *Adansonia digitata, Vitera paradoxa, Daniella oliveri, Mitragyna inermis, Butyrospermum parkii*, *Khaya senegalensis, Parkia biglobosa, Tamarindus indica, Terminalia macroptera* and *Faidherbia albida*.

c) The Black Volta waterscape. The basin waterscape has a number of national parks, wildlife reserves, and other protected areas. The Black Volta Basin is drained by the Bougouriba, Gbongbo, Grand Bale, Voun Hou, Sourou, Wenare, Bambassou, Bondami, Mouhoun (main Black Volta), Tain and Poni rivers as the main tributaries. The vegetation in these areas is green throughout the year, although some species do shed their leaves in the dry season. Common trees associated with the forest are *Cynometra ananta, lophira alata, Tarrietia utilis, Antiaris africana* and *Chlorophora excelsa*. These tree species appear to have a higher rate of regeneration and are more resistant to the annual bush fires.

4.1.3 OP7 Strategic Initiatives in the landscapes

The priority districts selected for the OP7 programme activities are Nadowli, Lawra, Wa-West, Bole, Sawla-Tuna-Kalba, Banda, Tain and West Gonja Municipality (Figure 4).

As part of the GEF-7 programming directions, the GEF/SGP Ghana will continue to strengthen and expand activities in the BVB to enhance local actions by civil society and communities for safeguarding the global environment. The programme will adopt new approaches that are strategic, impactful, and will strengthen initiatives aimed at increasing resilience, ensuring inclusion of the most vulnerable groups (women, children, youth and indigenous people), reduction of inequality and gender disparities and protecting natural resources.

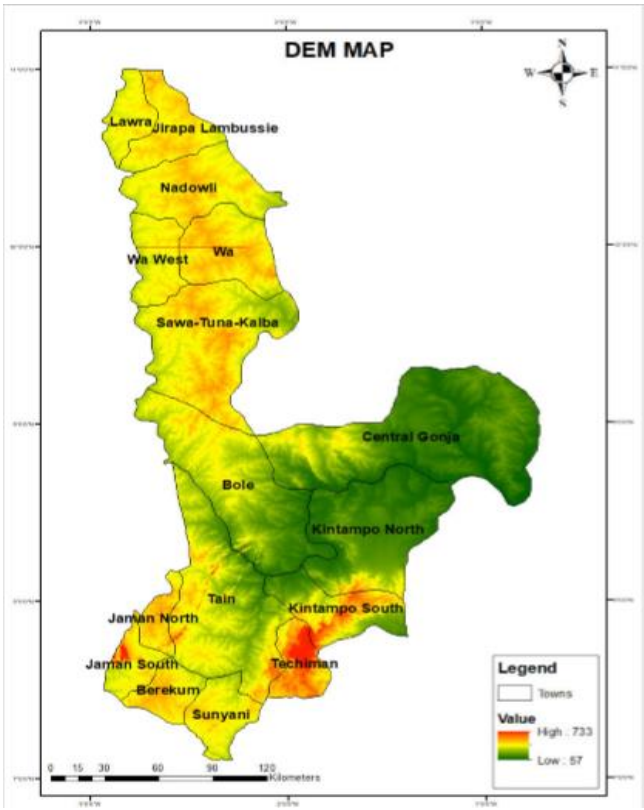


Figure 4 Map of Selected Districts for GEF/SGP OP7 projects Intervention

The OP7 programme will:

i. promote innovative solutions as well as traditional/local knowledge to safeguard the global environment;
ii. systematically develop capacity and platforms among local communities,

civil society groups, and other stakeholders as a key driver for environmental management and sustainability;

iii. focus on maximizing global environmental benefits (i.e. key biodiversity areas, clean technologies, etc.) through working with communities and local livelihood issues;

iv. strengthen and expand partnerships, particularly with government/policy makers and private sector as well as non-GEF programmes, for scaling up and sustainability.

At the community levels, the programme will complement the Ghana Government and the UNDP efforts and the target strategic initiatives that will promote integrated approaches in addressing key global environmental issues. Thematically, the strategic initiatives under OP7 will include: a) Community-based conservation of threatened ecosystems and species; b) sustainable agriculture and fisheries, leading to food security; c) Low-carbon energy access co-benefits; d) Local to global coalitions for chemicals and waste management.

The strategic technical guidance to guide the implementation of the initiatives are shown in Appendix 2. The programme will initiate mix of solutions including improving rural and urban livelihoods, strengthening gender equality, building social protection, ensuring access to water, clean energy and other basic services and strengthening financial inclusion, in order to help build resilience to economic, environmental or health shocks. This Grantmaker+ initiatives would be organized to effectively support the programme and add value to strategic initiatives by i) building CSO-Government-Private Sector Dialogue platforms; ii) enhancing Social Inclusion – "Leaving No One Behind"; c) developing Citizen Based Global Knowledge Platforms.

4.1.4 Description of SGP Strategic Initiatives in OP7

a) <u>Community-based conservation of threatened ecosystems and species</u>

The grants at the landscape levels will focus on the sustainability of Indigenous and Communities Conserved Areas (ICCAs) (sacred groves), private protected areas, corridors and buffer zones around the BVB and major tributaries, and Community Reserved Management Areas (CREMAs). The programme will promote the sustainable use of biodiversity utilizing ecotourism processing of biodiversity products, food security, sustainable commodity value chain, and others. Support would be given towards making the existing CREMAs move beyond aid. It will facilitate partnership for effective utilization of the resources under the public-private sector partnership. It will support the utilization of biodiversity products to meet the health needs of the people based on traditional knowledge.

b) <u>Sustainable agriculture and fisheries, leading to food security</u>

The programme will build on the innovative climate smart agro-ecology to support sustainable and ecological agricultural production which provides food security, nutrition, and health benefits in addition to secure and sustainable livelihoods for small holder farmers, cooperatives, and artisanal fishers. It will link local producers with better market (national and international) sources and promote use of certification systems, and eco-labelling as the means to improve benefits. The programme will also contribute to greening of supply chains for local products as well as generation of value addition for local producers. These initiatives will contribute to increasing ecological connectivity, reducing forest fragmentation and improving forest biodiversity values at landscape levels. It will promote good management practices in community smallholder forestry and farmlands and develop sound local level

land management policy with the view to increasing agriculture resilience to climate change. The programme will initiative sustainable fishing on the Black Volta Lake.

c) Low Carbon Energy Access Co-benefits

The SGP will continue to focus on grassroots energy efficiency and renewable energy solutions that can help meet the increasing demand for energy in a sustainable manner, while at the same time generating multiple co-benefits contributing to achievement of the sustainable development goals (SDGs). The programme will support the mainstreaming of eco-certification sustainable wood fuel production; processing of supplement petroleum supplies from bio-fuel configuration; improved charcoal carbonization metal kilns and wood fuel stoves for domestic, commercial and industrial usage; of bio-energy technology extension and community investments in alternative biomass resources for sustainable energy generation; and reforestation of degraded lands to reduce carbon emissions and efficient renewable energy technologies within the landscape for improved livelihood. The approach in this initiative will be directed at providing access to affordable modern energy services necessary for development, while safeguarding environmental and social benefits.

d) Local to Global Coalitions for Chemicals and Waste Management

The programme will focus its support towards plastics/solid waste management and will establish systems of local certification of organic producers in vegetable through producer-consumer agreements and eventually graduating to national government policy that will influence markets. It will seek to promote alternative to mercury use in artisanal and small-scale gold mining by popularizing community mining concept as a model for small scale gold mining in Ghana. Activities will include support for innovative, affordable and practical solutions to chemicals and waste management in joint effort with partners including government agencies, research institutions, private sector and international agencies. The programme will incubate innovative socially-inclusive urban solutions/approaches (including waste and chemical management, energy, transport, watershed protection, ecosystem services and biodiversity) and Implement public-private partnership approach for low carbon energy access for marginalized urban communities.

4.2 Grant-making outside the priority landscapes.

In addition to grant making, the SGP plays a crucial role in providing strategic services to the civil society and community organizations by enhancing their institutional, technical and financial capacities; develop platforms and networks; and expand partnerships and resource mobilization for scaling up. The programme will devote 30% of its grants outside the landscape targeting innovative initiatives.

The following activities would be supported under GEF-7:

a) CSO-Government-Private Sector Dialogue Platform

The programme will expand its CSO-Government Dialogue Platforms launched in GEF-6 towards a greater engagement with the private sector as a means of leveraging its potential to invest and support sustainability. A BVB landscape platforms will be formed to provide opportunities to discuss possible shifts in relevant policies and practices to promote sustainability. A CSO-Government-Private Sector Dialogue would be launched within the BVB landscape with the aim to expand innovative local solutions and bring

them to scale, as well as to promote enabling environment and foster strategic coalitions and partnerships.

b) Promoting Social Inclusion, including gender equality and women's empowerment

The programme will continue to promote social inclusion and equity by working and engaging with women, youth, indigenous peoples and persons with disabilities. Currently within the landscape, less than 50% of project beneficiaries are women. The programme will target 65% women beneficiaries and ensure that at least 35% of the projects approved and funded are towards women led enterprise development. The programme will directly support women participation in decision-making in natural resource governance by ensuring that at least 30% of CREAMA governance system in made up of women. The programme will support at least four (4) projects that will promote equal access to and control of natural resources of women in the Black Volta Basin. The SGP will continue its work with indigenous peoples and persons with disabilities in plastic waste management to enhance and strengthen their organizational capacity and leadership to access dedicated resources. It will continue to champion and advocate for the involvement and active participation of women and youth as key constituencies for environmental action and advocacy. At least 75% of the approved projects will target socio-economic benefits and services for women and persons with disabilities. .

Under OP7, the SGP will take gender specific actions by ensuring that every project undertakes gender impact and gender vulnerability assessments prior to implementation. The programme will provide gender competence training for all grantees and:

- promote equal access to and control over resources and information, such as gender and age-appropriate training and communication material;
- support equal voice and representation in decision making, such as quotas for women in community resource management groups;
- contribute to reducing women's workload, such as introducing labor-saving technologies and tools; and
- engage at policy level women's empowerment activities.

The SGP will continue to empower indigenous peoples' leadership through its training and ICCA initiative. It will expand institutional capacities training to traditional health practitioners and natural resource management skills. The programme will promote women networking for conservation management and enterprise development. Youth engagement and empowerment will continue to be a priority and focus on entrepreneurship. More recently, the SGP has been engaging with disabled population in its Community-Based adaptation portfolio and will build on this experience to expand their inclusion across the portfolio.

c) Knowledge Management

The SGP Ghana vision for OP7 is to become a major knowledge center for community-based initiatives that address environmental problems at the local level while achieving significant global environment impacts. The key strategies to achieving this vision are to:

- develop a web platform for CSOs that allows better knowledge capture and sharing, monitoring and evaluation the use of new media;
- SGP will initiate web based training programmes for the rural poor in local languages.

- systematize processes and create templates that facilitate data collection at community level for publication;
- build capacity for knowledge management at the local level through training and learning;
- contribute to relevant knowledge base and fora by increasingly forming a constituency of CSOs with capacity, motivation and systematic information flow;
- establish partnerships to upscale and replicate successful projects and best practices;
- capture and disseminate the results, lessons learned and best practice from the SGP portfolio via different media by streamlining and strengthening the database, intranet and website to allow for knowledge exchange and sharing;
- provide guidance to the CSOs on how to capture and disseminate knowledge and conduct knowledge exchange at the local level to be aggregated at global level.

At local and project levels the strategy is standardize, capture and disseminate the results, lessons learned and best practice; organize consultations, training and knowledge exchange between communities and other key stakeholders; support demonstration sites and knowledge centers around successful projects; inform, contribute and influence local, regional and national policy with the best practices of SGP projects in the country; establish partnerships to upscale and replicate successful projects and best practices; participate in communities of practice; and maintain database updated with the latest information on the projects

The knowledge management tools to be applied under OP7 are:

- Knowledge need assessment, mapping and audits: the programme will conduct a needs assessment to understand what information is the most valuable, how to capture it and how to disseminate it.

- Best Practices: - the programme will continue to capture best practices at the local and global level, conduct case studies, and undertake publications and new media and sharing them at key national and international events and conferences.

- Coaching, Mentorship and Peer assist Programme: - the programme will encourage mentorship as a way to capitalize on the knowledge of successful programmes to help train new grantees.

- Peer-to-peer learning:-the programme will facilitate peer-to-peer learning between local communities and past grantees as an effective method to share knowledge, help communities learn from each other and as a tool for replication and up scaling of best practices.

- Centers of knowledge: - the programme will set up technology and systems demonstration sites or centers of knowledge at project sites where SGP communities have demonstrated a technology or mastered a process and become a place where other communities, government officials, and development practitioners can learn about it.

- Communities of Practice (CoPs): - Communities of practice allows the organization to pool the collective ideas and knowledge of its staff to help build and institutionalize SGP's corporate memory.

5.0 COMMUNICATION PLAN

The main objectives for communication plan during the OP7 are:

- To ensure that all the lessons learned from the implementation of the projects are captured, analyzed and shared with key stakeholders to promote learning within and across communities and countries.
- To help replicate and scale up its impact, as well as to inform policy.

The communication strategies are to:

- publish quarter e-magazines on the project activities and circulate them widely;
- encourage CSOs to initiate weekly radio programmes on topical issues on the environment;
- publish annual case studies of best practices
- work closely with UNDP communication team to broadly communicate SGP activities on the UNDP websites, Facebook, twitter Instagram with short stories and videos.

6.0 RESOURCE MOBILIZATION AND PARTNERSHIP PLAN

The GEF core funding will continue to be the main sources of funding during the OP7. However, the programme will leverage funding from the UNDP, the World Bank Sustainable Land and Water Management Project; the EU Promoting a Circular Economy and Local Development Programme, and the Cocoa Landscape Project. In addition, the programme will liaise with other funding sources in-country to address the problems in the GEF focal areas. The programme will consolidate collaboration with Canadian and French Embassies, the Inter-ministerial Task Force on gold mining for institutional partnership in technology transfer and financial support. The programme will finalize initiatives with *MASLOC* to provide micro and small loans for start-ups and small businesses under SGP and within the BVB landscape. The programme will upscale its microcredit and small loans scheme to grow and expand to cover more beneficiaries.

In the situation where the SGP funds are limited and must be used solely to reduce threats to the global environment, the SGP will identify strategic partners to co-finance activities and assist with the non-GEF or "baseline" components of the project. In seeking co-funding for non-GEF activities, SGP will use its available core funds to leverage new and additional funds so as to make the programme bigger and more effective.

<u>Indicative funds to be mobilized</u>

The National Steering Committee (NSC) will continuously assist the SGP to mobilize resources. By the end of each year, the NSC will estimate what proportion of non-GEF funds is needed by grantees so as to be able to forecast their needs into the future. Based on the standing agreements and initial discussions held, the programme will mobilize and disburse US$1.00 million in cash co-financing from development partners namely Forest without Borders (Canada), Canadian Rotary Club, HELP Canada, Conservation International, New England Biolab Foundation, Presidential Committee on Environment and Natural Resources, Minerals Commission, University of Mines & Technology, District Assemblies, Traditional Authorities, Grantees and local communities. Similarly US$1.5 million in-kind cofinancing will be mobilized from partners and beneficiary communities.

Matching fund from Grantees

The programme will give priorities to community-based projects that have secured matching funds for implementation. At the project level, the programme is targeting 1:1 ratio between GEF/SGP funding and co-financing from the grantees and local government. The programme will develop joint proposals with the other donors and clearly identify which activities would be implemented by each donor. Most especially, the programme will secure co-financing and technical assistance for projects complementation from the development partners. The programme will seek to encourage the District Assemblies to stake part of their common funds for environmental projects and develop linkages to be able to secure or augment SGP grants whenever possible. A memorandum of understanding for cooperation with the donor and NGO will be signed prior to project implementation.

In-kind contribution from applicants and other donors

All projects to be approved would be expected to have in-kind contribution of not less than 50% of the total project cost. The in-kind contribution will cover direct labour, land, and use of office resources and NGO assets for the implementation of the project field activities. The man-hours that would be invested in the project would be calculated and valued as part of the community contribution to the project implementation.

Using sustainable livelihood

The programme has learned that beneficial impact in the GEF focal areas comes about through using sustainable livelihood strategies. Thus, an essential part of SGP projects is often an income-generation component linked to one of the GEF focal areas. The projects to be implemented as much as possible will buy into the on-going poverty reduction programmes in the country.

Dovetailing into GEF Macro and Medium-size grants

The programme is in discussion with the World Bank Cocoa Landscape project for the SGP to be a delivery mechanism for its livelihood development project. Successful GEF/SGP projects can be replicated and expanded using the medium-sized GEF project mechanism. Country programmes will also seek to coordinate efforts with GEF projects, including providing support for successful community-based components to explore funding from medium and large-sized GEF.

Bilateral and multi-lateral donors

The various embassies of the developed countries in Ghana have small grants windows that provide funding in some GEF operational areas, particularly afforestation. For example, the French Embassy (FSD), Canadian Development Agency (CIDA), European Union, and World Bank have local grants for NGOs that includes support for activities in the forestry and energy sector (traditional energy and renewable energy). The SGP will continue to collaborate actively with these sources of funding as well as linking up with multi-lateral agencies in the country.

Private sector participation in SGP

The programme will pursue public, private, partnership (PPP) model to promote private sector participation in the CREMA management and utilization of resources. The non-timber forest products

(NTFPs) within the CREMA (mostly Shea) will be used as a unique entry point to achieving the dual objectives of forest conservation and improving local livelihoods. The PPP model will support a strategic alliance linking domestic and foreign NTFP buyers, local producers, NGO and local government programmmes. This will increase income and employment for local producers of NTFPs (Shea and Dawadawa) whilst promoting sustainable resource management, protection of natural forests, and expansion of responsible buying practices among industry members.

The SGP under the Women-led enterprise project is currently promoting the PPP model linking local producers to Shea under certification. The programme will upscale the PPP model utilizing the Global Development Alliance (GDA) initiatives. The programme will promote sustainable local livelihoods, and biodiversity conservation by linking local producers who adopt sustainable management practices to the international market for certified or responsibly harvested forest products. Alliance partners will include the Ghana National Chambers of Commerce, RIPPLES (USA and Ghana), USAID, project participants to develop mechanisms for commercializing products yielded by project activities.

7.0 RISK MANAGEMENT PLAN

The implementation of the OP7 activities will require social and environmental safeguards measures to be addressed in the context of safeguards management framework which essentially comprises: (i) national legislative framework; (ii) impact assessment matrix; iii) strategic environmental assessment and (iv) screening matrix. All projects will be subjected to the national safeguard policies and impact assessment matrix to depict the impacts likely to occur and the associated mitigation measures thereof would be developed to guide the NSC to screen and evaluate the social and environmental aspects of a particular proposal. The Environment Management Framework (EMF) will include a negative list of activities that would not be supported by the project. This includes (i) land acquisition; (ii) involuntary resettlement; (iii) activities within protected areas including reserve forest and sacred groves; (iv) use of pesticides prohibited under national legislation or internationals agreements to which Ghana is a party; and (v) any research involving Genetically Modified Organisms (GMOs) which have not been approved by an independent panel of internationally recognized experts, and cleared by the Ghana government.

Social safeguards will target project's interventions in new technology development and dissemination as well as establishing marketing chains. The impacts are expected to be mostly positive. None of the interventions would require land acquisition. It is mandatory for each prospective project proposal to comply with safeguard measures for agricultural technologies and generating technologies. The project design should ensure maximum direct participation of the benefiting communities and provide for representation of all the sub-group in a community identified based on gender, ethnicity, and endowments.

The projects would be funded with a broad understanding of the issues likely to crop up in the landscape. These are: (i) crop/cropping pattern changes leading to higher agro-chemical use and soil degradation; (ii) over exploitation of ground water resulting in salinity and arsenic contamination; (iii) loss of biodiversity and natural habitats; and bio-prospecting of biotic products, including genetic enhancement and transgenic products.

The key social development issues relating to project implementation are: (i) healthy competition coupled with transparency in transactions; (ii) participation by researchers, project functionaries, civil society and farming communities; (iii) inclusion, particularly of the poor and vulnerable sections; (iv) mechanisms to

foster participatory planning as well as strengthening the related institutions (including farmer's institutions, Farmers Field School and Women Self Groups); (v) improving linkages with Union; (vi) NGO enlisting and their performance; (vii) gender - addressing women-specific education and communication campaign to address these issues.

8.0 MONITORING AND EVALUATION PLAN

8.1 Monitoring Approaches at Project and Country Levels

8.1.1 Impact Review

In order for progress to be monitored and for easier means to aggregate and compare outcomes from individual projects, the following attributes will be measured at least twice times during the lifespan of the project: 1) Changes in land productivity, which can be measured on two key attributes: greenness (use of NDVI[1] for land cover changes) as a proxy indicator of improved productivity; 2) Improved livelihoods, measured through child nutrition surveys (QBS) as proxy indicator for better livelihoods at household levels that can be attributable to improved land productivity; and 3) Investments as indicated by amounts of co-financing that come into the community through other sources. For the Black Volta socio-ecological productive landscapes (agricultural, rangelands and forests), a vegetative cover greater than 10 per cent of the land area is considered acceptable globally. This would also be supported by an increasing/expanding vegetation under effective land management practices which can be measured through number of natural regeneration areas established, hectares under CREMA that aims at improved forest cover, expansion in agriculture and or management of watersheds for water provision to the community. As part of the impact review, the project will adopt evidence-based knowledge production of results during the operational phase. Specific results such as social inclusion, broader adoption (scaling up, replication, mainstreaming and policy influence), and delivery mechanism would be reported upon periodically.

8.1.2 Monitoring and Evaluation Capacity Development

The SGP secretariat and the National Steering Committee would be responsible for the coordination of all projects and activities under the CPS. They will monitor the implementation through regular reporting by grantees, field visits, and peer review workshops. All NSC members would be trained in the application of the new monitoring and evaluation (M&E) strategy. At the beginning of each grant award, the SGP secretariat will organize M&E inception workshops to the grantees in order to build their capacities in the new M&E strategy and reporting.

8.1.3 Project Monitoring

The SGP secretariat will ensure that each project is visited at least once during the project-life. A landscape wide project review workshop would be organized each year, during which there will be peer review of the programme. This peer review workshop will be joined by the NSC who may have the opportunity of reviewing project performance at the landscape level. The SGP will formalize its third-

[1] *Normalized Difference Vegetation Index. Considerable variation can be found in the phenology of the bush lands as determined by the satellite NDVI, and is explained through the high spatial variability in the land productivity and distribution of rainfall resulting in green-up of the vegetation. This method will be applicable for rangeland production systems.*

party monitoring relation with the relevant District Assemblies (DA). The Planning Unit of the DA would be trained to collect relevant data for the SGP secretariat based on the project approved M&E data requirement. Each project will have a set of performance indicators that will synergize with the GEF/SGP indicators. The disbursement reporting of each project will indicate towards the indicators as stated in this CPS. The mid-term, end of year landscape programme results as well as end of programme reporting will cover progress towards each indicators.

8.2 Monitoring and Evaluation at Project level

Each grantee will supervise its own work plan, monitor performance, either by project inputs and outputs or policy measures, and will report on progress and problems at quarterly bases during project coordination meetings either on-line or during project visits. The regular reports via disbursement reporting will be analyzed and consolidated by the SGP secretariat as a routine function in preparation for annual reports and project reviews. The project and programme level monitoring and evaluation plan are shown in Tables 3 and 4.

Table 3: Monitoring and Evaluation Plan at project level

Indicators to monitor	Methods	Responsible Parties	Budget Source	Time frame
Component 1: Community-based conservation of threatened ecosystems and species				
1.1 No. and type of projects within the landscapes supported. *1.2 Ha of degraded areas restored and maintained.* *1.3 No. of communities involved* *1.4 No. of beneficiaries (gender disaggregated)* *1.5 No. of natural resource and land management governance committees formed within the landscape* *1.6 No. and ha of degraded wetlands rehabilitated and sustainably managed* *1.7 No. and ha of agroecology farms established and managed* *1.8 No. of farmers involved in agroecology farming practices.* *1.9 No. and ha of ICCA mapped, documented and digitized on national maps.*	• Field survey • Review of individual project reports • Spatial maps and satellite imageries • Use of photo stories and before and after pictures	• NC & NSC • Grantee	SGP Administrative budget	• At end of every disbursement. • Mid-term of the programme • End of programme completion
Component 2: Sustainable agriculture and fisheries, leading to food security:				
2.1 No. of projects by ha of land within the landscapes supporting climate smart agricultural practices. *2.2 No. of communities and beneficiaries (gender*	•Field survey •Review of individual project reports	• NC & NSC • Grantee • Local consultant	• SGP Administrative budget • Covered under the	• At end of every disbursement. • Mid-term of the programme

Indicators to monitor	Methods	Responsible Parties	Budget Source	Time frame
disaggregated) practicing organic agriculture and involved agroecology farming practices. *2.3 Ha of land under sustainable management.* *2.4 No. of farmers practicing climate smart agriculture.* *2.5 No. of tons of CO_2 emissions avoided.*	•Estimated from quarterly and annual reports •Use of photo stories and before and after pictures		grant amount & co-financing	• End of programme completion
Component 3: ***Low Carbon Energy Access Co-benefits***				
3.1 No. and ha of agroecology farms under solar irrigation. *3.2 No. of institutional and commercial woodfuel stoves constructed, certified and distributed.* *3.3 No. of groups involved in improved carbonization of wood.* *3.4 No. of institutions using improved woodfuel stoves.* *3.5 No. of commercial operators by categories (chop bar, pito, brewers shea butter etc.) using certified improved woodfuel stoves.* 3.6 *No. of households using improved woodfuel cook stoves.*	• Field survey • Review of individual project reports • Estimated from quarterly and annual reports • Use of photo stories and before and after pictures	NC, NSC and DPs	SGP Administrative budget	As appropriate but at least twice a year to coincide with 2nd and prior to last disbursement
Component 4: ***Local to Global Chemical Management Coalitions***				
4.1 No. of farmers (aggregated by gender) managing harmful chemical in vegetable production *4.2 Ha of farms that have phased out pop chemicals.* *4.3 No. of artisanal gold mining enterprises managing mercury and applying proven alternatives.* *4.4 No. of target beneficiaries (gender, youth, local peoples, disaggregated) reached with awareness creation programmes on harmful chemicals* *4.5 No. of target beneficiaries trained in the manufacture and use alternatives to chemicals in agriculture.*	• Field survey • Review of individual project reports • Estimated from quarterly and annual reports	• NC & NSC • Grantee • Local consultant	• SGP Administrative budget • Covered under the grant amount & co-financing	• At end of every disbursement. • Mid-term of the programme • End of programme completion
Component 6: ***CSO-Government Policy and Planning Dialogue Platforms (Grant-makers+)***				

Indicators to monitor	Methods	Responsible Parties	Budget Source	Time frame
6.1 At least one "CSO-Government Policy and Planning Dialogue Platforms initiated. *6.2 No. of CSOs registered as members of the network.* *6.3 No. of CSOs operating as barefoot consultants.* *6.4 No. of policy dialogue that CSOs participated.* *6.5 At least one virtual training institute established.*	• Field survey • Review of individual project reports • Spatial maps and satellite imageries • Estimated from quarterly and annual reports	• NC & NSC • Grantee • Local consultant	• SGP Administrative budget • Covered under the grant amount & co-financing	• At end of every disbursement. • Mid-term of the programme • End of programme completion

Table 4: Monitoring and Evaluation Plan at project management level programming

Programme Component	Sub-Component	Success Criteria	Indicators to Monitor and Report
1. Management of Country Programme Team.	1.1. Functioning of country team and relationship with key stakeholders.	- Demonstrates initiatives to integrate and collaborate across teams/units with UNDP Country Office. - Maintenance of effective relationships with CPMT, UNOPS and UNDP CO. - Development or maintenance of effective relationships with the Government, grantee partners and other partners	1.1.1. # of performance parameters and learning objectives developed for/with the SGP team. 1.1.2. # of time timely performance assessments and feedback sections was provided to SGP team. 1.1.3. Regularly engaged with UNDP-CO, NSC, CPMT and/or UNOPS focal point for the monitoring of substantive and operational activities.
2. Programme/ Portfolio Development and Management	2.1. Annual programme and financial work planning.	- Timely preparation and implementation of annual programme and financial targets. - Development of key/strategic documents to Country Programme.	2.1.1. # of quality control assessments for portfolio/project activities conducted. 2.1.2 # of times reviews of financial controls against project implementation was conducted. 2.1.3. Timely formulation of Country Programme Strategy (CPS) and annual workplans.
	2.2. Implementation and Monitoring of grants.	- Effective and timely implementation and monitoring of grants. - Proactive efforts to build capacity including through	2.2.1. # of times field visits and technical support were provided during the year. 2.2.2 Accurate and timely updated SGP database.

		trainings for existing and potential grantees	2.2.3. All grants initiated are supported with sound documentation (RFGA, MoA, etc.) per SGP SOP. 2.2.4 # of planned and designed grantee capacity building trainings conducted.
	2.3. Functioning of NSC.	-Effective coordination of the NSC work.	2.3.1. # of NSC meetings conducted during the year successfully 2.3.2. All NSC meetings were properly recorded (minutes). 2.3.3. Facilitated rotation and selection of NSC members (maximum 3 years, 2 term)
3. Partnership & Resource Mobilization	3.1. Relationship with stakeholders.	- Establish and maintain close working relationships with stakeholders including grantee partners and donors.	3.1.1. # of meetings/workshops conducted with stakeholders during the year. 3.1.2. Conducted # meetings/workshops with grantees during the year. 3.1.3. Conducted # meetings/workshops with donors during the year.
	3.2. Country program resource mobilization	- Achievement of country program resource mobilization targets	3.2.1. Target resource mobilization delivered 3.2.2. Sound documentation of Resource Mobilization efforts including co-financing
4. Knowledge Management and Communication	4.1. Stories, lessons learned, and best practices shared amongst SGP countries	- Effective SGP data base development - Effective documentation of stories, lessons learned and best practices. - Effective outreach and networking amongst grantees	4.1.1. Prepared # of quality knowledge products and communications actions that are gender responsive (e.g. blogs, articles, publications, videos, etc.) 4.2.1. Proactive measures for capacity building of NGOs, CBOs and local communities on GEF, SGP procedures. 4.2.3 SGP Database regularly updated
	4.2. Capacity building and networking amongst grantees.		

8.3 Strengthening Collaboration with UNDP Country Office programme

In keeping with the new OP7 SGP Monitoring and Evaluation Strategy, SGP Ghana will use monitoring and evaluation as a tool to strengthen the collaboration with UNDP country office. The programme monitoring and evaluation is therefore linked with the UNDP Country Programme Document (CPD) and the sustainable development goals as indicated in Table 6. It is expected that this linkage will allow for early identification of potential areas of broader adoption of SGP's work in UNDP's portfolio through upscaling, replication, mainstreaming of SGP gains, and further support to policy influence initiatives.

8.4 Country Programme Strategy Results Framework

Table 5:Results Framework of SGP OP7 Country Programme Strategy

Alignment with SDGs – [SDG Target - 7.1; 17.14; 12.2; 15.1; 15.2] - *By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, wetlands, mountains and dry lands, in line with obligations under international agreements* - Enhance policy coherence for sustainable development - By 2030, achieve the sustainable management and efficient use of natural resources - *By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally*		
Synergy with UNDP Country Programme Document (CPD): [CPD Outputs – 1.3; 1.4; 2.1; 2.2; 3.1; 3.3] - *Measures in place and implemented across sectors to improve policy coherence and a sustainable equitable and gender-sensitive business environment* - Technical and operational capacities of the Government enhanced to develop inclusive value chains in extractives especially for neglected minerals. - Communities enabled to adopt systems for management of natural resources (e.g. forest and water) and livelihood activities - Key state and non-state actors (private sector academia and CSOs) have improved capacities to form innovative and effective partnerships on climate action and environmental management**.** - Governance institutions and processes enabled to be effective accountable gender sensitive equitable and guarantee the rights of all - Civil Society including youth and women's accountability and responsiveness from public institutions		
OP7 SGP Programme Goal: *Promote and support innovative, inclusive and impactful initiatives, which foster multi-stakeholder partnerships at the local level to tackle global environmental challenges in Black Volta Basin socio-ecological landscape and waterscape.*		
1. OP7 SGP CPS Strategic Initiatives	**2. OP7 CPS Indicators and Targets (Relevant targets for OP7)**	**3. Means of verification**
Community-based conservation of threatened ecosystems and species. 1.1 Improve management effectiveness of protected areas through ICCAs and shared governance with private sector and government. 1.2 Improve community-led biodiversity friendly practices and approaches, including promoting blue economy (e.g. agriculture, fisheries, forestry, tourism, infrastructure, etc.)	- *500 hectares of landscapes under improved management to benefit biodiversity (GEF core indicator 4.1)* - *120 hectares of landscapes under improved management to benefit biodiversity* - *250 farm families involved in the protection of threatened species and medicinal plants.* - *34 (280 ha) of ICCA mapped, documented and digitized and under improved practices (GEF core indicator 4.1)* - *350 ha aquatic landscape under community improved management system5 (GEF core Indicator 5& 2.2)*	*Individual project reporting by SGP country teams (as part of midterm and final Progress reports)* *Baseline assessment comparison variables (use of conceptual models and partner data as appropriate)*

1.3 Enhance community led actions for protection of threatened species.	- *Eight (8) community protected and conserved areas within the Black Volta Basin networked and strengthened.*	
Sustainable agriculture and fisheries, and food security 2.1 Increase efficiency and effectiveness of overall food production and value chain, including in vulnerable ecosystems (mountains, SIDS, etc.). 2.2 Increase diversification and livelihood improvement 2.3 Remove deforestation from supply chain and expanded restoration of degraded lands.	- *250 hectares of landscapes under sustainable land management in production systems (GEF core indicator 4.3)* - *150 hectares of degraded agricultural lands restored (hectares) (GEF core indicator 3.1)* - *2 linkages and partnerships for sustainable food production practices (including diversification and sustainable intensification) and supply chain management for Shea butter promoted under Fair Trade)* - *150 of small-holder farmers supported towards the achievement of national Land Degradation Neutrality (LDN) targets.* - *Two projects supporting linkages and partnerships for sustainable food production practices (such as diversification and sustainable intensification) and supply chain management including in sustainable fisheries management*	*Individual project reporting by SGP country teams (as part of midterm and final Progress reports)* *Annual Monitoring Report (AMR), SGP global database* *Country Programme Review* *Socio-ecological resilience indicators for production landscapes (SEPLs)*
Low-carbon energy access co-benefits 3.1 Support implementation of Paris Agreement and the NDCs 3.2 Promote renewable and energy efficient technologies providing socio-economic benefits and improving livelihoods. 3.3 Promote off-grid energy service needs in rural and urban areas.	- *Two (2) typologies of community-oriented, locally adapted energy access solutions with successful demonstrations scaled up and replicated.* - *200 households achieving energy access, with co-benefits estimated and valued.* - *50 hectares of forests and non-forest lands with restoration and enhancement of carbon stocks initiated.*	*Individual project reporting by SGP country teams (as part of midterm and final Progress reports)* *Annual Monitoring Report (AMR), SGP global database*
Local to global coalitions for chemicals and waste management 4.1 Reduce and promote alternative to mercury use in artisanal and small-scale gold mining. 4.2 Promote plastics/solid waste management and circular economy.	- *10 tons of Solid and liquid Persistent Organic Pollutants (POPs), POPs and mercury containing materials and products removed or disposed (GEF core indicator 9.6)* - *15 communities working on increasing awareness and outreach for sound chemicals, waste and mercury management.*	*Individual project reporting by SGP country teams (as part of midterm and final Progress reports)* *Strategic partnership with IPEN and Mercury GOLD country partners* *Annual Monitoring Report (AMR), global database* *Country Programme Review*

4.3 Reduce/remove use of chemicals in agriculture. 4.4 Enhance local to global coalitions on chemicals, waste and mercury management.	- *Six (6) community mining groups licensed and operating mercury free gold mining.* - *Two installed renewable energy capacity from local technologies (e.g. solar irrigation system and metal kilns technology for biomass carbonization).* - *At least four community-oriented, locally adapted energy access solutions with successful demonstrations for scaling up and replication.*	
CSO-Government-Private Sector Policy and Planning Dialogue Platforms 6.1 Promote/enhance community voices and participation in global and national policy, strategy development related to global environment and sustainable development issues	- *Six (6) CSO-government-private sector dialogues convened to support community voice and representation in national/ sub-national policy development.* - *10 representatives from social inclusion group (indigenous people, women, youth, persons with disability, farmers, other marginalized groups) supported with meaningful participation in dialogue platforms.* - *Two (2) Public-Private Partnership on key global environmental issues promoted.*	*Individual project reporting by SGP country teams.* *Annual Monitoring Report (AMR), global database.* *Country Programme Review.*
Enhancing social inclusion 7.1 Promote targeted initiatives 7.2 Mainstream social inclusion in all projects (e.g. women/girls, indigenous peoples, youth, and persons with disabilities)	- *180 of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (GEF core indicator 11)* - *Six (6) SGP projects led by women and/or mainstream concrete mechanisms for increased participation of women.* - *Two (2) SGP projects that have targeted support for Indigenous Peoples in terms of country level programming and management.* - *Two (2) of SGP projects that demonstrate appropriate models of engaging youth* - *Two (2) of SGP projects that demonstrate models of engaging persons with disability.*	*Individual project reporting by SGP country teams* *Annual Monitoring Report (AMR), SGP global database.* *Country Programme Review*
Results Management, Monitoring & Evaluation (mandatory) *8.1.* Administer new M&E strategy in country	*20 projects administering results management modalities in programme design, implementation and overall decision making using participatory mechanisms.*	*Individual project reporting by SGP country teams* *Annual Monitoring Report (AMR), SGP global database*

programme and project design, implementation and overall decision making using participatory mechanisms.	*Biweekly updating SGP database for effective data collection, management and analysis supporting gains in programme performance and learning.* *One south- south exchanges at regional levels to transfer knowledge, replicate technology, tools and approaches on global environmental issues.*	*Country Programme Review*

9.0 NATIONAL STEERING COMMITTEE ENDORSEMENT

Having been part of the process of formulating the OP7 document, the undermentioned members of the National Steering Committee have endorsed the Ghana CPS on November 13, 2020.

NAME	ORGANIZATION/INSTITUTION	CONTACT (TEL. & EMAIL)	SIGNATURE
Dr. James K. **ADOMAKO**	University of Ghana	*024-3315965; 020-8180362; 054-434034* *jadomako@ug.edu.gh*	
Dr. King-David **AMOAH**	ECASARD	*0243-863567* *Info.ecasard@gmail.com*	
Dr. William **OWUSU ODURO**	CSIR	*020 130 2094* *wkoduro@yahoo.com*	
Mr. Isaac Charles **ACQUAH**	Environmental Protection Agency	*0243004082; ~~0275884512~~ 0206844092* *icacquah@hotmail.com*	
Mr. John Kwadwo **OWUSU**	GAPVOD	*0244760994* *envprotassgh@gmail.com*	
Mr. Kwami Edem **SENANU**	Africa 2000 Network	*024 436 7329* *kesenanu@gmail.com*	
Mr. Richard Kuutah **NINNONI**	Forestry Commission	*024- 4740217; 020-2545845* *rkninnoni@yahoo.co.uk*	
Mrs. Gifty Delali **TETTEY**	Ministry of Power	*027-760 9640, 0302-668048* *giftytettey@yahoo.com*	

REFERENCES

Allwaters (2012). Diagnostic Study of the Black Volta Basin in Ghana. Final Report

Ampomah, B., Adjei, B. and Youkhana, E. (2008). The transboundary water resources management regime of the Volta basin. http://www.zef.de/fileadmin/webfiles/downloads/zef_wp/wp28.pdf

Andreini M., van de Giesen N., van Edig A., Fosu M., Andah W. (2000). Volta basin water balance. ZEF-Discussion Papers on Development Policy No. 21 Center for Development Research (ZEF), Bonn, March 2000.

Atulley Joan Akandi (2013). Impact of Small Reservoirs and Dugouts in Ghana on Hydrology and Water Allocation in the Black Volta Basin. MSc. THESIS. http://ir.knust.edu.gh/bitstream/123456789/5380/1/Atulley_per_cent_20Joan_per_cent_20Akandi.pdf

Barry B., Obuobie E., Andreini M., Andah and Pluquet M., (2005). The Volta River Basin: Comprehensive Assessment of Water management in Agriculture. Comparative Study of River Basin Development and Management.

Basin Focal Project, Volta (2008).

GEF/SGP (2018) Annual Report.

Gorden C, and. Amatekpor J. K., (1999): The Sustainable Integrated Development of the Volta Basin in Ghana. Volta Basin Research Project, University of Ghana, Legon.

Water Aid, 2002: Groundwater Quality in Ghana. WaterAid Working Document. Published By British Geological Survey, 2002. *Hydrological Study of the Black Volta Basin - Upper West Region Water Audit Section by Allwaters Consult ltd*

GSS (2014). 2010 Population and Housing Census

Gyamfi Charles (2012). Enhancing Cooperation In water resources management within communities in the Black Volta basin. MSc Thesis. http://ir.knust.edu.gh/bitstream/123456789/6547/1/CHARLES per cent 20GYAMFI.pdf

IUCN (2003). International Union for the Conservation of Nature (IUCN) Project for Improving Water Governance in the Volta River Basin (PAGEV) Final Project Document. IUCN-BRAO, West Africa Regional Office, Ouagadougou, Burkina Faso

Kortatsi B., (1997). Ghana Water Resources Management Study. Information Build Block on Geology and Groundwater.

Larmie S. A. and Annang T. Y. (1996). Volta Basin - Hydrological Information on Water Quality. Interim Report.

Martin N., and van de Giesen N. (2005). Spatial Distribution of Groundwater Production and Development Potential in the Volta River Basin of Ghana and Burkina Faso. International Water Resources Association. Water International, Volume 30, Number 2, Pages 239–249, June 2005.

Quandzie Stephen (2012): Potential for Increasing Agricultural Water Productivity in the Black Volta Basin, Ghana. MSc. Thesis

Volta Basin Profile. Baseline Report No. 8. Volta River Basin (2015): Enhancing Agriculture Water Productivity through Strategic Research (2015). Edited by W.E.I. Andah and F. Gichuki.

Winston E.I. Andah, Nick van de Giesen, Charles A. Biney (undated). Water, Climate, Food, and Environment in the Volta Basin. Contribution to the project ADAPT. Adaptation strategies to changing environments. Available: http://www.weap21.org/downloads/ADAPTVolta.pdf (3/10/2015).

APPENDICES

APPENDIX 1: BASELINE ASSESSMENT OF BLACK VOLTA BASIN SOCIO-ECOLOGICAL LANDSCAPE

EXECUTIVE SUMMARY

The baseline assessment report presents the status of the socio-ecological production landscape of Ghana's portion of the Black Volta Basin. It is a revision of the previous baseline report prepared in 2015 towards the formulation of Country Programme Strategy for the GEF Operational Phase Six. The current report is a product of series of meetings and workshop held in preparation towards the OP7 and a revision of the previous study with the view to capturing the all the ongoing activities within the BVB.

The objectives of documenting the socio-economic status of the communities and the ecological status of selected areas within the Black Volta Basin are to: i) facilitate multi-stakeholder consultation to achieve a broad consensus of the delimitation of the landscape and ii) document and recommend practical high yielding solutions towards the development of an impact-oriented 4-year strategic plan for providing alternative livelihood for vulnerable communities in the landscape, protecting and revitalizing endangered species in the project areas.

The study was carried out in the Bole-Bamboi District of Savannah region, Wa West and Nadowli district of Upper West region, Banda, Jaman North and Tain Districts of the Bono East Region located along the upstream and downstream portions of the Black Volta river basin respectively. The study area was largely characterized by biodiversity, natural reserve sites, sensitive ecosystems and a great potential for tourism development. The major livelihood support systems within the area included agriculture (cultivation of cereal crops and cash crops such as cashew), irrigation activities, free range rearing of animals (sheep and goat) and surface mining activities.

The study methodology included an initial consultation with key stakeholders in project areas to identify and select participants for the study. In all 60 different stakeholders groupings taken Gender and Youth into consideration. Thirty 30 communities along the Black Volta Basin (both upstream and downstream) were covered. Through joint discussions, individual interviews and focus group discussion (FGD) as well as workshop sessions, participants scored some 20 indicators under five thematic socio-ecological areas in relation to the socio-demographic and ecological status of their communities to assess the landscape (see appendix 1).

Subsequently, a validation workshop involving key participants from both upstream and downstream zones was conducted. This was done to first of all present the findings of the baseline survey conducted to the stakeholders and secondly to validate such outcomes; whether these reflect the general views of the people or not. Participants were again grouped into the five to represent the different landscapes identified in the project area.

Based on the findings from the baseline survey and the validation workshop conducted, the following prioritized strategic areas have been identified for implementation: (1) Introduction of climate smart agricultural practices; (2) Improvement of the well-being of upstream communities by regulating the framework for activities of Fulani herdsmen; (3) Re-afforestation of degraded communities forests and afforestation programmes; (4) Reduction of bush burning; (5) Creation and enforcement of bye-laws on biodiversity conservation, (6) Identification and supporting alternative livelihood strategies with little environmental or ecological disturbances; (7) Provision of socio-economic infrastructure such as boreholes and accommodation for school teachers and students alike; (8) Provision of multi-stakeholder

platforms to focus on issues related to natural resources and environment; and (9) Support institutional arrangements that tackle rights relating to water or other natural resources.

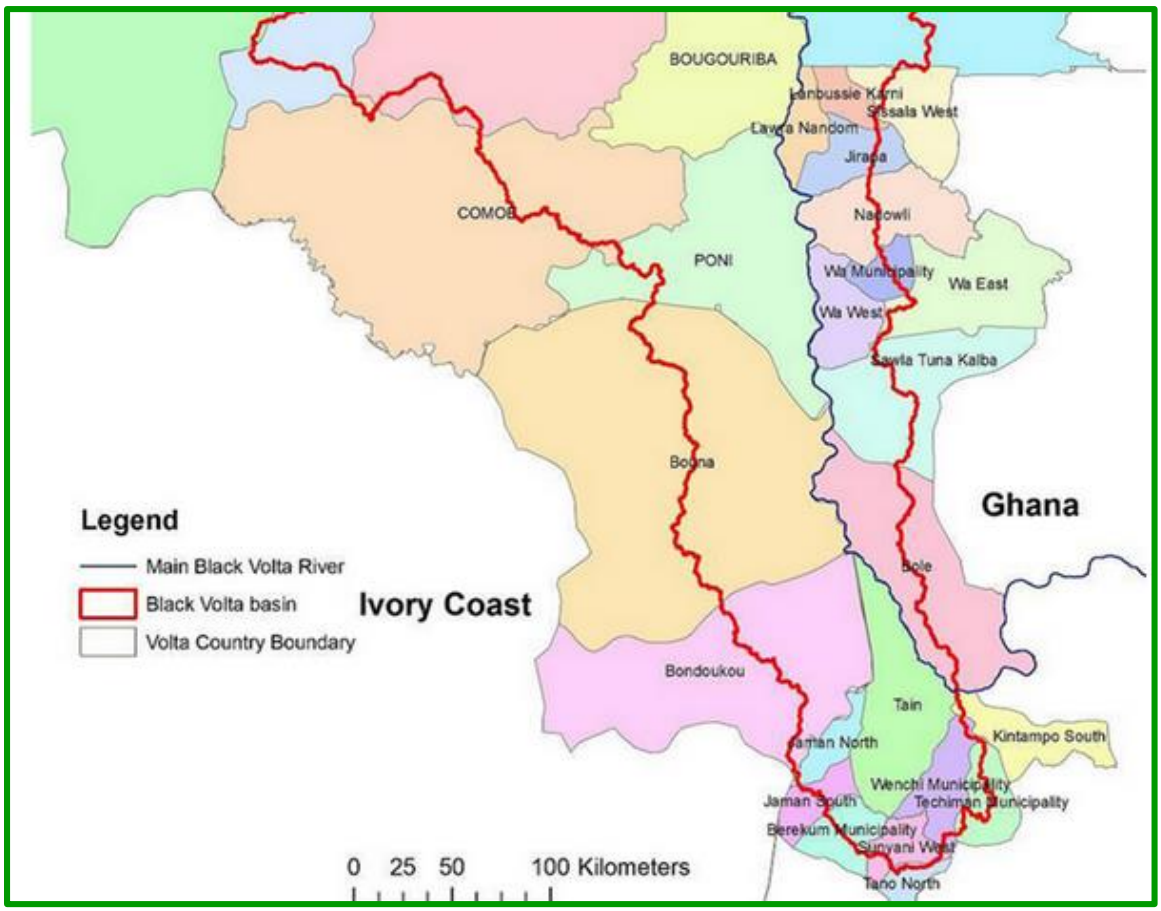


*Figure 5: **Map of the Black Volta Basin***

INTRODUCTION

In preparation towards the formulation of the country programme strategy to implement the objectives of the GEF OP7, the SGP Ghana used adaptive collaborative landscape approach. The steps in adaptive collaborative management involves: a) establishing and conducting a landscape baseline assessment, b) developing an action strategy for change, c) selecting indicators for tracking progress toward realizing desired outcomes described in the strategy, d) monitoring and learning how the landscape is progressing toward the desired outcomes (goals), and e) adapting the management strategy to reflect changes in the landscape and in the needs of people who live there. The process of generating data for the baseline assessment required the perceptions of all major stakeholders within the landscape.

A baseline assessment provides you and landscape stakeholders with information about the current state of the landscape which can be used as a basis for setting goals and developing the landscape strategy. It also serves as the initial data set for landscape performance indicators which you can compare with subsequent performance indicators to assess how the landscape is changing throughout the programme implementation

Methodology

To address the constraints inherent when working in large basins, an initial desk study was carried out. Findings from the desk study were used to supplement a similar survey carried out in some portions of the landscape under OP6. A stakeholder's consultative meeting was held in Wenchi from October 16-17, 2019 to develop and deepen a landscape perspective. The workshop was a representative of the entire landscape assembled in a single forum. The composition of the stakeholders were respected community opinion leaders, organizational directors, farmers, civil society organizations and Government service providers (Ministry of Food and Agriculture, Department of Social Welfare, Local Government, Forestry Commission, and other agencies) and traditional leaders within the landscape.

Remotely sensed data were used to explore landscape features, such as seasonally inundated areas and wetlands, reservoirs, irrigation structures, and communities. Where possible we relied principally on Landsat, Shuttle Radar Topography Mission (SRTM), ASTER GDEM v.2, and Google Earth to identify features and verify information acquired from secondary sources.

Steps used in preparing the baseline assessment

The entire process in formulating the country programme involved (Figure 5):

a) multi-stakeholder consultations,
b) updating the OP6 CPS baseline assessment of the priority Black Volta Landscape, and
c) elaboration of the Country Programme Strategy (CPS) for OP7 in close coordination with the SGP National Steering Committee, the UNDP and other development partners.

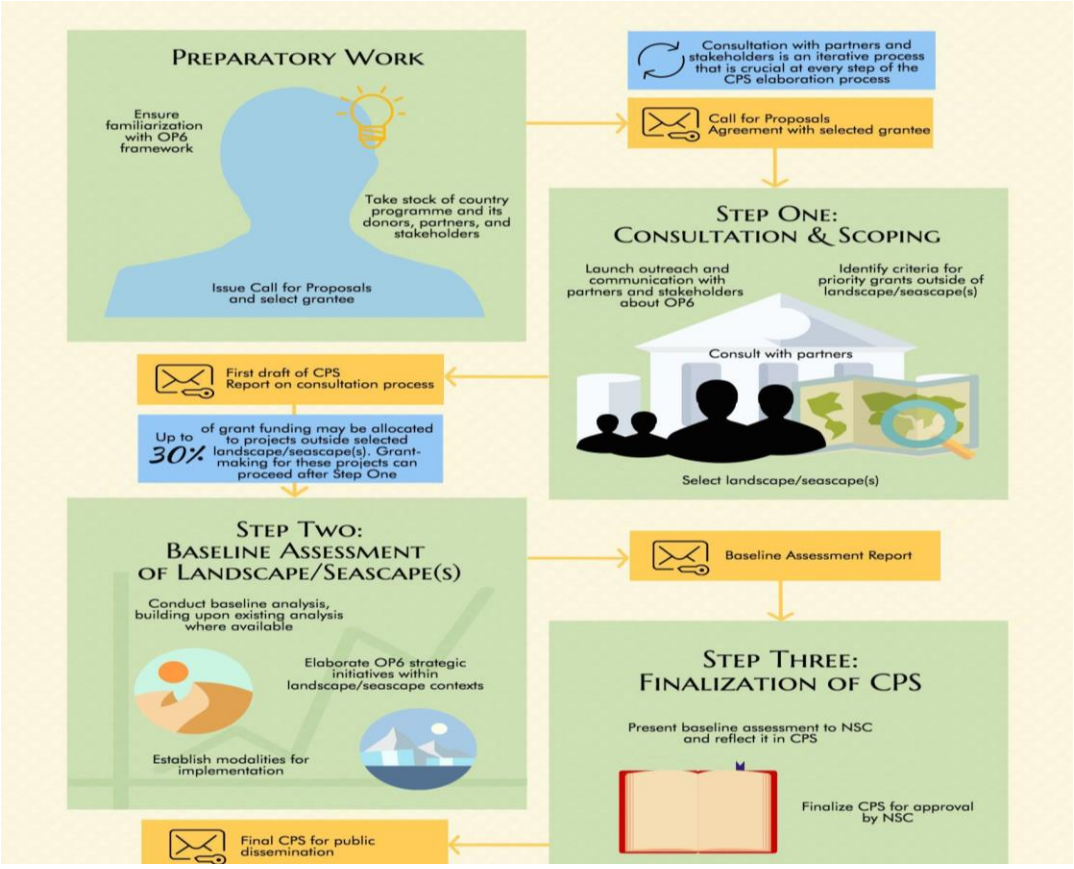


Figure 6 ***Steps used in the formulation of the OP7 Country Programme Strategy***

The key steps in this preparatory process and the key deliverables expected are described in detail below:

Step 1. OP7 Country Programme Strategy consultations and Scoping exercise

To initiate the formulation of the SGP OP7 Country Programme Strategy (OP7 CPS), an assessment and scoping exercise was undertaken to take stock of the results and achievements of the SGP country programme. The process sought to identify the priority directions for programming in OP7 in line with the SGP OP7 project document, the country's priorities, GEF-7 programming directions, and potential synergy with UNDP and other partner agencies. Based on the project reports, the programme annual report (2018) was prepared for stakeholders' review. In addition, a 15-minutes video document was prepared to highlight on major achievements.

The CPS consultation and scoping process began with a two-day stakeholder review workshop in Wenchi in October, 2019. This workshop included all relevant stakeholders from government, civil society, UNDP country office, sector agencies traditional authorities, project grantees and other partners. Its purpose was to identify the gaps and opportunities of SGP for programming in OP7 in order to focus the programme to deliver the strategic impact expected in terms of the OP7 directions and initiatives.

The process adopted included the following broad elements:

a) ***Communications, outreach and capacity development about OP7 and its strategic initiatives.*** This initiative served to explain the need to focus SGP on landscape areas for achievement of greater strategic impact through clustering of projects and achievement of synergies.

b) ***Multi-stakeholder consultations.*** This consultation process began with the GEF/SGP National Steering Committee, Technical Advisor Group (TAG); partners from the Government organizations working with SGP: (Ministry of Food and Agriculture, Ministry of Environment, Environment Science, Technology, and Innovation, Ministry of Energy (Renewable Energy), Forestry Commission, Ministry of Local Government and Rural Development, Department of Social Welfare); Civil Society Groups (NGOs, Community based organization, farmer based organizations); development partner agencies; and the Private sector organizations (in the natural resource sector) etc. in order to achieve a broad consensus on the country programme approach in OP7.

c) ***Selection of the landscape area(s) of focus***. Based on the achievements of the OP6 within the BVB, the SGP's niche, opportunities, challenges, and potential for synergies, the SGP secretariat presented the Black Volta landscapes for stakeholder selection of sub-areas to ensure that the SGP grant-making is strategic and achieves greater impact.

d) ***Grant-making outside the BVB landscape***. In OP7, up to 30% of grant resources could be allocated outside of the landscape/seascape areas, provided that these funds are utilized strategically. Criteria for prioritization of projects and a typology of projects that may be identified in the General Evaluation and Scoping Exercise included the following:
    - Projects that could promote innovation in relation to SGP OP7 strategic initiatives and directions;
    - Projects that provide new opportunities for partnerships and replication;
    - Project that will help translate landscape lessons into policy or promote uptake;

- CSO-government dialogue platforms that promote civil society engagement with government in the context of multilateral environmental agreements

Step 2: Selected Landscape Baseline Assessment

The Landscape Baseline Assessment process was guided by the CPS Consultation and Scoping exercise (Figure 1). This process produced consensus for the priorities and planning for delivering OP7 outcomes in the country. The objective of the baseline assessment is to assist the SGP Ghana to elaborate a landscape-wide baseline, and develop a landscape strategy that will guide grant-making with typology of projects proposed, and sets of indicators for selected SGP strategic initiatives identified.

Landscape Delimitation and Baseline Assessment

The geographical scope for OP7 was limited to the Black Volta River Basin in order to consolidate the gains made under OP6 and also to allow for the initiation of innovative technologies that will transform the landscape. Based on consultation, scoring and negotiations, the stakeholders recommended that the OP6 geographic area should be extended to cover the entire Black Volta Basin. The criteria used in selecting the Black Volta Basin as the landscape qualified to be used to implement the OP7 objectives is summarized in Table 7.

*Table 6 : **Criteria for selecting the OP7 landscape***

Baseline Criteria	*Conditions in the Black Volta Basin*	Remarks
Global Environmental Characteristics		
Presence of important ecosystems that are recognized globally and/or nationally	*The landscape falls within three agro-ecological zones:* – *Sudan Savannah,* – *Guinea Savannah,* – *Forest/Savannah transitional zone.*	The vegetation is about 60% grasses and 40% savannah woodland with stretches of forest along the river basin.
Presence of globally and/or nationally threatened species	*Two National Parks exist in the landscape, namely: Bui and Mole National Parks.* *In addition, there are two forest reserves (Kenikeni, and Yakombo)* *The parks provide safe haven for the following threatened species: white-breasted guinea fowl (Agelastes meleagrides); the red & olive colobus monkey (Colobus angolensis), hippotamus (Hippopotamus amphibious), honey badger (Mellivora capensis), lions (Panthera leo), Leopards (Panthera pardus), Elephants (Loxodonta africana), Buffalo (Syncerus caffer).*	Bui National Park (181,290 ha) Mole National Park (457,700 ha) There is a reasonable variety of some fauna species: 13 reptile and 3 amphibian species found, 226 bird species, 40 species of large mammals belonging to 13 families, low levels of small mammals and high levels of insect species diversity. Bui National Park is home to the largest Hippopotamus population in Ghana.

Baseline Criteria	*Conditions in the Black Volta Basin*	Remarks
Areas of increased threats to ecosystem integrity	*The districts of increased threats to ecosystem integrity are: Lawra, Nadowli, Wa West, Banda, Tain, Bole Central Gonja District and Sawla-Tuna-Kalba*	The primary **threats** are: land cover-change and transformation; landscape fragmentation that disrupts herbivore communities and fire regimes; climate change and rising atmospheric CO_2, decline in species; increasing poverty levels; over-exploitation of natural resources (woodfuel harvesting); high incidences of wildfire; and unsustainable agricultural land expansion due to decline in soil productivity.
Presence of degraded land areas that are prioritized globally and/or nationally	*Bui National park is under siege with the spread of illegal gold mining. The BVB landscape experience annual bushfires.*	There are indigenous tribes fringing the park. The three major groups are: the Gonjas at the northern border of the park, the Mos at the Eastern border and the Bandas at the Southern frontier.
Areas with low access to grid electricity	*The electricity coverage within the landscape is about 65%. The districts with low electricity coverage are: Nadowli, Wa West and Central Gonja*	The national policy is to attain 100% electricity coverage.
Areas facing climate change vulnerability	*Climate change hotspots within the BVB landscape are Nadowli, and Bole. These areas experience: (i) rising temperatures, (ii) declining rainfall totals and increased variability, (iii) rising sea levels and (iv) high incidence of weather extremes and disasters.*	Some of the key challenges: 1. Poor and Inadequate Infrastructure 2. Limited Human Resource Capacity 3. Weak sub-regional network 4. Inadequate financial resources/Low budgetary allocation 5. Flooding Siltation of river beds 6. Drought - deforestation - long dry season - scanty rainfall
Areas covered by International Waters Strategic Action Plans (SAPs) – Large Marine Ecosystems and Water Basins	*The Black Volta River Basin is a trans-national river system that stretches from North to South through Mali, Burkina Faso, Ghana and Cote d'Ivoire, and from Burkina Faso, Cote d'Ivoire and Ghana from West to East.* *The BVB in Ghana covers an area of about 18,384km^2 constituting 14% of the entire Black Volta Basin.*	The Bui reservoir at its full capacity supply level covers an area of 444 kilometer square.

Baseline Criteria	*Conditions in the Black Volta Basin*	Remarks
Areas recognized as important/priority through international and national processes and institutions (example, UNESCO World Heritage Site, Key Biodiversity Areas, Land degradation (LD) hotspots, deforestation hotspots (SFM), aligned with NBSAP, NAPA, and other national strategies in relation to MEAs)	*The areas recognized as important priority are* - *the Mole National Park,* - *Bui National Park* - *The ancient mosques in Larabanga, Banda Nkwanta*	None of the areas has been designated as UNESCO heritage site although the process has started for Mole National Park.
Socio-economic characteristics		
Areas of the country with high poverty/low human development index	*Mapping the incidence of poverty in the country shows that there is a high concentration of poverty in the Black Volta Basin of Ghana. The districts with high incidences of poverty are:* - *Wa West (92.4%)* - *Wa East (83.8%)* - *Bole (79.4%)* - *Kintampo South District (78.3%)* - *Banda District (78.0%).*	The poverty in these districts are not only widespread, but also entrenched.
Presence of strong traditional systems of governance (such as ICCAs)	*There are the presence of strong traditional systems of governance in the BVB landscape. Management of Sacred groves, are dependent on respect for religion, local cultural structures and individual peer pressure.*	A number of scared sites are intact.
Presence of important cultural heritage (including sacred sites, archaeological features, traditional knowledge, etc.)	*There are about 20 sacred sites within the landscape mostly in the Bole, Sawla and Nandom districts. (Appendix 1)*	Most of the groves are over 200 years and have been preserved by traditional norms and belief systems.
Presence of Indigenous peoples/ ethnic minority groups	*There are indigenous tribes within the landscape whose culture, belief and practices have not been influenced severely by western culture. The major groups are: the Gonja's, the Mo's, the Lobi's and the Banda's.*	There are inter-marriages among the tribes.

Baseline Criteria	*Conditions in the Black Volta Basin*	Remarks
Stakeholder Capacities		
Availability of organizations (NGOs, CSOs and CBOs)	*There are over 20 registered civil society organizations working within the environment sector. Besides the OP6 established more than 15 farmer based organizations.*	There are activity based farmers groups for Cashew, Groundnuts, etc.
Availability of partner institutions (local governments, civil society groups, universities, others)	*The University of Energy and Natural Resources and the Centre for Scientific and Industrial Research is providing the technical backstopping to the Project. The Bui Power Authority, the Black Volta Basin Secretariat (GEF funded project).*	Partnership arrangements are on the way to support the project implementation.
Additional considerations: long term potential for SGP role		
Build on gains and networks of previous operational phases	*In collaboration with ESCARD a rural Women's Forum has been formed. This is mobilizing and empowering women to become active partners in the BVB landscape.*	The project is facilitating the formation of Black Volta Basin Forum for CSO to advocate for the communities within the landscape.
Provides opportunities for deeper impact and broader adoption (scaling up, replication, policy influence)	*The success of OP6 provides the opportunities for scaling up. A number models for organic farming, agroecological agriculture, processing of plastics into fuel, climate smart cashew production, bamboo ecology has been introduced for replication and upscaling.*	Some private sector operators have expressed interest in investing in some of the models.
Presence or potential to collaborate with other large-scale efforts for cofinancing and joint initiatives (e.g. GEF and UNDP Projects, multilateral/bilateral donors, private sector, foundation)	*The Black Volta Basin secretariat of the Water Resources Commission based in Wa is implementing Integrated Water Resources Management (IWRM) project. The focus areas of the basin include transboundary water resources management, domestic water, agriculture, energy and mining. It is a GEF funded.*	Some of the major water users in the BVB include: • Bui Hydropower Authority. • Babator Framing Company. • Azuma Resources Limited. • Ghana Water Company Limited. • African Connections. • Canadian Feed the Future/ACDEP- RESULTS Project. • Zoomlion Ghana.
Logistical considerations (example, geographic accessibility, security concerns, infrastructure)	*The Government flagship programme of planting for food and export is being implemented within the landscape. This provides opportunities for farmers to get access to certified seeds, storage and warehousing and market for products.*	Under OP6 1000 farmers were enrolled under the programme.

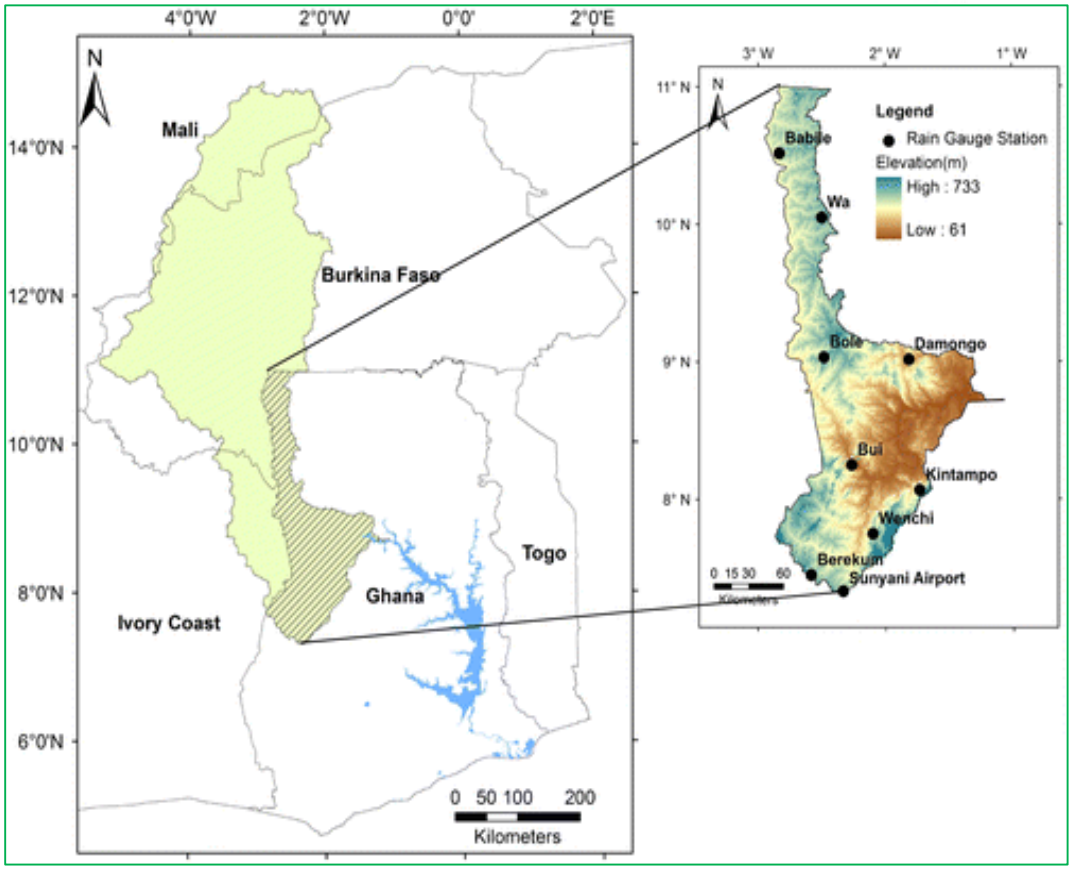


Figure 7: Selected OP7 Socio-ecological Landscape

<u>Selecting Priority Districts within the Landscape</u>

In selecting the priority districts within the landscape, the stakeholders made to use the criteria to score all districts in the landscape. Using a scale of 5 – 1, stakeholders were asked to score important areas within the landscape for which OP7 can concentrate its investments to yield maximum results on the people and environment. The participants were grouped according to their place of work within the landscape to apply their personal experience over the years to select the districts (*5-very important; 4-important; 3-Average; 2-Not important; 1-Less important*). The outcome of the scoring is summarized in Table 8.

Table 7: Stakeholders Selecting Priority Districts for OP7 Activities

Administrative Region	Black Volta Basin Districts	Biodiversity hotspots, & Key Biodiversity Areas.	Areas of high land/forest degradation	Areas covered by international waters'	Communities with limited energy access	High incidence of poverty	Presence & availability of organizations and vulnerable groups	**Total Score**	*Pass/ Fail*
Upper West Region	Jirapa District	2	4	1	1	3	4	**15**	*Fail*
	Lawra District	4	3	4	2	4	4	**21**	*Pass*
	Nadowli District	5	3	5	4	4	3	**24**	*Pass*
	Nandom District	5	4	5	1	2	3	**20**	*Fail*

Administrative Region	Black Volta Basin Districts	Biodiversity hotspots, & Key Biodiversity Areas.	Areas of high land/forest degradation	Areas covered by international waters'	Communities with limited energy access	High incidence of poverty	Presence & availability of organizations and vulnerable groups	**Total Score**	*Pass/ Fail*
	Wa Municipal District	2	1	1	1	2	4	**11**	*Fail*
	Wa West District	5	2	5	2	4	4	**22**	*Pass*
Bono & Bono East Regions	Banda District	5	2	5	3	5	3	**23**	*Pass*
	Jaman North District	4	3	2	2	4	3	**18**	*Fail*
	Kintampo North Municipal District	4	3	4	3	3	3	**20**	*Fail*
	Kintampo South District	2	3	3	3	3	2	**16**	*Fail*
	Tain District	4	2	3	3	5	4	**21**	*Pass*
	Techiman Municipal District	4	4	3	2	2	4	**19**	*Fail*
	Wenchi Municipality	3	2	2	2	4	4	**17**	*Fail*
Savannah Region	Bole District	4	3	5	2	4	4	**22**	*Pass*
	Central Gonja District	3	3	5	3	4	2	**20**	*Fail*
	West Gonja Municipal District	5	5	3	3	5	5	**26**	*Pass*
	Sawla-Tuna-Kalba	5	5	5	3	3		**21**	*Pass*

From the scoring process the following districts were selected as priority areas for the OP7 investments. Of the 17 districts within the landscape, eight districts were selected as priority districts to be considered first before others (Table 9).

Table 8: Priority Districts for OP7 programme Activities

Region	**Black Volta Basin Districts**
Upper West	Nadowli District
	Lawra District
	Wa West District
Bono & Bono East Regions	Banda District
	Tain District
Savannah Region	Bole District
	Sawla-Tuna-Kalba
	West Gonja Municipal District

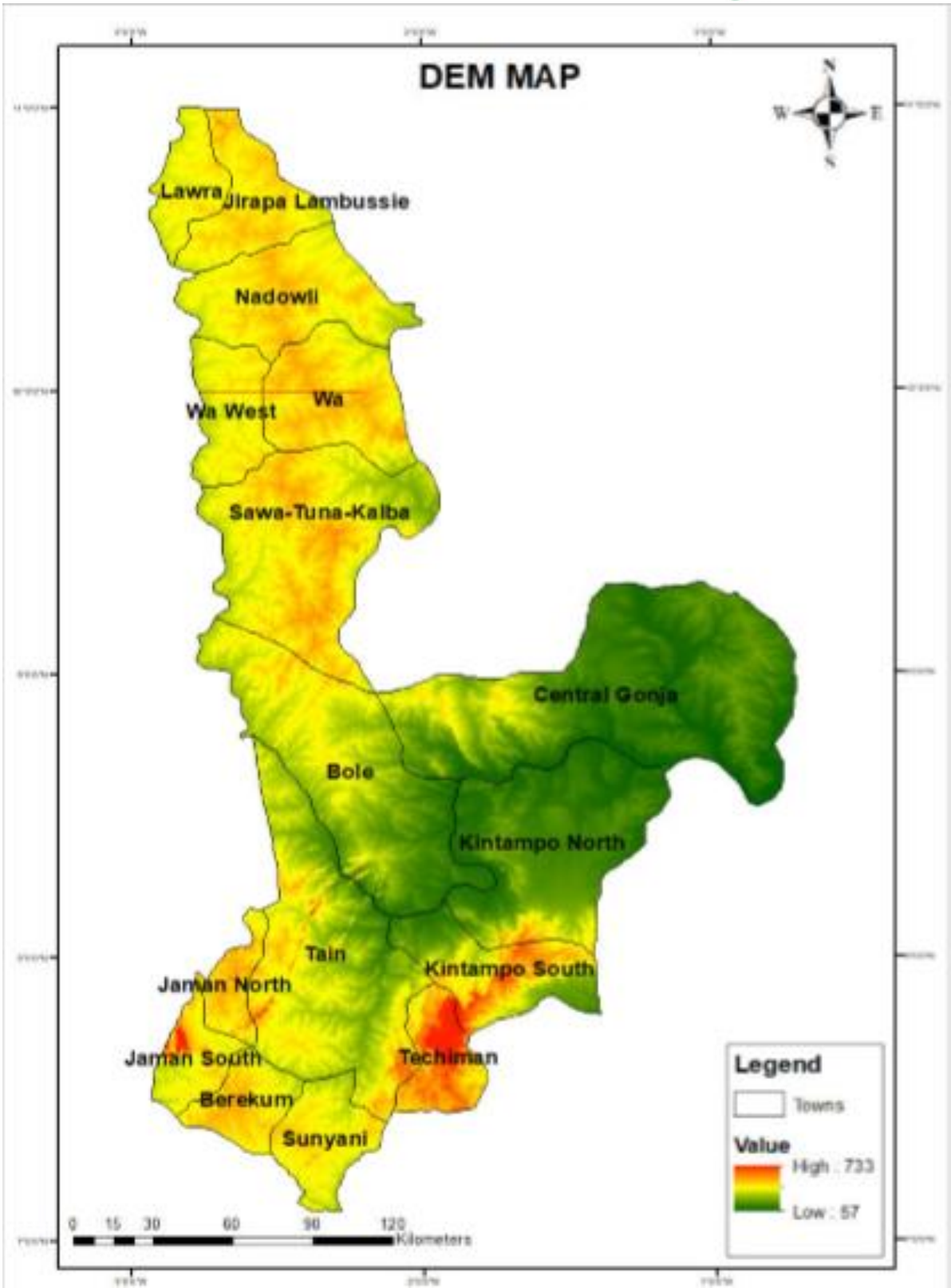


Figure 8 Demographic Map of the Black Volta Basin

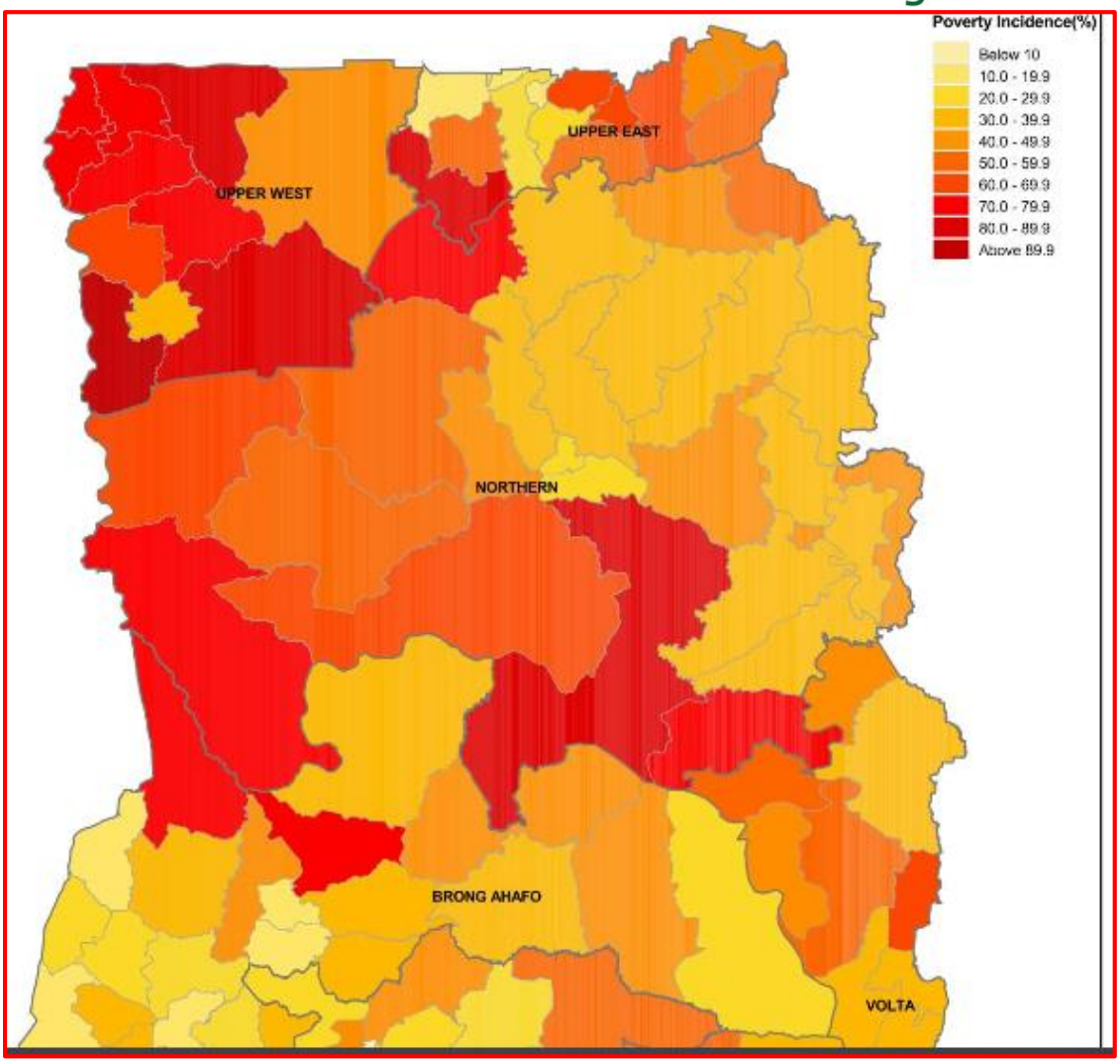


Figure 9: Incidence of Poverty in Northern Savannah of Ghana

BLACK VOLTA BASIN SOCIO-ECOLOGICAL PRODUCTION LANDSCAPE ASSESSMENT

Description of the Black Volta Basin Landscape

The Black Volta Basin (BVB) lies between latitude 7°00'00"N and 14°30'00"N and longitude 5°30'00"W and 1°30'00"W. It covers an estimated area of about 130,400 km^2. The Black Volta River Basin is a trans-national river system that stretches from North to South through Mali, Burkina Faso, Ghana and Cote d'Ivoire, and from Burkina Faso, Cote d'Ivoire and Ghana from West to East (Figure 3). The basin in Ghana covers an area of about 18,384km^2 constituting 14% of the entire BVB.

The Black Volta Basin in Ghana covers: Lawra, Jirapa-Lambussie, Wa East, Wa West, Sawla/Tuna/Kalba Bole, Central Gonja, Kintampo North and South, Tain, Jaman North & South, districts and Berekum, Sunyani and Techiman Municipalities. The BVB in Ghana is grouped into 5 main sub-basins; Dapola, Noumbiel, Vonkoro, Bui and Bamboi. The area of the sub-basins are shown in Table 10 and spatially shown in Figure 9.

Table 9: Sub-basins of the Black Volta Basin of Ghana

Name	Area of Sub-basin (km^2)	Area of sub-basin within Ghana (km^2)	% of Area within Ghana
Bamboi	7525	6676	88.7
Bui	11590	3338	28.8
Dapola	31680	2138	6.7
Noumbiel	12499	3663	29.3
Vonkoro	5347	2569	48.0

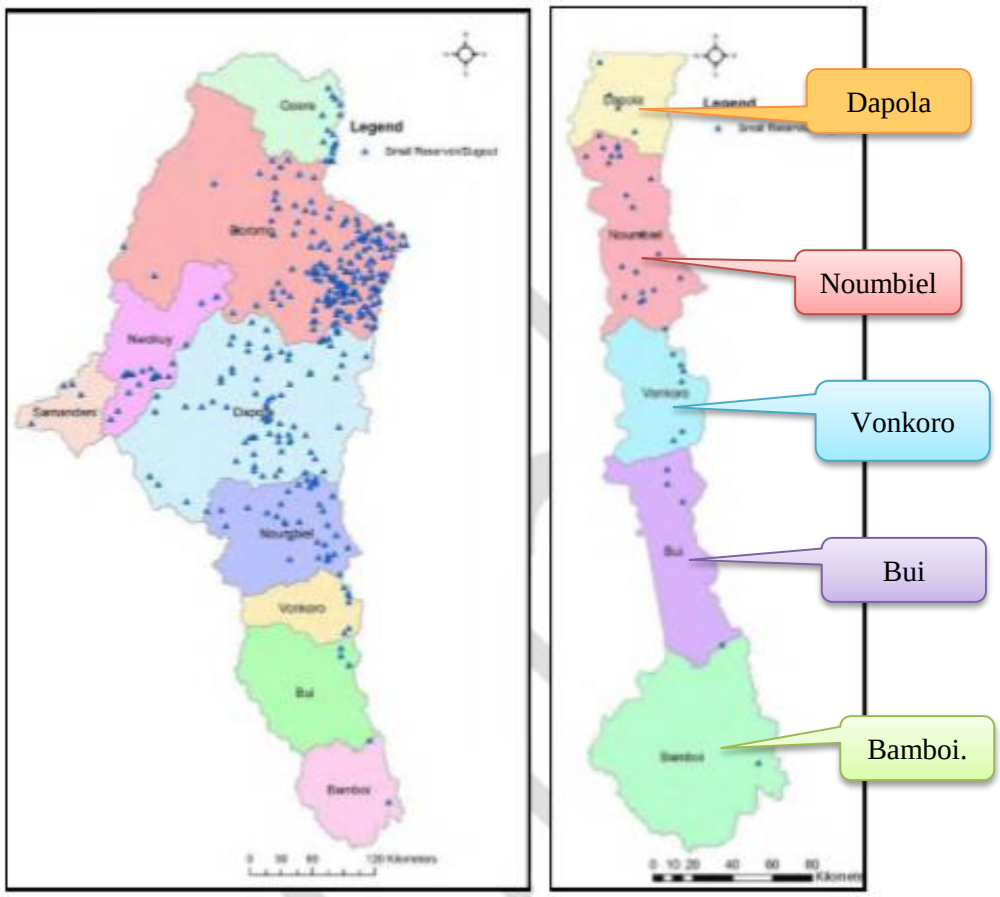


Figure 10: Sub-basins of the Black Volta Basin

Climate variability

Rainfall and evaporation in the Black Volta Basin, annual rainfall values vary from about 1043mm to 1270mm to the south. The minimum potential evaporation is about 1450mm/year to about 1800mmm/year 21 and average runoff is about 243mm/year. The mean monthly runoff from the basin within Ghana varies from a maximum of 623mm to a minimum of about 2mm. The rainfall, temperature and evapo-transpiration patterns in the basin within Ghana are presented in Figure 6 using the Wenchi as the base station.

In general, precipitations have decreased on the whole basin since 1970 (Figure 10). This decrease is due to the climatic variability and has some consequences on water resources and biodiversity. From the figure 9 below for Ghana, there is a general shift of rainfall anomalies from positive (+) to negative (-) from 1960s to 2005 indicating dryness, while temperatures are becoming warmer from 1983.

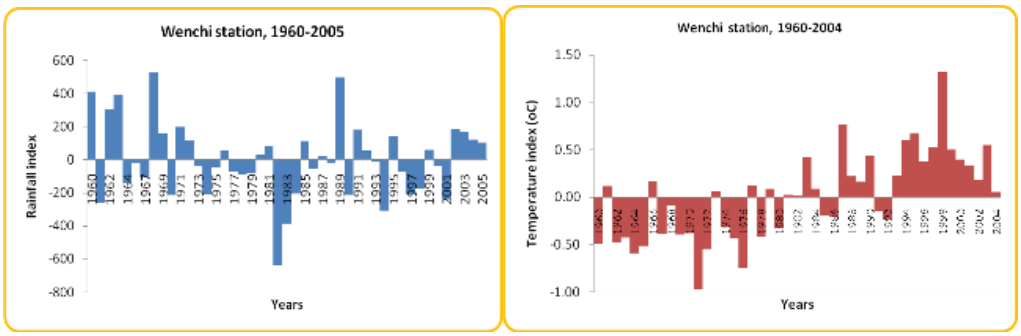


Figure 11: Annual Variation of Rainfall and Temperature

Rainfall and evaporation

The annual rainfall patterns of the BVB varies from about 1043mm to 1270mm to the south. Temperature is high throughout the year with temperatures ranging between 35°C to 21°C. The annual potential evapotranspiration of the basin ranges from 1600mm to 1800mm. Climate variability of sunshine, temperature, rainfall and relative humidity are as shown at Wenchi area of Ghana. The minimum potential evaporation is about 1450mm/year to about 1800mmm/year and average runoff is about 243m3/year. The mean monthly runoff from the basin within Ghana.

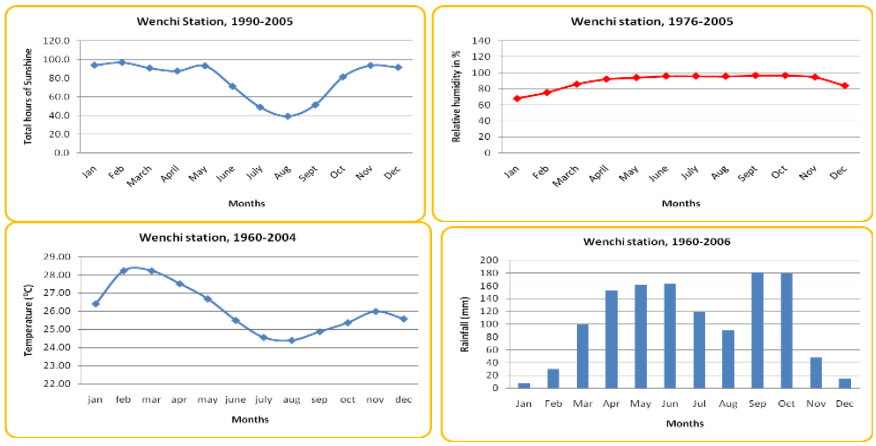


Figure 12: Climate Variability based on Wenchi Station

Elevation, Geology and Soil

The geology of the BVB is generally characterized by basal sandstone, Birimian sediments, Birimian volcanic, Upper Voltaian, Bosum and Oti beds, Tarkwaian and Dahomeyan (Figure 12).

The soil type according to FAO classification is predominately Ferric Luvisols interlaced by Eutric Cambisols and Gleyic Luvisols. The geology of the Black Volta Basin is known for its gold mining potential. The Birimian system is made up of

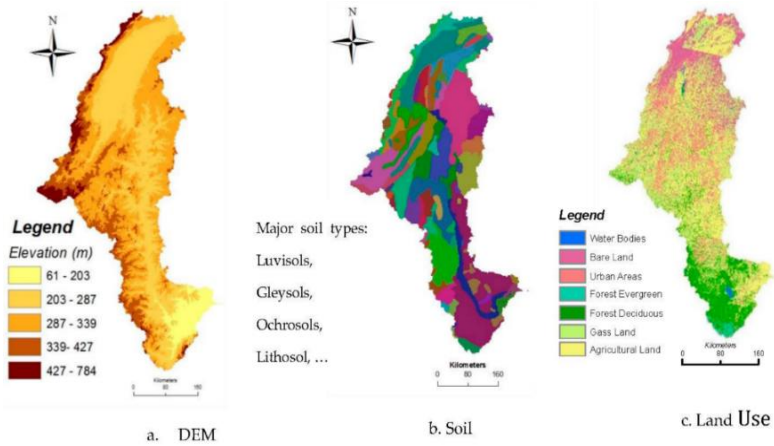


Figure 13: Elevation, Geology and Soil Characteristics of the BVB

metamorphosed lavas, pyroclastic rocks, phyllites, schists, tuffs, and greywackes while the Tarkwaian formation consist of quartzites, phyllites, grits, conglomerates, and schist. In the basin groundwater occurs mostly as a result of fractures in rocks and not its inherent porosity.

Soils of the basin are predominantly light textured surface horizons in which sandy loams are common. Many soils contain abundant coarse material either gravel or stone which adversely affect their physical properties particularly their water holding capacity. The soils are generally very fertile for agriculture. The fertile nature of the soils also favours the growth of the grasses and shrubs thus making the area favourable for the grazing of livestock.

The geology is dominated by sand stones, shales, mudstones, limestones, phylites and schists with mineral depositions on granites formations (Figure 13)

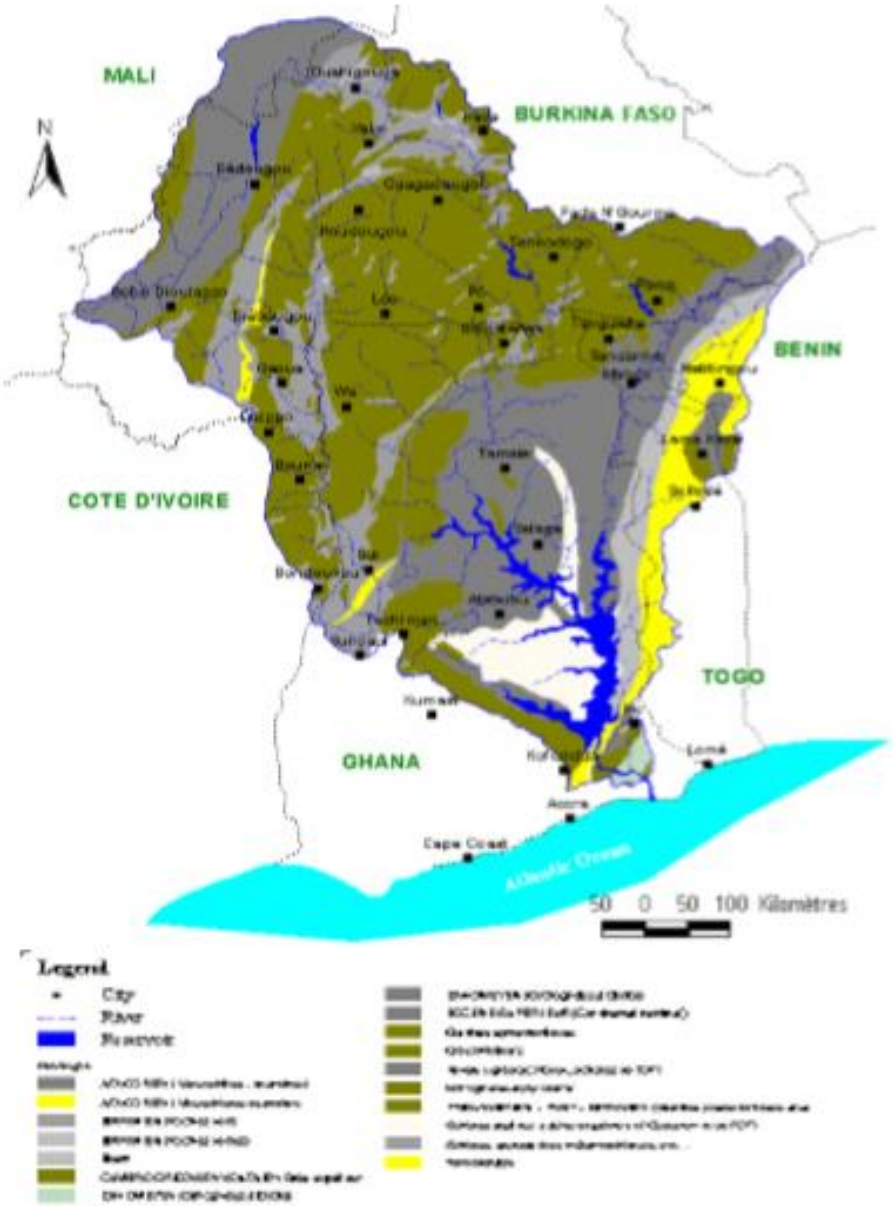


Figure 14: Geological Map of the Volta Basin

Drainage Network

The Black Volta Basin is drained by the Bougouriba, Gbongbo, Grand Bale, Voun Hou, Sourou, Wenare, Bambassou, Bondami, Mouhoun (main Black Volta), Tain and Poni rivers as main tributaries (Figure 14).

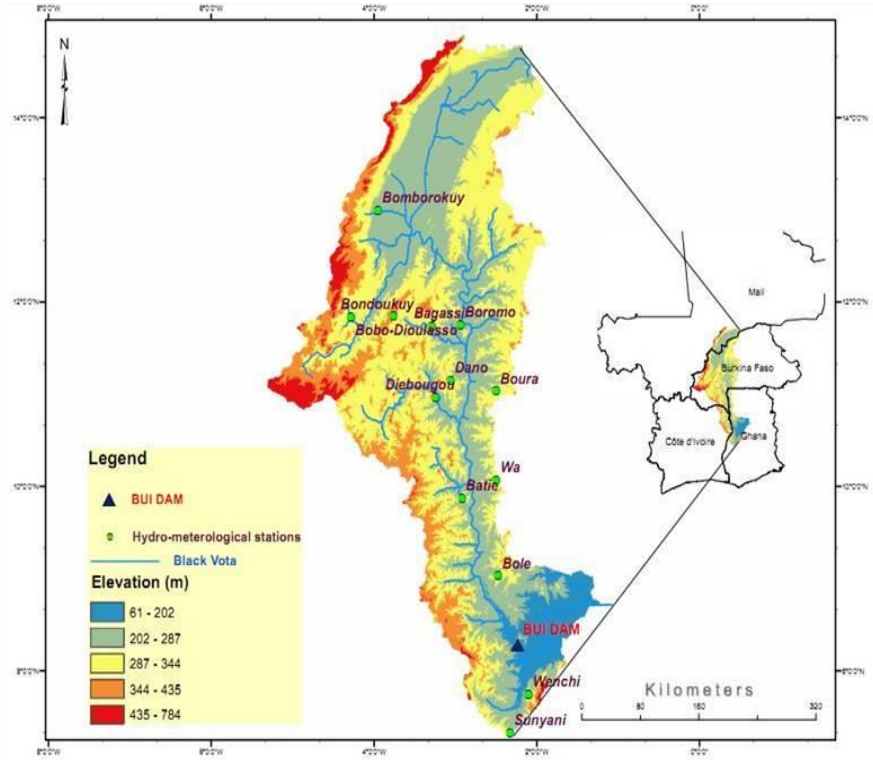


Figure 15: Drainage Network of the Black Volta Basin

Landuse Types

The landuse types in the Black Volta Basin is summarized in Table 11. Most lands are used for as cropland pasture and farming (agriculture) with bush fallow food crop cultivation. The food crops cultivated are mostly under rain-fed grown of cereals including rice, millet, sorghum, and maize; yam, cassava, groundnuts and beans. In the dry season some farmers grow vegetables including tomatoes, pepper, okro, lettuce, cabbage and pumpkin. In the Bui and Bamboi area, cashew and mango are the main cash crop grown in the area.

Table 10 Landuse Types in the Black Volta Basin

Land-use types	Area (km^2)	Percentage
Cropland	53,098	32.1
Herbaceous	44,024	26.6
Tree open	26,712	16.1
Herbaceous with sparse tree	20,278	12.3
Forest	891	0.5
Shrub	397	0.2
Urban	93	0.1
Water bodies	36	0.0
River	19,965	12.1
	165,494.00	

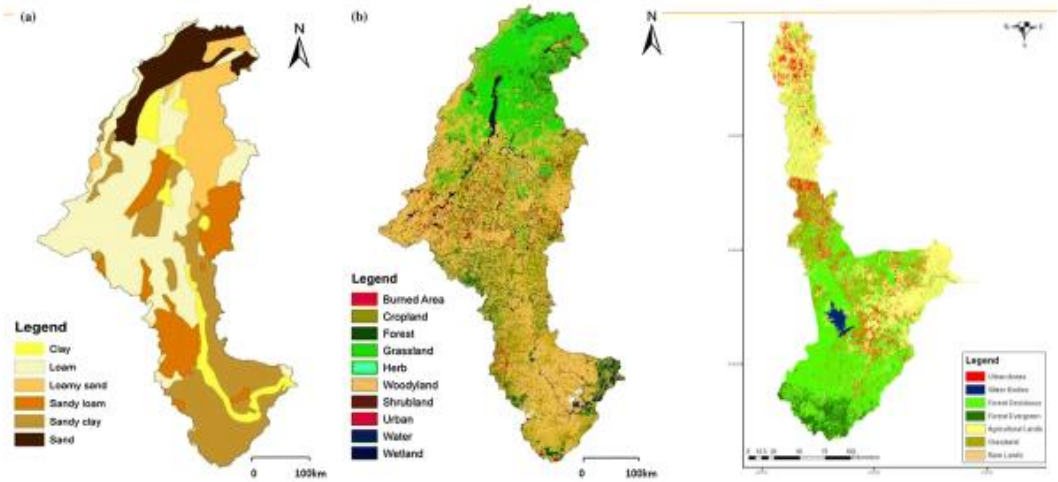


Figure 16 Landuse and Land cover in the Black Volta Basin

Animal grazing in the basin is mostly done on free range except in the dry season, where livestock owners/herdsmen migrate with their animals in search of water and feed in nearby communities. Hence in the basin there are no clearly demarcated lands for grazing. In general, the vegetation is greener in the lower reaches of the basin in Ghana that favors migration of cattle inland.

Crop production in the Brong Ahafo and Northern regions of the Black Volta basin contribute 37.5% of yam, 11.3% of cassava, 17.2% of maize and 28.7% of rice with respect to the national totals. Cashew cultivation is currently becoming prominent in the basin especially around Bui and Bamboi area. Fishing population along the banks of the river is also increasing with adverse implication for the integrity of the newly emerging Lake environment as a whole.

Vegetation

The vegetation of the basin consists of predominantly of sub-humid savannah, mainly tall grasses interspersed with Sheanut, dawadawa, teak, kapok, cashew and mango. Vegetation is about 60% grasses and 40% savannah woodland with stretch of forest along the river basin and soil are susceptible to various forms of erosion during the rainy season. Most part of the basin fall within the Savannah zone as shown in Figure 16. The southern portion fall within the moist semi-deciduous and the transitional vegetation zone.

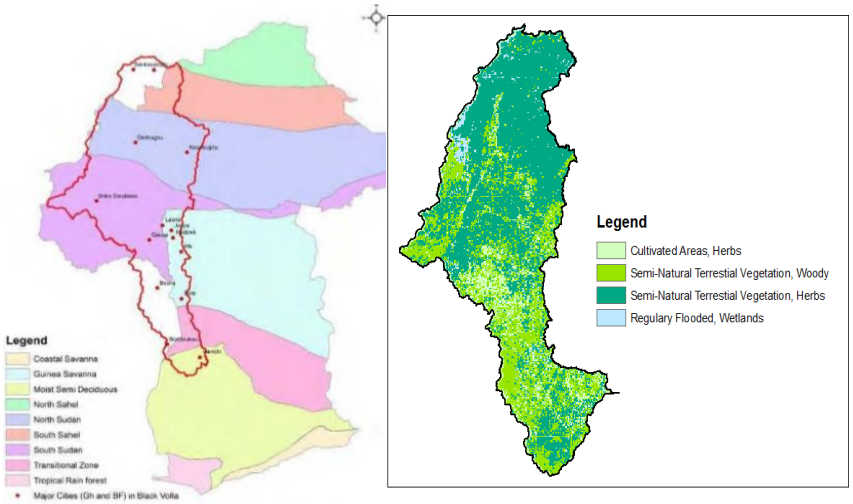


Figure 17: Vegetation Cover of the Black Volta Basin

Relief, Land Use and Land Cover Changes

The terrain characteristics were derived from the Shuttle Radar Topography Mission (SRTM) 90m Digital Elevation Model (DEM). The elevation varies between 586m to 74m. The cloud-free Landsat images were acquired on the following dates – 20th February 2001, 7th January 2008 and 18th February 2015. These were used to derive the LULCC maps for the study area. The changes are irregular over the time owing to the various activities such as mining, urbanization and the building of the Bui Power Plant that has led to the rapid changes in the LULC classes. The most significant change is the Bui Reservoir which has increased in size within a period of less than 3years to covering an approximate area of 451.74sqkm^2 and a perimeter of 129.5km bare lands, farmlands, settlements and pasturelands are on the increase. It is very difficult to see clearly from a 30m resolution Landsat image these key differences, but the field survey revealed that settlements around the Bui reservoir are increasing and these are usually dotted settlements and would be typically be grouped under this large category.

Table 11: Landuse land cover changes (2001 - 2018)

Landcover Classes	2001		2008		2018	
	Area (ha)	(% Area)	Area (ha)	(% Area)	Area (ha)	(% Area)
Water bodies	1,106,939.50	0.83	1,321,099.50	0.99	7,288,132.50	5.45
Forest Deciduous	17,372,391.50	12.99	23,849,393.00	17.83	3,642,058.50	2.72
Bare Land	48,683,922.00	36.40	5,403,524.50	4.04	20,777,535.50	15.54
Farmlands & Settlements	38,408,257.50	28.72	28,809,874.00	21.54	8,551,676.50	6.39
Pasturelands	28,168,732.50	21.06	74,356,352.00	55.60	93,480,840.00	69.90
Total	133,740,243	100.	133,740,243	100.	133,740,243.	100.

Forest cover

The structure of forest tree stands determines the number of ecosystem and community processes and defines the habitat for much forest dwelling species. The study area is composed of diverse forest cover types. The forest type is predominantly of the guinea savanna with scattered trees and shrubs, and a sparse ground cover of grasses, examples of trees found include Baobab, Khaya spp, Dawadawa, Shea and Acacia species in the Northern Region. In Brong Ahafo Region, the vegetation type is moist semi-deciduous and guineas savanna woodland forest types and examples of trees found comprise of Khaya spp, Ceiba, Odum, Wawa, Oprono, Emire, Otie and Onyina. Within this area is the Bui National Park which serves as a priority conservation area and serve as a home for several important species of flora and fauna (including the white-breasted guinea fowl, the colobus monkey, chimpanzee, hippopotamus, and the honey badger). The most common plant species found within the study area are characterized in Table 13.

Table 12: Plant Species and Characteristics

Tree species	Average height (m)	Diameter at Breast Height (DBH) (cm)	Basal Area m^2	Canopy size (m)	
				North-South	West-East
Shea tree	9	55	0.24	7.35	7.16
Dawadawa	8	65	0.33	6.53	6.33
Yellow Berry	9	70	0.38	7.35	7.16
Boabab	12	120	1.13	9.8	9.6
Khaya spp.	13	95	0.71	10.4	10.20
Ceiba	10	100	0.79	8.17	7.97
Emire	10	80	0.50	8.17	7.97
Acacia	9	90	0.64	7.35	7.16

Table 13 shows the landcover changes in the Volta basin. It could be deduced from the figure that most grass lands are being turned into Agriculture Land over the years. Forest reserve had been depleted but gradually appears to be intact. The current situation would be challenged in the coming years with the onset of industrial development including mining and population expansion such as the case of Nadowli and Lawra districts. Clearly, environmental awareness creation is necessary to inform a kind of controlled development before the environment is irresponsibly tempered with.

Biodiversity

Two distinct types of savannah can be found in the basin: woodland savannah and grassy savannah. The Woodland savannah, mostly found in the southern parts of the basin, is densely wooded with tall to medium tall grasses such as Andropogon and Pennisetum spp. Main tree species associated with woodland savannah include *Adansonia digitata, Vitera paradoxa, Daniella oliveri, Mitragyna inermis, Butryrospermum parkii*, *Khaya senegalensis, Parkia biglobosa, Tamarindus indica, Terminalia macroptera* and *Faidherbia albida* (MLNR 2012; Siaw 2001). Grass savannah, mostly found in the northern areas of the basin, is mainly grassland interspersed with trees and shrub in some areas. Tree species found in this type of savannah include *Acacia spp, Balanites aegytiaca, Leptadenia pyrotecnia, Aristida spp, Schoenfeldia gracillis, Cenchurus biflorus* and *Anogeissus leicarpus*.

The basin has a number of national parks, wildlife reserves, and other protected areas. The vegetation in these areas is green throughout the year, although some species do shed their leaves in the dry season (MLNR 2012). Common trees associated with the forest are *Cynometra ananta, lophira alata, Tarrietia utilis, Antiaris africana* and *Chlorophora excelsa*. These tree species appear to have a higher rate of regeneration and are more resistant to the annual bush fires (MOFA 2011). Some trees are protected. These *include Vitellaria paradoxa, Parkia biglobosa, Acacia albida, Anogeissus leiocarpus, Adansonia digitata* (Baobab), *Tamarindus indica, Mangifera indica* and *Ceiba pentandra*. Forest areas are thinning in favor of croplands. Fallow periods have also reduced significantly. This is mainly due to increasing population growth.

STAKEHOLDER AND RISK ANALYSIS

The Stakeholder and Risk Analysis (S&RA) of the BVB involves analysis of the poverty and social aspects of the environment, mining, forestry and wildlife sectors of the local economy. The aim is to improve the on the environmental management systems of the basin by providing evidence to inform the Country Programme Strategy and a wide range of stakeholders with special interest in the Environment and Natural Resource (ENR) sectors. The process is also to inform policy and promote dialogues among the Government, Civil Society Organisations, private sector, and development partners.

Context and issues

Despite the immense contribution to the local economy of the BVB, natural resources and biodiversity have been significantly depleted. Over 80% of the vegetation cover has been lost in the last century mainly due to unsustainable farming, wildfires, uncontrolled woodfuel production and illegal logging which, at current capacity, is about four times the sustainable rate. Land degradation in the landscape encompasses soil degradation, intense erosion and deforestation.

The basin's population is heavily dependent upon the land resources of the region for subsistence agriculture and livestock production. This leads to both environmental and economic challenges. However, statistics on the loss of soil and vegetative cover in the Volta Basin are scarce.

Artisanal and small scale mining has resulted in biodiversity loss, increased erosion, pollution of water bodies, livelihood destruction and conflict. These, together with changing climatic conditions, are perpetuating stagnation and decline in crop yields and productivity, depletion of fish stocks, timber and non-timber forest products and wildlife resources such as the extinction of the red colobus monkey, hippopotamus and elephants. Air and water pollution, together with sanitation issues, are creating serious health threats for the majority of the population within the landscape.

Other factors such as weak policy, implementation and enforcement regimes coupled with rampant abuse and non-observance of laws and regulation by both corporate entities and a large section of the population, account for poor the environmental outcomes. The Country Environmental Assessment (CEA) estimated that the annual cost of natural resources lost, environmental degradation and health-related cost of sanitation and pollution in Ghana is about US $850 million or 10% of the 2014 GDP.

Stakeholders

Within the natural resource sector the key government stakeholders are the Minerals Commission (MC), Forestry Commission (FC), Ministry of Agriculture, and Environmental Protection Agency (EPA); and the Municipal, District Assemblies and Bui Authority. They have a high level of influence in policymaking and implementation, they also have a high level of interest which is very positive for the sustenance of the reform programme. However, there are a large number of primary stakeholders such as communities, Traditional Authorities, Stools, large corporate entities, small and micro-enterprises, artisanal and small scale miners, chainsaw operators who, even though they are impacted negatively/positively by policies, are very distant from the policy process and are not sufficiently involved or adequately consulted in the decision-making process. Other important stakeholders are the Civil Society Organisations and the media practitioners who are often not sufficiently consulted and engaged in policy decisions and implementation in the three sectors.

Risk analysis

The risk analysis identified a number of risks, which were then clustered and reduced to nine. Because these risks overlapped and closely interwoven with each other, five broad categories of risk were identified and prioritised. However, even though two of the causes (fluctuating and competitive global

market and climate change) are external, it is within the control of decision-makers to develop appropriate strategies and plans to mitigate the effects of risks caused by these external factors. Fluctuation in global commodity markets is known to have an effect on the prices that can be obtained for Ghana's minerals and timber.

The five principal risks identified through the analysis were:

- Institutional risks
- Increased social conflict
- Increased poverty and vulnerability
- Reduced investment and growth
- Climate change impacts

The interrelationship among the principal risks are shown in Figure 17.

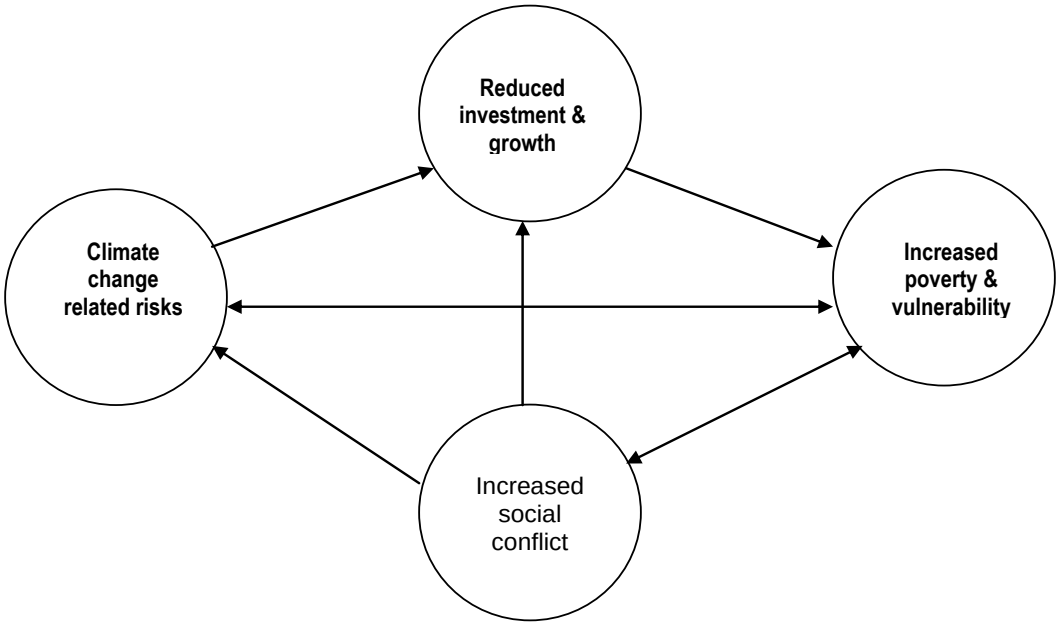


Figure 18: Interrelationship among the principal risks

The major institutional risks that need to be addressed within the BVB are weak capacity of the main institutions involved in natural resource and environmental governance. This compounds some of the other risks in particular the potential for increased social conflict and poverty and vulnerability (e.g., unclear policy and regulatory frameworks, and weak enforcement of laws and regulations). Weak institutional capacity includes inadequate resources in terms of staff numbers, particularly at regional and district levels, training and technical capacity, logistics, equipment and logistics and general funding to enable effective organisational functioning. Although institutional strengthening is a central objective of NREG, this needs to be supported by political will throughout and in particular at the top of Government, i.e., with the President and Cabinet.

Social conflicts exist in the BVB. The underpinning causes of the social conflict include the discretionary power due to weak, confusing, or in some areas non-existent, policy, legislative and regulatory

framework; access rights, compensations and unconventional enforcement practices and related human rights abuses. For example, the ban on the production of charcoal and illegal mining has created tension between the youth and the law enforcement agencies. Unclear guidelines, for example on compensation for displacement or damage to prime community-based resources such as water sources, have led to mistrust, which in turn leads to frustration, and occasionally proceeds onwards to violence. The consequences of social conflicts can be devastating in terms of decline in investment.

Interrelationship of identified risks

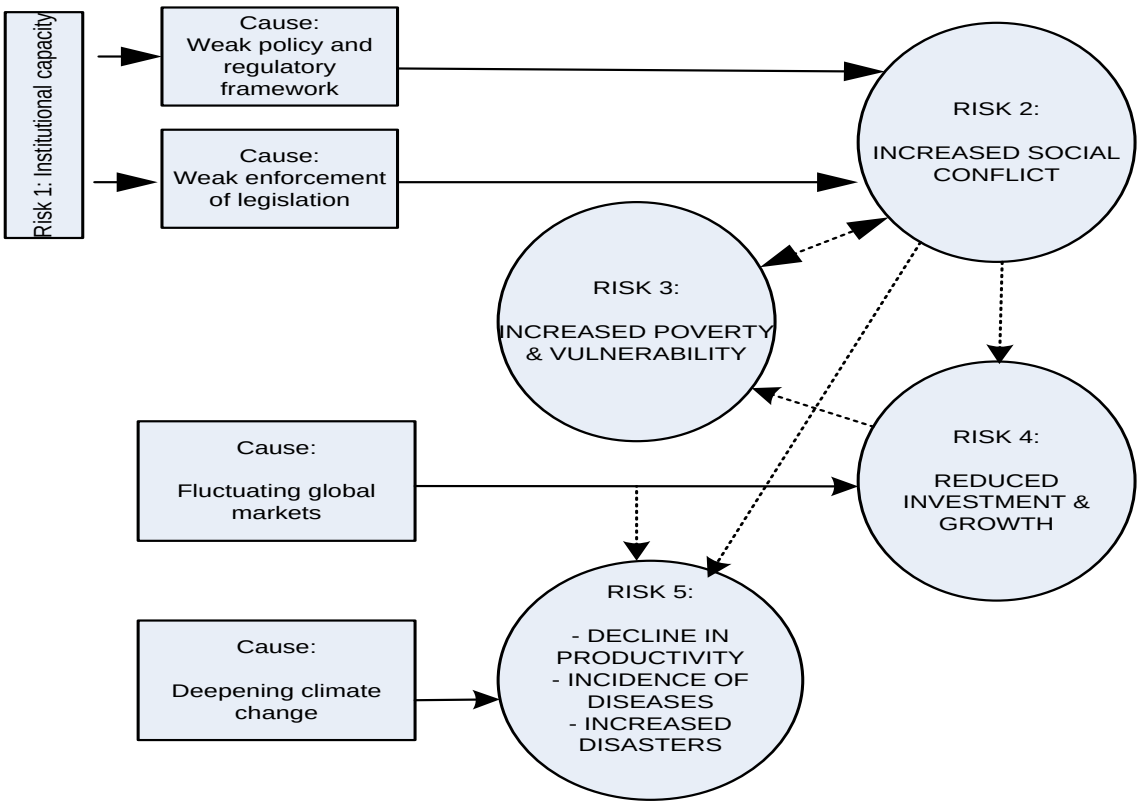


Figure 19 Risks in BVB and their impact on the people

The impact of conflict on poverty and vulnerability, can negatively affect economic progress in the Basin towards achievement of the sustainable development goals. Escalation in conflicts and the way they are handled through the use of the police and the military results in the abuse of rights which create a negative image that erodes Ghana's international reputation especially following the significant progress made by the country in the area of governance.

The groups most likely to be adversely affected by continuation of the existing environmental management arrangements are the rural poor: subsistence farming households; informal (and some illegal-fringe) workers; marginalized groups whose livelihoods are dependent on natural resource sector (e.g., women involved in petty trading and shea butter processing). In addition, some of the causes of their poverty, for example, undervaluation of the holistic nature of their dependence on the area in which they live for a total livelihood, often result in inadequate compensation; inability to fully understand and/or participate in the current processes governing the mining and forestry sectors (e.g., untimely

consultation on highly technical Environmental Impact Assessments). As a result they are vulnerable to the discretionary nature of the unclear policy and regulatory environment which governs these sectors at the moment. The potential for conflicting interests between groups of stakeholders. For example the small scale mining conflicts with the management of the national park and community resource management areas (CREMA).

In the Figure 17 & 18, it can be observed that social conflict is at the heart of the risk scenario. Social conflict is already in evidenced in the mining sector with several fatal incidents having taken place. Any exacerbation of the conditions contributing to this social conflict has to be avoided as the consequences are so BVB, firstly in terms of its economic growth, and secondly on poverty and vulnerability, which would negatively affect Ghana's progress towards achievement of the SDGs. The underpinning causes of the social conflict currently being experienced in mining communities in Ghana include the discretionary power due to a weak, confusing, or in some areas non-existent, policy, legislative and regulatory framework; access rights, compensations and unconventional enforcement practices and related human rights abuses. The unclear guidelines, for example on compensation for displacement or damage to prime community-based resources such as water sources, have led to mistrust, which in turn leads to frustration, and occasionally proceeds onwards to violence.

Major stakeholder Groups their interest, importance and influence in the BVB

The major primary stakeholders involved in the BVB project is summarized in Table 14. The importance, influence and impact of the stakeholders have also been analyzed in the table. The relativity of the importance, influence and impact of the stakeholders are measured by *high, medium and low* based on how these stakeholders are heavily dependent on the BVB landscape for their survival and livelihood.

Table 13: Stakeholder groups participating in the BVB Landscape Initiatives

	Stakeholder	Their Interest/s	Importance	Influence	Impact
1	**Ministries, Departments and Agencies**				
1.1.	Ministry of Food and Agriculture	Sector growth and development Strengthening of District Assemblies Effective local government Monitoring and evaluation of sector policies and activities Increased resources to Districts Good policies on the environment Good EG&M	High	low	Medium
1.2	Environmental Protection Agency [EPA]	Improved quality of environment Reduction in all forms of environmental pollution Sustainable use of natural resources Control of illegal mining	High	Low	Low
1.3	Forestry Commission	Sound sector policies Sector growth and development Effective M&E of implementation of sector policies Sustainable resource management Equitable allocation and distribution resource wealth Minimisation of conflicts in resource allocation, use and management	High	Low	Low
1.4	Minerals Commission	Controls illegal gold mining	Medium	Low	Low

	Stakeholder	Their Interest/s	Importance	Influence	Impact
		Promotion of investment in the mining sector Sustainable resource management Conflict-free resource allocation, use and management			
1.5	Forestry Commission	Sustainable production and utilisation of timber and wildlife resource Effective enforcement of forest and wildlife polices and legislation Reduction in degradation of forest and wildlife resources Revenue generation Efficient processing of timber and tertiary wood products for export Increased participation of communities in resource management Increased investment in forest and wildlife sector including ecotourism development	High	Medium	High
1.6	Water Resources Commission.	Protection of water resources Reduction in the pollution of water bodies Sustainable use of water resources	Medium	Low	Low
1.7	BUI Hydro Authority	Generating electricity for the Black Volta rivers	High	High	High
1.8	Decentralised (District Assemblies)	Governance at regional levels Good governance (participation, transparency and accountability) Increased support to improve the capacity of local forest businesses to access international markets Investments Governance Revenues	High	High	High
2	Rural				
2.1	Rural Communities	Economic Consideration Livelihoods Social Infrastructure Sustainable Natural Resources & Environment	High	High	High
2.1.1	Rural rich	Economic considerations Environmental sanitation	Low	High	Low
2.1.2.	Rural poor	Livelihoods Healthcare Agricultural intervention	High	Low	low
2.1.3	Vulnerable groups				
2.1.3.1	Men (landless, aged)	Cost of living Healthcare	High	Low	low

	Stakeholder	Their Interest/s	Importance	Influence	Impact
		Education Employment			
2.1.3.2	Women	Livelihoods Healthcare Micro-finance	High	Low	low
2.1.3.3	Youth	Employment Education Economic avenues	Medium	Low	Low
2.1.3.4	Migrants	Economic factors Livelihoods Employment	Medium	Low	Low
2.2					
2.2.1	Companies/investors	Resource availability Cost of operations Profitability	High	Low	low
2.3					
2.3.1	House of Chiefs/Traditional Authorities (Regional)	Increased share of royalties and other benefits Prompt payment of royalties Involvement in decisions for the distribution of royalties/other benefits	High	High	High
2.3.2	Queen Mothers Associations (Regional, Local	Access to royalties Adequacy compensation for the people/community especially women Gender issues	High	Medium	Low
2.3.3	Traditional Councils (Stools / Skins)	Strengthening of land tenure system Higher and timely payment of royalties Secured land ownership Accountability and transparency in royalty collection and distribution of resource managers Efficient land administration Minimisation of conflicts Protection of the rights of citizens	High	Low	low
2.3.4	Traditional Rulers/Chiefs	Protection of ownership of land Improved land tenure arrangements Improved royalties/benefit sharing Prompt payment of royalties Adequacy of compensation payment Strong representation of their people Livelihood enhancement from natural resources	High	High	High
2.4	Media	Knowledge and information sharing Education Advocacy	Low	Low	Low
2.5	DONORS				

	Stakeholder	Their Interest/s	Importance	Influence	Impact
2.5.1	Care International Conservation International	Credibility Accountability to donors improved EG&M Strengthening civil society Generating community interest Advocacy Awareness creation and promotion	Medium	Low	Low
2.5.2	National Forest Watch Third World Network Green Earth Org ECASARD Green Advocacy Friends of the Earth Ghana Wildlife Society	Sustainable resource exploitation Protection of natural resources Representation of the weak & vulnerable Restoration of degraded areas Improved governance Transparency and accountability Compensation negotiation, etc Creation of awareness Credibility Accountability to sponsors Improved EG&M	High	Low	low
2.5.3	Local CBOs Youth groups Faith-based organisations Etc.	Credibility Accountability to donors Improved EG&M Community Interest and needs	High	Low	low
2.6	Research & Academic Institutions &	Human resource development and capacity building Influence and participation in policy formulation Research and adaptation Monitoring Consultancy services in feasibility and environmental studies	Low	Low	low
2.7	Development Partners, UNDP	Improvement in policy environment Economic growth Reforms Institutional strengthening Transparency and accountability Improved revenue mobilisation and expenditure Sustainable management of resources Poverty reduction and livelihoods enhancement	Low	Low	low

Gender GAP Analysis in the Black Volta Basin

Women's low status in particular rural areas coupled with gender stereotypes and a poor perception of gender inequalities, continues to persist in Black Volta Basin. This is largely due to practices which portray men as 'heads of households' and women as 'supportive family workers', underpinning the uneven and hierarchical status of women and men in rural areas. In this regards, women and men occupy distinct

positions in the rural economy largely as a result of a gender division of labour within households and the society at large. This distributes the bulk of reproductive activities to women, leaving men time to pursue more market-valued productive activities and resulting in extensive gender segregation in production and reproduction across different sectors of the local economy. The main gender issues identifies in the landscape were as follows:

- Women contribute largely through the provision of labour for planting, weeding, harvesting and processing. These activities that are rarely rewarded equitably in monetary terms.
- Unpaid labour: Women's unpaid labour is critical for livelihoods and the security of household and family members. It involves routine and time-consuming tasks, such as collection of firewood, water fetching, childcare, sweeping, garbage disposal and cooking, as well as the reproduction of social relations in the household and the community. The women spend more than two times as much time on domestic work as men.
- Limited access to power: Women have limited access to power, decision-making, resources and fulfilment of their rights. The communities are male dominant and women rarely participate in decision-making.
- Women also suffer from diminished self-esteem and confidence, which are critical personal assets that can discourage or encourage them to act. This further entrenches the issue of gender inequality thereby posing a challenge for the implementation of laws and policies on gender equality.
- Unsatisfactory access to technical knowledge on agriculture due to numerous barriers to accessing information and profiting from extension services and training. This can be attributed to the low self-confidence of women in areas and roles other than the socially constructed roles and the overdependence on the men who usually have access to such information and manage the flow of information where the women mostly do not benefit.

From the stakeholder interactions, it was estimated that if women farmers were granted similar access to resources to productive resources as men counterpart, they could increase yields on their farms by 20 to 30% which could raise total agricultural output in landscape by 4 % leading to a significant reduction in hunger. The long-term effects would be improved health due to improved nutrition, good environmental management and reduction in conflicts.

There is unequal access of men and women to modern forms of energy and a limited involvement of women in the planning and management of energy services. Women are the most important actors in the renewable energy sector, in terms of their contact, use and management which can either be in their very crude or primary forms. Biomass (primarily wood fuel and charcoal) constituted 85% of the total energy consumed the landscape. The women bear the brunt in the use of the wood fuel-based energy economy in the country. The health impacts of indoor air pollution from traditional biomass fuels and their negative impacts on women, girls and babies remain a critical issue.

<u>Summary of gender Issues in the Black Volta Basin</u>

- There is little knowledge base on gender issues in within the landscape. An understanding of the situation of women and men in the landscape must be seen from the perspectives of division of labor, employment, access to resources, and participation in decision making; especially in the agriculture and energy sectors.

- Women do not have satisfactory access to technical knowledge on agriculture due to numerous barriers to accessing information and profiting from extension services and training. Women-led enterprises must be promoted.

- Capacity building of women is crucial for effective gender sensitive programme design, analysis, development of SMART indicators, programme implementation and ultimately monitoring, evaluation and reporting.

BLACK VOLTA BASIN LANDSCAPE RESILIENCE ASSESSMENT

Landscape diversity and ecosystem protection

The BVB landscape is highly heterogeneous in agricultural biodiversity and food systems. Different tree species exist in semi-deciduous, transitional and savannah ecosystems. The national protected areas (Mole and Bui), CREMAs, community forests, sacred sites and wetlands. The wetlands within the savannah ecosystem are used for rice and vegetable cultivation, and the lake is used for fishing. Different traditional farming systems that promote the conservation of biodiversity and promote different strategies that allow the landscape to recover and regenerate after extreme shock. Traditionally, most farmers promote ecological interactions between different components of the landscape while managing resources. For example, there are local byelaws that prohibits the farming along riverine forests and water heads. This allows the water sources to be maintained and free from pollution.

Local knowledge about agricultural biodiversity is very high. Generally most farmers in the south practice traditional agroforestry that integrates trees on farms. However, the shifts to cashew cultivation this practice is gradually dying off with the south becoming monoculture. However in the transitional and northern sectors, trees like Dawadawa, Shea etc. are allowed on farms and incorporate into cash crop farms like mango and cashew. By tradition farmers integrate trees species like Odum (*milicia excels*), Ahokakyen (*canthium hispidum*), Prekese (*Tetrapleura tetraptera*), Sese (*Haloarrhena floridbunda*) on farms because they the abode of the gods and also good omen for people and environment. Strips of land along water bodies are left uncultivated to protect the homes of river gods. Traditional slash and burn practices are still in use, with a fallow period of three years or more needed to restore soil fertility. Local belief systems and taboos have guided the conservation of biodiversity within the landscape, thereby also enhancing food security. Locally produced food, such as yam, brown rice, maize, cassava and leafy vegetables, forms the basis of more than 90 percent of the local dishes consumed.

There are over 10 caves of social and religious significance in the Banda district. These caves are considered either as the abode for the gods, or sacred sites. The caves now serve as shelter and habitat for animals like pythons, birds, bats and animals that are considered as totems for the people. There are 16 traditionally protected forests (sacred groves). Most traditional priests and traditional health practitioners have their home within these sacred sites, which are managed by traditional rules and norms and practice their health delivery system.

Agricultural biodiversity and human well-being within the landscape

Farming, hunting, fishing mining and petty trading are the main economic activities within the landscape. Farm holdings range from 1.5 ha to 2 ha of arable land, with farmers engaged in mixed-cropping. Cash

crops cultivated are cashew, mango, groundnuts and soya beans. Shea (natural regeneration) are the main trees on farm as cash crops. The main food crops are yam, rice, maize, cassava, legumes, and vegetables. Other subsistence activities include small ruminant rearing, cattle ranching and artisanal fishing. It is estimated that 46 percent of all households in the area operate non-farm enterprises as additional sources of income, with women operating 85% of these businesses. The landscape is a net exporter of staple foods like yam, brown rice, gari (processed cassava) and indigenous leafy vegetables.

Local knowledge, learning and Innovations

Conservation practices within the landscape are embedded in the cultural values and practices that are intrinsically tied to conservation of biological resources. Wildlife is protected through the use of totems as bio cultural heritage, which are handed down from one generation to the other. The bio cultural heritage includes both tangible and intangible values covering:

- Traditional laws and norms;
- Spiritual believes and values;
- Ancestral knowledge and practices; and
- Biodiversity conservation.

The members of the community groups are trained on sustainable farming to ensure food security on a larger scale the sustainable farming methods including the use of organic manure, Neem leaves extracts to make pesticides and adopt mixed cropping system. The results has been a tremendous increase in farm yields, whiles protecting the environment and improving the soil quality. The farmers are also enlightened on the need to segregate waste generated in their homes and recycling of the organic waste into compost fertilizer for farming. Some young men have taken compost preparation as a permanent job, producing the manure, bagging and selling them to the farmers.

Some communities within the landscape ensure land use efficiency and productivity improvement through the adoption of proven best farming methods in improved land and water management interventions and sustainable production and processing capacities to advance the value chains of rice and fish (production, processing and marketing) and placed them under sustainable management.

LANDSCAPE ENVIRONMENTAL CHALLENGES AND RESPONSE

Major threats and impact to livelihood

The main environmental threats in the landscape are increasing habitat destruction due to illegal logging, illicit hunting, incessant wildfires, unsustainable farming practices, inadequate livelihood support systems, and weak institutional capacity to support conservation and production. The landscape is characterized by low land productivity, increasing food insecurity, destruction of mountain forest ecosystems and vegetation cover, dryness of water sources, land degradation, and widespread poverty.

Generally, the uses of natural resources within the landscape are unsustainable. There are increasing use of agrochemicals in vegetable farming and cultivation of lands along the steep slopes, and water courses. This has led to excessive erosion, reduction in soil fertility, loss of flora and fauna, and streams drying up. Lack of employment opportunities beyond subsistence agriculture is contributing to youth out-migration.

Community responses towards addressing challenges

In response to these environmental challenges, a participatory strategy was put in place by the farmers, fishermen, landowners, traditional rulers, religious leaders and community leaders (primary stakeholders) under the OP6 GEF/SGP. The strategy involved adaptive collaborative management informed by the desires and perceptions of all major stakeholders in the landscape. It sought to conserve the natural and

semi-natural habitats and ecosystem services within the landscape (watershed, sacred groves, wildlife habitats, agro-biodiversity areas, etc.); promote sustainable ecological agriculture; sustain the establishment of enterprises for improved livelihoods, increase the wellbeing of target social groups within the landscape and develop institutional capacity at the landscape level.

Community-led landscape interventions

In enhancing landscape connectivity and resilience, 28 community-based groups received technical and financial support from GEF/SGP to mobilize the 45 distressed communities within the landscape to:

- Promote forest restoration activities within the landscape;
- Reforest degraded riparian forests;
- Restore and protect wetlands and watersheds and their related ecosystem services, such as water flows and water quality through restoration of forest patches with both indigenous and exotic species, as well as soil and water retention infrastructure; and
- Invest in livelihood enterprise development compatible with the landscape management principles.

The interventions sought to support diversification of agricultural landscapes by introducing agro-forestry and management of trees on farms, diversification of production systems through the cultivation of a higher diversity of crops and promoted crop-livestock-trees integration. Improved technologies in low-input agriculture, soil conservation and improved water management and water efficiency (mulching, cover crops, rainwater harvesting) were introduced. All interventions incorporated livelihood enterprise development component based on the needs of the local people. Each intervention introduced financial intermediation schemes that sought to mobilize financial resources from endogenous sources.

The implementation of the field activities has supported effective and efficient interventions in achieving global environmental benefits, and has contributed directly to the attainment of UN Sustainable Development Goals, particularly poverty reduction (goal 1); zero hunger (goal 2); gender equality (goal 5), clean water and sanitation (goal 6), affordable and clean energy (goal 7), reduced inequality and social inclusion (goal 10), sustainable communities (goal 11); climate action (goal 13), life on land (goal 15), peace and justices (goal 16), and partnership (goal 17).

Conclusion

At the end of this assessment, it was concluded that the Black Volta Basin qualifies to be used as the OP7 landscape to implement the GEF-objectives. The problems are really justified because of the many transboundary environmental problems encountered in the area. The construction of the hydropower dam of Bui largely has influenced the environment and there is the need to intervene to ensure sustainable environmental management.

APPENDIX 1.1: LIST OF SACRED GROVES WITHIN THE BLACK VOLTA LANDSCAPE

No	NAME OF GROVE	LOCATION	SIZE/ PERIOD OF EXISTANCE	DISTRICT	HISTORICAL BACKGROUND	UNIQUE FEATURES	CUSTODIANS	ACCESS TO GROVE	MANAG E-MENT	SIGNIFICANCE OF GROVE	TABOO/ BELIEFS	CONTRAINTS
4.	Ndewna Jakpas	Old Buipe	2.5 ha. 50 years	Central Gonja	The founder of the Gonjas happened to have died at old Buipe instead of being sent to Damuyi. One of his sons was there, so they decided burning him there. Hence a place regarded as sacred to the Gonja tradition.	It is a cemetery for our greatest ancestral chief, the founder Ndewma Jakpa.	Gonjas.	Yes.	Traditional norms	-No trees are cut and animals killed. -It serves as a tourist attraction to the community.		No support to develop the grove into profitable ventures.
5.	Mishirito	Buya	2 ha. 200years	Central Gonja	It is the burial place of the founders of Gonja tradition.	Cemetery of ancestral chief.	Mashiriatuwura (The chief of the Cemetery)	Restricted	Traditional norms	1. Economic-fuel wood and roofing wood. 2. Ecological-the fauna and flora are protected. 3. Cultural-protects the community.	1. No wearing of sandals there. 2. The place is not to be burnt. 3. Blood is not allowed there.	i. Bushfires. ii. Overgrazing. iii. Disbelieve of taboos.
8.	Noosibul-ga	Nabari	- 200 years	West Mamprusi	The grove used to be a dug out which provided shelter for our gods and when natives die, they turn to crocodiles.	1. It is a pond which dries during the dry season. 2. It is an abode of our ancestors.	Tendana.	Access to the grove is strongly regulated	Traditional norms	1. Economic – honey is obtained from there. 2. Medical – it provides medicine materials eg, leaves, barks, roots etc. 3. Ecological – it brings rain in case of drought.	1. Taboo to cut a tree. 2. You don't kill the crocodiles. 3. No entry into the grove on Fridays. 4. No bush burning.	1. Difficulty in desilting the pond. 2. Difficulty in acquiring animals to sacrifice to the gods.
17	Jentilpe Mass	Jentilpe	-	Sawla-Tuna-Kalba.	Many Jentilpe people were killed in a raidety intruders, it was	Cemetery of	The chief of the Cemetery)	Restricted	Traditional norms		i. No body farms within the	

No	NAME OF GROVE	LOCATION	SIZE/ PERIOD OF EXISTANCE	DISTRICT	HISTORICAL BACKGROUND	UNIQUE FEATURES	CUSTODIANS	ACCESS TO GROVE	MANAGE-MENT	SIGNIFICANCE OF GROVE	TABOO/ BELIEFS	CONTRAINTS
					therefore impossible to have individual graves for all of them, hence the creation of a mass grave.	ancestral chief.					area (mass grave). ii. It is a taboo to visit the place on ordinary days except during the enskinment of Yaboriwura	
18	Wegu.	Sawka.	Btn. 1-2 hac. 200 years	Wegu.		Abode of a god.	The fetish priest.	Yes.	The fetish priest.	i. Medical-consultant for health. ii. Religious/cultural sacrifices. iii. Other important features. -Crocodile -Baobab tree	Fish from the stream is not consumable	Funds.
19	Mass grave (pii)	Jentilpe	½ hac. 100 years	Sawla-Tuna-Kalba	It was discovered during the samora and babatu invasion of the area.	Cemetery of ancestral chiefs.	The chief and the fetish priest.	Yes.	The chief and opinion leaders.	i. Economic-offer sacrifices to ancestors for peace, prosperity and long life. ii. Medical-health (long life) consultation. iii. Cultural/religious-sacrifice to remember those that lost their life during the war.	-	i. Funds ii. Outmoded traditional beliefs.

No	NAME OF GROVE	LOCATION	SIZE/ PERIOD OF EXISTANCE	DISTRICT	HISTORICAL BACKGROUND	UNIQUE FEATURES	CUSTODIANS	ACCESS TO GROVE	MANAGE-MENT	SIGNIFICANCE OF GROVE	TABOO/ BELIEFS	CONTRAINTS
										iv. Other important features-antelope jehukar.		
20	Kachana land	Jillinkon.	- 200 years	Sawla-Tuna-Kalba.		Abode of a god.	Chief and fetish priest.	Yes.		Economic and medical. Sacrifices are made by foreigners for riches.		Bush fires.
21	Jabon enskin-ment	Near sawla	4 ha.	Sawla-Tuna-Kalba.			Traditional council.	Yes.	The traditional landlords.	i. Medical-some trees are used as medicine. ii. Ecological-	-	Improper management.
22	Enskin-ment ground	Nyange (near sawla)	3-4 ha. Over 200 years	Sawla-Tuna-Kalba.	It is the enskinment ground of the Gonja overlord and the traditional capital base of the Gonja. It is the grounds on which the first enskinment of a Gonja kinsman was done, and remains such.	Abode of a god.	Nyange traditional.	Yes.	Nyange traditional.	Medical, ecological and cultural/religious. Tourist site.	No interference at the site.	-Ignorance of people as its importance. -Felling of trees.
23	Hewuzie	Hanbol (sawla)	200 years	Sawla-Tuna-Kalba.		Abode of a god.	Hanbol (the vagla)	Yes.	Hanbol	-Economic-farming and cattle rearing. -Cultural/religious-provision of peace and security.	The grove is for the welfare of the community and is secured from fears of danger.	

APPENDIX 2 STRATEGIC TECHNICAL GUIDELINES

SUSTAINABLE AGRICULTURE AND FISHERIES TECHNICAL GUIDANCE NOTE

Purpose

The purpose of this technical notes is two-fold, first to provide an overall direction and guidance on the strategic initiatives on sustainable agriculture and fisheries so that SGP Ghana team can appropriately use it in determining related interventions in the outline of the multi-year country specific strategies and actions and secondly to serve as the basis informing the prospective Grantees of the type of projects that will meet the objectives development of global strategy under OP7 for this strategic initiatives as captured under the GEF SGP UNDP Project Document for OP7.

The strategic initiative articulates how the planned outcomes and outputs will contribute towards the overall objective of country programme strategy, as well as how GEF SGP will support achievement of broader UNDP and GEF objectives and strategies. It is expected that this will inform the projects that would be submitted following calls for proposal.

Background information on the strategic initiative

The SGP will implement the initiatives on sustainable agriculture, fisheries, and food security in close alignment with related GEF-7 focal area strategies and impact programs. This sector is taunted to be one of those that contributes immensely to greenhouse gases. Agricultural practices contribute to emissions of the greenhouse gases CO_2, CH_4 and N_2O. Conversion from conventional to organic farming leads to reduced emissions per hectare. Efforts to limit GHG will significantly help in achieving the global environment benefits that GEF strives to achieve. Focus will be placed on working with local farmers and fishers to promote and shift practices to sustainable agricultural and fisheries production.

Two key strategic approaches will be used to drive this initiative namely:

i) Focus projects on sustainable agricultural production. *The new initiative will continue SGP work on agroecology to reduce land degradation trends and provides ways to reduce dependence on harmful agricultural practices. Applying agroecological principles, the programme will help communities to respond adaptively to environmental changes. This includes supporting sustainable land management practices, biodiversity, waste recycling, organic farming, and pest control through natural mechanisms. The new initiative will explore linkages with other focal areas to analyze how communities uses agroecological principles to increase resiliency. For example, this initiative is closely linked with the chemicals focal are of the GEF which requires that efforts are made to remove the use of inorganic chemicals in the agricultural sector. Therefore, in OP7 the emphasis on climate-smart agroecology practices will be further strengthened.*

ii) Enhancing sustainable fisheries. *The creation of the Black Volta Lake has brought in its wake artisanal fishing. A cursory study indicated that there likely to be over fishing due to weak enforcement of the fishing regulations. The current approach to fisheries management, is indiscriminate fishing practices and use of inappropriate gears that leads to overharvesting fish and destruction of spawning areas. The programme will addressed these problems by creating awareness to communities so that depleted fish populations are given time to recover, and ensure sustainable utilization. Smarter management systems, known as fishing rights, would be introduced to promote long-term health of the local fishing industry. The programme will liaise with the renewable energy initiatives to introduce contribute to the reduction in climate change through the use of energy efficient improved fish smoking technology (Ahotor oven/FAO Thiaroye*

Fish Processing Technique - FTT). It will promote the utilization of the new improved fish smoking technology among fish processors to target the domestic and export markets

Community based climate resilient agriculture, fisheries and food practices that improve productivity and delivering other benefits will be tested and promoted. The focus on sustainable land and forest management is meant to enhance climate smart innovative agroecology practices and up holding of agroecology principles. These principles will be realized through appropriate climate-sensitive agriculture projects to achieve short-and-long-term agricultural development priorities at local level. These approaches will help to enhance community and ecosystem resilience and to integrate other land based development activities in the production landscapes.

Results measurement

Table 15 summarizes the outputs and key activities at country level but specifics per project will be elaborated once the projects are known and defined through the calls for proposal process. Given that at the national level, the projects are demand driven, close alignment with the outcomes in table 1 and annex 1 should be aimed at by all the SGP country programs. In line with the results architecture for the global PIF/project document, this initiative accounts for one outcome and has four outputs. The indicative activities have been elaborated in the narrative of this guidance with a few reflected in the Table 15.

Table 14: Strategic Initiatives general outputs and key activities

Outputs	Indicative Activities
Terrestrial lands under improved practices or restored for multiple benefits	- Afforestation, - No of climate smart farms - Integrated pest management and pest control through natural mechanisms - waste recycling - organic farming - fisheries improvements, - use of proper fishing gears, - protection of fishing grounds and spawning zones along the coast.
Marketing and value addition	- Improving farm produce, - eco-labelling schemes, packaging and commercialization of products, - strengthening produce-marketing associations.

The set of projects under this initiative will be tailored around the focal area on land degradation as they relate to sustainable agriculture. Typically, community projects for sustainable land management will generally fulfill the criteria that requires projects activities to embrace one or a combination of the following attributes: i) sustainable agriculture based on soil and water conservation through, improved tillage methods, agroforestry approaches to reduce erosion, promotion of suitable land uses (including protection from farming where necessary), and improved management of agricultural and human waste; ii) sustainable rangeland/pasture management and ground water conservation namely through strengthening of viable traditional systems, mechanisms to resolve conflicts over land use, protection f farmlands, rehabilitation, fire management, ground water recharge augmentation.

For monitoring progress and for easier means to aggregate and compare outcomes from individual projects, the following attributes will be measured at least once during the lifespan of the project: i)

changes in land productivity, which can be measured on two key attributes: greenness (use of NDVI[2]for land cover changes) as a proxy indicator of improved productivity; ii) improved livelihoods, measured through child nutrition surveys (QBS) as proxy indicator for better livelihoods at household levels that can be attributable to improved land productivity; and iii) investments as indicated by amounts of co-financing that come into the community/ households through state and non-state sources for the community that is being supported.

GENDER MAINSTREAMING STRATEGY

1.0 INTRODUCTION

The purpose of the guidelines is to provide the SGP trainers with background information on how to plan, organize and implement gender mainstreaming within the project life cycle**.** In particular, it a gender analysis tools that provides essential information on designing gender sensitive projects, organizing gender training programme for local communities. It is a training method and principles of adult learning, the role of a trainer and preparation of a training session within the project life cycle.

1.1 What is Gender Mainstreaming?

Gender mainstreaming is the process of accessing the implications of an intervention for both men and women of a development action. It is process of integrating a gender equality perspective into the development process at all stages and levels. Gender mainstreaming is a strategy for the achievement of gender equality.

2.0 STEPS TO PRE-PROJECT GENDER SCREENING

Guiding questions to support initial stakeholder consultations and analysis

1. Who are the target beneficiaries?
   - Try to disaggregate the beneficiaries by gender
   - Ensure that consultations include a good balance between women and men
2. What are key gender issues in the sector?
   - Identify whether there are any general differences in terms of roles and needs between women and men in the sector/geography
   - Identify, if possible, the main sources of livelihoods for women and men
3. How might the project affect women and men differently?
   - Is the activity likely to have the same positive and negative effects on women and men?
   - Identify, if possible, legal, cultural, or religious constraints on women's potential participation in the activity.
4. Does the GEF Agency or project partners have the capacity to deliver benefits to or involve women?
   - Will specialized gender/development expertise be required to ensure a gender-responsive project development?

The SGP secretariat prior to recommending projects for National Steering Committee review will have to conduct in-depth gender analysis within the project life cycle as follows:

1. Pre-project Screening (project Design Stage).

[2] *Normalized Difference Vegetation Index. Considerable variation can be found in the phenology of the bushlands as determined by the satellite NDVI and is explained through the high spatial variability in the land productivity and distribution of rainfall resulting in green-up of the vegetation. This method will be applicable for rangeland and farmland production systems.*

a. Review if the projects was gender sensitive, by analyzing how gender needs assessment was conducted or is being addressed.
b. Analyze the intended project beneficiaries to see if it is gender sensitive
c. Evaluate if gender gap analysis was conducted.

Reporting on Gender to NSC prior to project approval meeting

- Briefly describe any gender dimensions relevant to the project, and any plans to address gender during project preparation (e.g., gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women's empowerment?
- If possible, indicate, in which results area(s) the project is expected to contribute to gender equality: closing gender gaps in access to and control over natural resources; improving women's participation and decision making; and or generating socioeconomic benefits or services for women.
- Does the project's results framework or logical framework include gender-sensitive indicators?)

2. Project Start up
   a. Solicit evidence of active gender involvement or consciousness in the project planning process.
   b. Evidence to gender differences in the field data to define the problem e.g. gendered impacts of and contributions to, climate change and gives an idea about the challenges and gaps identified.
   c. Conduct gender impact assessment of the proposal to understand the future impact of the proposed project on gender.

3. NSC Approval Checklist
   A. Were key stakeholders, including women and men, engaged in the preparation of the project? ▪
      a. Were gender experts or women's groups, civil society, and indigenous peoples involved in project design? If so how?
      b. Were barriers of marginalized stakeholders identified and, if so, were they addressed? ▪
      c. Were gender experts or women's groups involved in project design? ▪
      d. Were standards of free, prior, and informed consent adhered to throughout the consultation stages?

   B. Did the project conduct an adequate gender analysis during project development?
      a) Were the needs, access to, and control over resources by women and men alike (e.g., power, time, financial resources) analyzed?
      b) Were any key gender issues and/or barriers identified that could impact the project's ability to achieve its results or prevent women and men from benefiting equally?
      c) Will men and women have equal access to participation in the project?
      d) How will gender inequalities, laws, policies, and norms affect the achievement and sustainability of project results?
      e) Does the project have the potential to contribute toward gender equality and women's empowerment? If so how? ▪
      f) Did the information and finding of gender analysis explicitly feed into project design?

C. Does the project have a gender-responsive project results framework with sex-disaggregated and gender-responsive indicators? ▪
   a. Were sex-disaggregated data collected to track gender-related project performance and results?
   b. Are they adequately able to measure impacts on women and men alike?
   c. Have the outputs been designed to be relevant and beneficial for both women and men?
   d. Have specific outcome indicators referring to gender (men and women) been developed?
   e. Will planned activities reach and involve women and men alike?
   f. Is there a specific budget for gender-related activities?

D. Does the project have the resources and capacity to deliver gender components?
   a. Have financial inputs been assessed to ensure that men and women alike will benefit from the planned project?
   b. Does project staff have adequate capacity and knowledge to address gender components of the project or has a gender expert been requited?

GENDER MATRIX ANALYSIS FOR PROJECT CONSIDERATION

Gender analysis tools	Purpose	Guiding Indicators
Gender disaggregated data	To gather separate data about women and men involvement in the project	• Are there gender specific indicators developed for the PROJECT actions? • How is data for the planning, implementation and monitoring of the PROJECT actions being collected and analyzed? • Is data collection mechanism recognizing different gender groups? • Do those key stakeholders consulted include individuals or groups with a gender perspective (e.g., ministries of women, nongovernment organizations focused on promoting gender equality, women's rights, or the empowerment of women)? • Is there a balanced gender representation among key stakeholders? ▪ • Is there at least one stakeholder that has the skills, expertise, and capability to integrate gender?
Gender Impact assessment	In order to identify the integration of gender into the project, policy and planning instruments as well as institutional frameworks, assess gender equality and also to any unintended effects on women or on men. This process encourages gender equality in policy measures and programmed intervention since it provides information about the	• Does the activity ensure same opportunities and equal burdens for women and men? (Benefits and losses) • Are women targeted specifically to address their productive and reproductive roles? • What are the areas of gender -based discrimination and disadvantages in the sectors? • What have been the notable changes for women and men in the two sectors and what is the quality of change? • Why and how did the change occur? • What have been the main factors constraining or facilitating the change?

	foreseen result. It allows the possibility of including missed elements during the design phase of the regulation, policy or programme. Creating better policies implies the identification of gender gaps and an understanding of gender inequalities in the field, so that priorities can be defined and the target group reached.	• What are the probability that such gender equality/ mainstreaming results are likely to be sustainable? • Are there targets designed to achieve gender equity in the programmes identified? • Are there outcomes and outputs designed to achieve the goal on gender equality under the GEF, UNDP, and SDGs? • Was gender analysis conducted during the formulation and implementation of programmes or projects?
Gender Vulnerability Assessment	This is more important for every adaptation initiative (programmes or projects). It is also undertaken in order to ensure that the different needs and priorities of women and men are adequately addressed.	• Does the activity ensure same opportunities and equal burdens for women and men? (Benefits and losses) • Livelihoods resources and coping strategies employed by women and men • What are the factors that affect women and men's access to and control over the different resources in the two sectors? • Identify inequalities that may prevent women and men from participating in or benefitting from a policy, program, project or type of initiative?
Participatory methods	This focuses on the inclusion of women and men for climate related programmes and project implementation. It also focuses on fostering discussions and simplifies collective learning as the basis for decisions that are better, more sustainable, simple to implement than those taken without the input and co-ownership of the people.	• Access to information, resources and services by vulnerable groups • Were women and men involved in the programme/ project designing stage? • Do programmes aim at a balanced decision of burdens and benefits between women and men, in implementation, management, use and development impacts? • Is data/information disaggregated by sex as a means of promoting gender balance?
Gender competence & training	This dimension focuses on strengthening the capacity of development actors to design, implement, and evaluate policies and initiatives, programmes and projects to ensure that both men and women participate and benefit equally. This requires gender and social analysis and planning skills, including the ability to identify realistic targets, results, and indicators, and to develop, implement, and monitor gender action plans and strategies.	• What are the specific initiatives that may prevent women and men from participating in or benefitting from a policy, program, project or other type of initiative? • What are the women's and men's needs and aspirations?

GENDER ACTIONS

There are some action domains that can be considered an integral part of a Gender Action Plan, such as those actions that: ▪

- provide equal access to and control over resources and information, such as gender and age-appropriate training and communication material;
- give equal voice and representation in decision making, such as quotas for women in community resource management groups;
- reduce women's workload, such as introducing labor-saving technologies and tools; and
- engage at policy level, such as review of the existing sectorial policies to identify entry points for women's empowerment.

3. A TOOL FOR MONITORING AND EVALUATING GENDER MAINSTREAMING

3.1 Gender-response Communication

Gender-responsive communication is a must-have skill for all development practitioners, especially in the era of the Sustainable Development Goals. Whether writing articles, reports or emails, speaking to a crowd or interacting with people at the grassroots level, development practitioners must be aware of the ways in which language can either enforce or subvert gender inequalities. This toolkit is meant to help development practitioners avoid the common mistakes made when writing or talking about women, men and gender equality. The ten principles it highlights offer practical suggestions and recommendations on how to ensure communication for development is gender-responsive.

The ten principles of gender-response communication

1. **Go beyond featuring women**. Gender equality is not a women's issue. It's everyone's issue.
2. **Ensure fair visibility for men and women**. Ensure equal participation and visibility for men and women in everything we do, from our communications to our conference panels.
3. **Do not diminish women's contribution**. When it comes to areas of human activity, we are inclined to associate more value with activities dominated by men than with those associated with women.
4. **Do not reinforce gender stereotypes**. Underpinning the first three principles is the notion that gender roles and stereotypes associated with both women and men should be challenged.
5. **Portray diversity**. Accounting for the diversity of human experience is crucial to long-lasting development that benefits everyone.
6. **Use gender responsive language**. If the first five principles focus on what we should say, the last five explain how we should say it. In this sense, paying attention to the ways in which language can perpetuate gender inequalities and gender stereotypes is especially important.
7. **Do not victimize**. Except maybe for the direst situations that require the urgent mobilization of resources for immediate response, we should avoid portraying the communities we work with in victimizing ways and in desperate need of assistance.
8. **Do not patronize**. Differences in cultural backgrounds and inequalities in socio-economic status and access to knowledge can create barriers in empathy and communication.
9. **Present facts not judgment**. Because gender shapes our lives and identities in many ways, most of us have strong opinions about gender roles, relations between genders and other gender equality issues.
10. **Be open**. Applying a gender-responsive lens to our communications is a process and it takes time. There is a learning curve. Don't expect that you will necessarily get everything right the first time.

3.2 Gender Mainstreaming Process

PROJECT PHASE	GENDER MAINSTREAMING MECHANISM	ACTIONS REQUIRED
Stage1: Needs Assessment [Gender disaggregated data]	• Establish participation of staff (men & women) in providing information • Classification of information by gender • Establish activities done by men & women • Identify issues related to access and control of resources e.g. • land ownership, money	Men and women to provide information

Stage II Programme design and planning	• Defining what is to be achieved (goal, purpose, expected results)
	• Defining inputs (resources)
	• Defining stakeholder interest and beneficiary reach
	• Defining assumptions and risks
	• Defining roles and responsibilities for those involved in the program, for example, Gender Desk Officers
		• Develop a specific indicators
		• Sex disaggregated data
		• Integrate gender in the methodology.
		• Ensure gender equality in :-
		  ○ leadership and governance
		  ○ access and control of resources
		• Ensure gender mainstreaming in budget
		• Develop gender responsive budgeting

Stage III: Implementation	• Equal opportunities for women and men • Use of affirmative action • Informed and increased • Implementation of activities that promote strategic interests	• Systematic collection of data • Gender balancing in activities such as training, decision making and benefit sharing • Gender sensitivity, equality in leadership and benefits at all levels.
Stage IV Monitoring, Evaluation And Reporting	• Review the tools periodically • Carry out project evaluations to show impact • Adjust activities if necessary	• Ensure equal representation in project monitoring • Where possible hold separate meetings to ensure transparency in monitoring and evaluation

Gender considerations during the project implementation

1. Project implementation team:
    a. To ensure that gender is mainstreamed, project staff must have sufficient capacity and gender expertise to implement the project effectively. Possible activities include: - providing training to women and men alike at all levels of the project team to ensure they understand the gender dimensions addressed by the project; - hiring gender specialists who can help team members and partners to integrate gender issues into the different project activities; and - ensuring that responsibilities for integrating gender aspects at

project implementation are explicit in job descriptions or in the terms of references of management, technical staff, and consultants.

2. Working with stakeholders:
    a. It is important that project stakeholders are informed about gender inequality and GEF's commitment to address them. This means assessing and creating gender awareness among potential partners, such as civil society groups, and government and private sector institutions.
    b. Target partnerships with civil society groups such as women's advocacy groups; provide targeted capacity development, when relevant, at the local level to support and encourage women and men alike to bring their voice, needs, potential, perspectives, and priorities;
    c. Seize opportunities to engage and target men as agents of change and champions for gender equality; -
    d. Embed project processes within a national or sectoral context, when relevant, through capacity building and decision-making processes.
3. Continuing gender mainstreaming efforts:
    a. Even if specific gender-focused activities may not have been elaborated on at the design phase, developing a gender action plan or framework for gender mainstreaming early on allows for budget adjustments and determining staffing needs.
    b. Further analysis on gender-related issues is often required during the implementation phase, including sector-specific analysis/case studies or further assessment of gender opportunities that can be leveraged, when relevant, for the benefit of certain stakeholder groups and/or local communities.

STRATEGIC INITIATIVE ON CHEMICALS AND WASTE MANAGEMENT.

TECHNICAL GUIDANCE FOR CSOs IN GHANA INVOLVED IN BUILDING LOCAL CAPACITIES IN MERCURY FREE TECHNOLOGIES FOR ARTISANAL SMALL SCALE MINING AND PROCESSING OF WASTE TO ENERGY FOR AGRICULTURE DEVELOPMENT

Technical interventions for mercury reduction

The programme will follow two-step incremental approach as follows:

> Step 1: Reduce mercury use and emissions through improved practices, which use less mercury. This increases (or at least maintains) income for miners, increases awareness, improves health through lower exposures, and can build positive relationships needed to go to step 2.
>
> Step 2: Eliminate mercury use by using alternative mercury-free technologies that increase (or at least maintain) income for miners, and are better for health and the environment

Ghana ratified the Minamata Convention to reduce mercury use in March 2017. The country is preparing its report on the Minamata Initial Assessment (MIA) of mercury use, and is developing a comprehensive National Action Plan (NAP) to reduce and eventually eliminate the use of mercury, artisanal and small scale gold miners continue to use mercury in their daily operations across all the nine mining districts of the country. There is the need to pilot best practices that will be incorporated in the plan.

Programme Strategies for Reducing Mercury in ASGM

Reductions in mercury use are more likely to be accepted by miners and become permanent if they increase or at least maintain income, save cost and time and get better prices. The various technologies being used to process the ore include the following:

2.1 Promote Retort lantern and Direct Smelting

The University of Mines and Technology (UMaT), Tarkwa in Ghana has developed and introduced retort lanterns and direct smelting methods that allow small scale miners to extract gold without the use of mercury. This technology is an advanced one without additional process flow designs that guides the choice of specific machinery and steps to prepare the ore for direct smelting -fails to address gold-bearing ores of all types. The negative environmental/health-related effects of mercury in mining communities in Ghana and other countries have generated research interest into development of safer alternatives. Laboratory investigations of direct smelting yielded 99.8% recovery against 97% for amalgamation. A locally-fabricated furnace, *sika bukyia*, was used in field tests, yielding an average recovery of 98.3% compared to 88% for amalgamation. Direct smelting has the potential to replace amalgamation and retorting because it is effective, easy, quick and transparent. The application of direct smelting of gold concentrates as an alternative to mercury amalgamation in small-scale gold mining operations is available in Ghana.

Reducing mercury use and emissions through direct smelting methods

Selected mine managers will also be trained to improved business practices for sustainable mining. Integrating the academic, scientific, and technical expertise provided by University of Mines and Technology (UMaT), GEF/SGP, and the proven civil society organizations. The project will apply technical precision to developing mercury-free process flows. It will help provide useful information to small-scale

gold miners on flowsheet development, process adoption, equipment selection, reduced reagent consumption, and increased recovery

2.3 Promote Borax Method

The **Borax method** is a technique of artisanal gold mining, which uses borax as a flux to purify gold concentrates. By using borax, no mercury flour is produced, hence gold recovery increases. Borax, also known as sodium borate, is a common component of many detergents and has many household-cleaning uses. It is classified as non-toxic, causes no known chronic health effects and is even found in some teeth-bleaching formulas.

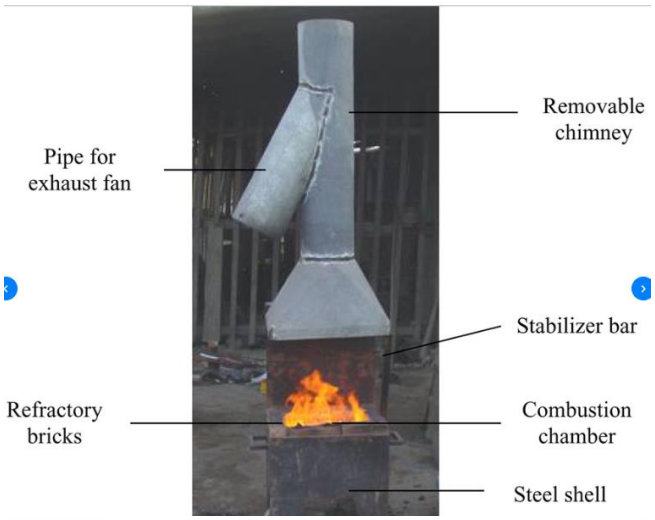


Figure 20 UMaT Direct Smelting Method

Strategies to rehabilitate degraded landscapes

Rehabilitation process be used to repair the impacts of mining on the environment will include:

- converting an area to a safe and stable condition, to restoring the pre-mining conditions as closely as possible to support the future sustainability of the site;
- developing designs for appropriate landforms for the mine site;
- creating landforms that will behave and evolve in a predictable manner, according to the design principles established;
- establishing appropriate sustainable ecosystems.

Key Activities

- Selecting successful germ plasms; characterizing soil/over burden and waste/spoils; restoring land capability; landscaping and land shaping; controlling soil erosion; rainwater harvesting; soil moisture storage; profile development; soil modifications; creating plant –rooting medium; planting techniques; phyto –stabilization and phyto –remediation of mine tailings, OB dumps and backfills ; and evaluating post –reclamation sustainability.

The rehabilitation techniques can be put into two methods as a). Rehabilitation of soil properties; b. rehabilitation of vegetation. Today rehabilitation is part of mine planning. Hitherto, it was only thought of when the degradation posed a threat to human survival even years after mining. The archaic approach meant that one was left with a post-mining environment that was typically dysfunctional, especially in the event of unplanned closure (LPSDPMI, 2006). In order to ensure a successful rehabilitation, pre-mining, and mining and post mining activities must be considered.

Pre - Mining Rehabilitation Activities

Rehabilitation should be planned before mining commences. Each operational stage and component of the mining should be part of a plan which considers the full life cycle of a mine site. The plan needs to be flexible to accommodate changes in method and technology as indicated by LPSDPMI (2006). A detailed plan that establishes the expected end use of the site and its general characteristics at the completion of rehabilitation. The planning must take into account both government legislation and public perception (Dumker et al, 1992 and Vastag et al, 1996). Rehabilitation planning considers critical views and

incorporates landscaping, screening, buffers and a site layout which minimize views of exposed faces, stockpiles and plants.

Rehabilitation Techniques during Mining

Use of environmentally friendly technology

Mining activities geared towards a successful rehabilitation involve the execution of the plan specified prior to mining. Depending on a number of morphological criteria associated with the ore (depth, dissemination, segregation in a formation or datum level, dip, type of substance), a mining method designed for optimal recovery in terms of quality and cost should be put into action among the many mining methods available for surface mining (BRGM, 2001).This includes the use of the technology that is more environmentally friendly. At each operational stage of the extraction, the types of chemical involved and the choice of implements should be taken into account.

Topsoil management

The top soil is viewed as the strategic rehabilitation resource that must be conserved if during mining to protect its physical and chemical properties and biological processes (Cooke and Johnson, 2001). The top soils are usually higher in organic matter, microbial activity, and nutrients than the underlying subsoil or geologic material. Top soils contain significant seed bank that can be used to great advantage in re-vegetation. Therefore as far as practicable the top soil should be stored at a suitable place with proper precautionary measures during excavation so that it could be utilized during rehabilitation process. Sahu (2011) proposed some of the best practices involved in topsoil management:

- Scraping the topsoil prior to drilling and blasting
- Stacking topsoil in a designated area
- Surrounding stacked topsoil with embankments to prevent erosion

Post Mining Rehabilitation Techniques

The post mining activities for mine site rehabilitation include:

- Topographic reconstruction or landscaping / topsoil replacement. After mining the first rehabilitation process in ensuring the restoration of soil physical properties is the topographic reconstruction or landscaping. This should leave a final landform visually compatible with the surrounding natural landscapes, while ensuring that the land is stable and will not erode, and will provide an adequate substrate for re-vegetation. Erosion will result where slopes are too steep or too long. Long slopes should be broken by benches (Minerals and Petroleum Division Australia, 2004).
- Contour ripping is appropriate for surface mine site rehabilitation. The importance of topographic reconstruction cannot be neglected because the resulting landforms are the foundation upon which other reclamation practices are executed and eventual land uses take place (Sahu, 2011).

Re-vegetation

Re-vegetation is a principal goal of rehabilitation and results in many desirable secondary water quality and aesthetic benefits. Re-vegetation goals are from simple erosion control to the full restoration of

complex native communities. Developing a vegetation cover that is permanent should aim at establishing a plant community that will be sustainable without attention or artificial aid, and support native fauna. To extract better results, some ecological variables must be considered while selecting species for plantation. These are; their capacity to stabilize soil, soil organic matter and available soil nutrients, and understorey development. In the initial stages of re-vegetation quick growing grasses with short life cycle, legumes and forage crops are recommended. It will improve the nutrient and organic matter content in soil.

Plantation of mixed species of economic importance should be done after 2-3 years of growing grasses. While selecting suitable species for plantation in mine areas, the following considerations have to be taken into account:

- Planting pollutant tolerant species.
- Fast growing plants with thick vegetation foliage.
- Indigenous/exotic plants species with easy adaptability to the locality.
- Socio economic requirement of the people in the surrounding area.

After re-vegetation the site must be monitored and maintained. This should include adoption of preventive measures against slope failure and erosion. Replacement of dead plant species and weed control is also necessary for maintaining a proper species survival. According to WBEP (2010), the aims of monitoring are to:

- assess the environmental situation and risk to the public and the environment
- reduce/minimize risk and hazard and increase operational safety
- prove the success of mitigation and remedial actions

There are a number of parameters that are indicators of the overall productivity and habitat quality of a rehabilitated mine site. Success of re-vegetated areas can be evaluated by measuring a number of these parameters. The measurements are intended to identify which species are the most effective in establishing in disturbed areas, factors that may contribute to the enhanced or marginal growth and the kind of recovery that can be expected on the various mine disturbances over a long term (Red Dog mine, 2009). This information is necessary to take corrective actions in those areas with and thereby aiding the assessment of success of re-vegetation efforts in meeting mine closure objectives. Components that can be assessed include soil physical, chemical and biological properties, plant density and survival and plant vigor. Stability, infiltration and nutrient cycle of the landscape are very important for proper recovery of disturbed sites.

Plastics, solid waste management and circular economy

The programme will support local communities and grassroots solutions contributing to the implementation of the plastics management and circular economy by providing circular solutions to plastic waste problems through community-based actions to “reduce, reuse and recycle” plastics, known as “3Rs” ranking by the priority of actions. Priorities will be given to the following types of community innovations and practices:

- Material engineering and product design to promote 3Rs;
- Consumer use and behavior shift due to campaigns, awareness raising and capacity development;
- Waste collection and management to avoid open burning of solid waste.

Chemicals in sustainable agriculture

This strategic programme will be implemented in coordination with the Strategic Initiative "Sustainable Agriculture and Fisheries." Activities will include:

- The production and use of organic manure, including organic waste collection and composting to reduce the use of chemical fertilizer;
- Production and application of organic and natural pesticides to replace the use of pesticide
- Innovation and technologies to reduce pesticides use in agriculture

PARTNERSHIPS

The SGP will ensure partnership with government service providers, donors and the private sector in promoting these activities. The regional the Minerals Commission, Environmental Protection Agency of Ghana (EPA), Forestry Commission, Universities and the Government Task Force on sanitizing the small scale mineral production. The partners will provides financial and technical support to the civil society organizations to conserve and restore the environment while enhancing people's well-being and livelihoods. The SGP will administer direct funding to at least 4 NGOs to implement projects that will cover the activities described under this proposal.

Although Ghana is not part of the GEF Global Opportunities for the Long-term Development of the Artisanal and Small-Scale Gold Mining sector (GEF GOLD), yet it will establish the needed linkages to build synergies. The project will exchange reports and participate in global meetings should the need arises.

In addition, the project will seek to formalize the small scale mining sectors by improving access to finance and access to international markets for miners and technology transfer.

APPENDIX 3: OP7 MONITORING AND EVALUATION PLAN- BLACK VOLTA BASIN SOCIO-ECOLOGICAL LANDSCAPE TARGETS

PROGRAMME COMPONENTS	PROGRAMME INDICATOR	BASELINE CONDITIONS (OCTOBER 2019)	OP7 TARGET
Component 1: ***Community-based conservation of threatened ecosystems and species***	Number of projects within the landscapes supporting conservation of threatened ecosystems and species.	16.00	**160.00**
	Ha of degraded areas restored and maintained.	500.00	**850.00**
	No. of communities involved.	36.00	**50.00**
	No. of project beneficiaries (gender Aggregated).	1,200.00	**2,000.00**
	Number of farm families involved in the protection of threatened species and medicinal plants.	200.00	**250.00**
	Hectares of landscapes under improved management to benefit biodiversity.	10.00	**12.00**
	No. of natural resource and land management governance committees formed within the landscape.	23.00	**40.00**
	Ha of degraded wetlands rehabilitated and sustainably managed.	44.00	**150.00**
	Ha of agroecology farms established and managed.	142.00	**280.00**
	Number of farmers involved in agroecology farming practices.	560.00	**1,000.00**
	Ha of ICCA mapped, documented and digitized and under improved conservation practices	150.00	**280.00**
Component 2: **Sustainable agriculture and fisheries, and food security**	# of projects within the landscapes supporting sustainable agricultural, fisheries and food security.	0	**10.00**
	# of communities and beneficiaries (gender disaggregated) practicing organic agriculture and involved agroecology farming practices.	350.00	**820.00**
	Ha of landscapes under sustainable land management in production systems.	0	**250.00**

PROGRAMME COMPONENTS	PROGRAMME INDICATOR	BASELINE CONDITIONS (OCTOBER 2019)	OP7 TARGET
	Ha of degraded agricultural lands restored.	85.00	**150.00**
	# linkages and partnerships for sustainable food production practices (such as diversification and sustainable intensification) and supply chain management (esp. SMEs).	0	**2.00**
	# of small-holder farmers supported towards the achievement of national Land Degradation Neutrality (LDN) targets.	0	**150.00**
Component 3: **Low-carbon energy access co-benefits**	No. of institutional and commercial woodfuel stoves constructed and certified.	20	**40.00**
	Typologies of community-oriented, locally adapted energy access solutions with successful demonstrations scaled up and replicated.	0	**2.00**
	# of households achieving energy access, with co-benefits estimated and valued.	0	**200.00**
	Ha of forests and non-forest lands with restoration and enhancement of carbon stocks initiated.	25	**50.00**
	No. of groups involved in improved carbonization of wood.	5.00	**15.00**
	No. of institutions with improved woodfuel stove.	10.00	**30.00**
	No. of commercial operators by categories (chop bar, pito, brewers shea butter etc.) using certified improved woodfuel stoves.	50.00	**60.00**
	No. of households using improved woodfuel cook stoves.	200.00	**300.00**
Component 4: **Local to global coalitions for chemicals and waste management**	No. of vegetable farmers (aggregated by gender) managing organic vegetable production.	100.00	**300.00**
	Ha of vegetable farms that have phased out pop chemicals.	5.00	**20.00**
	# of tons of Solid and liquid Persistent Organic Pollutants (POPs), POPs and mercury containing materials and products removed or disposed.	0	**10.00**
	# of communities working on increasing awareness and outreach for sound chemicals, waste and mercury management.	5.00	**15.00**

PROGRAMME COMPONENTS	PROGRAMME INDICATOR	BASELINE CONDITIONS (OCTOBER 2019)	OP7 TARGET
	# of community mining groups licensed and operating mercury free gold mining.	2.00	**6.00**
	# of artisanal gold mining enterprises managing mercury and applying proven alternatives.	5.00	**10.00**
	# of target beneficiaries (gender, youth, local peoples, disaggregated) reached with awareness creation programmes on harmful chemicals	850.00	**2,500.00**
	# of target beneficiaries trained in the manufacture and use alternatives to chemicals in agriculture.	150.00	**278.00**
Component 5: CSO-Government-Private Sector Policy and Planning Dialogue Platforms	CSO-Government Policy and Planning Dialogue Platforms initiated	1.00	**3.00**
	Number of CSOs registered as members of the network	10.00	**60.00**
	# of CSO-government-private sector dialogues convened to support community voice and representation in national/ sub-national policy development.	2.00	**6.00**
	# of representatives from social inclusion group (indigenous people, women, youth, persons with disability, farmers, other marginalized groups) supported with meaningful participation in dialogue platforms.	0	**10.00**
	Public-Private Partnership on key global environmental issues promoted.	**0**	**2.00**
	Virtual training institute established	**0**	**1.00**
SGP OP6 Component 6: Enhancing social inclusion (mandatory	# of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (GEF core indicator 11)	**0**	**180.00**
	# SGP projects led by women and/or mainstream concrete mechanisms for increased participation of women.	**0**	**6.00**
	# of SGP projects that have targeted support for Indigenous Peoples in terms of country level programming and management.	**0**	**2.00**
	# of SGP projects that demonstrate appropriate models of engaging youth	**0**	**2.00**

PROGRAMME COMPONENTS	PROGRAMME INDICATOR	BASELINE CONDITIONS (OCTOBER 2019)	OP7 TARGET
	# of SGP projects that demonstrate models of engaging persons with disability	**0**	**2.00**
Component 7: **Results Management, Monitoring & Evaluation**	# of projects administering results management modalities in programme design, implementation and overall decision making using participatory mechanisms.	**0**	**20.00**
	Biweekly updating SGP database for effective data collection, management and analysis supporting gains in programme performance and learning.	**0**	**2.00**
	One south- south exchanges at regional levels to transfer knowledge, replicate technology, tools and approaches on global environmental issues.	**0**	**2.00**
	No. of contributions to knowledge fairs, conferences, publications and research.	**0**	**5.00**
	No. of standardized templates and systems to capture and disseminate information	**0**	**5.00**
	No. of conferences, fairs, meetings, publications and research studies where SGP was present	**0**	**10.00**
	No. of trainings and workshops	1.00	**6.00**
	No. of leaders involved in civil society actions	5.00	**15.00**
5.0 ECONOMIC DEVELOPMENT			
5.1 Income and livelihoods	Percentage increase in household income	70.00	**100.00**
	Number of livelihood enterprises and/or alternative income sources established and sustained	2.00	**5.00**
	Number of household able to meet their basic needs whilst sustaining natural resources.	2,100.00	**3,500.00**
	Percentage increase in household community income and assets.	60.00	**120.00**
	Number of people in the landscape able to adopt to changes in human and non-human population dynamics	1,500.00	**3,500.00**