United Nations Educational, Scientific and Cultural Organization

Man and Biosphere Programme

**Green Economy in Biosphere Reserves (GEBR): A Means to Poverty Reduction, Biodiversity Conservation and Sustainable Development in Sub-Saharan Africa**

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| Goal and Objectives | Goal: Conserve biodiversity, reduce poverty and contribute to sustainable development in sub-Saharan Africa through biodiversity businesses in Biosphere Reserves.<br><br>Objectives:<br><br>1. Diversification of the economy through improved and alternative biodiversity related livelihoods.<br><br>2. Reduce the pressure on forest as a result of fuel wood extraction for heating and cooking purposes.<br><br>3. Build the capacity of communities in a holistic manner to ensure the sustainability of the biodiversity businesses and to conserve the resource-base of their business. |
| Expected Outcome/s and its indicator/s | Reduce pressure on forest resources and engaging local communities to conserve biodiversity / 50% reduction in people dependency on fuel wood and the excessive harvesting of NTFPs. |
| Output/s and its indicator/s | • Incentives for conservation of biodiversity are effective /80% of project beneficiaries who used to depend heavily on the forest resources for their livelihood now adopt biodiversity friendly alternative sources of livelihood 2 years after the project has started. |

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| | • Local community livelihoods are diversified. /40% of stakeholders whose means of livelihood depended on one kind of activity will have an alternative or additional source of livelihood 3 years after the project implementation.<br>• Biodiversity business are established and running profitably. / 20% increase in profit margins of business like apiculture, mushroom farming and snail rearing 1 year after businesses have been operationalized. |
| Planned Inputs/Activities | • Stakeholder mapping and consultation<br>• Project inception workshop<br>• Biosphere reserve assessment and inventory<br>• Socio economic studies and needs assessment<br>• Market studies<br>• Capacity building<br>• Operationalizing biodiversity businesses<br>• Annual local project progress review workshops<br>• International progress review workshops.<br>• Project evaluation<br>• Publication of project outcomes<br>• In-country workshops to publicize outcome<br>• Final workshop in donor country |
| Target country/ies(district/town/village) | Ghana (Bia Biosphere Reserve, Juabeso and Bia District)<br><br>Nigeria (Omo Biosphere Reserve, Ijebu, Ogun State)<br><br>Tanzania (East Usambara Biosphere Reserve, Muheza District) |
| Number of beneficiaries | |

| | |
|---|---|
| Project budget | Total Project budget : US$ 1,804,029.18<br><br>Contribution from KOICA: US$ 1,804,029.18<br><br>Contribution from other donors: N/A |
| Project period | 3 Years |
| Implementation arrangement | Managed by UNESCO<br>(Science Sector, Division of Ecological and Earth Sciences)<br><br>Implemented by MAB National Committees and authorities in charge of biosphere reserves |
| Responsible office/person<br>(Direct contact point for the project) | UNESCO<br>Division of Ecological and Earth Sciences<br>1, rue Miollis, 75732 Paris Cedex 15, France<br>Tel: + (33 -1) 45. 68. 43. 63 ; Fax: + (33-1) 45. 68. 58. 40<br>Email: m.ocloo@unesco.org |

**Prepared by UNESCO, Division of Ecological and Earth Sciences**

For

**Korea International Cooperation Agency (KOICA)**

***Executive Summary***

By diversifying local economies in and around biosphere reserves (BRs) this project aims at contributing to the conservation of biodiversity, poverty reduction and sustainable development in sub-Saharan Africa. UNESCO BRs are sites managed under national jurisdiction to promote biodiversity conservation, enhance the socio-economic well-being of local communities, and encourage learning and knowledge-building on sustainable development practice. In developing countries especially in sub-Saharan Africa, livelihoods and the security of the people are intimately linked with their surrounding biological resources. However, the diversity of these biological resources, which is termed "biodiversity", is being lost rapidly mainly due to human population growth and its associated increase in consumption and subsequent drive to extract more rapidly resources such as timber, minerals and food. Apart from reducing poverty, a well developed and managed biodiversity business will also help alleviate the pressure on biodiversity. In view of this, this project will use a collaborative and consultative approach to develop, design and implement a number of biodiversity business initiatives in individual BRs. Consultations with the indigenous and local communities around the project areas will be carried out to ensure that in the design of the biodiversity businesses, the very poor are not displaced from their jobs or cut off from natural resources which they previously exploited. Analysis, assessments and inventories will be done for all selected BRs. These analyses will determine the biodiversity index of the reserves, which will subsequently help stakeholders to make informed decisions on the type of biodiversity business to develop and implement in the biosphere reserves. To ensure the overall sustainability of these businesses, documents and business plans will be prepared in a language and style to attract other investors.

# A. Background and situation analysis

## 1. Country/sector context

Sub-Saharan Africa (SSA) continues to face the daunting challenge of alleviating poverty due to slow economic growth. This could be attributed to a number of interrelated factors such as droughts and floods which lead to famine, malnourishment and the destruction of natural economic assets such as wildlife and forest. In a 2008 Millennium Development Goals (MDGs) report it was stated that the proportion of the population in SSA living below the World Bank's new international poverty line of $1.25 a day decreased from 55.7 per cent in 1990 to 50.3 per cent in 2005. The report added that although progress has been made it was far from the pace needed to achieve the MDG of halving the rate of poverty by 2015.

Local and indigenous people in SSA mostly rely on biodiversity for their livelihood through means such as subsistence agriculture, game hunting and extraction of

resources like firewood. Studies have shown that population in areas of high biodiversity, for example in the Democratic Republic of the Congo, will continue to increase and this population will be heavily reliant upon local food production and resource extraction (Scherr 2003). This will place obvious pressure on the ecosystem. With this in mind, policy makers and most conservation scientists have resorted to restricting human activities in areas which are considered as highly diverse, contain rare or endangered species or which generate important ecosystem services (including cultural services) as the most common means of conserving biodiversity. Although this method of conserving biodiversity has some success on the ecological front, it has also had negative social implications by adversely impacting on the livelihood of local and indigenous communities.

In most cases, those who directly utilize biodiversity resources in an unsustainable way do so because they are poor, displaced, marginalized and are likely not to have alternatives. Faced with these challenging realities and in order to achieve the MDGs, SSA countries are adopting various multi-sectorial policies and strategies aimed at alleviating poverty. One such approach is the integration of biodiversity conservation and rural development, mainly through community based natural resource management programmes (CBNRM). Although the CBNRM approach has not yet spread widely, it is evident of the fact that governments, natural and social scientists are more welcoming of the notion that involving local communities in biodiversity management could be a win-win situation.

Based on the evidence of the services offered by biodiversity for many developing local economies, the general consensus is that biodiversity business development is a viable tool for conservation while at the same time contributing to sustainable development. Research has shown that well developed biodiversity businesses have the potential to generate investment for conservation and contribute to sustainable development through the equitable sharing of generated benefits. Biodiversity business is defined as a commercial enterprise that generates profits through production processes which conserve biodiversity, use biological resources sustainably and share the benefits arising out of it equitably. The concept of biodiversity businesses is not a new one and initiatives range from agriculture, forestry, exploitation of non-timber forest products and fisheries. It also includes modern initiatives such as carbon sequestration in biomass, payments for watershed protection, bioprospecting, biodiversity offsets (both mandatory and voluntary schemes), biodiversity management services, ecotourism and recreational hunting and sport-fishing.

For more than three decades UNESCO, through the Man and Biosphere Programme (MAB), has promoted the management of ecosystems within the concept of biosphere reserves (BR). MAB aims at increasing our understanding on the structure, functioning and dynamics of ecosystems and people's roles therein. Currently, there are 580 sites worldwide in 114 countries. Their core areas are legally protected for the long-term conservation of biological diversity. The buffer and transition zones of BRs are inhabited by millions of people who depend on the biodiversity for their livelihood. For MAB and the network of biosphere reserves in SSA, the main challenge in linking biodiversity business opportunities to these areas is the lack of

financial resources. The lack of expertise to prepare documents and business plans for specific initiatives in individual BRs in a language and style that the investment community will understand and respond to is another challenge. While most businesses depend on financial support from banks or investors to cover initial or start-up cost, in the case of biodiversity businesses involving local communities, there is the need for donor finance to help these communities get beyond the pilot and learning phase and to stimulate demand for commercial conservation services.

**2.2 Brief country analyses**

**Ghana**

Ghana's economy which is largely agriculture based has in the past been characterized by high rates of inflation, continuous depreciation of the cedi, dwindling foreign reserves and excessive public debt burden and fluctuating growth. However, Ghana is currently one of the few countries in sub-Saharan Africa which has a chance of halving extreme poverty by 2015. In the 2007 Ghana Government budget statement, it was reported that GDP growth increased from 4.5 percent in 2002 to 5.2 percent in 2003 to a current rate of 6.2 percent. The sustainability of Ghana's growth is based primarily on natural resources which are highly threatened at the current rate of environmental degradation. This is confirmed by a World Bank study in 2006 which noted that Ghana's natural resource on which so much of the economic activities and the populations livelihood depend are being depleted at an alarming rate. More than 50 percent of the original forest area has been converted to agricultural land by clearance for perennial or annual cropping and slash-and-burn cultivation practices. Crop yields have stagnated, and productivity has declined because of rampant soil erosion. Fish, timber, and non-timber forest product stocks are decreasing rapidly.

Recognizing this challenge and by way of addressing them successive governments have captured such issues in the country's development policy framework. The current development policy framework which is termed "Ghana Shared Growth and Development Agenda (GSGDA)" 2010 -2013 noted that there is the need to ensure that local participation is an integral component of forest and wildlife policy by making local communities partners in protected area management where local people will be involved in all stages of the management process. It was also stated in this document that the provision of alternative livelihood for local people to reduce pressure on lands adjacent to protected areas and water bodies shall be considered a priority.

**Nigeria**

The majority of the poorest people in Nigeria depend directly on natural resources for their livelihoods. In addition the national economy depends on services provided by natural resources – water supply, agriculture, livestock, fisheries, forests, non-renewable energy are the foundation of Nigeria's economy. However, unsustainable land-use practices, overexploitation of natural resources and ineffectively managed protected areas and their support zones all pose serious threats to the maintenance of ecosystems and habitat. From 1990 to 2000 per capita growth in Nigeria averaged only approximately 0.3 percent. Due to this low economic growth the poor are forced to consume their natural resource base with little or no investment in

maintaining the natural capital stock.

The Government of Nigeria has made commitments and taken measures to curb the rate of deforestation and its associated habitat loss for wildlife. Some of these measures include setting aside about 96, 000 sq. km of forest lands as protected reserves (FAO 2001). In a 2004 report by the Federal Government of Nigeria, it was stated that if the deforestation rates, which had been reported as 3.5% per year in a 2004 World Bank Report continued, the remaining forest resources will disappear in 2020. Other institutional initiatives have been introduced to inculcate community base natural resource management tenets in the Nigerian economy since the enactment of the Nigerian National Policy on the Environment. In Nigeria, the National Policy on the Environment implicitly invokes the strong necessity for people-centered solutions to sustainable development as it highlights the catchword in describing people as the instruments, beneficiaries as well as the victims of all development activities and therefore mandates their active involvement for a success of the development process. It recognizes that the hardest hit by environmental degradation are the least well-equipped to protect themselves.

**Tanzania**

Tanzania's economy with a gross national income (GNI) per capita estimated at US$340 depends heavily on agriculture. About 38 percent of Tanzania's total land area is covered by forests and woodlands that provide for wildlife habitat, unique natural ecosystems and biological diversity, and water catchments. These forests are, however, faced with deforestation at a rate of between 130,000 and 500,000 hectares per year, which results from heavy pressure from agricultural expansion, livestock grazing, wild fires, overexploitation, and unsustainable utilization of wood resources and other human activities mainly in the general lands.

Over 75% of its population resides in the rural areas (World Bank 2002). These people overwhelmingly depend on agriculture and other natural resource uses for their livelihoods and survival. People throughout the country's rural areas continue to rely on wild plants, animals, insects, and fish for food; trees and shrubs for fuel and building materials; wild plants for traditional medicines; and soil and water for producing crops. Pastoralism which is one of the dominant land uses especially in northern Tanzania has been on the decline for many years due to declining livestock numbers and a lack of viable livelihood alternatives. Therefore effective and efficient poverty reduction and sustainable development efforts must target the rural areas through diversification of these rural economies.

The Government of Tanzania is making significant progress towards mainstreaming the environment and natural resources into poverty reduction strategies. This was clearly demonstrated by the integration of environmental and natural resource issues into their 2005 Poverty Reduction Strategy Plan (PRSP) document. The 2005 PRSP clearly recognizes the role that natural resources can play in reducing poverty. It lists environmental issues as major factors in negatively impacting livelihoods, specifically weather extremes (e.g., flooding and drought), and stresses from the gradual degradation of forests, soils, fisheries, and pastures. The document addresses the poverty-environment relationship, and asserts that poverty increases as the

environment and natural resources are depleted in quantity and diversity. The plan goes on to explain that there has not been adequate encouragement of community participation in identifying, planning, and implementing steps to protect natural resources and the environment, or effective enforcement of existing regulations and bylaws. Tasks for reducing poverty in rural areas include increased contributions from wildlife, forestry, and fisheries to incomes of rural communities.

## 2. General Information on organization's activities and outcomes

UNESCO through the Man and Biosphere programme (MAB) promotes the management of ecosystems within the concept of biosphere reserves. The MAB programme aims at increasing our understanding on the structure, functioning and dynamics of ecosystems and the roles of people within such ecosystems. The outcomes of the MAB programme include fostering of harmonious integration of people and nature for sustainable development, poverty reduction and human well-being improvement. Participatory dialogue, knowledge sharing, respects for cultural values and societies' ability to cope with change are factored into the design of interventions. Although biosphere reserves are found in various ecosystem types interventions and initiatives are sometimes designed for BRs in similar ecosytems. The added advantage of undertaking interventions in similar ecosystem or theme-specific networks is that they provide valuable insights into sustainable development models, climate change mitigation and adaptation possibilities through research, capacity building and educational collaborations. One such initiative is the Sustainable Management of Marginal Drylands (SUMAMAD). This project studies the sustainable management of marginal drylands in Africa, Arab States, Asia and Latin America.

SUMAMAD which began in 2002 is currently in its second phase since 2009. Beneficiary countries are Bolivia, Burkina Faso, China, Egypt, India, Iran, Pakistan and Tunisia. Funded by the Flemish Government of Belgium and beneficiary countries SUMAMAD brings together scientist from Belgium and the nine beneficiary countries to collaborate on dryland research to combat desertification. Sharing of scientific knowledge among participants and the development of improved and alternative livelihoods are some of the core objectives of SUMAMAD.

The MAB programme also seeks to meet the demands of various socio-economic and cultural conditions for adequate research support to plan the sustainable use of natural resource. One of such initiatives was the project "Biosphere Reserves for Biodiversity Conservation and Sustainable Development in Anglophone Africa (BRAAF)". This initiative was financed through a fund-in-trust from the Federal Ministry of Economic Cooperation and Development (BMZ) of the Federal Republic of Germany and contributions in kind from the Governments of Ghana, Kenya, Nigeria, Tanzania and Uganda who were the beneficiary countries. The project was implemented from 1995 to 1998. The BRAAF project was based on a multi-disciplinary approach involving natural and social scientist and shared staff in several national institutions in each participating country, including national environmental agencies, conservation authorities, university departments, extension officers biosphere reserve managers, etc.

Four international seminars were held in Kenya, Ghana, Tanzania and Uganda. Involving participating national BRAAF team leaders, biosphere reserve managers, environmental scientist and representatives of UNESCO. These seminars afforded the participants first-hand experience of the management of a biosphere reserve in a different country and situation and allowed for the sharing of environmental and biodiversity conservation best management practices among African countries. It also allowed for the interaction with the inhabitants of the biosphere reserves during field visits. A number of national scientific seminars and training workshops were held in each BRAAF participating country. These seminars and workshops were used to sensitize local people to the BRAAF project and to interact with them with regards to their specific economic needs and aspirations with a view to linking environmental conservation with income generating activities.

A major outcome which resulted from the implementation of the BRAAF Project was the removal or reducing the level of mistrust which existed among local people, government and other stakeholders through interaction on platforms such as focus group discussions, workshops and national seminars. This fostered mutual trust and collaboration in the management of biosphere reserves. In addition, integrating research and dialogue with the local community contributed to research findings towards promoting local community socio-economic development and conservation within the biosphere reserves.

## 3. In-depth analysis on the project area/s and population

**Bia Biosphere Reserve**

The Bia Biosphere Reserve designated in 1983 is situated in south-western Ghana in the Juabeso and Bia Districts. The Ghana National MAB Committee revised the zonation of the Bia Biosphere Reserve in 2010 to conform to the Seville Strategy and the Statutory Framework of Biosphere Reserves. The BR currently covers an area of 114,300 hectares. The reserve lies in the transition zone of Ghana between moist evergreen and moist semi-deciduous forest. The moist semi-deciduous forest has valuable and rare tree species, eg: *Pericopsis el ata and khaya anthotheca.* Most of the countries forest animals, e.g.: forest elephant, the endangered bongo and ten of Ghana's sixteen primates are also present. With a population of about 33,000 the main economic activity is agriculture with cocoa being the main cash crop. Small scale trading and animal husbandry are also a means of livelihood for some people. Snail gathering and apiculture were introduced in 1997 as part of the UNESCO-MAB project "Biosphere Reserve for Biodiversity Conservation and Sustainable Development in Anglophone Africa (BRAAF)

From March 2010 to February 2011, the Ghana National MAB Committee in collaboration with the Environmental Protection Agency Western Regional Office carried out certain activities to evaluate the status of the Bia Biosphere Reserve. These activities included mapping of the reserve, socio-economic survey, transect studies and comparison with literature review of previous

studies and species survey. The studies carried out aimed at identifying differences in species diversity if any, determining the current socio-economic patterns and changes since the BRAAF project ended, reviewing the management plan and if necessary updating it to include the concerns of the local community.

Ghana MAB National Committee and the EPA received financial support through UNESCO's 2010-2011 Participation Programme to implement an activity on asses sment of climate change impacts on the Bia Biosphere Reserve. The aim is to d etermine the exact climate change cause-effect relationship in and around the B R. This activity is currently in its implementation stage. Other collaborating inst itutions are the Forest Services Division of the Ghana Forestry Commission, Cen ter for Remote Sensing and Geographical Information System (CERSGIS) and th e University of Ghana (Chemistry Department).

**Omo Biosphere Reserve**

Omo Biosphere Reserve derives its name from River Omo that traverses it. It is situated in Ijebu a town in Ogun State of Nigeria. Designated in 1977 this biosphere reserve is situated about 135km north-east of Lagos and it occupies an area of 130,600 hectares. Omo Biosphere Reserves is one of the reserves in Nigeria where relic of tropical rain forest could be found. Major habitats are dry evergreen mixed deciduous forest in the north and wet evergreen forests in the south. Plantation and agriculture lands are also characteristic of this BR ecosystem. The major plant species of the area include *Khaya ivorensis* and *Cordia Millenii*. Animal species include the grasscutter, the pangolin and the elephant. About 5000 people live permanently in the boundaries of the BR and their major economic activities include controlled timber exploitation, fuelwood harvesting, cultivation of arable crops, hunting and fishing. Loss of biodiversity and soil erosion are some of the challenges being faced by this BR.

Various academic research and studies have been carried out in the Omo Biosphere Reserve. A recent online publication by S. O. Jimoh *et al* on the prevalence,utilization and conservation strategies for non-timber forest products (NTFPs) in the south-western zone of Nigeria looked at the use with the view to achieving the following: prepare a check-list of the major NTFPs in Omo; document their utilization in the area and; give possible conservation approaches for sustainable utilization of these products[1].
Anther studies which was carried out in Omo Biosphere Reserve was to assess the status of economic forest trees, fisheries and wildlife resources with the view towards highlighting the state of the diversity of these resources. Through sampling the data obtained were compared to existing data of 15 years ago and it was concluded that there resources had highly depleted. It was recommended that a more comprehensive monitoring programme which will control, eliminate and reduce human activities that could trigger off climate change within and

[1] www.sapub.org/global/showpaperpdf.aspx?doi=10.5923/j.re...07

around the biosphere reserve should be implemented[2].

**East Usambara**

Designated in 2000 this biosphere reserve is part of the Eastern Arc Mountain Ranges which is considered as one of the biodiversity hotspots in the world. It is located in the Muheza District, Tanga Region of Tanzania. Covering a total area of about 90,000 hectares the major ecosystem type of this BR is tropical submontane rainforest. Tropical evergreen forest tree species found in the area include *Cephalosphaera usambarensis* and *Allanblankia shuhlmanii.* About 155,000 people live in and around the BR with their main sources of livelihood being small-scale farming and cattle breeding. This BR aims at promoting alternative income or additional sources for the local populations.

In 2010 UNESCO supported an activity to contribute to the effective management of natural resources within the Amani Nature Reserve and buffer zones of the East Usambara BR. Using the One UN Funds the Conservator of the Amani Nature Reserve (ANR) and Manager of the East Usambara Biosphere Reserve were supported to organize participatory meetings and trainings to this effect. The major purpose was to achieve effective and sustainable management of natural resources within the reserve and buffer zone areas in East Usambara Man and Biosphere Reserve, by involving the local communities in participating in the management of ANR, through firefighting, boundary maintenance and forest patrol.

Recognizing the importance of tourism in the national development mix of Tanzania, UNESCO supported the development of capacities in the area of application of innovation in tourism and one of the examples chosen during the training of trainers organized was Butterfly Watching business which is one of the main attractions of the EUBR. A University was supported to have the capacity to train locals involved in small tourism business to strengthen their knowledge in the application of innovation in tourism.
The beneficiary institution is the Department of Wildlife, Sokoine University of Agriculture (SUA) and they are now ready to further cascade the skills learnt to small businesses involved in tourism in the EUBR.

To improve skills for running successful businesses whether big or small, UNESCO also supported the training of trainers in Tanzania and now has four internationally certified trainers resident in Tanzania by the CENTRIM of the University of Brighton UK. This two-day training programme will help biosphere r eserve managers cultivate the skills needed to manage innovative initiatives.
The objectives were:

- To provide a common language for discussing innovation skills.
- To enable those who manage innovation initiatives to become clearer about t heir strengths and weaknesses in that role.
- To develop the wide range of skills needed to manage innovation initiatives.

These certified trainers will be able to support the development of skills for

[2] ftp://ftp.fao.org/docrep/fao/010/k2985e/k2985e02.pdf

businesses wishing to tap into innovation in the location and through this help boost productivity and emphasis on green enterprises.

# B. Project description

## Goal and objectives

## 1.

The goal and objectives of this project contributes to one of the major priority areas UNESCO focuses on which is Africa. The UNESCO Programme Priority Africa was launched in 1989 in response to priorities expressed by African countries in the Lagos Plan of Action for the social and economic development of Africa adopted in 1989 by the Heads of States of the Organization of African Unity during an extraordinary session devoted to economic problems of the continent. The Programme was inscribed in the framework of the final phase of the Programme of Action for the United Nations Economic Recovery and Development, 1986-1990 and UNESCO was specifically charged to promote the development of human resources that Africa needed. UNESCO therefore integrates Priority Africa goal into all its sectors programmes.

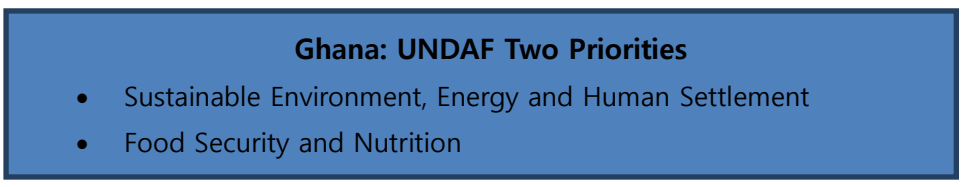
In the Natural Science Sector, the Major Programme actions in Africa have three strategic thrusts: creating an enabling environment to allow science and technology to flourish; building human resource capacity in science, engineering and technology; facilitating the application of scientific knowledge to address the problems of poverty and environmental degradation. The goals and objectives of this project finely ties in with the third thrust which seeks to tackle the problems of poverty and environmental degradation. Human resource capacity will also be built. Though the capacity of beneficiaries will not be built in the field of pure sciences, engineering and technology, knowledge will be impacted to them on basic biodiversity conservation practices.

Below are brief country descriptions of how the goals and objectives of the project are interrelated with and eventually will contribute to UNESCO and respective country UNDAF outcomes.

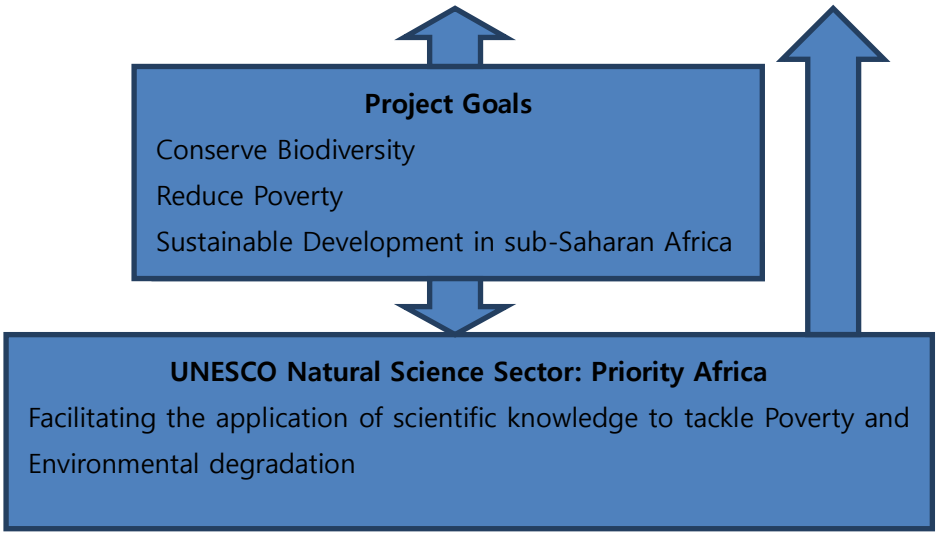
**Ghana**

Ghana's 2012-2016 UNDAF concentrates on four strategic areas: a)Food Security and Nutrition; b)Sustainable Environment, Energy and Human Settlements; c)Human Development and Productive Capacity for Improved Social Services and d)Transparent and Accountable Governance. These were derived from four of the seven thematic priorities in Ghana's Development Policy Framework GSGDA[3]. Food Security, Nutrition, Sustainable Environment, Energy and Human Settlements are all indicators of poverty which this project seeks to tackle.

Figure 1: Diagram illustrating the link between project goals, Ghana's UNDAF and UNESCO's Priority Africa



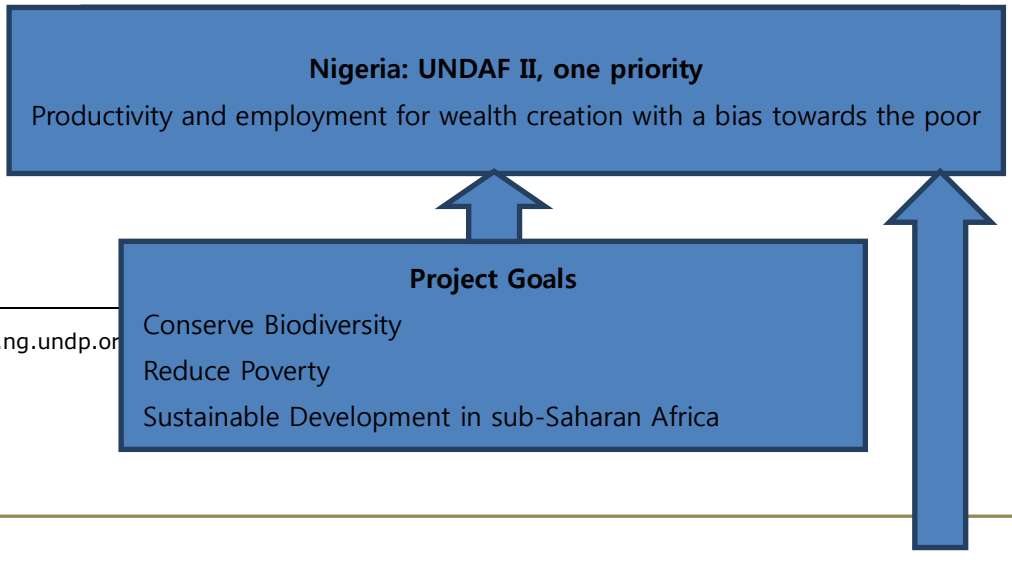

[3] http://www.undp-gha.org/site/docs/UNDAF_Action_Plan_dec_2011.pdf



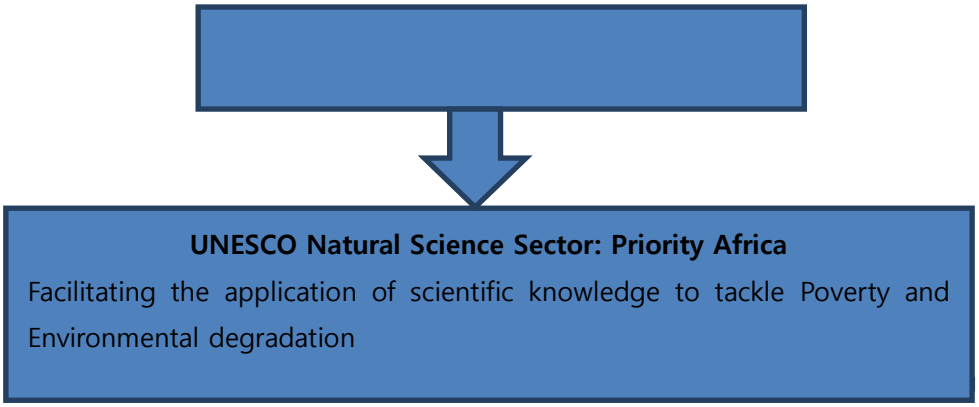

**Nigeria**

Nigeria is yet to outdoor its UNDAF III which would emphasize on 2013 onwards. In view of this the illustration will be based on UNDAF II which has 2009-2012 as its implementation period. Nigeria's UNDAF II has been organized around four major priorities: a) Governance and accountability that supports transparent, equitable and effective use of resources, b) Productivity and employment for wealth creation with a bias towards the poor to help build a private sector-led non-oil economy, particularly in agriculture and agro-industry, c) Social service delivery to invest in Nigeria's human capital; and d) Reduction of the risk of crises and conflict in the Niger Delta as well as other parts of the country[4]. The GEBR project if implemented in Nigeria can contribute to the second priority by benefiting the poor in Omo BR and also contributing to the creation of non-oil economy.

Figure 2: Diagram illustrating the link between project goals, Nigeria's UNDAF and UNESCO Priority Africa




[4] http://www.ng.undp.or




**Tanzania**

In Tanzania the United Nations Development Assistance Plan (UNDAP) currently replaces the United Nations Development Assistance Framework (UNDAF). UNDAP is reported as enhancing national ownership and UN accountability by articulating the precise UN contributions to the national priorities outlined in the national poverty reduction strategies, MKUKUTA and MKUZA II 2011-2015[5]. MKUKUTA and MKUZA are the Kiswahili acronyms for the country's poverty reduction strategy plan. Under this strategy the outcomes have been grouped into three clusters and the UNDAP supports and contributes to these clusters in the following ways.

Cluster 1: UNDAP proposes support for capacity development aimed at strengthening the key drivers of inclusive pro-poor economic growth including pro-poor sector policies, agro-productivity and manufacturing linkages enhancement, improved employment opportunities and productivity of low-income entrepreneurs and wage earners, greater human development outcomes from trade, environmental and climate change mitigation and adaptation strategies.

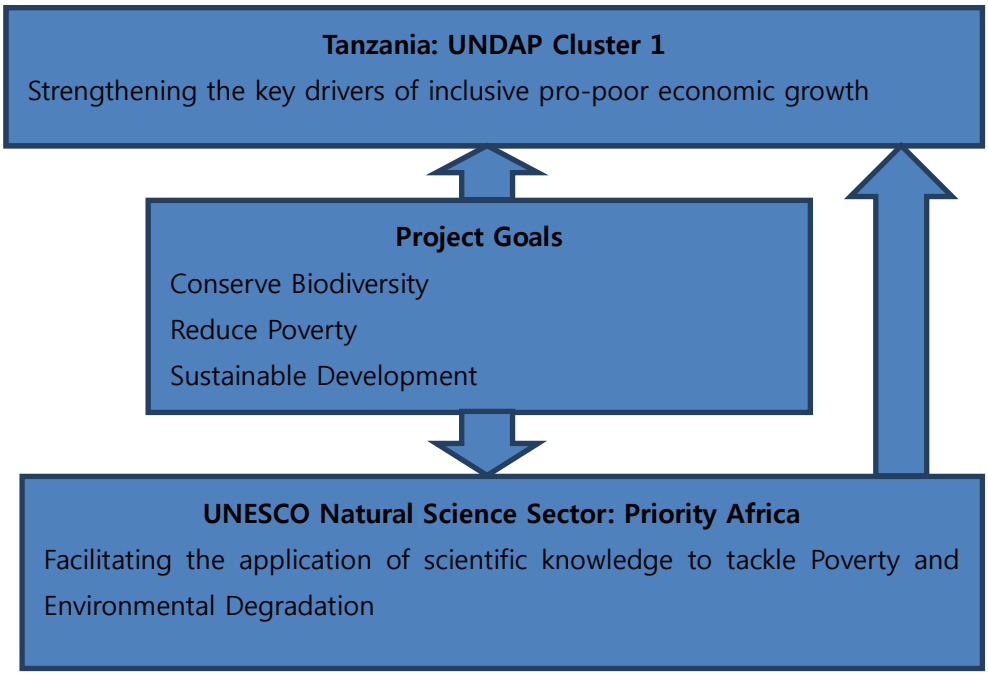
Cluster 2: In this cluster the UN plan targets enhancements of sector partner capacities in Education, Health and Nutrition, HIV and AIDS, Water, Sanitation and Hygiene (WASH), Social Protection for the sustained and rapid achievements of the MDGs.

Cluster 3: The plan seeks to address the enabling environment for development effective governance and delivery of public services and democracy and further fulfillment of the Government of Tanzania's international treaty obligations, emergency preparedness and response and continued solution-focused assistance to refugees.

The GEBR project if implemented in Tanzania can contribute to Cluster 1 of the Tanzania Poverty Reduction Strategy Plan and for that matter to what the UNDAP proposes for this cluster especially in the field of strengthening the key drivers of inclusive pro-poor economic growth

Figure 3: Diagram illustrating the link between project goals, Tanzania's UNDAP and UNESCO Priority Africa

[5] http://www.tz.undp.org/docs/undap_july_2011_june_2015.pdf




## 2. Expected outcomes

Through the implementation of the project i.e, capacity building in livelihood activities, environmental education and sensitization, and financial support to biodiversity businesses, beneficiaries will be empowered and incentivized to conserve the forests and biodiversity resources contained therein. In addition their engagement in other livelihood activities will significantly reduce their dependence on the forest resources. In view of this, it is envisaged that pressure on the forest resources will be reduced and local communities will be engaged in the course of conserving biodiversity. Also it is targeted that the rate of dependency on fuelwood and the excessive harvesting of non-timber forest products (NTFPs) will reduce by 50%.

## 3. Outputs

One of the expected outputs for the project's interventions is the effectiveness of the incentives for conservation of biodiversity whereby 80% of beneficiaries who used to depend on the natural resource for their livelihood now adopt biodiversity friendly alternative sources of livelihood by the second year of project implementation period.

Another expected output is the diversification of local community livelihoods. It is targeted that about 40% of stakeholders whose means of livelihood depended on only one kind of activity will have an alternative or additional source of livelihood (a biodiversity friendly livelihood) by the third year of project implementation.

The final expected output is to improve the income of beneficiaries. It is therefore targeted that biodiversity related businesses will be established and running profitably such that there will be at least 20% increase in profit margins within a year of operationalization of such businesses.

# 4. Specific project activities

### Stakeholder Mapping, Consultation and Needs Assessment

The activity is largely about bringing together all relevant stakeholders, understanding their motivation and developing a shared vision for the biodiversity business. Stakeholder roles, responsibilities and capacities will also be assessed. Stakeholder knowledge will be built from the onset, information will be elicited from them with regard to their preferred biodiversity business and awareness of the pros and cons of a selected initiative will be established with the ultimate aim of managing expectations. Communities may possess extensive knowledge of their local environment. Taking advantage of this wealth of knowledge could maximize inputs and expertise for improved business development. Duplication of efforts could also be avoided through active stakeholder involvement.

During these consultation and needs assessments baseline data will be gathered on socio-economic status of the beneficiary communities which will serve as the benchmark for measuring the project impacts. These consultations and assessments will culminate in community level project inception workshops where stakeholders will validate information gathered.

### Biosphere Reserve Assessment and Inventory

Coupled with available information in nomination dossiers, periodic review files and studies related to the BR sites, an in-depth assessment and inventory exercise will be carried out for each selected BR with the specific aim of obtaining the biodiversity index of each reserve. To enhance local capacities, this activity will be carried out by local experts together with appropriate actors in the field such as research institutes and the BR authorities.

Base on the biodiversity index and information obtained from the stakeholder sampling and needs assessment an appropriate initiative will be designed for each BR in consultation with the local people. These individual biosphere reserve initiatives will then be submitted to the donor. This will be in the form project activity document with benchmark against which deliverable targets can be measured.

### Socio-economic and Market Studies

The activity is to ensure that careful analyses of the opportunities and limitations involved with the biodiversity business are carried out. This would include the review of markets, availability and sustainability of resources, environmental conditions, infrastructure and policy as well as barriers to the development of the business. The outcome of this study would inform the design of the capacity building activities.

**Capacity Building**

Capacity building is an important element for sustaining new and improved livelihoods of local communities. Communities will be trained in a variety of practical skills such as managing, accounting, marketing for developing and running their businesses. Korea volunteers could also provide technical assistance when the need arises. To ensure that the capacity is enhanced at different levels, training materials should be developed in a language and style to meet the literacy level of stakeholders. Ultimately the communities would be trained in the monitoring and management of the natural resource upon which their business depends. This will ensure that the link between biodiversity conservation and development is maintained. Community members will also be taught to invest additional income to ensure sustainability of their income base.

**Operationalizing Business**

After a biodiversity business initiative has been selected by all stakeholders based on informed decision making, a business structure will be drawn up and the service or product will be rolled out. To strengthen local expertise, the Republic of Korea and Africa experts will collaborate on this issue. The plan will also include various approaches towards attracting other investors. Benefit and incentive sharing mechanisms will be developed and be part of the business operations. This will ensure that hard working individuals are not only remunerated but are also incentivized.

**Monitoring, Performance Assessments and Evaluation**

In order to make sure that the product or service does not have a negative effect on the quality and the availability of resources, the resource base will be monitored regularly. The performance of the biodiversity business within the market will also be assessed by bringing together stakeholders to reflect on any new market developments and lessons learnt as a result of such developments and how to adapt biodiversity products or services to the new market trend. Monitoring of the resource base and the assessment of the businesses will be carried out by a team of local and international experts. The final evaluation of the project will be conducted in accordance with UNESCO's evaluation policy and evaluation guidelines.

**Inception and Review Meeting**

An inception meeting will be held at the start of the project in one of the beneficiary countries. A project inception report will be submitted to the donor. This report will capture established benchmarks as a result of the initial stakeholder mapping and assessment activity. Review Meetings will be convened annually by UNESCO in order to review and evaluate the overall implementation of the project. Three review

meetings will be held during the project duration. Two of these meetings will be project evaluation meetings to be hosted by a beneficiary country. It is envisaged that the third one which will be a project evaluation and completion meeting will be held in Korea. UNESCO will provide a format for reporting project outcomes at these meetings. The review meetings will be attended by representatives of the donor, UNESCO, and the MAB Committees of the beneficiary countries.

## 5. Risk management

No internal security related risk is anticipated or for-seen in UNESCO (at the headquarters and the country offices in Accra, Abuja and Dar es Salaam)

External security issues with respect to the three beneficiary countries may exist to varying degrees. Ghana has enjoyed a politically stable climate for over two decades now and continues to make efforts to maintain this state of affairs.

Tanzania had brief political unrest situations in 2001 and in 2005 which were mostly related to presidential elections. This African country can however be described as a politically stable nation[6].

Nigeria has had an unstable environment in some federal states due to some level of social and political unrest. Such events if they occur could lead to a low project implementation rate. However, the Ogun State in which the biosphere reserve is located and therefore the project beneficiaries will be has not had any such incidences.

When there is a slow project implementation rate due to social or political unrest or any other reason UNESCO first and foremost informs the Donor about the status of the project implementation rate and on the reasons why the implementation has slowed down. UNESCO then consults with national authorities in order to devise a plan to resume project at full rate. This plan is then communicated to the Donor.

If there is a conflict situation and it is impossible to continue the project, existing third party commitments are reviewed and then cancelled. Subsequently UNESCO consults the Donor in order to discuss the best way for closing the project or shifting the funds to another country if the project involves a more than one beneficiary country as is the case in the GEBR project.

## 6. Monitoring and evaluation

**Monitoring**

The Project Officer is the main person responsible for regular monitoring of project implementation under the overall supervision of the Director of the Division or the Assistant Director General focusing on budgetary, financial and substantive aspects of the project implementation whiles keeping in mind the need for possible remedial action.

**Narrative and financial reports** are important tools which allows for joint project monitoring by both UNESCO and the Donor. Progress reports and financial reports are submitted to the Donor on a regular basis. With respect to the GEBR project

[6] http://www.fas.org/sgp/crs/row/RS22781.pdf

**biannual reports** will be submitted to the Donor. Also by way of project monitoring, the project officer with the KOICA officer (headquarters or the KOICA officer in Ghana, Nigeria and Tanzania) will conduct field missions or visits to the project sites in each beneficiary country. It is estimated that **two field missions** will be carried out each year. During these missions meetings will be held with the implementing partners and focus group discussions will be done for project beneficiaries in order to ascertain the status of implementation. Information obtained from these field missions will be included in the progress reports.

**Annual review meeting** is another important tool which enables joint monitoring by UNESCO and the Donor. During these meetings a comprehensive review of the full portfolio of projects with a given donor supported by the financial and narrative reporting of each project is conducted in the presence of the responsible officers and the donor. Apart from this general UNESCO annual review meeting, GEBR will have its own annual review meetings as described in the section on **"Inception and Review"** meeting above.

In addition UNESCO employs a platform known as **SISTER** to assess the progress of project. The acronym SISTER stands for System of Information on Strategies, Task and the Evaluation of Results. SISTER has become the main platform for the qualitative monitoring of projects. Completion of monitoring information in SISTER on a six-monthly basis is mandatory. In SISTER project officers are required to fill in progress on expected outputs and results, challenges and lessons learnt in the implementation, cost-effectiveness and efficiency measures and contribution of the project to UNESCO's Major Programmes expected results.

**Evaluation**

In UNESCO completed projects are objectively assessed on its design, implementation and results**.** The evaluation will measure the **relevance** and **fulfillment of objectives**, **development efficiency**, **effectiveness**, **impact**, **sustainability and exit strategy and visibility.**

With respect to UNESCO evaluation modalities, an external evaluation will be carried out for this project. This is due to the fact that the funding for the project is more than 1.5 million USD. Independent entities or individuals outside the donor or UNESCO will be selected through a competitive process and subsequently contracted to carry out the evaluation.

Once a narrative report is produced from an external evaluation and it will be validated by the concerned offices in UNESCO before it is finally sent to the donor.

## Measures for ensuring sustainability after project completion

UNESCO recognizes that one of the basic means of sustaining projects even after handing over or project completion is to actively promote stakeholder or beneficiary ownership of the project. In view of this communities have already been consulted and will further be consulted in the selection and design of the specific income generating activities they would want to undertake.

In order to ensure sustainability of activities, outputs and results project beneficiaries will be trained to acquire skills in managing, accounting and marketing to enable them run their businesses effectively and efficiently even after the project completion.

In addition, project beneficiaries will be thought to invest some of their profits back

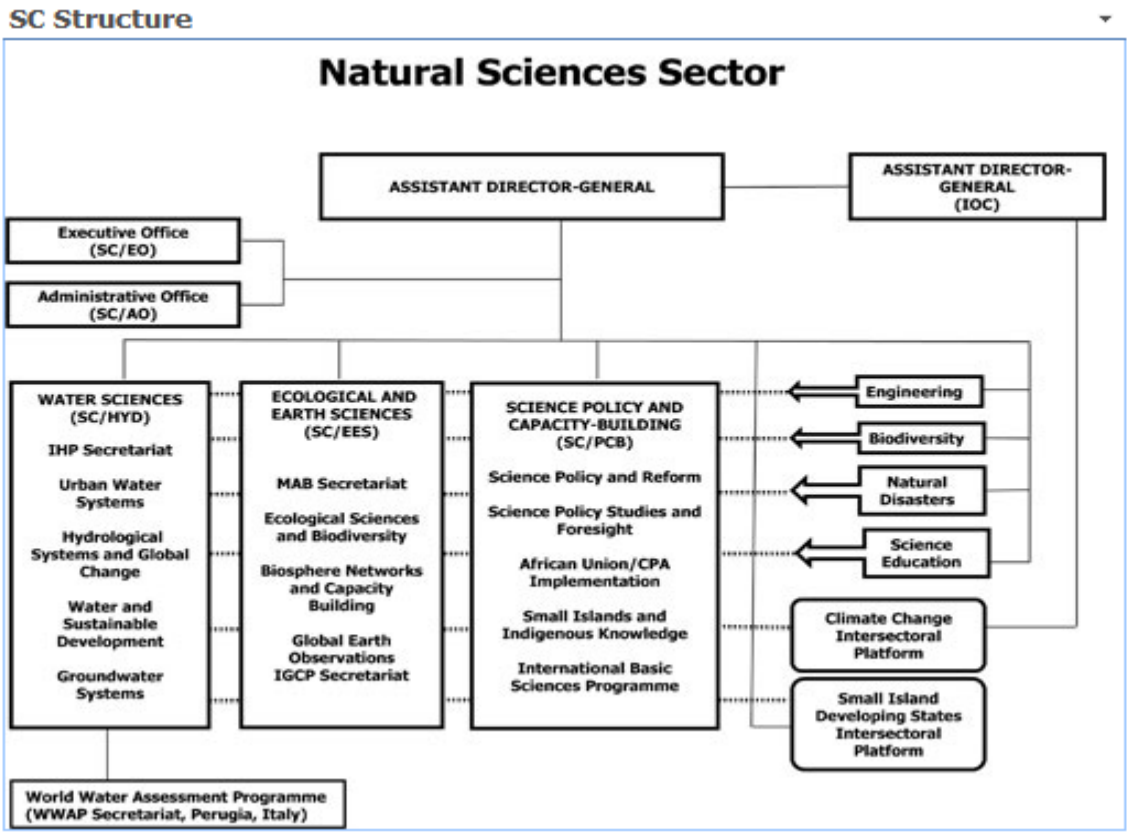
into their business. This will ensure sustainability of the capital base. Attracting other investors after project completion will be ensured by preparing documents and business plans in a language and style to attract them.

Finally the link between sustainable development and the conservation of the natural resource base will be established by actively educating the project beneficiaries on this issue. This will help sustain their drive to conserve the natural resources available to them even after project completion.

# C. Project implementation

## 1. Management arrangement

Fig 4. Below is the Organogram of the UNESCO Natural Science Sector




The Ecological and Earth Sciences Division will be hosting the GEBR project. Under this Division is the Ecological and Biodiversity Section which will be responsible for the overall management and coordination of the project through the following:

- Scientific implementation and coordinating of all project activities involving the donor, national authorities and/or MAB National Committees responsible for managing the BR in each country.
- Monitoring the implementation of all activities under the project.
- Managing and coordinating project evaluation.
- Compiling annual project progress and evaluation reports for submission to the donor.
- Financial management of the project through a funds-in-trust agreement with the authorities of the Republic of Korea.
- Identifying technical needs and providing support and relevant intellectual resources where available.

- Outsourcing certain activities to consultants where UNESCO's technical or intellectual resources are not available or sufficient.
- Preparation and management of contracts for the disbursement of project funds.

## 2. Implementing partner/s

**MAB National Committees and/or authorities in charge of Biosphere Reserves**

The MAB National Committees and/or authorities in charge of the Management of the BRs will be the implementing partners in each respective country.

The MAB National Committee in each country can be described as an interdisciplinary group made up of natural, physical and social scientist. Members of the committee are usually selected from public or private institutes in country such as the Universities, Ministries in charge of Science and Environment etc. Their expertise includes Natural Resource Management, Geography, Economics, Sociology, Botany, Agriculture Sciences etc. The MAB National Committees in all three countries are hosted by a government institution. For example, in Ghana the MAB Committee is hosted by the Environmental Protection Agency.

The MAB National Committee of Ghana, Nigeria and Tanzania successfully partnered UNESCO in the design and implementation of the project "Biosphere Reserves for Biodiversity Conservation and Sustainable Development in Anglophone Africa (BRAAF)" which run from 1995 to 1998.

## 3. Involvement of other countries and international organizations

**Not Applicable**

## 4. Participation of the program/host country

Government participation will mostly be in the design, implementation and monitoring of the project. This will be done through the relevant Government Ministry or Institute represented on the MAB National Committee. The following are examples of government representation on the MAB National Committees: In Ghana, the Environmental Protection Agency and the Forestry Commission are members of the MAB Committee. In Nigeria, the Federal Ministry of Agriculture and the Federal Environmental Protection Agency is actively represented on their MAB National Committee.
In Tanzania, the Ministry of Agriculture Livestock and Natural Resource and the National Environment Management Council are members of their MAB National Committee.

## 5. Public Relations Activities

In order to raise public awareness of the GEBR project and concept a number of visibility actions will be taken. These will include erection of two billboards one at a

vantage point before entering the BR and the other in the BR. These billboards will have the UNESCO-MAB and KOICA logos announcing the project. During the in-country project inception workshops electronic and print media will be invited to cover the event. Community radio talk shows with phone-in segments will be aired. Project beneficiaries will be given T-shirts bearing the project logo.

At the UNESCO headquarters UNESCO-MAB will announce the project on its website. The host agencies of the MAB National Committees of the beneficiary countries, which for example in the case of Ghana is the Environmental Protection Agency, will also announce this on their website. Issue and policy briefs will be written on the various project landmarks for publication on all the websites of the various institutions involved in the project including that of the donor and UNESCO.

Government officials and other relevant experts will be invited to the various national project meetings and workshops.

In September 2013, Ghana will host the AfriMAB network meeting. AfriMAB is the regional network of biosphere reserves in Africa. At this meeting "Green Economy in Biosphere Reserves" is one of the themes to be discussed. This platform will be used to publicize the GEBR project.

The project outcomes or results with lessons learned will be published. A final workshop will be held in the donor country to publicize the project outcomes and share the success stories of beneficiary countries with participants.

## 6. Reporting plan

Semester or biannual narrative progress reports will be collated from all three project sites and submitted to Donor.

# D. Budget

*Insert a budget plan that details on items, amount of funds spent for them, KOICA's portion and others' one, etc.*

**Biodiversity Business in Biosphere Reserves: a means to poverty reduction, biodiversity conservation and sustainable development in Africa**

| **Biodiversity Business in Biosphere Reserves: a means to poverty reduction, biodiversity conservation and sustainable development in Africa** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| WBS | **Title** | | | | | |
| | | **TOTAL** | HQ | GHANA | NIGERIA | TANZANIA |
| **TOP LEVEL** | | | | | | |
| | | - | | | | |
| **Sub-total Top level** | | **-** | | | | |
| **1** | **Assessment and Inventory exercise** | | | | | |
| 1.1 | Biodiversity Inventory for each BR | 90,000.00 | 0 | 30,000 | 30,000 | 30,000 |
| **Sub-total 1** | | **90,000.00** | **0** | **30,000** | **30,000** | **30,000** |
| **2** | **Stakeholder mapping** | | | | | |
| 2.1 | Community workshops | 135,000.00 | 0 | 45,000 | 45,000 | 45,000 |
| 2.2 | Socio-economic studies for needs assessment | 90,000.00 | 0 | 30,000 | 30,000 | 30,000 |
| 2.3 | Documentation of findings | 6,000.00 | 0 | 2000 | 2000 | 2000 |
| **Sub-total 2** | | **231,000.00** | **0** | **77,000** | **77,000** | **77,000** |
| **3** | **Socio-economic and market studies** | | | | | |
| 3.1 | Market and product analysis | 15,000.00 | 0 | 5000 | 5000 | 5000 |
| 3.2 | Local and international consultants | 40,000.00 | 40,000.00 | 0 | 0 | 0 |
| **Sub-total 3** | | **55,000.00** | **40,000.00** | **5000** | **5000** | **5000** |
| **4** | **Capacity building** | | | | | |
| 4.1 | In-country trainings | 135,000.00 | 0 | 45,000 | 45,000 | 45,000 |
| **Sub-total 4** | | **135,000.00** | **0** | **45,000** | **45,000** | **45,000** |
| **5** | **Biodiversity business plans** | | | | | |
| 5.1 | Meetings(Inception, Evaluation and Final Meetings organized by HQ) | 180,000.00 | 180,000.00 | 0 | 0 | 0 |
| 5.2 | Business support | 600,000.00 | 0 | 200,000 | 200,000 | 200,000 |
| 5.3 | Visibility actions | 45,000.00 | 0 | 15,000 | 15,000 | 15,000 |
| **Sub-total 5** | | **825,000.00** | **180,000.00** | **215,000** | **215,000** | **215,000** |
| **6** | **Monitoring** | | | | | |
| 6.1 | Biodiversity monitoring and assessment | 120,000.00 | 0 | 40,000 | 40,000 | 40,000 |
| 6.2 | Travels (Project officer at HQ to project sites) | 40,000.00 | 40,000 | 0 | 0 | 0 |
| 6.3 | Business assessment | 15,000.00 | 0 | 5,000 | 5,000 | 5,000 |
| 6.4 | Report (Final Project Report) | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 9,000.00 | 9000 | 0 | 0 | 0 |
| 6.5 | Miscellaneous | 10,000.00 | 1000 | 3000 | 3,000 | 3,000 |
| 6.6 | Management costs | 66,486.00 | 36,486 | 10,000 | 10,000 | 10,000 |
| **Sub-total 6** | | **260,486.00** | **86,486** | **58,000** | **58,000** | **58,000** |
| | | | | | | |
| **SUB-TOTAL** | | **1,596,486.00** | **306,486** | **430,000** | **430,000** | **430,000** |
| **Project Support Costs 13%** | | 207,543.18 | **207,543.18** | **0** | **0** | **0** |
| **TOTAL** | | **1,804,029.18** | **514,029.18** | **430,000** | **430,000** | **430,000** |

## E. Work plan (timetable)

*Insert a timetable according to your work plan and the agreed project period.*

**8. WORKPLAN - GREEN ECONOMIES IN BIOSPHERE RESERVES PROJECT**

| ACTIVITY | TIME FRAME (2013 – 2015) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MONTH | | | | | | 2013 | | | | | | | | | | | | 2014 | | | | | | | | | | | | | | | 2015 | |
| | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D |
| 1.Stakeholder Engagement , Project Inception and Inception Report | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Biodiversity Assessment and Inventory | | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Socioeconomic Survey including Needs Assessment | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. Market and Product Analysis | | | | | | | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *5. Capacity Building*<br>• Training on business plans, accounting and management | | | | | | | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| • Livelihood training and technical support | | | | | | | | | x | x | x | | | x | | | x | | | x | | | x | | | x | | | x | | | x | | x | | |
| • Conservation Education | | | | | | | | | | | | | | | x | | | x | | | x | | | x | | | x | | | x | | | x | | | |
| 6. Operationalization of Biodiversity | | | | | | | | | | | | | x | x | x | | | x | | | x | | | x | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Businesses and publicity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. Monitoring<br>• Progress Review workshops<br>• Semester progress review(local)<br>• Project evaluation | | | | | | x | | | | | x | x | | | | | x | | | | | | x | | | | | | x | | | x | x | |
| 8. Publication of findings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | |
| 9. Publicity Workshop and presentation of recommendations for project phase 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | |
| 10. Concluding workshop in donor country | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x |

## F. Result framework (log frame)

| **Objective** | **Activity** | **Output and its indicator** | | **Outcome and its indicator** | | **Implementer** | **Other Partner** | **Method of implementation** | **timeline** |
|---|---|---|---|---|---|---|---|---|---|
| *Objective 1*<br>*Diversification of the economy through improved and alternative biodiversity related livelihoods.* | *Stakeholder mapping and consultation.*<br><br>*Socio economic studies and needs assessment.*<br><br>*Design and validation of specific alternative livelihood activities in consultation with stakeholders.*<br><br>*Publication of results.*<br><br>*Project Evaluation.* | *Output*<br>*Incentives for conservation of biodiversity are effective.* | *Indicator*<br>*80% of project beneficiaries who used to depend heavily on the forest resources for their livelihood now adopt biodiversity friendly alternative sources of livelihood 2 years after the project has started.* | *Outcome*<br>*Reduce pressure on forest resources and engaging local communities to conserve biodiversity* | *Indicator*<br>*50% reduction in people dependency on fuelwood and the excessive harvesting of NTFPs.* | *MAB National Committees*<br><br>*MAB National Committee*<br><br>*Division of Ecological and Earth Sciences*<br><br>*UNESCO Headquarters by contracting an external evaluator.* | *N/A* | *Surveys*<br><br>*Focus group discussions;*<br><br>*Workshops*<br><br>*Policy briefs will be produced from semester progress reports for on-line publication.*<br><br>*Narrative report of external evaluation to be submitted to donor* | *First Quarter 0f 2013*<br><br>*First Quarter 0f 2013*<br><br>*First Quarter 0f 2013*<br><br>*Bi-annually during project duration*<br><br>*Oct-Nov 2015* |
| *Objective 2*<br><br>*Reduce the pressure on forest as a result of fuel wood extraction for heating and cooking purposes.* | *Biosphere reserve assessment and inventory.*<br><br>*Capacity building in alternative livelihoods endorsed by stakeholders.*<br><br>*Operationalizing biodiversity business* | *Local community livelihoods are diversified.* | *40% of stakeholders whose means of livelihood depended on one kind of activity will have an alternative or additional source of livelihood 3 years into the project implementation period* | | | *MAB National Committee*<br><br>*MAB National Committee* | *N/A* | *GIS Technology; Consulting already available data and other sampling techniques.*<br><br>*Practical Training workshops.*<br><br>*Conducting* | *Feb-Jun 2013*<br><br>*Sep-Nov 2013* |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *by giving financial and technical support to beneficiaries.*<br><br>*Publication of results.*<br><br>*Project Evaluation* | | | | | *MAB National Committee and Division of Ecological and Earth Sciences*<br><br>*Division of Ecological and Earth Sciences*<br><br>*UNESCO Headquarters by contracting an external evaluator.* | | | *continuous business review and providing technical support*<br><br>*Policy briefs will be produced from semester progress reports for on-line publication.*<br><br>*Narrative report of external evaluation to be submitted to donor.* | *Jan 2014-Nov 2015*<br><br>*Biannually*<br><br>*Oct-Nov 2015* |
| *Objective 3*<br>*Build the capacity of communities in a holistic manner to ensure the sustainability of the biodiversity businesses and to conserve the resource-base of their business.* | *Market studies and capacity building in marketing and business management.*<br><br>*Training and education in biodiversity conservation.* | *Biodiversity business are established and running profitably.* | *20% increase in profit margins of business like apiculture, mushroom farming and snail rearing 1 year after businesses have been operationalized.* | | | *MAB National Committee and Relevant consultant*<br><br>*MAB National Committee* | *N/A* | | *Guidelines will be developed from information gathered by consultant to be used in training beneficiaries*<br><br>*Training workshops carried out with training manuals designed in local* | *Jul-Sep 2013*<br><br>*Quarterly from Mar 2014 – Sep* |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | languages. Community radio educational programmes will be aired with call-in sessions for listeners. | 2015 |
| | *Publication of results.* | | | | | *Division of Ecological and Earth Sciences* | | *Policy briefs will be produced from semester progress reports for on-line publication.* | *Bi-annually during* |
| | *Monitoring*[7] | | | | | *Division of Ecological and Earth Sciences and MAB National Committee* | | *Semester field visit and semester local progress review.* | *Bi-annual* |
| | | | | | | | | *Annual review workshops* | *Annually* |
| | *Project Evaluation* | | | | | *UNESCO Headquarters by contracting an external evaluator.* | | *Narrative report of external evaluation to be submitted to donor.* | *Oct-Nov 2015* |

[7] Please note that the monitoring activity applies to all three major objectives and the various activities to be undertaken under these objectives