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Niger Delta Biodiversity Project

Brief description

This project's goal is to contribute to the conservation and sustainable use of globally significant biological diversity in the Niger Delta. The project objective is "to mainstream biodiversity management priorities into the Niger Delta oil and gas (O&G) sector development policies and operations." The project's three main outcomes designed to achieve this objective are: 1) Stakeholders strengthen the governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta; 2) Government, the O&G industry and local communities adopt and pilot new biodiversity action planning tools for proactive biodiversity mainstreaming in the Niger Delta; 3) Stakeholders support long-term biodiversity management and the use of these new tools in the Niger Delta by capitalizing the Niger Delta Biodiversity Trust with a collaborative engagement mechanism for local communities, O&G companies and Government at its core. Each of the three outcomes of this project reflects the project's (and UNDP's) focus on strengthening the governance of biodiversity in the Niger Delta. By mainstreaming biodiversity into the O&G sector of the Niger Delta, the project is strengthening the governance of those resources. The geographic focus of the project is on the four core Nigerian States within the Niger Delta (Akwa Ibom, Bayelsa, Delta, and Rivers States), which combined encompass an area of 46,420 km^2 (the 'indirect landscape mainstreaming target'). The physical footprint of the O&G company assets within this area is admitted by the industry to be 600 km^2, which is considered the project's initial 'direct landscape mainstreaming target' The project will bring improved biodiversity management to these areas indirectly and directly, respectively, as measured by improved state of globally significant species and ecosystems, legal and policy frameworks that incorporate biodiversity objectives, and O&G companies adopting best practice for biodiversity actions. A key result will be the establishment of a long-term funding mechanism for mainstreaming biodiversity into the O&G sector, called the Niger Delta Biodiversity Trust.

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Acronyms

ADP	Agricultural Development Programme
BAP	Biodiversity Action Plan
BBOP	Business and Biodiversity Offsets Program
BDCP	Bioresources Development and Conservation Programme
bpd	Barrels per day
BSCF	Billion Standard Cubic Feet
DEA	Department of Environmental Assessment
DPR	Department of Petroleum Resources
EF	Ecological Fund
EGASPIN	Environmental Guidelines and Standards for the Petroleum Industry in Nigeria
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EITI	Extractive Industries Transparency Initiative
EMP	Environmental Management Plan
ERDI	Environmental Renewal and Development Initiative
FD	Forestry Department
FMoE	Federal Ministry of Environment, Housing and Urban Development
MND	Ministry of Niger Delta
GEF	Global Environment Facility
GGFR	Global Gas Flaring Reduction Partnership
GoN	Government of Nigeria
IBA	Important Bird Area
IBAT	Integrated Biodiversity Assessment Tool
IPIECA	International Petroleum Industry Environmental Conservation Association
LEEDS	Local Economic Empowerment and Development Strategy
LENF	Living Earth Nigeria Foundation
LGA	Local government areas
LGC	Local government council
MoPR	Ministry of Petroleum Resources
MoU	Memorandum of Understanding
NCF	Nigerian Conservation Foundation
NCEP	National Committee on Ecological Problems
NDDC	Niger Delta Development Commission
NDU	Niger Delta University, Yenagoa, Bayelsa State
NDWC	Niger Delta Wetlands Centre
NNPC	Nigerian National Petroleum Corporation
NAPIMS	National Petroleum Investment Management Services

NESREA	Nigerian Environmental Standards and Regulation Enforcement Agency
NEEDS	National Economic Empowerment and Development Strategy
NOSDRA	National Oil Spill Disaster Response Agency
NPDC	Nigerian Petroleum Development Company
NTFP	Non-timber forest products
O&G	Oil and Gas
PIND	Foundation for Partnership Initiatives in the Niger Delta
PPG	Project Preparation Grant
PTDF	Petroleum Technology Development Fund
SEEDS	State Economic Empowerment and Development Strategy
SEP	Stakeholder Engagement Plan
SMoE	State Ministry of Environment
SPDC	Shell Petroleum Development Corporation
SPWA	Strategic Programme for West Africa (GEF)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Education, Science, and Culture Organization
UST	Rivers State University of Science and Technology
UU	University of Uyo, Akwa Ibom State
WCMC	World Conservation Monitoring Center

SECTION I: ELABORATION OF THE NARRATIVE

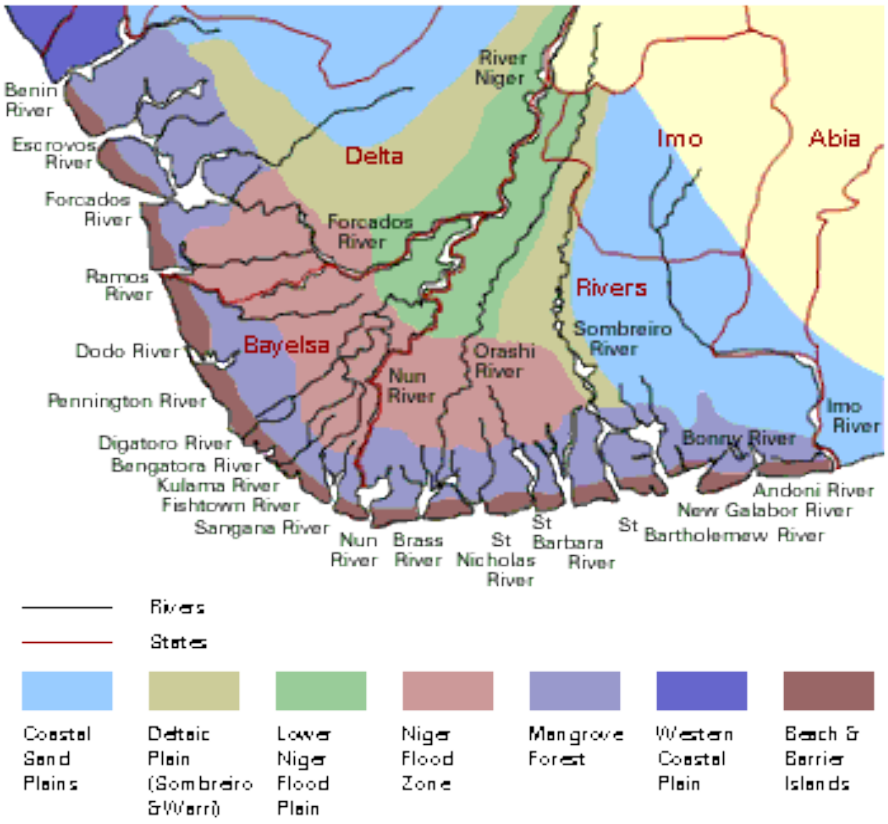
PART I: Situation Analysis

CONTEXT AND GLOBAL SIGNIFICANCE

Background and Environmental context

1. Nigeria is Africa's most populous country and is one of the world's leading oil producers due to the vast oil and gas reserves in the Niger Delta. With much of its reserves of oil and gas still untapped, the Niger Delta region of Nigeria produces 2.2 million barrels of oil per day. The Niger River is the principal river of West Africa with a length of approximately 4,180 km and a drainage basin encompassing 2,117,700 km^2. Over millennia, the mighty Niger River created the vast Niger Delta at its confluence with the Atlantic Ocean's Guinea and Benguela Currents.

Figure 1: Ecological Zones of the Niger Delta



2. For the purposes of this project, the Niger Delta is defined as the area of the four coastal oil producing Niger Delta States: Akwa Ibom, Bayelsa, Delta, and Rivers. The total combined area of these states is 46,420 km^2. Nigeria's Niger Delta is characterized by high biological diversity, abundant natural resources, and extreme poverty. A survey of current knowledge on the biological diversity of the Niger Delta reveals striking global significance across the full

range of biological diversity at the genetic, species and ecosystems levels. Biological diversity is the variety of the world's plant and animal life (in this case, the Delta's), including their genetic diversity and the assemblages they form.

3. Home to Global 200 Ecoregion # 155 (Niger Delta) and part of the Guinean Forests Hotspot[1], the Niger Delta harbors many locally and globally endangered species, and approximately 60-80% of all plant and animal species found in Nigeria. The Delta's unique biogeographical attributes are responsible for the complex and rich milieu of habitats that enabled the evolution of this biological diversity.

4. The Niger Delta is one of the largest wetlands in the world and is Africa's largest Delta. Stretching approximately 240 km from Onitsha in the north to the outer barrier islands in the south and 480 km, from the Benin River on the east to the Imo River on the West, the Niger Delta encompasses a triangular area of approximately 46,420 km^2. The Delta consists of three main ecological zones (consolidated for simplicity's sake from the seven shown in Figure 1): the upper freshwater riverine floodplain, the lower tidal floodplain comprised of estuaries, mangroves, and creeks; and the outer chain of barrier islands (a special dynamic and ephemeral land formation/coastal vegetation type similar to the lowland rain forest). This outermost coastal forest zone represents some of the last remaining pristine forest resources and centers of endemism in Africa.

Table 1: Ecological Zones of the Niger Delta by State

Delta eco-region States		**Upper Floodplain Forest**		**Lower floodplain Mangroves**		**Barrier Islands**	
States in the Niger Delta	Size km^2	State coverage km^2	% of state	State coverage	% of state	State coverage	% of state
Akwa Ibom	8,412	7,747.5	92.1[2]	546.8	6.5	117.8	1.4
Bayelsa	10,773	6485.3	60.2	3533.5	32.8	754.1	7
Delta	16,842	13,271.5	78.8	2,863.1	17	707.4	4.2
Rivers	10,393	7,89.9	7.6	3,367.3	32.4	6,235.8	60
Total	**46,420**	**28,294.2**		**1,0310.7**		**7,815.1**	

5. The Niger Delta is a vast, flat region. Rainfall is high—more than 2,500 mm per year—and temperatures range from 18-33° C. Humidity levels are close to 100% throughout the year. Upper floodplain forest or seasonally flooded forests grow on more than half of the Delta's 46,420 km^2. Although forests dry up almost completely in the dry season, they are revitalized regularly through annual flooding. The upper floodplain stretches for 168 kilometers from beginning of the Delta upstream at Onitsha to where the inter-tidal region begins. The Niger River splits into the Forcados and Nun Rivers in this region. The Nun River is regarded as the direct continuation of the Niger, but some of the other important channels include (from west to east) the Forcados, the Brass, the Sambreiro, and the Bonny. This ecoregion within the delta is non-tidal and is characterized by a seasonally flooded forest mosaic of small lakes and broad-leafed species such as *Symphonia globulifera,* raphia palm *(Raphia vinifera),* and the indigenous oil palm (*Elaeis guineensis*). The palm species *R.vinifera* is particularly abundant along the

[1] Myers, N. et. al. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403. 853-858.
[2] Includes 1.7% of Akwa Ibom that is Savannah.

creeks of the Niger Delta. The tree's nut contains an bitter oil, which has the property of stupefying fish. Freshwater biotopes within the non-tidal systems can be characterized as "black water" and "white water" systems. Black water systems are rainfall-fed and colored a dark brown by humic substances, suspended materials and plankton. White water systems receive their water from the River Niger and are richer in minerals and oxygen, resulting in high molluscan diversity such as snails and bivalves: *Mutela, Etheria, Caelatura, Eupera, Lanistes, Melania*.

6. The lower tidal floodplain encompasses over 20 large estuaries and 7,700 km^2 of mangrove forests, which is more than 70% of Nigeria's estimated 10,000 km^2 of mangrove forests, Africa's largest mangrove area and the world's third largest. Nigerian mangroves are comprised of six species in three families. These are: Rhizophoraceae (*Rhizophora racemosa, R. harrisonii and R. mangle*), Avicenniaceae (*Avicennia africana*) and Combretaceae (*Laguncularia racemosa* and *Conocarpus erectus*). Tidal effects are quite high in the mangrove zone and reach amplitudes of 1-3 m. The mangrove zone runs roughly parallel to the coast and reaches between 15-45 km inland. This deep belt of mangrove forest protects the freshwater wetlands in the Inner Delta. The trees and roots provide rich habitats for a wide range of flora and fauna, much of which is only just beginning to be understood. The Delta's mangrove forests are on the "Tentative List" of potential UNESCO World Heritage Sites. An estimated 60% of the fish in the Gulf of Guinea breed in these mangroves. In the last one hundred years, an exotic invasive mangrove species, *Nypa fructicans,* originally native to Asia has been spreading westwards in the Delta.

7. Barrier Islands: The Niger Delta has 21 barrier islands stretching over 300 km facing large swells from the South Atlantic. The average island length is 16 km and width 3.3 km, with extensive beach ridge sets that reach heights of 4 m above sea level and average inlet widths of 2 km. These high ridge sets are quite rare in river deltas worldwide[3]. In the Niger Delta, they support some of the last remaining intact lowland-type rain forest left in West Africa due to the islands' inaccessibility and inhospitable terrain. Inlets occupy from 10%-25% of the Delta shoreline. The Niger Delta in particular has numerous drumstick-shaped islands typical of systems significantly influenced by both waves and tides. In the Niger Delta, river discharge occurs through only a few of the inlets at any one time, leaving most inlets predominantly influenced by tides. The barrier island region of the Delta, comprised of the islands themselves and their corresponding inlets and lagoons, cover approximately 7,000 km^2.

8. Fauna of the Niger Delta. Annex 5 contains a more information on the fauna of the Niger Delta that is summarized in the following paragraphs.

9. Mammals: The Delta is home to all of Nigeria's endemic or near-endemic mammal species and to six IUCN Red List mammals: the (Niger Delta) forest elephant (*Loxodonta Africana cyclotis*), the West African manatee (*Trichechus senegalensis*), the White-throated guenon (*Cercopithecus erythrogaster)*, the Sclater's guenon (*Cercopithecus sclateri*), the pygmy hippopotamus (*Choeropsis liberiensis heslopi)* and the Niger Delta red colobus monkey (*Procolobus epieni*), have also been recorded. The Niger Delta red colobus is one of the world's

[3] Stutz, M. and Pilkey O. 2002. Global distribution and Morphology of Deltaic Barrier island Systems. Journal of Coastal Research, Special Issue 36.

25 most endangered primates.[4] First discovered only in 1993, it was placed on the list in this biennium 2008-2010 due to its very small range, bush meat hunting pressure and widespread degradation of the Niger Delta's forests. There is every reason to suspect that its numbers are declining.

10. The Niger Delta harbors a high diversity of primates including important populations of two endangered species introduced above: the endemic Sclater's guenon, and the near-endemic White-throated guenon. Sclater's guenon, also known as the Nigerian monkey, is found only in the Niger Delta region. Described in the late 19th century, it was thought to be extinct by the 1980s. A forest dwelling species, it is an endemic to the Delta forests between the River Niger and Cross River.

11. Other species include Mona monkey (*Cercopithecus mona*), White-nosed guenon (*Cercopithecus nictitans*), Tantalus monkey (*Cercopithecus tantalus*), Red-bellied guenon (*Cercopithecus erythrogaster*) Red-eared guenon (*Cercopithecus erythrotis*) and Red-capped mangabey (*Cercocebus torquatus*); and the Putty-nosed monkey (*Cercopithecus nictitans*). All are listed as Vulnerable on the IUCN Red List. The endangered Nigeria-Cameroon Chimpanzee (*Pan troglodytes vellerosus)*, recognised scientifically in 2001 as a distinct sub-species, has a patchy distribution in the zone in the Delta, with its only populations likely in Bayelsa state, where in 1993 there were two main population groups: the Ogbotobo beach–ridge forest in the Dodo-Ramos estuary and the Biseni-Akpede-Asamabiri area of Taylor creek Forest Reserve.

12. The Niger Delta forest elephant (*Loxodonta Africana cyclotis*) likely still exists in the Delta, though recent information on population numbers and condition is not available. Known populations now are in the Andoni district of Rivers state where Game Reserve exists on paper. The Niger Delta pygmy hippopotamus (*Choeropsis liberiensis heslopi*) is essentially un-studied in recent decades and may be a distinct sub-species. The presence/absence in the Niger Delta of this poorly documented species is unknown. The pygmy hippo has had no confirmed sightings in the wild for many decades. Its existence, current status and distribution require confirmation and definition by a survey of some of the most inaccessible parts of the Delta. The nearest relative of the Delta pygmy hippo is in Liberia, several hundred kilometers to the west.

13. The aquatic antelope, sitatunga (*Limnotragus spekei*) and the water buck (*Kobus ellipsyprimnus)* occupy similar habitat, and still exist in the delta and inhabit the tangles associated with the swamp forests. The Water chevrotain **(***Hyemoschus aquaticus*) is the most aquatic of antelopes and is dependent on the dense vegetation characteristic of the swamp forests of the Niger Delta. Considered an endangered species and listed in Nigeria's Endangered Species Act it has widespread distribution. Bate's dwarf antelope *(Neotragus batesi*) was recorded at Nembe and Oloibiri. It is thought to be widespread and subject to hunting. Classified as least concern by IUCN, its population in Nigeria is unknown.

14. Birds: The greater Niger Delta is home to eleven Important Bird Areas (see maps of these and other species in Annex 3). About 148 water-related bird species from 38 families have been

[4] *Primates in Peril: The World's 25 Most Endangered Primates 2008–2010*. Ed. R. A. Mittermeir et. al. IUCN/SSC Primate Specialist Group (PSG), International Primatological Society (IPS), and Conservation International (CI).

recorded in the area. These include five species of global conservation concern, one of which, the Anambra waxbill (*Estrilda poliopareia*), is endemic to Nigeria. The Anambra waxbill is a very rare species classified as vulnerable. It was reportedly sighted and photographed at Tombia, Bayelsa state recently. It is found in the wetter parts of the lower reaches of the Niger to Forcados in Delta state. Three Important Bird Areas are located within the four pilot states of the Delta: the Upper Orashi Forest, the Biseni Forests, and the Akassa forests. One or more of these are known to be home to the Anambra waxbill, as well as other threatened species such as the Damar tern (*Sterna balaenarum),* the White-tailed greenbul (*Baeopogon clamans*), and the Dusky Crested-flycatcher (*Trochocercus nigromitratus*).

15. Fish: The Niger Delta harbors globally outstanding fish fauna and displays exceptional evolutionary phenomena with its higher taxonomic endemism and distinct species assemblages with a minimum of 314 species (313 being indigenous) from 158 genera and 64 families found in the region. A remarkably high number of freshwater species (165) occur in the Niger Delta. This number excludes permanent freshwater representatives of marine families Denticipidae (denticle herrings) Clupeidae (herrings) and Eleotridae (sleepers). At least twenty (20) endemic species have been recorded so far in the Delta. Unique conditions in the Delta have nurtured the evolution of five monotypic fish Families—Denticipidae, Pantodontidae, Phractolaemidae, Hepsetidae and Gymnarchidae—the highest concentration of monotypic Families of any freshwater eco-region in the world. Two species of freshwater stingray occur in the Delta, the only two freshwater stingray species in Africa: *Dasyatis garouaensis* (vulnerable), which is found only in three river systems in Nigeria and Cameroon, and the endangered thorny stingray *(Urogymnus ukpam).*

16. Herptofauna of the Niger Delta are not well known and remained unstudied most of the 20th century. Old records combined with more recent studies (Akani et. al. 2003) provide a picture of the amphibian diversity found in the Delta. Based upon old and more recent records, it is possible to estimate that over 30 species of amphibians occur in the Delta, with the number likely to be higher.

17. Four species of endangered species of sea turtle visit the beaches of the Delta and probably breed there: the leatherback (*Dermochelys coriacea*), *green* (*Chelonia mydas*) and olive ridley (*Lepidochelys olivacea),* loggerhead (*Caretta caretta*), and the critically endangered hawksbill (*Eretmochelys imbricata*). Little information on these species in the Delta is readily available but there of the many O&G companies operating in the area, it is highly likely that there is more data available on these species.

18. Crocodiles: Populations of the threatened West African dwarf crocodile (*Osteolaemus tetraspis),* the Nile crocodile (*Crocodylus niloticus)* and the slender-snouted crocodile (*Crocodylus cataphractus*) and up to five species of freshwater turtles are under intense hunting pressure. The delta remains the last stronghold of the dwarf crocodile *O.tetraspis,* which is heavily traded. A complex cultural relationship between crocodiles and people in several communities ensures that some populations of all species are strictly conserved. Recent studies of DNA and morphology suggest that *C. cataphractus* may belong in its own genus, *Mecistops*.

Socio-Economic Context

19. Known for its large deposits of crude oil and gas, the Niger Delta accounts for over 95% of Nigeria's total export annual earnings and about 65% of government revenues (IMF data). To describe the socio-economic context of the Delta is to describe a paradox of extreme wealth (over US$ 50 billion in revenue is generated annually by the O&G sector) with the extreme poverty of the majority of the Delta's residents. After more than fifty years of exploitation, the region's wealth in O&G reserves has not resulted in improved standards of living for local communities. Less than 50% of the communities within the Niger Delta have electricity, running water or clean drinking water. On nearly every measure, the Delta's economic condition is poor in comparison to the rest of Nigeria. Per capita income in this resource-rich region is below the national average of $1,980 and most villages in the Niger Delta continue to lack basic services such as running water, sanitation, health care and schools.

20. This project will focus in particular on the need to raise the bar for biodiversity management in the Niger Delta in order to provide protection to the wealth of habitats and species that the region harbours and to the essential environmental services its ecosystems provide (e.g. water, nutrient and carbon cycles). It cannot however ignore the staggering reality of the above-described pradox as this is the context within the project will pursue global biodiversity benefits. Table 2 shows the data on some socioeconomic indicators of the Niger Delta States of Akwa Ibom, Bayelsa, Delta and Rivers. Administratively, each of the four core Delta States is divided into Local Government Areas (see map of Delta States and LGA in Annex 3). Table 2 also lists the number of LGA in each state.

21. In 2006, approximately 33 million people lived in the Niger Delta Region (>265 people per km^2), making it one of the most densely populated regions in Africa. The Delta's population continues to grow rapidly and is expected to be over 45 million people by 2015. Agricultural production (including fishing and forestry) is the main income source for most local communities in the Niger Delta area. More than 44% of the rural people in the Niger Delta engage in farming (cassava, maize, yam, plantain, palm oil), the gathering of NTFP such as periwinkles, snails, mushrooms and/or artisanal fishing. About 18% of the population in Niger Delta Region is engaged in trading, 10% in services (e.g. transport, tailoring, carpentry, and other artisan work), 11% in miscellaneous. Unsustainable farming systems (slash-and-burn practices, shifting cultivation) are fairly common as is bush burning for hunting, poaching. The overexploitation of fisheries' resources have affected the ecosystems' functions and therefore exacerbated the socio-economic fragility of the area.

Table 2: Socio-economic data for four Delta States.

Indicator	**Niger Delta State**				**Nigeria**
	Akwa Ibom	**Bayelsa**	**Delta**	**Rivers**	
Population (2006 census)*	3.9 million	1.7 million	4.1 million	5.2 million	149 million**
Annual population growth rate (% total population)	3.4	2.9	3.2	3.4	3.2
Unemployment Rate (% of working age adults) (2009)	34.10	38.77	18.40	27.90	19.70

Indicator	Niger Delta State				Nigeria
	Akwa Ibom	Bayelsa	Delta	Rivers	
Poverty incidence (% total population) (2004)	34.82	19.98	45.35	29.09	54.40
Adult literacy rate (any language) (% total population)	79.6	64.3	72.9	80.5	65.7
Safe sanitation (% total population with access to)	4.8	12.7	34.3	19.7	57.6
Health care (% total population with access to)	25.5	52.6	47.8	42.3	55.1
Ownership of personal computer (% total population)	1.2	1.4	1.3	1.6	1.3
Local Government Areas (number in each state)	30	8	25	19	774

Sources: NBS, 2009; NBS, 2004; NBS, 2006; NPC, 2006.
Notes: * According to the 2006 census, the population in the four Niger Delta States would be approx. 15 million. **2009 estimate.

22. Oil and Gas Industry Context of Niger Delta: Oil and gas exploration in the Niger Delta region was started by a German company in 1908.[5] In 1936, Shell secured exclusive rights to O&G exploration for all of Nigeria and began prospecting, renewing its prospecting in 1947 in partnership with BP. This lead to a discovery of oil in 1956 in the Niger Delta. Production at Oloibiri began in 1958. After Nigeria's independence in 1960, other companies were invited to prospect for oil. Soon, forerunners of Agip/Eni, Chevron/Texaco, ExxonMobil, Total and others were active in search for oil both onshore and offshore. In 1971, the government established a national oil company that in 1977 became the Nigerian National Petroleum Corp (NNPC).

23. Today, Nigeria is the 10th largest oil producer in the world, the third largest in Africa and the most prolific oil producer in Sub-Saharan Africa, with crude production reaching 2.2 million bbl/d concentrated in four Niger Delta states: Delta, Bayelsa, Rivers and Akwa Ibom.[6] The country has also significant natural gas reserves (5.29 trillion cubic metres, or ~3% of the world total) that are sub-explored.[7] Production of natural gas reached 35 billion cubic metres in 2007, or 1.2% of the world total.[8] However, due to the lack of a gas infrastructure, 75% of associated gas is still flared and 12% re-injected, in spite of an ambitious target set by government of achieving zero flaring in 2010.

24. The basic model for O&G operations in the Niger Delta is a Joint Operating Agreement (JOA) between NNPC and operating companies.[9] JOA account for approximately 95% of all crude oil output. The six major JOAs with foreign companies are:

- **Shell Petroleum Development Company of Nigeria Limited (SPDC)[10]**

[5] See: http://www.allbusiness.com/mining/oil-gas-extraction-crude-petroleum-natural/288169-1.html.
[6] For purposes of definition (and further to reference on this in paragraph 2), the Niger Delta (geographic) Region is composed of nine states: Ondo, Edo, Delta, Bayelsa, Rivers, Akwa Ibom, Cross Rivers, Imo and Abia. Their total area is 112,000 sq km or 12% of the country's land surface.
[7] 2008 BP Statistical Energy Survey.
[8] Ibid.
[9] See: http://www.nnpcgroup.com/NNPCBusiness/UpstreamVentures.aspx.
[10] Besides having a large stake in production, Royal Dutch Shell (British/Dutch) also has significant assets in storing, transporting and pipelining.

- Largest producer: 40% of the Nigeria's oil production with more than 80 oil fields, mostly onshore, on dry lands or mangroves
- Ownership: NNPC 55%, Shell 30%, Elf 10%, Agip 5%

- **Chevron Nigeria Limited (CNL)**
  - Operates in Warri region and offshore in shallow water
  - Ownership: NNPC 60%, Chevron 40%

- **Mobil Producing Nigeria Unlimited (MPNU)**
  - Operates offshore in shallow water in Akwa Ibom and plans to operate in deep water; may take over Shell as the largest producer in the country
  - Ownership: NNPC 60%, ExxonMobil 40%

- **Nigerian Agip Oil Company Limited (NAOC)**
  - Operates small onshore fields
  - Ownership: NNPC 60%, Agip 20%, Phillips Petroleum 20%

- **Elf Petroleum Nigeria Limited (EPNL)**
  - Operates on and offshore
  - Ownership: NNPC 60%, Elf 40%

- **Texaco Overseas Petroleum Company of Nigeria Unlimited (TOPCON)**
  - Operates five offshore fields
  - Ownership: NNPC 60%, Texaco 20%, Chevron 20%

25. Recent O&G production statistics. The latest statistics for the O&G sector provided by NNPC are from 2008.[11] Annex 4 presents the total production figures by company, average daily production and percentage contribution to overall production from the Niger Delta. In addition, the overall figures for crude O&G production in 2008 are presented below:

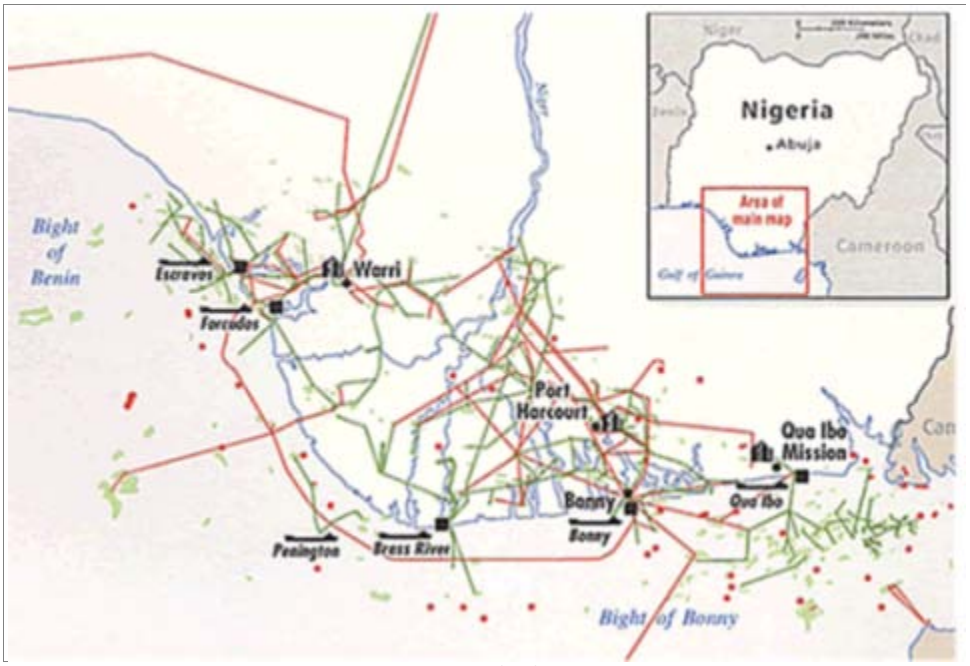
- "Total crude oil and condensate production for the year was 768,745,932 barrels… with a daily average of 2.10 million barrels/day (mmb/pd). This is lower than that of 2007 by 4.27%."
- "In the gas sector, a total of 2,282.44 Billion Standard Cubic Feet (BSCF) of Natural Gas was produced by eleven (11) Oil Producing Companies. This shows a decrease of 5.51% when compared with 2007 production. And of the quantity produced, 1,664.97 BSCF was utilized, while 617.62 BSCF (27.06%) was flared."
- "Production by various companies shows that, Mobil had the highest production figure of 167,190,786 barrels with an average of 456,805.43 bpd. This accounts for 21.75% of the total production. Shell Petroleum Development Company (SPDC) came second with a production figure of 129,328,995 barrels or 353,357.91 bpd, which is 16.82% of the total production. Chevron came third with a production figure of 118,201,198 barrels, averaging 322,954.09 bpd or 15.38% of the total production."
- NPDC, which is NNPC's upstream subsidiary, engaged in O&G exploration and production activities produced 12,366,780 barrels.

26. O&G infrastructure are indicatively shown in Figure 2, which is supplemented by other maps in Annex 3. More recently, deep water drilling is developing and showing great potential for finding new oil reserves offshore near the Niger Delta and expanding national production. Also, the deepwater extraction plants are not affected by the interruptions in operations by local

[11] See: http://www.nnpcgroup.com/Portals/0/Monthly%20Performance/2008%20ASB%201st%20Edition%20Web.pdf.

militant attacks and seizures due to civil conflicts and sabotage, all of which have affected production and transport in near coastal/inner Delta areas.

Figure 2: Niger Delta Oil Infrastructure



Source: http://www.eia.doe.gov/emeu/cabs/Nigeria/pdf.pdf.

27. *Company CSR and related policies.* All companies in the O&G sector today have policies and plans with respect to managing the environmental and social impacts of their operations. These policies and plans are in response to a number of drivers including national regulations, requirements of investors, and management commitments to corporate social responsibility (CSR). More challenging, however, is to ascertain a company's policies and plans with respect to biodiversity. This challenge is in part due to the complexity of the concept of biodiversity as well as to the complexity of the response to biodiversity expected by the international community, as reflected in the objectives and priorities of the Convention on Biological Diversity (CBD).[12]

28. As indicated in the company profiles found in Annex 4, the general state of play in the O&G sector with respect to biodiversity in the Niger Delta is not well developed. Through most multinational oil companies have stated international commitments to biodiversity and some of the them have implemented some biodiversity actions at specific locations, there remains a real opportunity to develop a more strategic and coherent approach to biodiversity for the O&G operations of the Niger Delta.

29. Annex 4 profiles a selection of key international company followed by a profile of the Nigerian National Petroleum Corporation – the majority shareholder in all the O&G projects in the Niger Delta. The section is concluded by an assessment of the challenges and opportunities for mainstreaming biodiversity into the O&G sector in the Niger Delta. This provided the basis

[12] See: http://cbd.int.

for planning the project's industry mainstreaming strategy (see '*2. Profile of Key Industry Players*' and '*3. Prospects for Effective Industry Engagement*' in Annex 4).

Institutional context

30. The following is a brief description of government institutions that are particularly relevant and important to the mainstreaming of biodiversity into the operations of the O&G sector of the Niger Delta. FMoE: The overall responsibility for environmental issues within Nigeria and its coastal waters rests with the Federal Ministry of Environment (FMoE) and its two parastatal organizations, the Nigerian Environmental Standards and Regulation Enforcement Agency (NESREA) and the National Oil Spill Disaster Response Agency (NOSDRA).

31. This responsibility is also shared with another important line ministry, when it comes to the O&G sector, with other Ministries and parastatal organizations, primarily, the Department of Petroleum Resources (DPR), the Nigeria National Petroleum Corporation, and the Ministry for Niger Delta Affairs and its Niger Delta Development Commission (NDDC).

32. The policy priorities of the FMoE are guided by the Environmental Renewal and Development Initiative (ERDI), which is the environmental agenda of this Administration. The primary objectives of the ERDI are to inventory Nigeria's natural resources and environmental damage, to design and implement restoration measures; and to implement additional measures to halt further environmental degradation. As elaborated in the NPE, the broad responsibility of FMoE is to coordinate environmental protection and natural resource conservation for sustainable development, including to:

- Secure a quality of environment adequate for good health and well-being;
- Conserve and use the environment and natural resources for the benefit of present and future generations;
- Restore, maintain and enhance the ecosystems and ecological processes essential for the functioning of the biosphere so as to preserve biological diversity and the principle of optimum sustainable yield in the use of living natural resources and ecosystem;
- Raise public awareness and promote understanding of the essential linkages between the environment and development and encourage individual and community participation in environmental improvement.

33. In order to ensure effective presence at the state level, the FMoE has an office in each of the 36 states of the Federation. Each office is headed by a senior personnel designated as controller of environment. A controller liaises closely with the Ministry headquarters in Abuja. These may include alerts on natural disasters, environmental pollution, and/or contravention of EIA guidelines. With the establishment of the FMoE, States also established State Ministries of Environment (SMoE). These ministries have responsibility to ensure that state laws and regulations on the environment are followed.

34. The FMoE's Dept of Environmental Assessment is responsible for overseeing and managing the EIA process, as reflected in the bullet point pathway below:

35. O&G operator submits project proposal to the FMoE, Department of Environmental Assessment (DEA) for screening to determine the need for EIA;

- ⇒ The vetting of Terms of Reference (TOR) by DEA for the EIA studies to ensure that all significant issues (impacts) are studied in the EIA.
- ⇒ Optional site visit/verification exercise may be required to aid the process.
- ⇒ EIA conducted by private consultants/firms. O&G operators often contract baseline data gathering, stakeholder consultation, and report preparation to independent consultants and private environmental consulting firms with expertise in the field.
- ⇒ O&G operators submit draft EIA report to DEA for review.
- ⇒ In-house DEA review of the draft EIA; comments/feedback provided to O&G operator.
- ⇒ Submission of revised final EIA report to DEA.

36. Both NESREA and NOSDRA are intitutionally linked to FMoE and are relatively new environmental "watch-dogs", i.e. in charge of enforcement and overseeing due diligence. NESREA is responsible for establishing minimum operating standards and proposing policies and legislation. Although NESREA's mandate is national and pertains to several types of environmental issues, much of its focus is on the O&G sector. NOSDRA's oversight task is mostly operational with respect to oil spills, with some enforcement responsibilities.

37. A capacity thorough assessment of FMoE, NESREA, NOSDRA was carried during the PPG stage[13] with the aim of evaluating the capacity of these institutions, as well as of other relevant agencies, to mainstream biodiversity management priorities with respect to the Niger Delta's O&G sector. The focus was on the into regulatory and oversight role of FMoE, NESREA, NOSDRA. The results of this assessment, presented in Table 3 with through numeric and percentage scores, show significant gaps with respect to all the five capacity results that were evaluated (see Annex 1 for the full results of the assessment).

Table 3: Summary of Capacity Assessments - FMoE, NESREA, NOSDRA

Capacity Result	Capacity Target	Total possible Score	Scores	Scores expressed as percentages of ideal targets
1: Capacities for Engagement	Relevant individuals and organizations (resource users, owners, consumers, community and political leaders, private and public sector managers and experts) engage proactively and constructively with one another in managing a global environmental issue.	9	1	11%
2: Capacities to generate, access and use information and knowledge	Individuals and organizations have the skills and knowledge to research, acquire, communicate, educate and make use of pertinent information to be able to diagnose and understand global environmental problems and potential solutions.	15	1	7%
3: Capacities for strategy, policy and legislation development	Individuals and organizations have the ability to plan and develop effective environmental policy and legislation, related strategies and plans – based on informed decision-making processes for global mainstreaming biodiversity.	9	2	22%

[13] PPG is the Project Preparation Grant, which was used for developing this project.

Capacity Result	Capacity Target	Total possible Score	Scores	Scores expressed as percentages of ideal targets
4: Capacities for management and implementation	Individuals and organizations have the plan-do-check-act skills and knowledge to enact environmental policies and/or regulation decisions, and to plan and execute relevant sustainable global mainstreaming biodiversity actions/solutions.	9	0	0%
5: Capacities to monitor and evaluate	Individuals and organizations have the capacity to effectively monitor and evaluate project and/or programme achievements against expected results and to provide feedback for learning, adaptive management and suggesting adjustments to the course of action if necessary to conserve and preserve the global environment.	6	1	17%
TOTAL / Summary		**48**	**5**	**10%**

38. The Ministry of Petroleum Resources (MPR) manages the petroleum sector in Nigeria. Its mandate is to develop and implement government policies in the oil and energy sectors. The Department of Petroleum Resources (DPR) is under the auspices of the MPR. Together with NAPIMS, DPR plays a crucial role in the day-to-day activities throughout the industry. The DPR:

- Ensures compliance with industry regulations; processes applications for licenses, leases and permits, establishes and enforces environmental regulations.
- Promotes the exploration and management of prospective acreages for hydrocarbons as well as the production, import, export, transport, storage and commercialization of oil and gas resources.
- Plays a key role in issuing concessions (production sharing contracts) and the allotment of O&G acreages.
- Drafts legislation and regulations and their application for the exploration, transport and storage of hydrocarbons.
- Supervises all petroleum industry operations being carried out under licenses and leases in the country in order to ensure compliance with the applicable laws and regulations.
- Enforces safety and environmental regulations and ensuring that those operations conform to national and international industry practices and standards.
- Maintains records on petroleum industry operations, particularly petroleum reserves, production and exports of crude oil, gas and condensate, licenses and leases as well as rendering regular reports on them to Government.
- Advises Government on technical matters and policies that may impact the administration and control of petroleum.

39. Ministry of Niger Delta. In response to social unrest in the Niger Delta, the Federal Government responded recently with a suite of measures, including the creation of the Ministry of Niger Delta (MND) and the revitalisation of the Niger Delta Development Commission (NDDC). In addition, the Niger Delta Regional Development Master Plan, which had been in preparation since 2001, was finally launched in 2007. The Plan is a blueprint for the sustainable development of the region and the first integrated development plan in Nigeria that is primarily

based on stakeholders' participatory inputs and experts' analytical guidance in 25 sectors, including health, education, transport, agriculture, environment and others. Derived from the Master Plan, a 'Biodiversity Sector Report' was also prepared in 2008 and it provides a broad analysis of threats to biodiversity, and general priorities for addressing them, serving as a very good basis upon which to build a more specific, targeted O&G biodiversity mainstreaming initiative in the Niger Delta.

40. The Federal Ministry of Agriculture and Natural Resources (FMoA) and its State-level counterparts are relevant to the institutional structure of this project for two main reasons. First, FMoA is home to the Forestry Department, which plays a national coordinating role for forestry work and international support for forestry in Nigeria. The Delta contains thousands of hectares of forest reserve lands owned and managed by the States. Secondly, because of Fisheries – FMoA Fisheries Department issues fishing permits for large trawlers in the coastal/marine zone of Nigeria.

41. International funding for forestry projects passes through the Forestry Department (FD) to the States. This same bridge function is served by other sectors within the Federal Government. There is no Biodiversity Department in the Ministry or FD, where biodiversity conservation is a little-understood side issue. Traditional forest management is still the primary focus, in which timber is the sole product of land management. Unimpeded access to bush meat was and still is the primary resource granted to local people. This timber-focused forest management mostly has continued up to the present time as evidenced by the very small budgets apportioned to either wildlife or biodiversity issues. This is one of the root causes of biodiversity and wildlife loss in Nigeria.

42. Nigerian National Petroleum Corporation (NNPC). As noted above, the NNPC is the majority shareholder in all of the O&G projects in the Niger Delta. Though the international companies most often have operating responsibilities, senior management and financial decisions are ultimately determined by NNPC. Hence, the company's commitment to a Green Environment[14] is a critical prerequisite for mainstreaming biodiversity into the O&G sector, as reflected in excerpts from the company's Green Environment web-page, which states NNPC's commitment to responsible environmental practices as well as its global warming control measures such as striving with its joint venture (JV) partners to achieve gas flare-down in all its operations. NNPC is also looking to the Clean Development Mechanism to help reduce carbon emissions.

43. In addition to its upstream joint ventures in the Niger Delta, NNPC has a number of subsidiary companies operating in the region that have relevance to biodiversity. They are summarized in Table 4 below. Though there is evidence of a commitment to social responsibility among these subsidiary companies, they do not profile their support for biodiversity. Nevertheless, there is a potential opportunity to engage these companies along with NNPC's joint venture companies in a partnership to mainstream biodiversity into the O&G sector in the Niger Delta.

[14] See: http://www.nnpcgroup.com/PublicRelations/InformationDesk/AGreenEnvironment.aspx.

44. State-level institutions. Natural resource management institutions exist at the State level, primarily through State Ministries of Environment (Forestry Departments) and State Ministries of Agriculture (Fisheries) but capacity for biodiversity conservation, and for integrated approaches to this, is almost non-existent. Despite this fact, State level institutions are critically important to effective biodiversity mainstreaming in the Niger Delta. State Ministries of Environment (SMoE) in Akwa Ibom State, Bayelsa State, Delta State, Rivers State play a key role in two areas relevant to biodiversity mainstreaming: forest land use and management and the EIA process.

45. SMoE maintain a Forestry Department (FD), whose main responsibility is to manage forest reserve lands in their respective state. These lands belong to the respective State. The practice of forestry in these forests focuses on timber extraction and aforestation/reforestation. Ecosystem-based management and forest ecosystem health are, by and large, not management objectives. Little to no capacity is available to conceive of and implement biodiversity conservation projects.

46. State FD are typically the closest thing Nigeria has to a wildlife management entity, and they are mandated to manage some 38 forest reserves and game sanctuaries encompassing some 195,228 hectares across the four pilot Delta States. The protected area network as it is derives from the creation of forest reserves whose initial purpose was for wood/timber production. They mostly small, many lack a legal basis, management plans and adequate enforcement of wildlife laws. For example, two prime reserves exist in Delta State (Uremuri-Yokri and Olague) but they are not gazetted and so they do not yet legally exist. The FD's capacity to fulfill their mandate is minimal the four pilot States in the Delta. Staffing for such areas is highly insufficient for the surveillance and management needs. In a state such as Bayelsa, there are only three uniformed staff covering a land area of over 20,000 km^2. In such circumstances, no serious attempts are made to enforce legal provisions. Farming, illegal harvesting of timber, hunting habitation and habitat destruction is the norm. Many protected areas are under threat by communities advocating their sieze back these same lands, as they are not being used as protected areas by government. (Refer to Annex 6 for a list of these areas).

47. The Delta State MoE maintains separate Departments in: Ecology (flood and erosion control/EIA), Forestry (timber production) and Environmental Conservation (afforestation/ reforestation). However, there is no adequate information on the State's biological diversity (species, habitats, ecosystems) and their location, condition and extent. The three departments need training on biodiversity conservation but an opportunity for it is yet to materialise. SMoE involvement in EIA in the Delta is modest and usually limited to facilitating EIA fieldwork in State forest or other lands.

48. State Ministries of Agriculture (SMoA) in Akwa Ibom State, Bayelsa State, Delta State, Rivers State. (SMoA) are relevant to this project for two primary reasons. First, agriculture remains the primary means of sustenance for the majority of the Niger Delta's people and each SMoA maintains an Agricultural Development Programme (ADP). The ADP in each of the four pilot states is implementing the National Fadama Development Programme (Phase III), a nationwide initiative to build capacity in the agricultural sector and invest in rural infrastructure. The ADP have structured extension services and are mandated to build capacity of rural

communities and farmers. ADPs are well positioned to help train rural farmers especially in the area of aquaculture, sustainable agroforestry systems like slash-and-mulch, and other activities relevant to community-based conservation and sustainable use.

49. Second, the four SMoA are responsible for managing fisheries in the waters of their respective state through the Fishery Department, whose primary roles are to enforce fishing regulations and operate fish hatcheries and aquaculture across the Delta in an effort to enhance fisheries and help local fisher folk. States do not have specified agencies for the regulation of oil spills. There are no dedicated programmes for biodiversity conservation in the State Ministries of Agriculture where the emphasis is on income generation through timber product extraction. At the State level there is solid evidence of positive trends towards more attention being paid to biodiversity conservation. For example, in 2001, Edo State Assembly developed and passed the first Biodiversity Law in Nigeria. Among other things, the law supports more community-based forest management in Edo State.

Table 4: Stakeholder Analysis

Stakeholder	Relevant roles and Responsibilities, including in project implementation
Federal Institutions and Agencies (Parastatals):	
Federal Ministry of Environment, Housing and Urban Development (FMoE)	The main responsibility of the FMoE is "protect and improve water, air, land, forest and wildlife in Nigeria." FMoE is the CBD Focal Ministry and responsible for policy formulation and implementation of the CBD. The FMoE works in tandem with the oil and gas industry through its regulatory agencies NOSDRA and NESREA in the regulation of oil, gas and other pollutants. The Nigerian National Park Service is under the FMoE and manages eight national parks around the country. There are no national parks in the Niger Delta. The Directorate for Environmental Assessment (DEA) of the FMoE works to ensure that oil companies actively respect good environmental practices. Several activities, all pipelines, and many other activities require EIA prior to construction. FMOE is the lead agency within the Nigerian Government for this project. The Project Director will come from FMoE (a senior staff person who will chair SC meetings).
Federal Department of Forestry (FDF)	Manage tree plantations in cooperation with States in jointly managed tree plantations managed exclusively for timber.
National Oil Spill Detection and Response Agency (NOSDRA)	NOSDRA, a Parastatal under the FMoE was established in 2006 and is vested with the responsibility to co-ordinate the implementation of the National Oil Spill Contingency Plan for Nigeria in accordance with the international Convention on Oil Pollution Preparedness, Response and Cooperation. NOSDRA is also mandated to identify high risk/priority areas in the oil-producing environment for protection as well as ensure compliance of oil industry operations with all existing environmental legislation. The agency has offices in Port Harcourt (Rivers State), Warri (Delta State) and Uyo (Akwa Ibom State) and in other parts of the Niger Delta Region. It is partnering with many O&G companies including ExxonMobil, Elf, Adax, Total, Shell, Agip, AMNI/AFCEN, Oriental Energy and Universal Energy. Biodiversity conservation objectives are not clearly integrated into NOSDRA's work. O&G companies do not report on issues relating to biodiversity. NOSDRA will be a key actor in mainstreaming biodiversity into its oil spill response efforts.
National Environmental Standards Regulatory and Enforcements Agency (NESREA)	NESREA was established as a parastatal of the FMoE in 2007 and is responsible for enforcing all environmental laws, guidelines, policies, standards and regulations in Nigeria. It also has the responsibility to enforce compliance with provisions of international agreements on the environment.

Stakeholder	Relevant roles and Responsibilities, including in project implementation
Ministry of Niger Delta (MND) Environmental Management Department (EMD)	Specifically established in 2000 to address the development problems of the Niger Delta, MNS is the only Ministry of its kind that has a regional outlook rather than a national one. There are 33 ministries tasked with carrying out activities that MND is charged with doing in the Delta. EMD is a new entity, just over one year old. In terms of environment, their main focus is on remediation of O&G polluted sites. The EMD cooperates with the FMoE and other agencies such as NOSDRA to coordinate efforts and avoid duplication of effort. They support the MoE's enforcement role by reporting polluting problems. MND will be a key actor in the project, participating in important working groups and mainstreaming biodiversity into their remediation prioritization efforts. (Outcome 1.3)
Niger Delta Development Commission (NDDC)	The NDDC formulates policies and guidelines for the development of the Niger Delta area. See text above for more detail. The NDDC will chair the working group to develop the biodiversity action plan for the Niger Delta, which will be based upon the NDDC's "Biodiversity Sector Report." (Output 1.2)
Federal Ministry of Agriculture	The Ministry of Agriculture plays a leading role in agricultural development. Their mandate spans over agriculture, but also related activities. (livestock rearing, fisheries, produce inspection, forestry).
Ministry of Petroleum Resources (MPR)	The MPR manages the petroleum sector in Nigeria through its Department of Petroleum Resources (DPR) and National Petroleum Investment Management Services (NAPIMS). The DPR will be a key participant in the project's law and policy mainstreaming work vis-à-vis the PIB/EIA/ EGASPIN process (Output 1.3).
Nigeria National Petroleum Corporation (NNPC)	The NNPC is an integrated O&G company, engaged in adding value to the nation's hydrocarbon resources for the benefit of all Nigerians and other stakeholders. Oil and natural gas in Nigeria are federal resources belonging to all the people of Nigeria. The NNPC is the majority shareholder in all of the major O&G projects in the Niger Delta. In addition to upstream joint ventures with large international O&G companies, NNPC also has a number of subsidiary companies operating in the region with relevance to biodiversity. NNPC will be a key player under Outcomes 2 and 3, in helping to lead the way towards improved biodiversity action planning and establishing the NDBT.
Nigerian Petroleum Development Company Limited (NPDC)	NPDC is "engaged in O&G exploration and production activities in the hydrocarbon-rich regions of coastal Nigeria, both onshore and offshore; and more recently, around Equatorial Guinea." Further, NPDC has a stated commitment to Community Development Assistance.[15]
National Petroleum Investment Management Services (NAPIMS)	NAPIMS is the upstream arm of the NNPC and oversees the government's investments in the Joint Venture producing companies, (JVC's), the Production Sharing Companies (PSC's), and the Service Contract Companies (SC's). It is NAPIM's job to ensure a good return in Nigeria's O&G investments through effective supervision of the JV, PSC, SC. NAPIMS is also supposed to play an environmental role by encouraging and adopts global standards and best practices to ensure that operations are carried out in an environmentally conducive manner. NAPIMS will likely be an important indirect partner in project activities, signing off on O&G support for biodiversity mainstreaming.
Pipelines Products Marketing Company Limited (PPMC)	PPMC ensures "security of supply of petroleum products to the domestic market at low operating costs" primarily through transport of crude oil via pipelines from the NAPIMS to the NNPC local refineries.[16]
II State Institutions and Agencies.	
State Assemblies	The State level institutions are very important to biodiversity mainstreaming in Nigeria. Nearly all resources except oil and gas are State responsibilities, not federal. This makes the State level support in terms of improved laws, policies and institutional capacity critical to achieving any biodiversity conservation on the ground. State Assemblies will in the long run support the sustainability of mainstreaming work by helping to allocate more State resources

[15] See: http://www.npdc-ng.com/.
[16] See: http://www.nnpcgroup.com/NNPCBusiness/Subsidiaries/PPMC.aspx.

Stakeholder	Relevant roles and Responsibilities, including in project implementation
	to mainstreaming efforts through the NDBT.
State Ministries of Environment or responsible Ministries	Delta, Rivers, Bayelsa and Akw Ibom States MoE all have a Forestry Department, whose main responsibility is for managing forest reserve lands in their respective state. SMoE will be key participants in most of the project's work, including Outputs 1.1, 1.2, 1.3; 2.2, and 3.1.
State Ministries of Agriculture and Natural Resources (SMoA) / Agricultural Development Programmes (ADP)	The four state Ministries of Agriculture and Natural Resources are responsible for managing fisheries in the waters of their respective state through the Fishery Department, whose primary role is to enforce fishing regulations. The ADP of the SMoA are mandated to build capacity of rural communities and farmers and are well positioned to help train rural farmers in activities relevant to community-based conservation and sustainable use. SMoA will be important participants in helping to formulate community level BAPs (Output 2.2)
Cross River State Forestry Commission (CRSFC)	Established in 1999, the CRSFC's mandate is to sustainably develop, conserve and manage the forest reserves of the state for the benefit of all stakeholders through sound policies and programmes. The vision of the CRSFC is "to be home to one of the world's greenest, biologically most diverse and richest forest by all global standards". The breadth of strategic initiatives (proactive reforestation of degraded areas, biodiversity monitoring, capitalizing on the carbon markets, strengthening forest reserve boundaries and management, establishing modern tracking system for timber) by CRSFC makes it a model for other State Forestry Commissions in the Delta. Cross River may be the place where study tours are organized from the rest of the Delta.
Niger Delta University, (NDU) Yenagoa , Bayelsa State	NDU is a fairly new institution in Yenagoa, Bayelsa State. It has a department of crop production technology and forestry with qualified staff able to teach different aspects of biodiversity conservation. May play a role in training under the project (Output 1.4).
Rivers State University of Science and Technology (UST), Port Harcourt, Rivers State	The Department of Forestry of the UST has seasoned foresters that have handled biodiversity conservation for Oil and Gas Industries in Bonny, Rivers State. Will play a role in gathering data and information (Output 1.1) and training/capacity building (Output 1.4)
University of Uyo (UU), Akwa Ibom State	The Zoology, Forestry and Fishery departments of UU maintain qualified lecturers capable of teaching aspects of biodiversity conservation in terrestrial, aquatic/marine habitats. The Forestry Dept is currently conduct ecological studies at the Stubbs Creeks (310 ha) covering 4-5 LGA and at Essien Udim LGA where Mobil operates. The Fishery Dept carried out work in partnership with SPDC. The Zoology Dept carried out conservation work on manatees, elephants, and primates while the Dept of Botany and Ecological Studies has worked on illegal timber harvesting in some communities in Akwa Ibom. Will play a role in gathering data and information (Output 1.1) and training/capacity building (Output 1.4)
III. Industry Partners	
Oil and gas companies	O&G industry players are key stakeholders in this project. A thorough analysis of these players has been carried out during the PPG phase and an industry engagement plan developed. These are rather thorough and can be found in Annex 4. O&G partners in the project will be engaged first and foremost through the Oil Production Trade Sector (OPTS) from the Lagos Chamber of Commerce, which plays a catalytic and decision making role on policies for these corporate partners.
IV. Non–Government Organizations (NGO)	
Nigeria Conservation Foundation (NCF), Lagos	Established in 1980, the NCF is one of the leading NGOs in Nigeria working on the conservation and sustainable use of biodiversity. NCF works with a range of partners from local communities, to federal and state agencies and corporations focusing on environmental education, biodiversity conservation, policy advocacy, poverty reduction, and pollution mitigation. Some NCF projects include: Nipa Palm Utilization (Akwa Ibom); Management of Becheve Nature Reserve, Obudu Cattle Ranch (Cross Rivers); Biodiversity Action Plan

Stakeholder	Relevant roles and Responsibilities, including in project implementation
	(Edo); and the IBA Programme. NCF's has played important roles in a range of environmental policy and institution building in Nigeria over the past two decades. Output 1.1 -- NCF will take the lead on decision support capacity of the IBAT platform.
Bioresources Development and Conservation Programme (BDCP), Abuja	The BDCP is a non-profit, NGO dedicated to sustainable utilization and conservation of biodiversity which leads to poverty alleviation, health improvement, and environmental conservation. BDCP's main goal is to ensure the well-being of tropical ecosystems and their human inhabitants through practical innovative mechanisms of sustainable development, including bioprospecting research, biodiversity inventory management and dissemination as well as poverty alleviation through benefit sharing. Output 2.2 – May play a lead role in helping communities to develop their BAPs that are linked to O&G BAPs.
Niger Delta Wetlands Centre (NDWC), Yenagoa, Bayelsa State	Since 1992, the NDWC has worked in the fields of in natural resource management and sustainable development. The ND's rivers and wetlands are the basis for local livelihoods but pose unique challenges for effective transportation and economic development. NDWC uses participatory approaches to evaluate community resource use and in sustainable management planning and encourages the adoption of new tools for development such as renewable energy technologies. Output 2.2 – May play a lead role in helping communities to develop their BAPs that are linked to O&G BAPs.
Pro-Natura International (PNI):	Founded in Brazil in 1986 to create protected zone of pristine forest it became an International NGO in 1992. In Nigeria, it is promoting a working model of participatory community development in which all stakeholders (primary and secondary) actively participate. Its approach is to link sustainable development for the benefit of rural communities with conservation of biodiversity. Pro-Natura has been successful in promoting participatory community development in Akassa Community in Bayelsa State. Its impact is well recognized by government, donor and development agencies as applicable for the development of the Niger Delta. Output 1.1; Output 2.2 – May play a lead role in helping communities to develop their BAPs that are linked to O&G BAPs.
Living Earth (Nigeria) Foundation (LENF)	Began work in 1998 with SPDC to assess its community development initiatives in the Niger Delta. The scoping study of 1996 analyzed some of the needs of the SPDC host communities and identified opportunities for a LEF programme in Nigeria. Since inception, LENF has been implementing environment and community development programmes in the Niger Delta, with particular reference to Bayelsa, Rivers and Cross River States. In these states, LENF places a premium on working with community institutions, building their capacity to function effectively and also promoting democratic values and principles in the management of community affairs. Output 1.1 Information baseline strengthening
River Ethiope Trust Foundation	Seeks to mobilize and build community capacity for sustainable development and use of natural resources. The River Ethiope in Delta State is the pilot project to integrate community rights and responsibilities for river conservation and sustainable use. Has conducted a biodiversity/ecological baseline survey of River Ethiope ecosystem. Assists in enforcing EIA for all new projects along the bank of River Ethiope. Currently involved in implementing SPDC's new community interface model. Implements environmental restoration and protection programmes. Output 1.1 Information baseline strengthening.
PANDRILLUS	Based in Calabar, Pandrillus is a primary NGO working on primates in the greater Delta region. Its focus is captive breeding of the seriously endangered Nigerian sub-species of the mountain gorilla that has the Cross River National Park as its western limit. It has also successfully bred the Drill. Their activity is mainly in Cross River just outside the project's four Delta states. They have also worked in Akwa Ibom. May play a role in developing 1 or more community-based pilot projects for funding under the NDBT (Output 2.2, 3.1).
CERCOPAN	CERCOPAN, an affiliate of The International Primate Protection League, was founded in 1994, with its head office in Calabar, Cross River State. The preservation of biodiversity through the conservation and rehabilitation of forest primates, conservation, education and research.
Delta	Established in 1996, DEENET operating through a network of NGOs is dedicated to the

Stakeholder	Relevant roles and Responsibilities, including in project implementation
Environmental Network (DEENET):	protection of the flora and fauna of the Niger Delta by encouraging oil companies and government to formulate policies and remedies for the remediation of the environmentally degraded environment of the area. Since inception DEENET has organized a number of stakeholder fora to sensitize local communities to essential issues in biodiversity conservation and sustainable use of biodiversity for improved community livelihood. It has also organized study tours and training for its members. Will be an important conduit for replication of community-based mainstreaming actions to different states and areas around the Delta.
Ekuri Initiative (A community forestry project)	Established in 1996 and operating out of head office in Calabar, Cross River State, the Ekuri Initiative's objectives are: biodiversity conservation and sustainable forest management; and rural poverty alleviation and rural development. It has developed sustainable forest management plans, land use plans and undertaken inventory stock surveys, non-timber forest products (NTFP) extraction, ecotourism, and biodiversity support schemes.
V. International Organizations and Agencies	
World Bank	Implementing the Second National Fadama Development Critical Ecosystem Management Project, which is engaging every State MoA and their respective ADP in the Delta.
UNEP	Environmental Assessment of Ogoniland. This 18 month, US$10 million project is conducting an extensive environmental assessment of oil impacted sites in the Ogoni region of the Niger Delta in Rivers State. Implemented by UNEP in collaboration with UNDP. The project is being implemented through an extensive, purposeful community-based approach with local government area coordinators and community liaison assistants in each area facilitating community understanding and ownership of the process.

Law and policy context

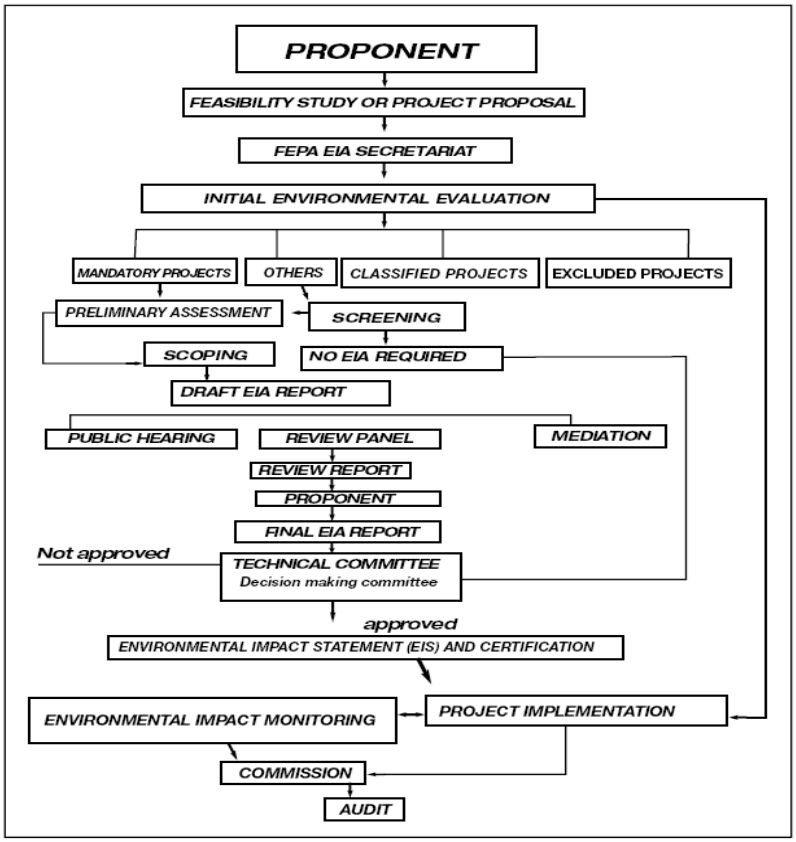
50. Legislative competence in relation to hydrocarbon operations is vested exclusively in the Federal Government. State and local governments of the Federation have minimal say on key decisions regarding O&G activities, including decisions on the siting and monitoring of operations, and revenue sharing and risk abatement measures that apply for each specific location. Much of the pertinent legal framework that regulates the industry dates from the 1970's and 1980's and is considered inadequate in the face of the various challenges posed by O&G operations today, in particular the EIA process which is an essential tool for regulating the industry from an environmental perspective.

51. In 1992, Environmental Impact Assessment (EIA) regulations were passed, making EIA mandatory for both public and private sector development projects, including many O&G exploration, exploitation and production activities. Yet, there are many constraints to the EIA in terms of making it a useful tool of environmental protection. O&G projects, under the EIA regulations, are "Category 1" requiring full and mandatory EIA. EIA procedures require O&G companies to do the following in order to assess potential harm and plan to minimize that harm to the environment as a result of an O&G development. First, Figure 3 illustrates EIA procedures in flow-chart form. This figure illustrates the various stages a project goes through from proposal to approval for implementation, resulting in the issuance of an Environmental Impact Statement or EIS and the development of an Environmental Management Plan (EMP).

52. The main steps the EIA process include: 1) The "preliminary assessment" and "scoping" activities to assess the spatial and temporal dimension of the environmental affects, and; 2)

Baseline studies to determine the environmental condition prior to project implementation. The result of these assessments and studies is the EIA report, which is reviewed by the MoE technical committee. At this point in the review process, the MoE and the proponent mutually establish conditions and parameters for the follow-up Environmental Management Plan (EMP), which identifies mitigation measures for areas of impact, a compliance and monitoring plan, and an audit procedure. The EMP is a document created by each O&G company to provide a framework for dealing largely with pollution and other environmental risks associated with their site activities. In many cases it simply formalizes practices already undertaken on the site. More specifically, the process is not supported by an understanding of how to assess impact of a project on biodiversity. (This is discussed in more detail further down in chapter '*Long-term solution and barriers to achieving the solution*').

Figure 3: Flow chart of Nigeria's EIA procedures



Source: Echefu N. & Akpofure E. (2010): Environmental Impact Assessment Environmental Assessment Case Study in Nigeria: regulatory background and procedural framework. Case study 7. In UNEP (2010): Studies of EIA practice in developing countries UNEP's Division of Technology, Industry and Economics, Economic and Trade Branch; edited by Mary McCabe and Barry Sadler.

53. In addition to the EIA process and the laws and regulations that govern it, there is a complex and tiered body of laws and policies that are relevant for the management of biodiversity and O&G sector in the Niger Delta. Table 5 summarizes those.

Table 5: Law and policies relevant to the mainstreaming of biodiversity into Nigeria's O&G sector.

Name of Law/Policy or Regulation	Relevance to the Project/to Mainstreaming of Biodiversity
Federal Policy	
National Policy on Environment (1989) (NPE)	NPE is the policy document formulated to achieve sustainable development for Nigeria. Two of the key sectors identified as requiring integration of environmental concerns and sustainability with development are Mining and Mineral Resources and Energy Production. NPE aims, among others, to restore, maintain and enhance the ecosystems and ecological processes essential for the functioning of the biosphere, to preserve biological diversity and the principle of optimum sustainable yield in the use of living natural resources and ecosystems.
Agenda 21 for Nigerian Environment	Seeks to integrate in holistic manner environment policy into development planning at all levels of government and the private sector; and intensify the transition to sustainable development. Biodiversity is one of the twelve key sectors identified, and the Energy sector as one of the developmental activities impacting on the state of the environment and contributing to environmental deterioration. It calls on the O&G sector to develop a set of measures to mitigate any negative impact on the environment.
Ministry of Petroleum Resources (MoPR) Policy Document for the Oil and Gas Industry	The policy document seeks to encourage activity in nine areas, but *does* not address biodiversity or related issues. The document is focused on increasing the oil reserve base, expansion and utilization of natural gas, and encouraging indigenous participation in the petroleum industry.
Federal Law	
Petroleum Industry Bill (PIB) under final review by National Assembly as of Oct. 2010.	The new, major overhaul of oil and gas legislation in Nigeria, the PIB, in its current form has the following relevant provisions: a) Provides for environmental quality management through submission of environmental programme/ environmental quality management plan; b) Provides for consultation with State Departments; c) Financial provision by licensee/lessee for remediation of environmental damage; d) Financial provisions by State and Local Government in cases where damage has been caused by sabotage; e) Provides for decommissioning and abandonment in accordance with guidelines issued by the NPI; and f) Explicitly provides for restoration in the aftermath of harm to the environment (i.e. compensation only will no longer be acceptable).
Associated Gas Re-Injection Act, Cap. A25, LFN 2004.	Compelled submission of gas re-injection programmes by the O&G operators.
Environmental Impact Assessment Act, Cap. E12, LFN 2004	The Act sets out the procedures and methods to enable the prior consideration of environmental impact of before projects are carried out. Applies to the O&G sector. Proper EIAs can assist in the development of a comprehensive set of measures to mitigate or prevent negative impact on biodiversity; EIA lessons learned can also assist to update the national oil spill contingency plan for control, containment, clean-up and restoration. Gives authority of EIA to FMoE.
Nigerian National Petroleum Corporation Act, Cap. N123, LFN 2004	This Act established the NNPC and empowered it to engage in commercial activities relating to the petroleum industry; and to enforce all regulatory measures relating to the general control of the petroleum sector through its Petroleum Inspectorate department.
Oil in Navigable Waters Act, Cap. 06, LFN 2004	The Act implements the terms of the International Convention for the Prevention of Pollution of the Sea by Oil and makes provisions for such in the navigable waters of Nigeria.
Petroleum Act, Cap. P10, LFN 2004	The Act provides for the exploration of petroleum from the territorial waters and the continental shelf of Nigeria, and vests the ownership of, and all on-shore and off-shore revenue from petroleum resources derivable there from in the Federal

Name of Law/Policy or Regulation	Relevance to the Project/to Mainstreaming of Biodiversity
	Government. This Act grants the Minister power to make regulations to prevent pollution of watercourses and the atmosphere, investigate accidents, and regulate the construction, maintenance and operation of installations used.
Petroleum Technology Development Fund (PTDF) Act, Cap. P14, LFN 2004	The goal of this Act is to establish a development fund for the purposes of training and education of Nigerians in the petroleum industry.
Petroleum Training Institute Act, Cap. P16, LFN 2004	Establishes the Petroleum Training Institute. It has no focus on biodiversity but may be able to incorporate biodiversity-related courses.
The Companies and Allied Matters Act (1999)	Provides the legal basis for creating a Trust Fund, the appointment of Trustees and the setting up of articles of association and registering with the Corporate Affairs Commission.
Federal Regulations	
Associated Gas Re- Injection (continued Flaring of Gas) Regulations, SI.43 of 1984.	The Regulations provide for the conditions for issuance of certificate for continued flaring of gas. None of the conditions relate to biodiversity or impact on local crops or ecosystems.
Petroleum (Drilling & Production) Regulations, 1969	The regulation has a number of provisions on compensation and restoration that can well serve the goal of mainstreaming biodiversity. A weakness of the regulation is that compensation is paid to individuals whose land has been damaged by the cutting of productive trees or damaging croplands and individuals are generally not able to deal with biodiversity and restoration issues, which are often scientifically complex and wide-ranging. Also, biodiversity is not valued and there is no accepted process for valuing biodiversity in Nigeria.
Petroleum Refining Regulations, 1974	The Regulations relate to procedures guiding the establishment and management of refinery. It also enjoins operators to observe good refining practice.
Federal Guidelines	
Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) 1991 (Revised Edition 2002)	These environmental guidelines and standards issued by the DPR cover the control of and impacts from pollution from O&G operations. Requires EIA to be conducted by O&G companies as a preliminary activity during project development.
Environmental Impact Assessment – Procedural Guidelines	Following the promulgation of EIA Act, these guidelines were developed as a National Environmental Procedure. It indicates the steps to be followed in the EIA process from project conception to commissioning.
Environmental Impact Assessment Sectoral Guidelines for Oil and Gas Industry Projects, 1995	This EIA sectoral guidelines for the O&G industries are presented in five sub-sectors, namely, Oil Exploration & Production Onshore, Oil and Gas Production & Exploration Offshore, Oil and Gas Pipeline, Petroleum Refining, and Petrochemicals.
Guideline for Accreditation of Oil Service Companies (Ministry of Petroleum).	The Guideline was developed for accreditation of oil industry services companies. It is relevant to the extent that the DPR in registering companies requests them to also submit their environmental action plan.
Interim Guidelines & Requirements for FPSO Operating in Nigerian Waters	This was evolved by the then National Maritime Authority, now Nigeria Maritime Administration and Safety Agency (NIMASA). It mandates the specification of FPSO that will operate in Nigerian waters.
Procedure Guide for the Construction and Maintenance of Fixed Offshore Platforms	Key components of these guidelines are the environmental and safety considerations that must be factored into the design of fixed offshore platforms. These considerations have quickly become out-dated in light of the Gulf of Mexico deepwater oil well disaster.

54. Hierarchy of the Relevant Laws. The Constitution of the Federal Republic of Nigeria (the "1999 Constitution") is the basic law of Nigeria, and its provisions are supreme over all other laws. The 1999 Constitution envisages the need to protect the country's environment, including its ecosystems and natural resources. There is a specific reference to environment in Chapter II of the 1999 Constitution, dealing with Fundamental Objectives and Directive Principles of State Policy.

55. Under the Constitution, the Federal Government has exclusive jurisdiction on all matters listed in the Exclusive Legislative List. It has concurrent jurisdiction with the States on all matters listed in the Concurrent Legislative List. Any State enactment that touches either directly or by indirectly on a matter contained in the Exclusive List is to that extent void. In relation to matters on the Concurrent List, both the Federal Government and States have power to legislate thereon. However, where a law made by a State is inconsistent with a Federal enactment, the inconsistency in the State law shall be void.

56. All Federal laws, old or new, are of the same hierarchy. They act to complement one another and no law loses its force unless expressly repealed. In the event of a conflict or inconsistency, the conflicting laws would have to be subjected to judicial interpretation. It is the same way that State laws operate in relation to one another.

57. Overall, land, forestry and forest resources are under State control. Federal powers regarding forest resources and wildlife are limited to federal reserves and national parks. Indeed, the Federal Government requires the consent of the relevant State(s) in designating a national park or forest reserve. Consequently, the jurisdiction to manage biodiversity issues reside more with the States. However, the entire property in and control of all minerals, O&G in under or upon any land or territorial waters vest exclusively with the Federal Government. Section 28 (4) of the Land Use Act further obligates the Governor of a State (who holds all lands in the State in trust for all Nigerians) to revoke a right of occupancy if the land is required for petroleum operations by the Federal Government, with compensation paid to the former right holder.

58. *Traditional natural resource management.* Beneath the modern context of natural resource management in Nigeria is a traditional one. In pre-colonial times, a complex set of land ownership existed, which still exists de facto in a traditional unwritten sense. Throughout the Delta, many lands, forest, lakes and bodies of water are 'owned' by families or communities and many are designated as sacred sites. These family or community resources (forests/lakes etc) are recognised and 'managed' through tradition that is respected by neighboring communities. Non-members of a family community may be effectively excluded from access/use of such forest/lakes and each family or community can dictate when and how frequently lakes may be fished and forests hunted or timbered.

59. In some instances, states have recorded such community-owned bodies of water. Consider Bayelsa State as an example. Bayelsa is known to have at least nine community or family owned crocodile conservation areas where fisheries are specially managed to ensure crocodile population health. In addition, sixteen towns in Bayelsa State have one or more sacred lakes that are subject to special management and are in effect, local protected areas. To date, efforts at the State and Federal levels level have not built upon these conservation resources. The

immigration of different ethnic groups into lands once unavailable and the diminishment of many traditions that support conservation, such as sacred forests which are not officially recognized on government lists of conservation areas and protected area, but they are protected and "specially managed" none-the-less.

60. Private Sector Policy: The principal models which leading companies in the energy industry currently use manage environmental issues are Environmental Management System (EMS); or an integrated Health, Safety and Environmental Management System (HSEMS). The EMS model is based on International Organization for Standardization's EMS Specification with Guidance for Use (ISO 14001) published in 1996. The HSEMS model is based on guidelines for the development and application of HSEMS published by the International Oil and Gas Producers Association (OGP) in 1994.

61. Embedded in these systems are the Environmental and Social Impact Assessments (ESIA) which are important tools for understanding and addressing impacts to biodiversity, particularly for new development projects. This tool is used to address environmental and social impacts in a single assessment process in recognition that environmental and social impacts are often inextricably linked, particularly related to issues such as health impacts of pollution or traditional use of ecological resources by indigenous and rural communities.

62. Both EMS/HSEMS and ESIA are dynamic and evolve through the different stages of each project's lifecycle. Relevant biodiversity considerations can be integrated into specific components and steps of an EMS/HSEMS at both the project and corporate levels, as well as into an integrated ESIA process that considers impacts using a broad-scale ecosystem approach. The Biodiversity Action Planning process introduced under Outcome 2 of this project seeks to do just that – to integrate biodiversity considerations into the EMS/HSEMS/ESIA process.

63. Investor Requirements: As important for business as regulations – notably for large-scale business projects in developing countries – are the social and environmental requirements mandated by investors. For example, the Japan Bank for International Cooperation (JBIC) requires of its borrowers that "plans for projects with particularly large potential adverse impact must be accompanied by detailed environmental management plans."[17]

64. Perhaps the most influential biodiversity and development-related investor requirements are the International Finance Corporation's (IFC) Performance Standards on Social and Environmental Sustainability:

1: Social and Environmental Assessment and Management Systems
2: Labor and Working Conditions
3: Pollution Prevention and Abatement
4: Community Health, Safety and Security
5: Land Acquisition and Involuntary Resettlement
6: Biodiversity Conservation and Sustainable Natural Resource Management
7: Indigenous Peoples
8: Cultural Heritage

[17] Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (July 2009), p. 16. See: http://www.jbic.go.jp/en/about/environment/guideline/business/pdf/pdf_01.pdf.

65. Though all are directly relevant to the four core biodiversity objectives (conservation, sustainability, equity and development) Performance Standard 6 is particularly important. For example, the following two paragraphs clearly provide a basis for financing biodiversity management plans of areas 'outside the fence':

> "8. Mitigation measures will be designed to achieve no net loss of biodiversity where feasible, and may include a combination of actions, such as:
>
> - Post-operation restoration of habitats
> - Offset of losses through the creation of ecologically comparable area(s) that is managed for biodiversity
> - Compensation to direct users of biodiversity"
>
> "14. The client will manage renewable natural resources in a sustainable manner. Where possible, the client will demonstrate the sustainable management of the resources through an appropriate system of independent certification."[18]

66. The IFC's Performance Standards – to be updated in 2011 – are particularly influential because they have been adopted by the Equator Principles Association, which represents 67 multinational banks responsible for most of the project finance in developing countries. The recently adopted Governance Rules of the Association state the following and provide a solid investment basis for biodiversity action:

> "b) The aim of the Principles is to introduce good practice for financial institutions in the management of social and environmental risks when providing Project Finance loans or Project Finance Advisory Services."
>
> "c) The Principles are a framework to require the implementation of standards of good practice in relation to the social and environmental issues arising in projects that are the subject of Project Finance. The EPFIs having so decided, the Equator Principles specify that the current standards required shall be either:
>
> i) The Performance Standards and the Environmental, Health and Safety Guidelines of the IFC where projects are located in countries that are not High Income OECD countries (as defined by the World Bank Development Indicators Database), or
>
> ii) Local or national law relating to social and environmental matters where projects are located in High Income OECD Countries (as defined by the World Bank Development Indicators Database)."
>
> "d) The Principles apply where the EPFIs provide Project Finance loans or Project Finance Advisory Services for projects having a total capital cost of US$ 10 million or more, to provide that those projects are developed in a socially responsible manner and reflect sound environmental management practices. Negative impacts on project-affected ecosystems and communities should be avoided where possible, and if these impacts are unavoidable, they should be reduced, mitigated and/or compensated for appropriately."[19]

THREATS, ROOT CAUSES AND IMPACTS

67. The primary threats to biodiversity in the Niger Delta are: Pollution; Habitat degradation and land-use change; Over-harvesting of natural resources, and; Invasive alien species.

68. From the analysis that will follow, it will become clear that not all of the threats to the Niger Delta's biodiversity are linked to the O&G sector. Threats related to oil spil pollution, affecting both land and water, as well as gas flaring and land clearings for establishing wells,

[18] IFC Performance Standard 6. (30 April 2006).
[19] The Equator Principles Association. See: http://www.equator-principles.com/documents/EP_Governance_Rules_April_2010.pdf.

pipelines and plants are obviously linked to the industry's activities. Other threats such as land clearings for agriculture, unsustainable harvest of trees, fish and other biological resources cannot be attributed to industry. As it will be seen, these threats are also significant.

69. The project is working with the concept of "inside the fence" and "outside the fence" (see Box 1), where the former is the area under direct control/use by the O&G companies. The socio-economic context in the Niger Delta is complex: widespread poverty, fairly high population density in some areas and with the O&G industry functioning as the main economic motor. As such, attributing threats and impacts to biodiversity 'outside the fence' is challenging. The situation is particularly blurred immediately 'outside the fence'. There is however recognition from industry that their impacts may have a wider area of influence than just 'inside the fence'. The question is how to address threats to biological resources in this biodiversity rich and challenged region where a GEF intervention can effectively make a difference. The project strategy is dealing with that.

Box 1: "Inside the Fence" & "Outside the Fence"

These terms refer to the relationship between the O&G sector and the biodiversity aspects of its social/environmental context.

Inside the fence: refers to the area of some 600 sq km under direct control/use by the O&G companies (assets, facilities, pipeline corridor rights-of-way, etc.). It corresponds to the physical footprint of the O&G company assets within this area as admitted by the industry. At project start, this will be considered the project's initial 'direct landscape mainstreaming target'. This area may evolve with project implementation, as threats and impacts are more adequately assessed. It should not be discarded that threats, risks and impacts caused by O&G industry may spill over the 'inside the fence' area.

Outside the fence: Refers to the area within the broader landscape not under the direct control/use by the O&G companies themselves (most of the Niger Delta). The geographic focus of the project is on the four core Nigerian States within the Niger Delta (Akwa Ibom, Bayelsa, Delta, and Rivers States), which combined encompass an area of 46,420 sq km. This will, in turn, be considered the 'indirect landscape mainstreaming target').

70. As it will be seen in the project strategy, the project will offer a credible strategy for addressing threats to the Niger Delta's biodiversity, first and foremost, those that are posed by the industry. It will however also contribute to mitigating other threats by e.g. facilitating the availability of finance for communities to improve local management of biodiversity.

71. In the paragraphs that follow is the analysis of threats and impacts to the Niger Delta's biodiversity and their root causes.

Pollution

72. Oil spills, unlined/ad-hoc waste pits and the long-term flaring of natural gas are one of the most important threats to biodiversity in the Niger Delta emanating from existing and past O&G operations. Water pollution is the single most important threat to freshwater, coastal, and marine ecosystems of the Niger Delta with significant ongoing and potential impacts on fisheries and on the trophic chain in mangroves as off-shore drilling increases.

73. In the last five decades that oil and gas activities have become a regular aspect of the Niger delta landscape, varying amounts of spilled oil have been claimed. The actual figures have been contentious due to poor record keeping and lack of transparency. The NNPC places the quantity of oil spilled into the environment each year at 2,500 cubic meters[20] (660,430 gallons/year) with an average of 300 individual spills/year, or almost one spill/day. However, because these estimates do not take into account "minor" spills, the World Bank argues that the true quantity of oil spilled into the environment could be as much as ten times this number or 25 thousand cubic meters each year (6,6 million gallons/year). The Department of Petroleum Resources (DPR) estimates that between 1976-1996 a total of 4,647 incidents spilled approximately 2,369,470 barrels (99,517,740 gallons) of oil into the Delta's aquatic and marine ecosystems. On an annual basis, this equates to 4,975,887 gallons of oil, a figure closer to the World Bank's. Of this quantity, an estimated 1,820,410.5 barrels (77%) were lost to the environment. The largest recorded spills so far occurred in 1979-1980 with a net volume of 694,000 barrels and 600,000 barrels respectively. More recent data is hard to come by, but between 1997 and 2001, Nigeria recorded a total number of 2,097 oil spill incidents. A convergence of opinion results in figures of approximately 546 million gallons (~11 million/year).[21,22]

74. Thousands of barrels of oil have been spilled into the environment as a result of corroded and ill-maintained oil pipelines and oil tanks in the Delta. Some of these facilities have been in use for decades without replacement or adequate maintenance. Sabotage is another major cause of oil spillage. Organized "oil pirate" groups engage in oil bunkering, stealing Nigeria's crude oil at the phenomenal rate of nearly 300,000 bpd. They damage and destroy oil pipelines in their effort to steal oil from them. Nigeria lost about N7.7 billion in 2002 as a result of oil theft and related pipeline damage (NNPC/PPMC). In Nigeria, 50% of oil spills are due to corrosion, 28% to sabotage and 21% to oil production operations due to engineering drills, inability to effectively control oil wells, failure of machines, and inadequate care in loading and unloading oil vessels.

75. Impacts of oil spills: The Delta's aquatic and marine environments have been affected the most by these spills: 25% of the oil spill events have occurred in the Delta's freshwater wetlands, 69% in the offshore environment and only 6% on land. The Delta's critical mangrove belt is literally "caught in the middle:" oil spilled up stream in the freshwater wetland areas is ultimately flows downstream to the mangroves, while wave and tidal action brings oil spilled offshore into the near-shore mangrove estuarine ecosystem.

76. The actual extent of the ecological disaster in the Delta is uncertain. An estimated 10% of Nigerian mangrove ecosystems have been degraded or destroyed by oil pollution or settlement activity. To be sure, oil pollution is not the only threat affecting mangroves, but mangroves are

[20] @ 6.3 barrels/m^3 = 15,725 barrels or 660,430 gallons/year.

[21] Fatai O. *et. al.* 2006. Proceedings from the 5th International Federation of Surveyors Regional Conference Accra, Ghana, March 8-11, 2006. Marine and Coastal Zone Management. "Oil Spill Disaster Monitoring Along Nigerian Coastline- Promoting Land Administration and Good Governance."

[22] Zabbey, N. 2004. Impacts of Extractive Industries on the Biodiversity on the Niger-Delta Region, Nigeria. Eleme Centre for Environment, Human Rights and Development.

highly susceptible to oil exposure, which can kill mangroves within a few weeks to several months. Oil affects mangroves in two principal ways: first, from physical effects; second, the true toxicological effects of the petroleum. In terms of physical effects, mangroves have developed a complex series of physiological mechanisms to enable them to survive in a low-oxygen, high-salinity world. Many, if not most, of these adaptations depend on unimpeded exchange with either air through the mangroves' pneumatophores and their lenticels or for the mediation of salts via water through the leaves and submerged roots of the mangrove. Oil coatings interfere with salt exchange (air) and salt mediation (water).

77. Lighter oils are more acutely toxic to mangroves than are heavier oils. Oil-impacted mangroves may suffer yellowed leaves, defoliation, and tree death. More subtle responses include branching of pneumatophores (vertical root structures), germination failure, decreased canopy cover, increased rate of mutation, and increased sensitivity to other stresses. Although oil spills are time-limited events, the effects are aggravated because the oil pollution becomes a chronic, annually reappearing threat. In many parts of the Delta, the oily substance is stored in the soil and re-released with each annual flooding event. Reliable, Delta-wide figures on the extent and condition of mangrove forests are not available.

78. Oil pollution also creates other impacts, such as dead zones in aquatic and marine habitats. This happens when bacteria multiply to consume spilled hydrocarbons and utilize most of the dissolved oxygen in the water in the process, creating dead zones where no aquatic or marine life can be sustained.

79. Oil in water impacts on biochemical integrity for a wide array of organisms ranging from micro-organisms up to vertebrates, degrading the complex trophic chains of the wetlands, including regionally vital mangrove tracts means that shell- and fin fisheries in the Gulf of Guinea are jeopardized. By some estimates, over 60% of fish caught between the Gulf of Guinea and Angola breed in the mangrove belt of the Niger Delta (World Rainforest Movement 2002).

80. Oil harms wildlife through physical contact, ingestion, inhalation and absorption. Floating oil can contaminate plankton, algae, fish or amphibian eggs, and the larvae of various invertebrates, which can lead to lead to unnatural modifications in sex ratios or physical deformities in young. Fish that feed on these organisms can subsequently become contaminated. Larger animals in the food chain, including bigger fish, birds, terrestrial mammals, and even humans may then consume contaminated organisms. Initially, oil has the greatest impacts on species that utilize the water surface, such as waterfowl and aquatic or marine mammals, and species that inhabit the near shore environment.

81. Long-term ecological effects may be worse. Oil can poison the sensitive marine and coastal organic substrate, interrupting the food chain on which fish and other species depend, and on which their reproductive success is based. Commercial fishing may be affected permanently. Wildlife other than fish, including mammals, reptiles, and birds that live in the Delta, are also poisoned by oil waste. The hazards for wildlife include toxic effects of exposure or ingestion, injuries such as smothering and deterioration of thermal insulation, and damage to their reproductive systems and behaviors. Long-term ecological effects that contaminate or destroy the

marine organic substrate and thereby interrupt the food chain are also harmful to the wildlife, so species populations may change or disappear.

82. Apart from the mentioned impacts on biodiversity, oil pollution has significant consequences for people's welfare in affected areas. In agricultural communities, a year's supply of food can be often destroyed and drinking water contaminated by only a minor leak, debilitating farming families who depend on the land for their livelihood. Safety has also become a concern as a result of the high level of oil spilling in the Delta. Illegal fuel siphoning as a result of the thriving black market for fuel products has increased the number of oil pipeline explosions in recent years. In July 2000, a pipeline explosion outside the city of Warri killed 250 people. The NNPC reported 800 cases of pipeline piracy from January through October 2000. Since December 2005[23], Nigeria has experienced increased pipeline vandalism, kidnappings and militant takeovers of oil facilities in the Niger Delta.

83. Air Pollution: Nigeria is among the top 10 countries[24] responsible for 75% of gas flaring emissions in the world. Today, there are about 123 flaring sites in the region. Most flares burn 24 hours a day; several have been burning for over fifty years. Currently, gas flaring amounts to about 18.9 billion cubic meters (BCM) per annum[25], which translates to greenhouse gas emissions of 45 million tonnes of CO_2 equivalent, making Nigeria one the highest emitters of greenhouse gases in Africa[26]. At current estimated market prices for emission reductions of around EUR 5-15 per ton of CO2, possible market values of emissions reductions are approximately EUR 225-675 million per year.

84. Gas flaring is thought to change local climate conditions and to create acid rain with unknown or measured impacts regionally and even globally. One study explored the spatial variability effects of gas flaring on the growth and development of common crops in the Delta, including cassava and pepper. The results suggest that a spatial gradient exists in the effects of gas flares on crop development. Retardation in crop development manifests in decreased dimensions of leaf lengths and widths of cassava and pepper crops closer to the gas flare point. Statistical analysis also confirms that cassava yields are higher at locations further away from the flare point. In addition, the amount of starch and ascorbic acid in cassava decreased when the plant is grown closer to the gas flare. High temperatures around the gas flare appear to be the most likely cause of this retardation.[27]

85. Flared gas includes several toxic substances and causes acid rain that compromises water quality. There is strong anecdotal evidence that air pollution may have altered the vegetation of the area, replacing natural vegetation with weed grasses indicating that the soil is no longer fertile for crop cultivation. Examples of this can be seen in Opuama and Sekewu communities in

[23] Source: http://www.eia.doe.gov/cabs/Nigeria/Full.html
[24] Ibid.
[25] IFC Consulting. 2006. Nigeria: Carbon Credit Development for Flare Reduction Projects. World Bank GGFR. See Link.
[26] P. B. Eregha and I. R. Irughe. 2009. *Oil Induced Environmental Degradation in the Niger Delta: The Multiplier Effects.* Journal of Sustainable Development in Africa (Volume 11, No.4, 2009).
[27] Dung, E.J. *et. al.* 2008. The effects of gas flaring on crops in the Niger Delta, Nigeria. GeoJournal. Vol. 73. Number 4. Pp. 297-305.

the Warri North Local Government Area of Delta State. It is evident that gas flaring has affected the ozone layer of the region leading to micro-climate change that is unhealthy to crops cultivation (IPCC, 2007).

Habitat degradation and land-use change.

86. Ecologically destructive land-use practices in the delta, including the O&G exploration and facility construction and sand dredging damage and fragment ecosystems and habitats across the Delta. Different phases of the oil exploration, production, refining and transportation chain involve activities that impact the biodiversity of the Niger delta. The laying of seismic lines and dredging are two activities that can degrade habitat significantly. In laying seismic lines, pristine forest tracts are cut and fragmented habitat is destroyed for access with the openings in the forest or wetland creating opportunities for illegal timber cutting in previously inaccessible areas.

87. Inappropriate construction practices employed for oil and gas infrastructure exposes the delta environment to a variety of hazards. Dredge spoils cause acidification of water bodies, waterways are filled or short cut canals dug, causing saltwater intrusion into previously freshwater areas. Other sources include pouring of drilling mud into surface water, and discharging producer water containing hydrocarbons into the environment. More than 7,000 km of pipelines have been laid to transport oil and gas across all types of terrain in the delta. Habitat alteration may involve construction of 'burrow pits' dug to extract sand or gravel during construction of the many access routes into forest or some other terrain, causing siltation and erosion. Some of these pipelines pass through protected areas and other sensitive sites. The age and condition of these pipes varies; many are decrepit and a chronic source of leakages.

88. Inappropriate waste management: The O&G sector over time has created unlined pits into which a miscellany of toxic wastes including drill cuttings, cement slurry/dust, condemned pipes, filters, and machinery parts are dumped throughout the Niger delta. Usually, these wastes are not pre-treated before discharge into the environment. Most pits are open and result in the direct mortality of thousands of waterbirds annually. These pits may occasionally overflow during the rainy season and the toxic wastes spread through the wetlands of the delta.

89. Silica sand and gravel extraction: These two solid minerals extracted widely in the Niger delta. Deposits of these minerals occur over a wide swathe of the shallow inner continental shelf reaching depths of 40 meters. Recent heightened extraction of these minerals is driven by industrialization and population influx into the delta has the accelerated demand for housing and construction materials. The impacts on biodiversity take several forms. Dredging in shallow inland waters for sand causes river sliding, slumping, bank collapse, and riparian erosion affecting biodiversity significantly. Sand dredging alters water quality, increases suspended particles, leading to increased turbidity and reduced photosynthetic capacity of phytoplankton. Columns of particulate matter are transported away to far locations, jeopardizing sensitive nursery and breeding grounds, reducing reproductive success and impairing the filer feeding mechanisms of critical benthic fauna. Sand dredging is largely unregulated and occurs virtually anywhere. The concept that sand is a natural resource that needs to be regulated is just being conceptualized in Nigeria. Solid minerals are under federal law, however the management of

sand and silica resources is clearly a local issue, requiring innovative, practical solutions within Nigeria's law and policy framework.

90. Inappropriate management of the water regime, such as dam and canal building, construction of jetties, sand and gravel mining, dredging and removal of vegetation, reduced drainage, and large boat traffic, modify critical habitats in the delta by degrading the natural processes of sediment transport through the Delta. The result is erosion, flooding, declines in water quality and quantity, exotic species invasions (e.g. water hyacinth), and ecosystem degradation.

91. Dam development upstream on the Niger River within Nigeria and in upstream countries resulted in serious reduction of both water and sediment transport to the Delta. In Nigeria, two dams have been constructed at New Bussa and Jebba. The Kainji Dam complex is the largest impoundment on the Niger and extends for about 10 km. The concrete section is 65 m (215 ft) high. More dams are under construction in the Niger basin and this trend will no doubt continue in the water-starved interior of West Africa. For the sake of the Niger Delta, the critical challenge will be to ensure the dams are designed, built and managed in a way to maximize natural flooding and sediment transport processes.

92. Investigations of the Niger Delta's progradation rate in the early 1990s revealed a net retreat of coastline in the eastern section of the Niger Delta and only marginal accretion in the western Niger Delta. It also contrasts with that of an accreting coastline reported in the mid 1960s, which reflected the pre-Kainji Dam status. Recent observations of the coastline suggest a strong erosional stress and a shift in existing ecological balance,[28] suggesting that there is not enough sediment reaching some sections of the coast to sustain the existing ecological balance between coastal erosive processes and constructive river morphological processes. These imbalances in coastal equilibrium have led to relative stagnation in the progradation of the Niger Delta. They are attributable to impoundment of water and sediments in upstream dams and reservoirs. An inspection of the drainage zones in the Niger Delta reveal drainage rivers of limited extent and catchment size in the eastern Niger Delta, implying impediments in sediment supply, thus making the problem more severe in this eastern Delta. This deduction is strengthened by the skewed discharge and sediment distribution in favour of the western Delta up to 1992, which resulted in the invasion of large expanses of mangrove swamps in the western Niger Delta by tropical forest.

93. Agricultural land use in the oil-producing Delta States is characterized by ever expanding land clearing activity. Agriculture in the Delta is largely subsistence, shifting cultivation using slash-and-burn to prepare the land from site to site. Recently, however, plantations of industrial crops have emerged. Two industrial plantation crops have taken up huge tracts of land in the delta. These are the indigenous oil palm and the introduced rubber (*Hevea brasilensis*). Forest plantations have also been introduced using fast-growing exotic species of Gmelina, teak and pine for timber and pulp to feed paper mills. Nigeria currently produces a total of 225,000 ha of oil palm and 50% of this is in the Niger delta. Rubber also covers thousands of hectares in the Delta. Traditional oil palm production does not involve clear-cutting, although low productivity

28 Abam, T. 2001. Hydroiogical Sciences-'ouriwl-des Sciences Hydrologiques, 46(1) February.

is a consequence of the traditional system. The establishment of these new industrial plantations involves clear-cutting, resulting in habitat loss for many globally significant species in the Delta. In the Delta, the percent of land under cultivation ranges from 75.5% in Akwa Ibom, 46.9% in Delta and 30% in Rivers & Bayelsa States. Agriculture encroachment into protected areas and forest reserves in the Delta is rife and an indicator of land hunger (Federal Ministry of Agriculture, Department of Forestry, Land use and Vegetation cover, 1997).

Over-harvesting of natural resources.

94. The overharvest of natural resources, including timber (for fuel wood and construction), NTFP (for fuel, medicine and food) results in habitat fragmentation, degradation (erosion, flooding) and destruction, and in exotic species invasions (e.g. Nypa Palm in mangrove areas). Forestry practice in Nigeria prioritizes timber production to the detriment of biodiversity. Forests are viewed not as complex ecosystems but rather standing timber and the resulting clear-cutting harvest techniques degrade and destroy native forest ecosystems. In Cross Rivers state, where concessions are issued controlled by the state government, both legal and illegal commercial harvesting has been particularly destructive to the point that a ban on logging was introduced in 2009. In other states, species such as the Niger Delta red colobus, with a small home range of 1,500 km^2, is threatened by over-harvesting of its main food tree as well as by the dredging of canals to transport timber, which in turn alter the natural hydrology of the freshwater wetland forests, rendering natural recovery by native plant species more difficult.

95. Over-harvest is not sustainable, with the resulting economic impacts being increasingly apparent in communities across the Delta. The Delta town of Sapele was home until recently to the largest timber and plywood factory in West Africa. It is now unable to operate due to an inadequate supply of logs. Large volumes of timber are sawn to meet construction purposes in nearby city of Warri. Wood waste is dumped into the Ethiope and Warri rivers smothering the benthic zone, using up dissolved oxygen, and degrading habitats.

96. <u>Open access and unregulated harvest of wildlife and fishery resources.</u> Recognized as one of the most persistent cause of biodiversity depletion, no attempts have been made to enforce outdated legal provisions. Wildlife is openly sold as bush meat along major highways, in open markets and offered in restaurants in major cities. In the rural areas, open access is the rule and harvesting of all classes of wildlife occurs whether endangered or not. There are no recent studies on bush meat in Nigeria, but in 1965/66, about 19% of food produced in the rural areas of the Niger Delta came from wild game. Furthermore, about 20% of the mean annual protein consumed is from wild game in the same period. Dependence on wild sources of protein is linked historically to the incidence of tse-tse fly and the sleeping sickness, which made livestock raising in the forest unprofitable. Efforts to promote game farming in the Delta are in their nascent stages.

97. Fisheries in the Niger Delta also suffer from being an open access resource. All inland waters, lakes, ponds, streams and near shore estuaries are fished essentially without control. Figures on fish production in the Delta are sparse and out-dated, with the most recent estimate of 535,435 tonnes dating back to 1983. By the year 2000 at a projected population of 140 million, it

was estimated that demand would be 2,035,000 tonnes at 14.49 kg per capita. Artisanal fisher folk use canoes and fish in lagoons and brackish water, riverine and lacustrine habitats. In 1973-83, this group contributed up to 98% of landings. Now, increasing numbers of industrial fishing trawlers have been licensed by federal authorities in Abuja, resulting in conflicts over fish resources at the local level in the Delta. In spite of the pressure on the fisheries, regulations on mesh size, age of fish, closed and open seasons are not enforced. Nigeria's terrestrial wildlife and rich aquatic and coastal/marine fisheries are essentially open access resources, with little to no control over their use.

Invasive alien species.

98. Two exotic invasive aquatic plant species have invaded the waters of the Niger delta. The older of the two is *Nypa fructicans.* Nypa palm was introduced in 1906 for a variety of reasons including coastal stabilization and food production. From the extreme eastern seaboard, it has spread westwards and infested the mangrove ecosystem. Oil and gas activities, especially laying of pipelines and seismic trails have opened once inaccessible swamplands to nypa invasion. So also has the construction of transport channels. Water hyacinth, *Eichinocloa crassipes* has also spread through the rivers, creeks, swamps and temporary water bodies of the delta. It forms a huge mass whose effects range from displacement of native vegetation to suffocation of aquatic biota.

LONG-TERM SOLUTION AND BARRIERS TO ACHIEVING THE SOLUTION

99. The globally significant biological diversity of the Niger Delta has been significantly degraded and continues to diminish due to a range of threats outlined in the previous chapter. The long-term solution proposed by this project is to conserve and sustainably utilize the Niger Delta's globally significant biological diversity by mainstreaming biodiversity management priorities into oil and gas sector development policies and operations in the Niger Delta.

100. There are two key aspects relevant to this solution. First, it will deal with a key driver of environmental change in the Niger Delta through a 'barrier-removal' approach. The threat and impact analysis in the previous chapter served to highlight which areas need attention.[29] The activities of the oil and gas industry rank very high in terms of impact, especially in the four oil producing states of Akwa Ibom, Bayelsa, Delta and Rivers. Coupled with a solid analysis of policies, legal and institutional frameworks, as well as a careful profiling and initial engagement of the oil and gas industry, the project was able to establish the best entry points for the proposed mainstreaming approach. The second aspect deals with the ability of leveraging finance. The analysis showed that there is a major deficit in terms of biodiversity finance in the Niger Delta region. This deficit is equally reflected in the very low capacity to manage biodiversity (at the level of individuals, institutions, but also systemically). The process of generating finance for improving the standards of biodiversity management in the Delta will certainly be a long one, but

[29] The analysis of threats and impacts will need however to become much more geographically-based for guiding action in a meaningful way.

it must begin. In spite of the generally low 'baseline', the focus on the O&G sector places the project optimally to kick-start this process of building capacity and generating finance. A new and credible financial mechanism for biodiversity in the Niger Delta potentially will increase the number of initiatives for dealing with the several threats to gloablly signficant biodiversity of the Niger Delta.

101. This project is designed to provide incremental catalytic inputs funded by the Global Environmental Facility and solid co-funding from Government and the O&G sector to mainstream biological diversity management into the Oil and Gas sector and to do this by empowering key stakeholders with better data and information, new scientific and regulatory tools, strengthened capacity, new "best practice" methods, and a new funding mechanism and platform for collaboration.

102. The project will enable stakeholders to improve significantly the standards for and practices of biodiversity management both "inside the fence" and "outside the fence" of O&G operations in the Niger Delta involving government and industry players, local communities and NGOs to avoid, reduce and mitigate threats posed by O&G operations and proactively avoid negative impacts and achieve positive impacts on the Delta's biodiversity. This project is designed to catalyze such change and foster collaboration by creating a new partnership platform called the Niger Delta Biodiversity Trust.

103. However, several barriers are currently hampering the achievement of the long-term solution. These can be summarised as follows:

Barrier #1: The governance framework of information, law, policy and institutional capacity for mainstreaming biodiversity is hobbled by the "how to" gap.

104. Information on the nature, condition and extent of biodiversity across the vast Niger Delta Region is fragmented and incomplete, a fact that significantly hampers decision-making. If stakeholders are to mainstream biodiversity conservation objectives into oil and gas governance and practice, they will need better access to decision support tools and information on the type, condition, location and extent of biodiversity in the Delta. Currently, this information is largely fragmented, outdated, off-line or non-existent. Data on biodiversity of the Delta is at best unconsolidated, kept by a host of different government organizations and individual scientists and O&G companies. At worst, there simply is no recent data on many key elements of the Delta's biological diversity (as highlighted in the context section earlier). Under existing conditions, even if an O&G company in the Delta wants to learn more about biological diversity in the vicinity of their operations or across the entire Delta, there is no place for them to be able to access this information or even a substantial part of the information. Equally as important, there is no place to share information gathered. This lack of transparency and insufficient information hampers effective biodiversity-oriented decision-making across the industry.

105. Action Plan. Also hampering effective mainstreaming action is the lack of an overall strategic vision of biodiversity conservation across the Delta, one of the world's largest wetland

ecosystems, that includes: critical habitats; priority species and communities of species; biodiversity hotspots around the Delta; O&G pressure "hot-spots"; existing forest reserves; sacred sites for local communities; and so on. To be sure, some work has been done on these issues, but once again, it is almost un-obtainable and therefore has almost no impact under current conditions. For example, The Niger Delta Master Plan's 200+ page Biodiversity Sector Report does not exist in electronic form and is limited to a few printed copies on unknown desktops and library shelves. Although the report contains a great deal of information, it too suffers from the "how to" gap as it has minimal detail on how to conserve biological diversity in the Delta in general or by mainstreaming into the O&G sector.

106. Biodiversity elements of law and policy framework. Overall, biological diversity or biodiversity is an issue that has received scant attention in Nigeria. Other pressing priorities in terms of resource use, employment generation, and economic development have tended to hold sway. This is reflected in the legal and policy framework governing the O&G sector and even in the laws and policies structuring the environmental sector of Nigeria. Even national attention to biodiversity. Despite the paucity of biodiversity-specific provisions in Nigerian law and policy environmental policies give minimal, existing relevant laws and policies do contain enough "biodiversity-friendly" provisions that would allow for and support the development biodiversity mainstreaming programs and capacity. The absence of policy guidance on "*how*" to do this is the immediate barrier that stops forward progress on this issue.

107. For example, The National Policy on Environment calls for "*restoring, maintaining and enhancing the ecosystems and ecological processes essential for the functioning of the biosphere…*" but there are no practical regulations to operationalize this lofty and worthy objective. Overall, there is an inadequate level of understanding of just what biodiversity is and how to begin building and using tools to conserve and sustainably utilize it.

108. Legal and policy instruments for regulating the O&G industry provide inadequate strategic guidance in terms of minimizing impacts on biodiversity from the O&G project cycle. Biodiversity standards and management objectives are not clear in the EIA guidelines to date: the "E" in the EIA should incorporate the "B" in biodiversity. Currently, it does not.

109. The very important EIA process in Nigeria currently is not supported by an understanding of how to assess impact of a project on biodiversity. For example, O&G typically can have two types of impacts on biodiversity – primary and secondary. An example of a primary impact would be the direct mortality of a primate caused by the felling of a tree to make way for a pipeline. Secondary impacts from this same action would be the hunting of hundreds of other primates caused by the pipeline road, which for the first time, allowed bush meat hunters to access the impenetrable forest. There are innumerable other examples of this: the EIA process as currently structured does not consider this adequately.

110. Additionally, the existing EIA Act and associated guidelines provide only a weak link between the EIA process and the different phases of an O&G project lifecycle. For mainstreaming biodiversity, this link is critical as each stage of the O&G lifecycle has different potential impacts on biodiversity and different potential benefits for biodiversity management. To ensure any regulations actually achieve the intended results, accountability must be

adequately built in to the process. Existing EIA regulations fail to ensure accountability by not requiring post intervention inspections or the monitoring of project progress, leaving no way to assess the success or failure of the remediation measures called for in the approved EIA.

111. The low level of transparency in the EIA process is also a barrier to improved biodiversity mainstreaming. Past EIAs are not easily available to the public and the process does not make provisions for sufficient public participation and input. The EIA Act provides for a 21-day public display of the EIA report for stakeholders' review and input regarding its content. But these and other measures related to accessibility of information for review and comment are followed minimally and in practice do little to enhance the transparency of the EIA process, because the methods of putting an EIA report on public display are old-fashioned. Printed copies are made available to read in person at the corresponding office, rather than simply putting them online, making it very difficult for civil society to access them effectively.

112. The existing policy framework of O&G and environment as described in the Table 5 above does not address such critical biodiversity issues as scientific capacity, capacity building, financial resources, intellectual property, and access and benefit sharing. Critical principles such as the precautionary principle, inter/intra-generational equity, and liability for environmental damage are not incorporated explicitly as part of the policy framework for biodiversity conservation and natural resources management. Biodiversity obligations are not translated into concrete policy with management measures that can be readily understood and action undertaken in specific contexts.

113. The Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN), issued by the DPR and last revised in 2002[30], focus on the control of pollutants from O&G operations. They do not cover to any degree the biological diversity of the Delta and how to control/mitigate/prevent and offset impacts of the O&G operations on the Delta's biological diversity. The Petroleum Regulations of 1969 are the source of law governing compensation for damage from O&G activities and governing restoration of areas degraded. There are a number of provisions guiding compensation and restoration that fail completely to value biodiversity and to specify compensation to appropriate funds to enable restoration and conservation work when appropriate.

114. Capacity of lead institutions. Under the PPG process, stakeholder interviews touching upon capacity issues revealed a virtual absence of any capacity related to biodiversity in the organizations responsible for reviewing EIAs at the Federal and State levels. No training needs assessment has ever been conducted with respect to biodiversity mainstreaming into the O&G sector. A preliminary assessment conducted under the PPG found nearly every relevant Federal and State agency (in particular FMoE, MND, DPR and SMoE) to be under-trained to understand what biodiversity is, much less how to mainstream biodiversity management objectives into the O&G industry, including policies, the EIA process, and due diligence (i.e. screening, scoping, reviewing studies, making decision, monitoring and auditing), as well as enforcement. The latter function could e.g. benefit from a much stronger involvement of the state and local governments, as well as academic capacity in various Delta states in areas related to biodiversity. There are few if any biodiversity champions within any of the leading government organizations engaged

[30] A new revision is underway as of October 2010 but no information is available on this.

in the O&G sector and there is little cross-pollination among these organizations in relevant environmental issues. Scholarships programs do exist to support higher education for Nigerians in O&G related areas: biodiversity and even environment in general is not yet one of those areas for which scholarships may be obtained. And finally, even if government organizations wanted to strengthen the capacity of their staff in biodiversity areas, there are no readily available training modules customized for the Niger Delta that would enable them to do that efficiently and effectively.

<u>Barrier #2:</u> From the O&G industry's point of view, biodiveristy mainstreaming measures need to be guided by an adequate 'framework' for action through which key stakeholder can build trust in each other, agree on common objectives and progress towards them in a cost-effective way. Currently, this framework in either non-existant or very incipient.

115. The lack of an adequate neutral engagement platform that provides a shared strategic basis for the key actors to come together to engage in proactive, collaborate biodiversity management in the Niger Delta is a key impedement e.g. for a more effective industry engagement in biodiversity mainstreaming. At the global corporate level, all of the international O&G companies operating in joint ventures with NNPC in the Niger Delta show some commitment to biodiversity conservation. This provides a solid policy basis for developing their commitments to biodiversity in the Niger Delta. However, the O&G industry in the Delta suffers from the same "what" versus "how" gap that affects the governance framework for O&G in Nigeria. For example, although many companies espouse a commitment to biodiversity in their global corporate policy documents (*i.e.* the "what"), the understanding and manifestation of "how" this is actually done on the ground in the Delta varies widely and fails to learn from and build upon international best practice in biodiversity action planning.[31] There is little understanding among the O&G companies surveyed of answers to questions such as "What is a biodiversity action plan (BAP)? Why have a BAP? How to prepare and implement a BAP in a place like the Delta? How are results/targets specified and measured under a BAP? How can stakeholders be engaged more meaningfully and proactively in the BAP process? What are other companies' best practices in the Delta? Why are independent reviews critical to BAP effectiveness, value and success?

116. An inadequate level of uptake of international best practice on the part of the O&G industry in the Niger Delta and a low level of accountability for results (positive and negative) in biodiversity actions have undermined the O&G sector's ability to mainstream biodiversity management objectives inside the fence and outside the fence, likely reducing benefits to the companies themselves, to local communities, and to the Delta's globally significant biological diversity. A key barrier to improving practices is the lack of scrutiny and exposure: existing biodiversity-related work is not subject to independent review and comparison to international best practice. There is also a lack of understanding of the costs and benefits of establishing and complying with higher biodiversity standards. Such costs and benefits would be highlighted through a biodiversity action planning process for the company both "inside the fence" and "outside the fence."

[31] See: http://www.ipieca.org/system/files/publications/baps.pdf.

<u>Barrier #3:</u> Financing for improved management of biodiversity in the Niger Delta is inadequate, inefficiently disbursed, and not linked sufficiently to priority biodiversity areas, O&G operations or communities around the Delta.

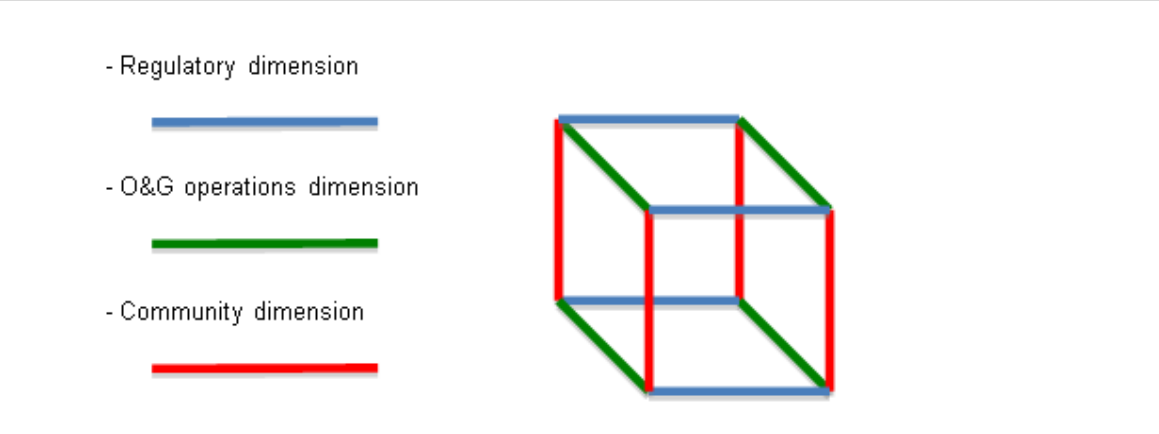
117. The Niger Delta has a long history of oil and gas exploration and operations dating back to the early 1900s. It is a place with a history of complex social, economic, and political challenges. More than 6 major international O&G operators operate in the Delta with many more Nigerian and other smaller international companies active as well. There is no doubt that the presence of this industry in the Delta generates significant finance. Yet, a neglegible fraction of it is reverting back to improving biodiversity management, in spite of the known negative impacts of the activity on biodiversity.

118. Another critical barrier is the lack of a strategic basis and/or mechanism for engaging local communities in the biodiversity mainstreaming management process (and mainstreaming biodiversity management objectives into O&G operations). Current practice has the O&G companies formulating disparate MoU with local communities across the Delta, but in the absence of a link to a corporate BAP for Niger Delta operations and a Niger Delta Action Plan mainstreaming actions are highly ineffective and at best *ad hoc*.

119. One of the key barriers to mainstreaming biodiversity management objectives into the Oil and Gas sector in this context is the lack of a neutral, trusted financial mechanism to facilitate community-based biodiversity conservation and sustainable use outside the fence.

120. There are different dimensions to mainstreaming biodiversity into the Oil and Gas Sector in the unique context that is the Niger Delta. O&G operations of course affect biodiversity "inside the fence" (See Box 1 for explanation of inside and outside the fence). But they also affect biodiversity "outside the fence" in the broader social and environmental context. In this context, mainstreaming is not a one-dimensional concept. Rather it has at least three dimensions and perhaps more, as Figure 4 illustrates.

Figure 4: The three dimensions to mainstreaming biodiversity into the O&G sector in the Niger Delta.



121. The regulatory dimension. In this dimension, successful mainstreaming means that relevant laws, policies and regulations and existing body of supporting information and data are modified by government to more effectively require, encourage or enable specific mainstreaming kinds of work. In this project, the EIA process is a prime example of this. Systemic capacity for mainstreaming is another one.

122. The O&G operations dimension. In this dimension, successful mainstreaming means that O&G companies themselves modify and/or improve their practices so that biodiversity is more effectively considered "inside the fence" during all stages of the O&G project lifecycle and "outside the fence" because O&G operations do not exist in a vacuum. With respect to the effective engagement of the O&G industry, the companies' own and collective action on mainstreaming is the focus on the project's model BAP work, coupled with community engagement demonstrations, and the like.

123. The community dimension. In this dimension, mainstreaming can only be successful if it engages local people and their central role in biodiversity use and management in the Niger Delta. These three dimensions require an integrated, collaborative approach to mainstreaming that does not currently exist in the O&G sector of the Niger Delta.

BASELINE ANALYSIS

124. Outcome 1 Baseline: *Governance frameworks for mainstreaming*. The Government of Nigeria has committed to strengthening the law and policy framework for the O&G sector. However in a baseline situation, the MoE will be unable to develop and apply an action plan for expanding and improving the effectiveness of biodiversity conservation in the Delta. To date, no gap analysis has been done at a Delta level of the "coverage" provided by the existing thirty-eight forest reserves and game sanctuaries in the Delta, encompassing some 1,977 km^2. See the GEF4 SO2 Tracking Tool in Annex 6 for list of these areas.

125. In the baseline scenario, the mainstreaming of biodiversity into the O&G sector policies and practices (hereafter referred to as "mainstreaming") will be hampered by inadequate access to sufficient data and information on biological diversity as well as decision support tools to complement such information. In the baseline situation, the international IBAT program will maintain its ability to provide some information on the Niger Delta, but with many gaps, reducing its usefulness to O&G companies operating in the Delta to almost nil. PPG interveiws with O&G companies revealed that the existing IBAT holds little useful information to companies in their day-to-day work in the Delta. In the baseline scenario, IBAT will continue to be limited to the taxa covered by the IUCN Red List or the protected areas listed in the World Database on Protected Areas; it will continue to be inaccurate in terms of its geographic referencing, and at a scale that limits its usefulness. In the baseline scenario, O&G companies active in the Delta will continue to gather data and information on the Delta, but lack a common platform to share and exchange this information in order to build up a larger data set that could benefit all players in the sector. In the baseline situation, a great deal of information and data will remain on institutional hard-drives or in paper files.

126. For example, a study[32] commissioned by the Nigerian Government identified sites of conservation interest and recommendations for their sustainable use in specific local government areas of the Niger Delta. The Biodiversity Unit within the Institute of Pollution Studies, Rivers State University of Science and Technology completed and published the study. Even though the study provided useful information and enhanced knowledge of the subject matter, its recommendations were not directly implemented. Institutional changes within government resulted in no follow-up on the study. The study's findings and recommendations are still relevant to any biodiversity action planning exercise today, almost 20 years later. In the baseline situation, the existing body of information and work will remain under-utilized for mainstreaming.

127. In the baseline scenario, mainstreaming will be hampered by the lack of any overall strategic view of biodiversity across the Niger Delta, one of the world's largest wetland ecosystems. Without a more robust elucidation of priority habitats, species, plant and animal communities, sacred sites, high-pressure areas for O&G, mainstreaming actions will be vague, disparate and ad-hoc, with limited ability to measure success on any higher strategic levels. In the baseline situation, the gap between the "*what*" and the "*how*" will continue to characterize biodiversity conservation in the Delta. For example, the foundation of the Niger Delta Regional Development Master Plan is an integrated approach to sustainable development, with "*the natural environment*" being one of the four main themes in addition to twelve overall goals, among them being: "*To ensure sustainable use and conservation of land, forest, wildlife, fisheries and water resources*" and "*To incorporate environmental considerations into all policies and programmes of the Niger Delta*". In this respect, the "*what*" to do is addressed overall. However, "*how*" to do this both technically and mechanistically are questions left open for innovation.

128. In the baseline scenario, Nigeria's O&G laws and policies will continue to evolve and be improved, but likely without the needed focus on biodiversity. In particular, the analysis has pointed out to a number of gaps in terms of enforcing these laws, which is linked to the issue of systemic capacity for the management of biodiversity.

129. In the baseline situation, the existing EIA process in Nigeria discounts or down-plays biodiversity largely because there is so little capacity in biodiversity areas of expertise in Nigeria. There are few experts who know how to adequately incorporate biodiversity concerns into the EIA process. For example, often the same expert who is dealing with the noise impacts of a project is also dealing with biodiversity. Biodiversity is still a new concept in Nigeria and this newness also is manifested in the inadequate attention paid to biodiversity through the EIA process.

130. In the baseline scenario biodiversity mainstreaming into the O&G regulatory framework will be non-existent, hampered by a lack of understanding by regulators and companies alike on how to mainstream biodiversity management into regulatory tools such as the EIA, O&G guidelines and oil spill contingency planning. Most O&G laws in Nigeria have focused on

[32] Powell. C.B. 1993. *Sites and Species of Conservation Interest in the Central Axis of the Niger Delta* (Yenagoa, Sagbama, Ekeremor, and Southern Ijo LGAs): A Report and Recommendations to the Natural Resources Conservation Council (NARESCON).

organizing and governing oil exploration and production and had incidental provisions to meet immediate problems of disturbance to human health largely, and some form of compensation for damage to buildings, profitable trees or crops, and loss in value of land or interests in land. The majority of them have not been concerned with long-term integrated environmental planning and protection. At the Federal law and policy level, there has been no programme or effort to streamline conservation of biological diversity into the oil and gas sector. The regulator role given to Federal organizations has yet to translate into clear steps and guidelines for mainstreaming.

131. In the baseline scenario, biodiversity has been almost totally absent from the law and policy framework of the O&G sector. Signs of improvement will emerge periodically like the Edo State Law on Biodiversity, which was passed in recent years. But without encouragement and sharing of information across the States, this will likely continue to be the exception rather than the norm. Mainstreaming will also be slowed by an outdated approach that limits environmental thinking and action to pollution and does not go beyond pollution to the many other biodiversity-related issues facing the O&G sector in the Niger Delta.

132. To be sure, there are some glimmers of hope in the regulatory O&G framework from a biodiversity perspective. As profiled in Table 5, the new Petroleum Industry Bill will help to modernize and consolidate Nigeria's oil and gas legislation and there are some improvements on the environmental side. For example, the law will require that where called for, restoration must actually take place rather than simply compensating someone for the damage and not taking any remediation efforts on the ground. But to make new provisions like this work, biodiversity will have to be adequately valued and often, biodiversity is undervalued. This was evidenced by a practical exercise on biodiversity valuation carried out a few years ago with the support of the Nigerian NGO Bioresources Development and Conservation Programme (BDCP). The focus was on compensation claims for damages in connection with O&G operations in the Niger Delta and it showed that there is much more than loss of crops and fish resources to be taken into account in cases of compensation. There is however a need for localised 'options assessments & solutions', if biodiversity values are to be effectively mainstreamed in the process.

133. Biodiversity is a little known and often neglected concept in most government circles in Nigeria. In the baseline scenario mainstreaming will be severely hampered by a low level of capacity to: a) understand what biodiversity is and why it is important and; b) second to understand in practical terms how to mainstream biodiversity into daily work. In the baseline scenario, almost no training will be available to government and community members on biodiversity in the Delta States.

134. Capacity building is a priority overall in Nigeria and the Nigerian government has created a number of funds and training programs to help young Nigerians enter the various technical fields supporting O&G work. In the baseline scenario, the Petroleum Technology Development Fund (PTDF) will continue to fund scholarships for University study in fields relevant to the development of the O&G industry in Nigeria. But such scholarship programs likely will continue to exclude biodiversity and environmental fields and degrees. The PTDF also funds university research and endowments, however none of its research or scholarships funds have yet gone to help Nigerians better understand and manage the Niger Delta's unique biological diversity.

135. Outcome 2 Baseline: *Industry engagement*. At the global corporate level, all of the international O&G companies operating in joint ventures with NNPC in the Niger Delta show some commitment to biodiversity conservation. Further, there is a general recognition that the biodiversity guidance provided by the IPIECA[33] is the industry standard to which they should adhere as a minimum. In particular, reference in some O&G corporate policies is made to the IPIECA guidance on developing Biodiversity Action Plans. The NNPC, the major shareholder of all O&G operations in the Niger Delta, does not have an explicit biodiversity policy or commitment. However, its stated commitment to a 'Green Environment' (though focused on carbon emissions) does provide a basis for the company to develop its position and actions with regard to biodiversity. In a baseline situation, the basic corporate policies of the O&G companies operating in Delta provide a solid policy basis for developing their commitments to biodiversity in the Niger Delta.

136. However, in the baseline situation, the O&G companies will continue to face the same "*How to*" hurdle with respect to mainstreaming biodiversity into their Delta operations as Nigeria's government faces in mainstreaming biodiversity objectives into the laws and policies governing the sector. O&G company engagement with the Delta's biological diversity and local communities is still evolving and improving in the Delta.

137. Under the baseline situation, operational management capacities for O&G will remain under-developed and inadequate to the task of mainstreaming biodiversity both inside and outside "the fence" of O&G operations. To date, O&G efforts have not integrated international best practice for mainstreaming biodiversity into their operations. Instead, O&G efforts have tended to keep their biodiversity work at an arms length away from their operations as part of their corporate giving to local communities. This traditional path separates "nature" related projects and "development" related projects when working with local communities. The efforts have resulted in disparate and somewhat *ad hoc* contributions to worthy projects rather than a strategic effort to mainstream biodiversity into their operations and overall footprint across the Delta.

138. Though there is action on the part of some of the international companies at the local level in the Niger Delta, there is clearly much more that could be done. Why there is so little biodiversity action on the ground is probably due to a number of factors, including the legacy of O&G licenses to operate, which goes back decades, long before biodiversity was on the agenda. Further, biodiversity action has generally focused on traditional conservation projects, and thus can be seen to compete for attention against more pressing community development needs.

139. In the baseline scenario, the challenges facing any initiative aiming to mainstream biodiversity into the O&G sector in the Niger Delta are significant. The perception of biodiversity as an environmental issue and not as a social issue or sustainable development issue has meant that it has had to compete with other pressing social development issues. In addition, to mainstream biodiversity into O&G operations "outside the fence" will require partners – O&G companies cannot do it alone. This means proactive strategic, results-based collaboration with local communities, state governments and federal agencies. To date, this has only partially occurred in ways that are not linked to O&G mainstreaming efforts.

[33] See: http://www.ipieca.org/focus-area/biodiversity.

140. In the baseline situation, communities will continue to be the primary stakeholder with respect to local control and access to biodiversity and other non-O&G resources throughout the Delta. Beneath the modern context of natural resource management in Nigeria is a traditional one. In the baseline scenario, these traditional rights and obligations will continue but will not be utilized to their full potential in any mainstreaming efforts.

141. Nonetheless, there are significant opportunities for biodiversity embedded in the structural set up of the O&G sector in the Niger Delta. Building off of the well-established joint venture model for upstream operations in the region, a biodiversity partnership programme could be initiated. Such a programme could benefit from both the leadership of the NNPC with respect to the responsible management of the country's O&G reserves and from the biodiversity commitments and experiences of NNPC's international joint venture partners.

142. In short, within the O&G sector there is the potential commitment and capacity to establish a substantive Niger Delta biodiversity partnership initiative that would mainstream by contributing to both biodiversity and sustainable social development in the region. In the baseline situation, there will be no catalytic effort to create such a partnership.

143. Outcome 3 Baseline: *Funding for Biodiversity Conservation in Niger Delta*. Little funding has been committed to the conservation of the Niger Delta's biodiversity. In the baseline, a paradoxical situation of cronic underfunding of biodiversity management will persist in the context of a region (the Delta) and a sector (oil and gas) that generates tens of billions US$/year.

144. *Government Funding*. Most biodiversity projects in Niger Delta are funded through national and state government budgetary allocations, bilateral and multilateral aid and from some oil companies operating in the region.

145. Table 6 shows the summary of funds allocated to biodiversity related projects in Nigeria and the Delta across two ministries and the four pilot Delta states. Federal funds for biodiversity conservation in Niger Delta come from FMoE and MND. Funds are also allocated by the SMoE in Delta, Bayelsa, Rivers and Akwa Ibom States, but as the table shows, to date they have been very minimal.

146. In 2006 FMoE allocated $3,859,062 for forestry development work nation-wide: no funds were allocated for work in the Niger Delta in 2006-2008. In 2009, approximately $150,000 was earmarked for "Natural resources conservation and development of management plans for wetlands" in the Niger Delta. An additional $66,400 was allocated to endangered aquatic species conservation and management and to conservation of coastal ecosystem in the Guinea Current large marine ecosystem. The $60,000 allocated in 2009 by MND was for the purpose of rehabilitating "degraded ecosystems in Rivers and Bayelsa States."

Table 6: Federal and State budgetary allocations for biodiversity conservation related projects (US$)

Ministry (Federal and States)	**Amount approved/appropriation for biodiversity related project in the Niger Delta**	
	2006-2008	**2009**
FMoE	0	215,733
MND	-	60,844
Delta SMoE	-	55,631
Rivers SMoE; Bayelsa SMoE	-	-
Akwa Ibom SmoE*	33,333	33,333
Total:	**33,333**	**365,541**
Total Average 2006-2009	**99,718/year**	

Source: Federal Budget Office and respective ministries in the States
Note: * Of the 2006 allocation, $13,333 was eventually used while the 2007 and 2009 funds were not released.

147. At the State level, funding for biodiversity conservation in the Niger Delta varies from zero to small sums of $30,000-55,000. Even though there are a number State-level PA in the four pilot Delta States, they have no infrastructure, no management plans, no budgetary allocations, no staff deployed to manage them, and no enforcement. They are in effect "paper parks."

148. *NGO funded or implemented biodiversity related projects in the Niger Delta*. The funding for biodiversity related projects by major NGO's working in the Niger Delta was also surveyed during the PPG. The key NGO players include: Living Earth Nigeria Foundation (LENF), Nigeria Conservation Foundation (NCF), Pronatura Nigeria. Between 1998 and 2006, it was only Living Earth Foundation that had several projects on biodiversity in Niger Delta funded from various sources. Although the survey was non-exhastive, Table 7 summarizes the key projects, sources of funding and amount for LENF.

Table 7: Biodiversity related projects implemented by NGOs in the Niger Delta

NGO	**Project Name**	**Location & Funder**	**Cost in US$**	**Duration**
LENF	Community Based Management of Tropical Forests in Cross River State.	Cross Rivers State European Union and DFID	21,953	1998- 2002
	Living Earth environment action programme	Bayelsa State; SPDC	629,571	1998 – 2002
	Cross River Environment (CRE) Project	Cross River State Canada Int'l Development Agency	118,064	2002 – 2006
	Promoting Sustainable Livelihoods	Bayelsa State; DFID and SPDC	603,143	2004- 2006
	Capacity Building for Community – based Land and Water Management	Cross River State Int'l Development Research Centre	27,297	2002
ProNatura Nigeria	Elephant Survey	Akassa Okoroba and Andoni; MacArthur Foundation	50,000	2002
NCF	Biodiversity Action Plan for Gele-Gele	Gele-Gele community; SPDC	873,333	2005-9
Total funding			**$2,323,361**	**1998-2009**
Average yearly funding for all surveyed NGOs			**$193,613/yr**	**1998 - 2009**

149. O*&G Operators' Funding for Biodiversity Conservation in Niger Delta*. Other sources of funding for biodiversity conservation related projects are from some oil companies operating in the region. For example, in 2006, the Shell Petroleum Development Company of Nigeria Limited (SPDC) worked with local groups, government, forest communities, other energy companies and NGOs to develop biodiversity action plans to conserve two forest reserves: Gele-Gele and Urhonigbe in Edo State. Gele-Gele covers 363 km^2 with a range of habitats from freshwater

swamp forest to tropical rain forest, while the Urhonigbe reserve covers 308 km^2. Also, in 2007 SPDC worked with 33 communities in the reserves to establish community-based forest management institutions. Between 2008 and 2009, these communities replanted more than 100 ha of the degraded Urhonigbe reserve.

150. *The Ecological Fund (EF).* The Federal Government established the Ecological Fund to address the environmental and land degradation problems affecting communities across the country. As an intervention fund, it comes from the first line charge of the Federation Account and is not appropriated by the National Assembly. Rather 2% of the Federation Account is automatically transferred into the Fund each year. The power to disburse the funds is vested in the President.

151. Headed by the Minister of Environment, the inter-ministerial National Committee on Ecological Problems (NCEP) advises the President on the management of the EF and disbursement of its funds. The NCEP has four (4) technical sub-committees covering the four main areas of emphasis under the Fund: i) Erosion; ii) Desertification; iii) General environmental pollution, and; iv) Oil spillage and pollution. These sub-committees examine designated ecological problems, propose remedial measures and make recommendations for the consideration of NCEP. State governments are also allocated some EF resources for projects in their States. EF funds have been used traditionally to ameliorate environmental problems such as drought, desertification, oil pollution, landslides, and inadequate solid waste management.

152. Presently, the EF is funding over 200 projects nationwide, including a national afforestation programme, remediation of oil impacted sites, erosion control, shoreline protection and reclamation, provision of medical waste incinerators, integrated municipal solid waste management in seven cities, procurement and installation of multipurpose plastic recycling machines in 26 cities nationwide and provision of oil spill response equipment, GIS and laboratory equipment. Detailed information on amounts and where the funds are spent is not available.

153. In the baseline scenario, O&G company support for *ad hoc* biodiversity work will continue to be important. In the baseline situation, very little if any Government budgetary resources will be allocated to biodiversity work in the Delta, either at the Federal level or by any one of the four States. If the two annual averages from Table 6 and Table 7 are added together, they equal the sum of 293,331/year. This sum is highly inadequate when compared to the estimates of "minimum-effective" levels of financing needed to adequately conserve biological diversity in the Niger Delta. Blom (2004) estimated a range of US$1,541,000 - 5,628,000 annually recurrent expenditures for minimum-to-modest management of up to 16,800 km^2 in the Niger Delta.[34] Conservatively, this represents a shortfall of at least some $ 1.2 - 5.0 million/year, and likely larger ($5-10 million/year) if improved approaches to conservation are considered in the wider Niger Delta Region such as mainstreaming and non-traditional community-based management of sacred sites.

[34] Bloom 2004: *An estimate of the costs of an effective system of protected areas in the Niger Delta – Congo Basin Forest Region*. Biodiv Conserv 13: 2661-2678. The area of 16,800 km2 is referred to as additional to existing areas under management and more likely through a gazettal approach. The author questions however the viability of a gazettal approach in the Niger Delta, given the high population density pressure.

PART II: Strategy

PROJECT RATIONALE AND POLICY CONFORMITY

Fit with the GEF Focal Area Strategy and Strategic Programme

154. This project is aligned with the GEF's Strategic Objective #2 for Biodiversity (Mainstreaming Biodiversity in Production Landscapes/Seascapes and Sectors) and, within it, the Strategic Programme #4 (Strengthening the Policy & Regulatory Framework for Mainstreaming Biodiversity). In doing so the project will target Nigeria's oil and gas sector, which is the backbone of Nigeria's economy, and touch upon the sector's interface with biodiversity. This is especially relevant, as the bulk of Nigeria's O&G resources are found in the biodiversity rich Niger Delta Region.

155. Through the chosen mainstreaming approach, the project will deal with the key threats to biodiversity in the Niger Delta, which include pollution, habitat change and degradation that are linked to the overall footprint of the O&G sector in the Niger Delta (i.e. 'inside the fence'). It will do so by bringing about change in the underlying drivers, which are the governance framework of the O&G sector and the ability of the O&G industry local communities and government to engage in productive collaboration.

156. The project's approach, which includes the establishing of a new funding mechanism (the Niger Delta Biodiversity Trust), will also allow stakeholders to deal with other threats that are not directly linked to the immediate footprint of the O&G industry (hence 'outside the fence'). Through projects that will be approved for funding by the Trust the underlying drivers of biodiversity loss for these other threats will also be addressed. These threats may include land clearings for agriculture, overharvesting of biological resources and invasive alien species.

157. The O&G industry has demonstrated a high level of engagement in the project through the Oil Producers Trader Sector (OPTS), which is part of the Lagos Chamber of Commerce. The OPTS Sub-Committee on Environment and Safety met on 14 Dec 2010, when nearly all industry members reiterated their support to the project, in particular Outcomes 2 and 3.

158. The project is also an integral part of the GEF's Strategic Programme for West Africa, "SPWA", Sub-Component Biodiversity, and it concerns the Programe's overarching Objective #2 'Mainstreaming biodiversity in production landscapes and sectors'. Emphasis is placed on producing tangible results on the ground, thus more than two thirds of the GEF finance are going to Outcomes 1 and 3, which are respectively focused on stakeholder capacity for governing the O&G sector in the Niger Delta towards improved management of biodiversity and on the establishment of a funding mechanism for disseminating improved practices of biodiversity management at the local level.

159. More specifically, the project will contribute to the achievement of GEF's outcome indicators under the strategic programming areas as follows:

Table 8: Summary of the project's contribution to focal area objectives and indicators

GEF-4 BD Strategic programmes	Expected impact	GEF-4 BD Indicators	Project contribution to indicators
SP4 - Strengthening the Policy & Regulatory Framework for Mainstreaming Biodiversity	Conservation and sustainable use of biodiversity incorporated in the productive landscape and seascape	Number of Hectares/production systems under certified production practices that meet sustainability and biodiversity standards	Direct: Improved management of 600 km^2 ("inside the fence" or direct mainstreaming target) of O&G operations as measured by adoption of Biodiversity Action Plans for a target number of O&G operations in the Delta. Indirect: Threats to biodiversity linked to O&G are reduced in a spatial area of 46,420 km^2 ("outside the fence or indirect mainstreaming target) as measured by condition, number or extent of key species and ecosystems in the Niger Delta: - Area in ND where Niger Delta red colobus monkey is confirmed - # of hectares of mangrove ecosystem in under improved special management regime - # of hectares cover of barrier island lowland forest under protection.

Rationale and summary of GEF Alternative

160. There is a promising, although low baseline of governance, O&G company engagement, and to a lesser extent funding upon which to build. However, in the baseline scenario in the absence of GEF funding, the Niger Delta's globally significant biodiversity will continue to degrade in many places and lost in others due in part to 50+ years of oil and gas development with little to no attention paid to the conservation of biological diversity.

161. In the baseline scenario, the existing regulatory framework will continue to neglect the Delta's biological diversity and key institutions will continue to have virtually no capacity in biodiversity-related issues. In the baseline scenario, O&G companies will continue to be amenable to the concept of biodiversity mainstreaming, but will approach the issue in disparate, *ad hoc*, inefficient ways that yield minimal results for biodiversity and local communities. To be sure, there are signs of tide shifting with new laws and increasing awareness of the Delta's unique biodiversity. These changes are however small and mere "ripples" on the surface of the Niger Delta, one of the world's largest wetland areas. In the baseline situation, funding for biodiversity conservation in the Delta will continue to be inadequate at a level of US$ 1 million – US$5 million/year.

162. In the GEF alternative, the project is designed to serve as the catalyst for this changing tide by through a strategic engagement mechanisms that works with O&G companies to adopt a new common BAP framework and commit to biodiversity action planning "inside the fence," and catalyzes new partnership platform called the Niger Delta Biodiversity Trust that brings

together local communities, the O&G sector and government for improved biodiversity mainstreaming "outside the fence."

PROJECT GOAL, OBJECTIVE, OUTCOMES AND OUTPUTS/ACTIVITIES

The project's goal is to contribute to the conservation and sustainable use of globally significant biological diversity in the Niger Delta.

The project objective is to mainstream biodiversity management priorities into the Niger Delta oil and gas (O&G) sector development policies and operations.

In order to achieve the above objective, and based on a barrier analysis (see Section I, Part I), which identified: (i) the problem being addressed by the project; (ii) its root causes; and (iii) the barriers that need to overcome to actually address the problem and its root causes, the project's intervention has been organised under three outcomes in line with the three components presented at PIF stage:

Outcome 1: The governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta is strengthened.

Outcome 2: Government, the O&G industry and local communities build and pilot new biodiversity action planning tools for the proactive biodiversity management in the Niger Delta.

Outcome 3: Stakeholders support long-term biodiversity management in the Niger Delta by capitalizing and accessing the Niger Delta Biodiversity Trust as a collaborative engagement mechanism for local communities, O&G companies and Government at its core.

***Outcome 1*: The governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta is strengthened.**

The outputs necessary to achieve this outcome are described below.

Output 1.1 IBAT for the Niger Delta is in place and operational.

Activity 1: Strengthen IBAT application for the Niger Delta (ND).

In order to mainstream biodiversity into the O&G sector of the Niger Delta, decision makers must have access to sufficient data and information about the Delta's biodiversity from credible sources and ideally through a mechanism by which this data could be

updated and adhere to a certain standard of quality. As a cornerstone for making existing data on biodiversity of the Niger Delta more available to support decision making in the O&G sector of the Niger Delta, the project will work with existing data and information partners to the IBAT platform to improve the quality and breadth of data on the ND's biodiversity available through the IBAT platform.

To do this, project resources will establish a Niger Delta IBAT Working Group comprised of relevant Nigerian and international NGOs (e.g. NCF, UNEP/WCMC, BirdLife International, IUCN, Wetland International, Conservation International), O&G companies operating in the Delta, and Nigerian Government representatives. The Niger Delta IBAT Working Group (WG) will be tasked with elaborating and implementing a program to make the IBAT platform for the Niger Delta more useful to its primary users and to a wider range of users such as the ND Biodiversity Trust project applicants or implementers. Through a "user-driven", needs-based process, the WG will assess the shortfalls in the level of decision support that the IBAT platform is currently able to provide. This process will identify data and information gaps, including the amount and type of Niger Delta data that may be "in preparation" already by IBAT information partners, and identify clear gaps that need to be filled using other sources of data and information in paper files and institutional hard-drives in Nigeria and elsewhere. There will also be data that needs to be generated through new field surveys to confirm presence/absence, distribution, and to digitize geographic boundaries or specially-managed areas within the Delta (forest reserves, sacred sites), and so on.

IBAT includes known, formerly designated areas such as national protected areas or key biodiversity areas (KBA). The only KBAs identified in the ND through IBAT are based upon birds. Work under this activity will focus on expanding the coverage of taxonomic groups. GEF and partner co-financing investments will support work to identify important sites for mammals, fish, amphibians, and invertebrates.

Activity 2: Develop a Nigerian-based, Niger Delta specific portal linked to IBAT that will provide more detailed layers of information. IBAT is an early screening tool that is not designed to provide overly detailed information on location of biodiversity, and other parameters that would help inform O&G decision making a more local level. Work under this activity will build upon Activity 1 to establish at least 3 more detailed layers of information and data on the Delta that would help to inform biodiversity mainstreaming decisions. Such layers could include habitat maps with presence/absence data for specific species such the ND red colobus, chimpanzees, and the Andoni elephants.

Participatory Mapping. This Niger Delta specific portal also presents opportunities for piloting new and innovative participatory mapping work with local communities. The IBAT WG will select a biodiversity-rich region of the Delta and work with local communities in the to-be-determined area. In doing so, local community members will be trained in the use of hand-held GPS units to obtain community-specific information on priority resource use areas, sacred sites, and other to-be-agreed upon data parameters. This approach will enable local communities to input their priority information directly into the

mainstreaming process and provide O&G companies with a cost-effective way to assess community priorities in the mainstreaming process.

This activity will also focus on strengthening capacity to curate biodiversity data on the Niger Delta within Nigeria to enable the long-term maintenance and sustainability of data sets on the Niger Delta in Nigeria.

Output 1.2 Action Plan for Community-level Biodiversity Mainstreaming in the Niger Delta is developed and implemented.

Activity 1: Elaborate a Niger Delta Biodiversity Action Plan.

Under this activity, the project will focus on operationalising the Biodiversity Sector Report derived from the Niger Delta Regional Development Master Plan. Under auspices and guidance of NDDC, a working group of experts will be formed to elaborate an Action Plan to identify priority mainstreaming activities to improve management of biodiversity in the Delta in the four pilot states. With a focus on the O&G sector-related threats and barriers to mainstreaming, the action plan will identify critical biodiversity areas where: (a) O&G development is to be avoided altogether; (b) O&G projects are allowed, but should have mitigation measures to reduce biodiversity impacts; and (c) restoration is needed. The planning process will also elaborate measures conservation and sustainable use by local communities.

A specific biodiversity action plan has never been developed for the Niger Delta Region as one a whole. However, a significant amount of disparate work has already been done related to this task. The Biodiversity Sector Report developed as part of the Delta Master Plan process is a good example. The same applies to the Biodiversity Action Plans developed by SPDC for specific, important natural areas around the Delta. Critical ecosystems and habitats and priority species within the Delta are well known; The Delta's "last best places" are well known such as the stronghold habitats for globally significant species like the Niger Delta red colobus monkey (*Procolobus epieni*), an endangered primate endemic to the Delta. Work under this activity will draw upon this extensive body of work, incorporate the cutting edge biodiversity mainstreaming practices and tools, and through a participatory process generate a short and concise results-based action plan for conserving the globally significant biodiversity of the Niger Delta.

The approach of this planning exercise will be guided in part by answering the question: "How does biodiversity conservation, sustainable use and benefit sharing contribute to development?" Actions will by necessity include many sustainable use activities and the planning process will draw heavily upon the Biodiversity Sector Report's main recommendations highlighted in Chapter 9 of that report. For example, fisheries enhancement programmes could be elaborated to both conserve critical water bodies and the mangrove and forest ecosystems around them, while enabling local people to generate additional income and employment. Existing community-protected lakes and other bodies of water will be priorities for these kinds of conservation and sustainable use projects.

Output 1.3. The biodiversity elements of legal and policy frameworks governing the O&G sector and its regulation are strengthened.

Activity 1: Mainstream biodiversity criteria and objectives into the EIA process affecting the O&G sector in the Niger Delta.

This activity is at the level of the governance framework for the mainstreaming of BD into the EIA process (regulations, and capacity). Work will focus specifically upon on making the elements of the EIA process more biodiversity relevant and focused, involving government institutions with primary responsible for the EIA (FMoE, DPR, and SMoE) as well as O&G companies. For example, project resources will support the formation of a working group chaired by the FMoE, together with 1-2 SMoE and the DPR, to formulate and implement an MoU to ensure agreement on how to give the proper emphasis to biodiversity in future O&G EIAs in the Niger Delta. The matrix below summarizes the type of input the project will provide to strengthen the governance framework for the mainstreaming of BD into the EIA process, noting that GEF funds will not be used to finance EIA, but rather ensure, through specialized technical assistance, that the actions mentioned below are implemented:

Matrix 1: Mainstream biodiversity criteria and objectives into the EIA process

Main Steps of the EIA Process	**Actions/Entry points for Biodiversity Mainstreaming.**
O&G operator submits project proposal to the FMoE, Department of Environmental Assessment (DEA) for screening to determine the need for EIA;	Biodiversity checklist developed to help DEA screen projects for biodiversity issues. This could include use of IBAT, and preliminary screening questions as to nature of the project and likely impact vis-à-vis primary and secondary effects on biodiversity.
⇒ The vetting of Terms of Reference (TOR) by DEA for the EIA studies to ensure that only significant issues (impacts) are studied in the EIA.	Guidelines for DEA on how to review the ToR from a biodiversity mainstreaming perspective to ensure that the EIA incorporates biodiversity issues into its assessment. Clear, simple, easily applied guidelines.
⇒ Optional site visit/verification exercise may be required to aid the process.	Biodiversity checklist to assist in determining the need for site visit/verification exercise. - What kind of verification would be needed from a biodiversity perspective? - What should DEA or DPR staff look for on a site visit?
⇒ Conducting the EIA: O&G operators often contract independent consultants and private consulting firms to gather baseline data, consult with stakeholders, and prepare the EIA report.	Guidelines for the Nigerian consulting firms on how to incorporate biodiversity concerns into the work developing the EIA.
⇒ O&G operators submit draft EIA report to DEA for review.	Guidelines on how to analyze and assess biodiversity information and present it in an understandable way in the final EIA report. Best practice examples.
⇒ In-house DEA review of the draft EIA; comments/feedback provided to O&G operator.	Review guidelines for DEA/DPR on how to assess the biodiversity aspects of an EIA report – what are the key central elements that should be assessed? How can they suggest improvement in clear, implementable recommendations? Lists of sample

Main Steps of the EIA Process	Actions/Entry points for Biodiversity Mainstreaming.
	questions that could be asked which are reasonable and answerable in the Nigerian context.

Key issues such as how practically to enhance accountability and a results focus by mandating post EIA inspections to assess the success of the EIA process vis-à-vis biodiversity will be included and procedures for how to conduct such an assessment piloted under this activity. Recommendations for improving public participation in the EIA process through minimal steps such as building an online database of EIAs will also be promulgated.

Project resources will also bring together an expert working group to review and update the biodiversity aspects of the existing O&G sectoral guidelines for EIA in Nigeria. Specific, detailed updates will be made that incorporate biodiversity conservation objectives into the process will be made in close consultation with the FMoE and SMoEs.

The EIA process/procedures manual will be amended to ensure that basic biodiversity damage assessment and compensation policies for O&G projects are in place, including the option to fund offsets through the NDBT. Based upon economic valuation of biodiversity done worldwide and in Nigeria by BDCP, project resources will enable expert attention to be focused on defining and establishing simple and practical valuation and compensation practices. These new biodiversity-oriented compensation policies will enable FMoE, SMoE and LGA, as well as O&G companies to either ensure that ecosystems are recovered to pre-project conditions or to implement adequate off-setting measures using the NDBT as a disbursement mechanism.

Activity 2: Broaden the Department of Petroleum Resources' (DPR) "Policy Document for the O&G Industry" and elaborate practical guidance for incorporating biodiversity conservation objectives into all phases of O&G project cycle.

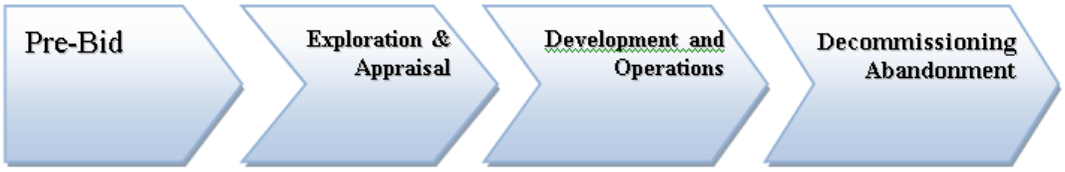
Work under this output will focus in particular upon the practical "how-to" aspects of integrating biodiversity conservation objectives into relevant laws and regulations governing the O&G sector in the Niger Delta, as this is one of the major gaps in the law and policy framework – lack of clear and measurable steps for how those in the oversight and enforcement role can establish and monitor achievement of biodiversity management objectives as part of an O&G operation.

This will include working with the MPR/DPR to broaden its "Policy Document for the O&G Industry" to incorporate biological diversity conservation objectives and to ensure that the focus of the primary MPR policy goes beyond pollution prevention and clean-up to embrace prevention of impact, biodiversity management objectives and restoration using modern ecological principles and techniques.

Work will focus on practical guidance to enable Government, O&G companies and local communities to improve how biological diversity is considered during all phases of the multi-phase oil and gas project life cycle (See Figure 5). Opportunity and risk assessments,

exploration, and field development practice will be strengthened to account for the assessment of biodiversity risks in key Niger Delta ecosystems. Improved use of data and information and other decision support tools (including IBAT) will be demonstrated under this work and in the work under Outcome 2.

Figure 5: The Oil and Gas Project Life Cycle



Activity 3: Provide strategic biodiversity mainstreaming input to final stages of Petroleum Industry Bill discussions in the National Assembly.

A working group of Nigerian legal and biodiversity experts will be formed by the project to draft recommendations to inform the ongoing debate and final polishing of the new draft Petroleum Industry Bill (PIB) now being considered by the National Assembly.

Among the key areas of input to relevant aspects of the PIB will be:

Matrix 2: Mainstreaming of biodiversity into the new Petroleum Industry Bill

Main relevant elements of the PIB	Types of mainstreaming recommendations to be made
a) Provides for environmental quality management through submission of environmental programme / environmental quality management plan;	Incorporate overall ambitious goal into each EQM – net positive benefit for biodiversity. Include specific types of biodiversity targets emphasizing SMART indicators, link to biodiversity elements of EIA.
b) Provides for consultation with State Departments;	Include specific provisions for how and why to involve State Departments of Environment re biodiversity.
c) Financial provision by licensee/lessee for remediation of environmental damage;	Seek to raise the bar from remediation of damage to net positive impact with respect to biodiversity.
d) Financial provisions by State and Local Government in cases where damage has been caused by sabotage;	Incorporate the Niger Delta Biodiversity Trust as a mechanism through which financial assistance could be invested to remediate damage.
e) Provides for decommissioning and abandonment in accordance with guidelines issued by the NPI; and	Include specific biodiversity provisions for this critical stage of the O&G project life cycle.

Main relevant elements of the PIB	Types of mainstreaming recommendations to be made
f) Explicitly provides for restoration in the aftermath of harm to the environment (i.e. compensation only will no longer be acceptable).	Highlight the need for: ecologically based restoration with global best practice and biodiversity targets. New methods for calculating the full range of damage in connection with O&G operations in the Niger Delta -- more must be taken into account than the loss of crops and fish resources in cases of compensation. Highlight the need for localised options assessments & solutions, if biodiversity values are to be effectively mainstreamed in the process.

The mainstreaming of biodiversity concerns into the Environmental Guidelines and Standards of the Petroleum Industry in Nigeria (EGASPIN) will also be targeted. Working closely with DPR, a small working group of experts will provide technical expertise and recommendations for updating the Revised (2002) EGASPIN environmental guidelines to look beyond avoiding and reducing pollution to include the full range of biodiversity conservation and ecosystem health parameters needed in order for the timely identification and assessment of biodiversity risks and opportunities related to a project. These recommendations will be part of the planned 2010-2011 revision of EGASPIN. This will include clear and practical "how to" guidance on incorporating the consideration of primary and secondary impacts on biodiversity from O&G operations across the full life cycle. This in turn will allow full consideration of these risks and opportunities at decision points during project development and implementation planning.

Activity 4. Produce a specific "biodiversity update" for NOSDRA's and DPR's existing oil spill contingency plan(s) for the Delta.

Working with NOSDRA, DPR, and O&G industry partners, the project will convene an expert working group with the requisite technical expertise to update the existing oil spill contingency plans in the Delta with biodiversity-oriented information, focussing on areas at higher risk of oil spills (older pipelines) and on areas of biodiversity significance, underlain with the most advanced understanding possible of currents and tidal actions/directions in the Delta and the likely pathways oil spills might take emanating from one area or another. This will include consultations with stakeholder communities regarding specific roles that communities might take in oil spill response to protect high-value habitats.

The working group will produce specific detailed updates and a detailed mechanisms for oil spill contingency planning to be put in place, focussing on rapid response measures for biodiversity rich areas in the Niger Delta that are effectively supported by community monitoring groups in these areas.

By enhancing the collaboration between NOSDRA, DPR, industry players and communities, mechanisms for oil spill biodiversity contingency planning will be put in place with a focus on rapid response measures for biodiversity rich areas in the Niger Delta. Communities will be involved as first responders in biodiversity sensitive areas and clean up monitors to ensure accountability for implementation of the plan.

Output 1.4. The capacity of key Federal and State government agencies to assess and mitigate the risks and threats to biodiversity from the O&G sector in the Niger Delta is strengthened.

Under this output, GEF resources will be utilized to train federal, state and municipal staff in biodiversity-related regulations, their enforcement and novel approaches to biodiversity management.

Activity 1. Conduct a training needs assessment. An international expert in biodiversity and training needs assessment will conduct a training needs assessment regarding mainstreaming issues in the four pilot Delta States. In Activity 2 below, a training programme, drawing upon best practice world-wide will be designed in response bringing in at least 2-3 experts in key areas of need to conduct a series of training workshops, with the intention of training at least 2 Nigerian trainers to continue the process in Nigeria and to provide ongoing support. The project can assist in development of capacity for undertaking environmental impact assessment as relate to biodiversity issues in the oil and gas sector.

Activity 2: Develop and conduct annual "Niger Delta Biodiversity Leadership" capacity building program.

Beginning in latter half of year one, the project will develop and initiate an annual "Niger Delta Biodiversity Leadership" (NDBL) capacity building program that brings together five people from each of the four pilot states to go through a two step training program of leadership development in biodiversity mainstreaming, focusing on key policy, education, business, biodiversity-specific and development issues and with an emphasis on the practical "how to." Participants may be nominated by their organization or apply themselves online. Up to 20 participants for each session of two, 1-week classes will be carefully selected through an online transparent application process to have a range of backgrounds relevant to biodiversity conservation and the O&G sector in the Niger Delta. Participants will include representatives from the Federal level (FMoE, DPR, NDCC, MND, NOSDRA and NESREA) and State MoE level.

Participants will form an important bond, creating a powerful network of drive, talent and biodiversity leadership for the Niger Delta region. This undertaking will begin with a vision for the future of the Delta's natural environment and particularly its biodiversity and will be an opportunity for collaboration that spans the Delta's geography, State boundaries and cuts across sectors (Government and non-government and private). Participants will maintain their "day jobs" but will need to be able to take leave to attend the NDBL Program's five 3-day sessions organized every 5-6 weeks in a different location around the Delta. Each session will be designed to focus upon a different important element of how to improve conservation of the Niger Delta's precious biological and ecological wealth while ensuring a vibrant and robust O&G sector that yields huge economic benefits for Nigeria.

Each training group will go through two 1 week training sessions spaced two months apart. Each day of each session will have a different focus, focusing upon issues like the

following: *(i)* The Delta's biological diversity – what is it and why is it important? How to develop a Biodiversity Action Plan and think "outside the box" for win-win solutions; *(ii)* How to monitor and manage the state of key Niger Delta ecosystems and species; *(iii)* How to determine key threats to biodiversity and impacts on it that are directly linked to O&G developments; *(iv)* How to prevent and mitigate these threats and impacts by engaging local community stakeholders more effectively; *(v)* how to improve collaboration on the enforcement of regulations covering the O&G sector's activities with respect to impact on biodiversity. Participants will choose an issue to develop in more detail as "home-work" in between the two training sessions and will present their results at the second session. At least three of these sessions would be held each year, with at least 300 people being trained at the end of exercise.

Although Cross Rivers State is not one of the project's core States, the State government is one of the most progressive in Nigeria in dealing with the private and communities in the forestry sector, including in enforcement of regulations, as well as in biodiversity conservation. As such, Cross Rivers will be an ideal peer-to-peer learning venue for one of the sessions.

Activity 3: Develop a scholarship program for funding by PTDF.

Project resources will support work with the PTDF Management Committee to develop scholarship program for environmental studies/biodiversity conservation mainstreaming in O&G sector academic work. Resources will also work with universities in the Delta to enable them to prepare funding proposals for research and endowments to establish sustainable educational and training programs in the Delta on biodiversity mainstreaming into the O&G sector.

Activity 4: Elaborate short course teaching modules on key biodiversity topics for use in Delta-area schools and training institutes.

The project's strategic approach to strengthen capacity is to do so systematically to enhance sustainability of capacity building measures. This involves working closely with existing programs and institutions, such as the PTDF. With respect to providing new training opportunities for existing government staff in the Delta, the project will work with participating Universities and the Petroleum Training Institute to elaborate short courses of instruction (teaching modules) on EIA (with a biodiversity angle).

***Outcome 2*: Government, the O&G industry and local communities build and pilot new biodiversity action planning tools for the proactive biodiversity management in the Niger Delta.**

163. Under Outcome 2, the project is designed to employ two incentive mechanisms for engaging the O&G industry in mainstreaming biodiversity into the O&G sector in the Niger Delta. The first is to base the O&G company mainstreaming work on the objectives and priorities of the Convention on Biological Diversity (CBD) in the context of the conservation and

development challenges and opportunities in the Niger Delta. Focusing on the CBD enables the O&G sector to adopt a standard approach to biodiversity that is agreed not only by the Government of Nigeria but by more than 190 other nations. Focusing on the biodiversity challenges and opportunities on the ground in the Niger Delta will enable the O&G sector to engage with local communities in terms of their needs and capacities to deliver biodiversity management.

164. And secondly, to have an agreed approach for O&G company Biodiversity Action Plans (BAPs) for the Niger Delta. Such a BAP will be a CBD-based standard for the O&G sector in the Niger Delta. Together these areas constitute the core elements of a logical approach to biodiversity action in the region. The following are the outputs necessary to engage the O&G operators, local communities and State government bodies in collaborative proactive biodiversity management in the Niger Delta.

Output 2.1. An agreed approach for O&G company Biodiversity Action Plans (BAPs) for the Niger Delta is achieved.

Activity 1: Produce an O&G BAP guide for the Niger Delta.

Based on the IPIECA Oct 2005 guide "A guide to developing biodiversity action plans for the O&G sector," which is widely adopted by the industry, an immediate project activity will be to produce an updated, revised guide focused on the Niger Delta such as indicated in Matrix 3.

Work under this output will seek to raise awareness among O&G companies, federal and state government, local government and non-governmental stakeholders as to the full scope of appropriate biodiversity conservation actions available. This work will draw upon reference materials already in existence or under development (e.g. EIP or IPIECA), as well as developing new Niger Delta-specific material. A working group of experts will be convened under the auspices of FMoE/DPR to elaborate the Guide.

Matrix 3: Outline of IPIECA and Proposed Guide to BAP preparation.

IPIECA 2005 guide	FMoE/DPR Niger Delta Guide to BAP (proposed)
1. Understanding Biodiversity	1. Understanding biodiversity – Components and objectives
2. What is a Biodiversity Action Plan? 2.1 What is the relationship between BAPs and other biodiversity action plans? 2.2 What is the relationship between a BAP and an ESIA or EMP?	2. What is a Biodiversity Action Plan (BAP)? Revise presentation in light of ESIA, EMP, etc as used by the sector in Nigeria
3. Deciding if a BAP is mandatory, necessary or recommended 3.1 Legal, regulatory, planning, permitting or third party requirements 3.1.1 Legal and regulatory requirements 3.1.2 Planning and permitting requirements	3. Why have a BAP? 3.1 Government regulations 3.2 Government relations [note: where reference to a NBSAP comes in] 3.3 Investor requirements 3.4 Supply chain security

IPIECA 2005 guide	FMoE/DPR Niger Delta Guide to BAP (proposed)
3.1.3 Third party requirements 3.2 Presence of significant observed or predicted biodiversity impacts 3.2.1 Preliminary desktop assessment 3.2.2 Baseline survey of biodiversity 3.2.3 Biodiversity impact assessment 3.3 Business benefits and the business case for a BAP	3.5 Corporate social responsibility Our approach should assume that all companies will have a BAP for their operations in the Delta and this chapter will provide the rationale
4. Preparing and Implementing a BAP 4.1 Prerequisites 4.2 Preparation of the BAP 4.2.1 Establishment of priorities for conservation 4.2.2 Identification of conservation action 4.3 Implementation of the BAP 4.4 Monitoring, evaluation and improvement 4.5 Reporting, communicating and verification	4. Preparing and implementing a BAP 4.1 Preliminary assessment including a biodiversity baseline survey 4.2 Preparation of the BAP 4.2.1 Establishing biodiversity priorities - 'inside the fence' and 'outside the fence' - development/construction phase, operations phase, closure/decommissioning phase - stakeholder consultations, input on biodiversity priorities and analysis of relevant roles/responsibilities. 4.2.2 Establish biodiversity actions 4.3 Implementation of the BAP 4.4 Monitoring, evaluation and reporting 4.5 Independent verification, adaptive management
5. Stakeholder engagement, partnerships for biodiversity 5.1 Stakeholder engagement and consultation 5.2 Development of partnerships	5. Stakeholder engagement plan (covering all steps under section 4 above) 5.1 Niger Delta biodiversity partnerships 5.2 Niger Delta Biodiversity Trust 5.3 Stakeholder engagement
Company Case Studies 1. Shell 2. Chevron 3. EnCana 4. BP 5. ConocoPhillips	6. Best practices in the Niger Delta Each company during the process of doing its own BAP may profile good work done to date as examples of best practice.
APPENDIX 1. Glossary and Acronyms	APPENDIX 1. Glossary and acronyms Should be based on terms as officially defined under the CBD and other multilateral conventions, as appropriate.
APPENDIX 2. Further resources A. Contacts, potential partners and information sources B. Annotated bibliography	APPENDIX 2. Further resources Perhaps also on a website so that it can be updated throughout the life of the UNDP/GEF project
APPENDIX 3. Variation in BAP activities according to industrial life cycle stage	Incorporate this topic into Chapter 4 above.

The BAP for the O&G sector will focus on the geographically defined areas where the extractive activities occur, as well as on the 'upstream' and 'downstream' areas affected by these activities. The management of these areas should be compliant with the objectives and priorities of the CBD. In particular, it should focus on the following four objectives:

- Conservation
- Sustainability
- Equity
- Development

Each BAP should, as appropriate, address the following four components of biodiversity:

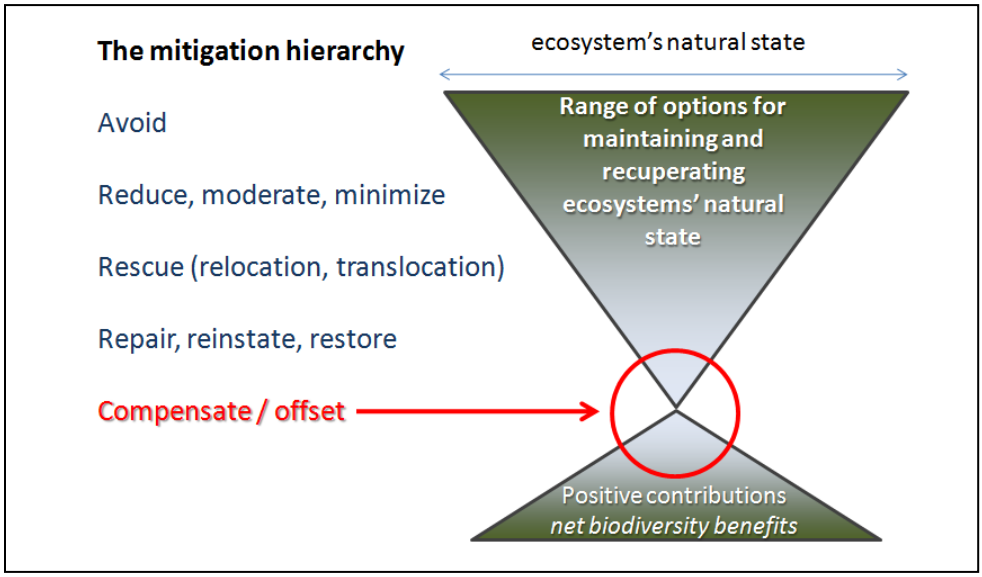
- Ecological complexes

- Ecosystems
- Species
- Biological resources

Such a guide will be developed in consultation with all stakeholders including representatives of the O&G sector, Government and local communities. Once finalized, it will serve as the primary reference document for planning and implementing responsible biodiversity actions by the O&G companies and by the FMoE and DPR in coordinating dovetailing the BAP with the EIA. One of the main purposes of the Guide will be to clarify biodiversity actions needed under Nigerian law and policy and to customize industry best practice to the Niger Delta context.

In addition, a compendium of biodiversity solutions for the O&G sector addressing threats to biodiversity from O&G operations in the Niger Delta, offering case-tailored biodiversity conservation solutions, will be made available and tested on the ground. IBAT will serve as the information basis for conceiving and elaborating upon these solutions. The compendium will be tested under Output 2 below and by projects funded through the Niger Delta Biodiversity Trust developed under Outcome 3.

Figure 6: The biodiversity damage mitigation hierarchy and optimal point for offsetting



Note: Adapted from a Power Point slide by Joshua Bishop (Senior IUCN Advisor, Economics and Environment) and Martin Hollands (Fauna and Flora International) in connection with their work under the Business and Biodiversity Offsets Program (BBOP). See e.g. http://bbop.forest-trends.org/

The immediate focus of a BAP will be on mitigating the biodiversity impact of O&G operations 'inside the fence'— i.e. in the areas under an O&G company's direct management responsibility. In this respect, the BAP may want to include the guidance developed under the Business and Biodiversity Offset Programme (BBOP)[35] with respect to implementing a mitigation hierarchy as outlined in Figure 6. See also Box 2.

[35] See: http://bbop.forest-trends.org/.

Box 2: Considerations on biodiversity offsets in the Niger Delta

Offsets generally require in situ conservation results that match the project's impacts—explicitly or implicitly. One important consideration is the capacity of companies to actually conserve an area "outside of the fence" within the current framework. This is challenging not only because the gaps in knowledge on the Delta's biodiversity, but also for reasons of governance and the sustainability of actions in the Delta. Even if an area is effectively conserved through an offset, it is unlikely to address the other critical biodiversity objectives than strict conservation: of sustainable use and equitable benefit sharing, with development outcomes. Without addressing these other aspect, the sustainability of a conservation-focused offset will always be at risk.

Also, importantly, the analysis of threats for this project showed that the actual impact of the O&G sector on the environment (biodiversity) is relative when compared to other pressures such as population pressures, poverty-driven degradation, and possibly also oil theft activities. Generally speaking, threat attribution in the Delta is a fuzzy affair. Yet, because of the O&G sector's economic importance in the Niger Delta (not to mention for the country), they are perceived to bear an important responsibility in dealing with a number of problems in the region, including the environmental deficit.

Guidance from the Business and Biodiversity Offsets Programme (BBOP) on this matter is instructive. See in particular: bbop.forest-trends.org/guidelines/odh.pdf: "A feature that distinguishes offsets from other forms of ecological compensation (such as compensatory conservation, biodiversity enhancement) is the requirement to demonstrate 'no net loss' or a 'net gain'." There will always be challenges in determining a 'biodiversity currency' and appropriate 'metrics' in offsetting. This could exacerbate the already inherent difficulties of developing an appropriate and credible offsetting programme for the Delta.

Therefore, this project will approach the issue of offsets through a partnership approach to biodiversity by promoting Delta-wide efforts to restore degraded areas together with communities. Shell plans e.g. to focus on mangroves as a theme and to support community-based restoration efforts which have clear economic livelihood aspects (whether through more sustained use of biological resources such as fish stocks, or new biological businesses such as aquaculture or, if needed, alternative economic opportunities. In this sense, their engagement will have broader socio-environmental impacts and a greater chance of being sustainable.

The expected outcome of this approach, which the project will develop through industry and community engagement, is that sustaining likelihoods to conserve biodiversity in the Delta has a better chance of developing a more positive, more secure and less risky relationship between the sector and the communities in the Delta. In short, the project proposes a 'new deal' between the sector and the communities, which is based on conserving biodiversity through development-focused engagement. It is about a virtuous relationship between the companies and the people in which saving 'their' Delta becomes a common cause.

Furthermore, through the BAPs (output 2.1) and by expanding the application of the IBAT (output 1.1), the knowledge base on biodiversity will increase. This will also allow partners involved in offsetting to pinpoint areas in the Delta in which more strict conservation actions are suited and where a more 'technical' approach to offsetting can succeed but still with the engagement of communities.

Regarding biodiversity actions 'outside the fence' these could, where applicable, include like-for-like offsets (i.e. the more 'technical' approach to offsetting referred to in Box 2) of specific direct impacts as proposed by BBOP (Matrix 4). They could also include broader mitigation of the indirect impact of the value chains of the O&G companies as proposed in the discussion of a Niger Delta Biodiversity Trust in the following section.

Matrix 4: A biodiversity action matrix

	Ecological Complexes	Ecosystems	Species	Biological resources
Conservation				
Sustainability				
Equity				
Development				

The four objectives of a BAP can be combined with the four biodiversity components to provide a biodiversity management matrix for a geographically-defined area as in Figure 6. A BAP for an O&G project should, as appropriate, address what it could deliver in each of the 16 cells in this matrix. Depending on the "ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values" (Preamble) of a particular area, however, some of the cells may be of critical importance to its management, while others may be of less or little importance.

Output 2.2: A participatory process is instituted for the pilot demonstration of community-engagement in BAP for mainstreaming biodiversity management objectives into O&G project lifecycle.

Biodiversity Action Plan Steps

- Social, Regulatory, Ecosystem Context
- Partnerships/Stakeholder Engagement Plan
- Biodiversity Assessment Survey
- Identification of Impacts, Mitigators, Enhancement Opportunities
- Action Plan Development & Indicator Identification
- Plan Implementation
- Monitoring, Improvement

Ensuring the long-term success and sustainability of biodiversity mainstreaming efforts both inside and outside "the fence" requires enabled partners in the local communities who inhabit the area. The purpose of Outcome 2 is to engage productively and proactively the O&G sector *and* local communities in biodiversity conservation in the Niger Delta. This output will develop pilot demonstrations of this collaboration in a joint effort with participating O&G companies and local communities.

Activity 1: Elaborate Community BAP profiling community priorities and roles across O&G BAP's main steps;

Based upon the "Guide for BAP in the Niger Delta" this activity will work with one or more partner O&G operators and up to 20 communities to demonstrate effective local

community engagement in BAP preparation and implementation by elaborating and implementing a simple and concise, easily understood community BAP complimenting the respective O&G BAP.

Activity 2: Implement the Community BAPs.

Inhabitants of up to 20 pilot communities located in proximity to relevant O&G operations will be engaged in implementing their own BAPs in support of one or more O&G BAPs. This will likely include activities such as; land-use planning, resource use and traditional use rights mapping and recording exercises for local landscapes and waterscapes, and improving sustainable use and livelihoods linked to local biodiversity resources. Project resources will be made available to bring together a small team of Nigerian community experts to work closely with a working group of representatives from the participating local communities. The implementation process will enable local communities to participate actively in key decision-making processes that affect biodiversity across the multi-step O&G project lifecycle.

The process will be not just one of enabling input from communities in terms of their knowledge, traditional use practices, rights and priorities. It will also be one of capacity building with local communities to enable them to actively participate in key decision-making processes that affect biodiversity, including those by the industry. The ultimate goal is to improve understanding by local communities and 'buy-in' from local communities and "ownership" of local communities of the project process as partners and as front-line biodiversity users and conservers.

There are some topics specifically related to biodiversity that will be included in this engagement process. One of the most significant is local knowledge and use of biodiversity. The specific role and place of indigenous people as rights holders on their traditional lands and in relation to customarily used resources will be an important part of stakeholder engagement in certain situations.

Other important biodiversity-related topics for stakeholder engagement include local communities' dependence on ecological resources for food, water, livelihoods and aesthetic well-being, the potential human health impacts of degradation of ecological resources, and the likelihood and potential consequences of secondary impacts to biodiversity for local populations.

The effective implementation of such a plan as part of the BAP can help a company build trust, manage expectations and earn a "social license to operate," a tacit agreement that is based on the good will of communities and officials[36]. This informal license allows companies to enjoy a better working environment, avoid conflict, foresee and prevent potential problems, forge local partnerships and improve their global business reputations. Earning such a license does not require companies to acquiesce to every demand, but it does require companies to enter into a genuinely participatory process.

[36] 2008. EIB. Integrating Biodiversity Conservation into Oil and Gas Development.

Output 2.3: O&G BAPs are independently reviewed as a means to improve corporate biodiversity mainstreaming practices.

The project will work with leading O&G industry players to review their corporate EMP/BAP that apply to the Niger Delta, with the aim of sound biodiversity management practices applied to exploration, extraction, transport, and decommissioning activities.

Activity 1: Undertake on-going independent reviews of existing or new BAPs and biodiversity-related activities under development to assess progress and to identify opportunities for strengthening existing plans and actions and for establishing new BAPs.

These biodiversity action plans for leading O&G companies collaborating in this Niger Delta Biodiversity Project, will effectively incorporate conservation principles and implement actions to safeguard biodiversity, in exploration, extraction, transport, and decommissioning activities.

With the guide and the Trust outlined in Outcome 3, it will be possible for the project to establish an Independent Review Team (IRT) for the O&G companies which would be tasked with reviewing their biodiversity plans and actions and would be empowered to propose how to strengthen these new plans and actions. Importantly, the findings and opinions of the panels would probably need to be confidential (at least in the initial stages) so that they help the companies to identify biodiversity opportunities rather than increase company risk.

The IRT(s) would consist of one or more small 3-member teams of national and international experts with appropriate expertise including conservation biology, sustainable development, environmental and social management, and the O&G industry. The IRT would advise the company on biodiversity opportunities both ‘inside’ and ‘outside the fence.’ The UNDP/GEF project and the O&G companies will select the teams jointly.

The team will visit the companies once or twice a year for each of the four-five years of the project and write a report to the company which would consist of two parts – a general report which the company could, if they chose to, share with others including the shareholders and a ‘letter to management’ about issues arising which might be sensitive in nature and require more investigation than was possible in a short visit of an independent review panel.

Work under this output would be co-funded by GEF funds and by the companies themselves: a portion of the staff time could perhaps be covered by the UNDP/GEF project to ensure the independence of the review process, while the companies could cover the remainder costs, transportation, accommodation and related logistical arrangements.

Output 2.4. Niger Delta Biodiversity Mainstreaming Knowledge Management and Development Program is effective in informing mainstreaming practices in the Region.

Activity 1. Work under this output will focus on helping FMoE and the Niger Delta Biodiversity Trust (Outcome 3) to build a Delta-wide biodiversity "best practice" dissemination and replication program.

Good practice training modules will be developed for use by those who will actually practice mainstreaming across the O&G sector, including Federal and State Government agency staff, O&G company Heath Safety and Environment (HSE) managers, and community leaders. The purpose of the training modules is to ensure that the new ideas, knowledge, and skills needed for effective biodiversity management in the Niger Delta will be taught to the current and next generation practitioners. These modules will emerge from the pilot demonstrations under Outcome 2 and will include but not be limited to: i) How to strengthen biodiversity mainstreaming capacity to implement practical conservation steps or measures into their management planning; ii) How to build effective partnerships for biodiversity mainstreaming; iii) How to develop and implement a practical monitoring program to encourage results-based approaches; iv) How to develop and apply integrated conservation and development practices.

Additionally, the project will support a summer internship program to help overcome the capacity barrier of too few young university-educated Nigerian HSE staff being brought into the field. This will be done in close cooperation with the traditional centers of academic excellence in Nigeria for biology, ecology, natural resources and coastal or wetland management. An open and fair competition will be held for a limited number of internship spots each year.

In order to ensure the replicability of mainstreaming practices and capture lessons needed to improve the effectiveness of the knowledge management programme, the project will support the establishment of a peer-to-peer knowledge sharing web-based mechanism to improve access to information for mainstreaming biodiversity into EIA and environmental management planning practices in the O&G sector of the Niger Delta. This mechanism will be open to all and will utilize web-based technologies for facilitating information exchange, learning, and networking. The website will be designed to be interactive and to facilitate peer-to-peer knowledge sharing through online subject blogs, email list-serves and an online training and capacity building program for use across any organization. The training program will be comprised of best practice biodiversity modules and video lectures from biodiversity managers on their best practices and experiences to facilitate peer-to-peer information exchange and brainstorming. The project's knowledge management program will launch an annual Niger Delta Biodiversity meeting in the Delta starting at the end of year 1, where stakeholders will be able to discuss emerging priorities and best management practice in interactive sessions.

Parallel to these replication activities, a mechanism for knowledge sharing and distributing information and for making the project more transparent and more understandable for local communities throughout the Delta will be developed and utilized. The design process for the mechanism will focus on overcoming the challenge of how best to communicate and share information with remote communities that have no internet using text messages on mobile phone or other innovative ideas. Once the communication mechanism is defined,

knowledge sharing practices will be custom tailored to fit that mechanism that is most efficacious in reaching local communities.

Activity 2. Peer-to-peer training for local community leaders from around the Delta in the methods and practices of engaging with the O&G sector for biodiversity sustainable use and conservation.

Project resources will enable community outreach experts and community leaders themselves to train new community leaders in the basic steps and approaches involved in engaging with O&G companies. Depending upon demand, sector-specific training workshops will be organized for fisher-folk or farmers in LGA participating in the capacity building effort. In this area, the project will work closely with existing projects such as the FADAMA III project. Study tours will be organized for the local communities new to proactive engagement to enable them visit demonstration communities to learn model community engagement practices.

Training topics will revolve around methods and practices demonstrated above and how to apply these alternative methods of improving fertility of the land and controlling pests without burning. This will include: community-management of local fisheries; community-management of sacred groves or lakes; community management of local forestlands and wildlife populations; community monitoring of ecosystem health (e.g. mangroves, etc.).

***Outcome 3*: Stakeholders support long-term biodiversity management in the Niger Delta by capitalizing and accessing the Niger Delta Biodiversity Trust as a collaborative engagement mechanism for local communities, O&G companies and Government at its core.**

This project's PPG phase conducted an assessment of existing information on public and private investment in biodiversity conservation in the Niger Delta in Fall 2010. As summarized in this project's baseline section, the assessment concluded that biodiversity conservation in the Delta is underfunded. One study of protected area financing found a funding gap of approximately US$1.5 - 5.5 million/year for the Niger Delta region, not including the costs of mainstreaming biodiversity into the O&G sector, non-traditional local community managed areas and other productive sector practices such as fisheries. Current revenue generation and allocation modalities are generally not considered strategic and coordinated, hampering strategic and cost-effective planning and management.

The financial assessment clearly indicates that under the baseline scenario there is little hope of closing the financial gap. The financing gap speaks to more than just money – it speaks to a low level of civil society governance of biodiversity issues in the Delta. The Niger Delta Biodiversity (NDB) Trust to be established through this project will be designed specifically to remedy this situation by providing improved financing for biodiversity conservation in the Delta as well as a platform for improving collaboration (i.e. governance) among civil society. Given the low level of baseline funding and governance for biodiversity conservation in the Delta, the Trust's potential conservation impacts are high.

Output 3.1. Niger Delta Biodiversity Trust legally established with a transparent management structure, to enable the efficient and transparent allocation of resources to biodiversity conservation priorities in the Delta.

The project will support the establishment of a Niger Delta Biodiversity Trust (NDBT) to facilitate O&G adoption of best practice "inside the fence" and enable O&G companies to invest in biodiversity projects linked to their own BAPs 'outside the fence'.

Activity 1: Establish the NDBT.

Project resources will support a strategic planning process for establishment the NDBT. The proposal will describe the background and justification for establishing a Trust to support the conservation of the Niger Delta's globally significant biological diversity; the Trust's legal and organizational structure, and mechanisms that will ensure its transparent management and its ability to serve as an impactful financing mechanism for biodiversity conservation in the Delta. The proposal will consist of a detailed document of no more than 20-pages and a 2-page "Prospectus" for potential members in and donors to the Trust. The process of developing the proposal will consist of a series of stakeholder consultations around the Delta, along with a web-based blog with the latest information on the process to establish the NDBT.

The Trust will strengthen mainstreaming by improving financing and governance of biodiversity issues in the Delta's O&G sector. The Trust Fund's conservation objective will be to help secure the long-term conservation of biodiversity within the Niger Delta. The Fund will provide a dependable source of financing allowing for more strategic planning and cost-effective management.

The role of the Trust is more than just to bring financing to biodiversity conservation and sustainable development work in the Delta. An equally important purpose of the Trust, which reflects the UNDP's entry point, is to provide a model for improved governance[37] of biodiversity issues in the Delta.

The United Nations emphasizes reform through human development and institutional reform. Good governance is:

- Consensus Oriented
- Participatory
- follows the Rule of Law
- Effective and Efficient
- Accountable
- Transparent
- Responsive
- Equitable and Inclusive

[37] Governance describes "the process of decision-making and the process by which decisions are implemented." The term governance can apply to corporate, international, national, local governance or to the interactions between other sectors of society.

The Trust will be designed to incorporate all eight of these characteristics in its structure and operations and thereby improve governance by enabling the participatory, efficient and transparent allocation of resources to biodiversity conservation priorities in the Delta.

Areas of support: The Trust represents an opportunity to increase significantly the impact of mainstreaming activities and to address all of the "hanging threats" that are not directly related to the O&G sector, but are none-the-less critical, with a relatively small GEF investment. While a final list of Trust's main thematic areas of support will be elaborated under the full project, a preliminary list of primary funding themes of the Trust will include:

- Identification of remaining biodiversity strongholds in the Delta;
- Conservation of remaining biodiversity strongholds;
- Ecosystem restoration (including the cleaning up of polluted areas)
- Sustainable forest management
- Sustainable extraction of NTFP
- Establishment and management of community set-asides.

The Trust will fund results-based projects for biodiversity management at the community and state government level that are clearly linked to one or more O&G BAP and the Niger Delta Biodiversity Action Plan (Outcome 1, Output 2). For example, Oil and Gas "Company A", after developing a corporate BAP for the Niger Delta (Outcome 2), would put out a request for certain types of projects that support strategic areas of its BAP. The NDBT would work with communities and other partners to identify project concepts and elaborate clear and concise proposals to meet this need, resulting in a win-win situation whereby the O&G company is able to address its BAP priorities in collaboration with local communities and State Governments and local stakeholders are able to improve the sustainable management of their biodiversity resources.

The Trust will serve as platform for partnerships in generating local and global biodiversity benefits. See Annex 2 (Niger Delta Biodiversity Trust – Platform for Partnerships) for a figure illustrating this. The Trust will play a proactive role in catalyzing investment by the O&G sector and other investors into "bankable", independently reviewed biodiversity projects in the Delta. The Trust will:

- prioritize thematic and geographic areas of support based upon priorities identified in the O&G company BAPs and the overall Niger Delta BAP;
- support the fast and efficient elaboration of promising concepts by project proponents into simple, results-based project proposals that can be funded immediately; and
- facilitate independent third-party physical verification, evaluation and audit of these projects.

The Trust will help communities to develop clear, succinct, uncomplicated projects that will address direct threats to biodiversity as identified in this project's chapter 'Threats, Root causes and Impacts' plus project ideas that will emerge from the BAPs and the application of IBAT. By enabling stakeholders to develop eligible projects, the Trust highlights the importance of the "procees" (engaging State governments, communities and O&G companies) as much as the "product" (fundable, impactful projects).

Structure of the Trust:

The strategic planning process will result in the legal instrument defining the Niger Delta Biodiversity Trust and Articles of Incorporation to establish the Trust as a Nigerian foundation under Nigeria's Companies and Allied Matters Act (1999). The NDBT will be created and managed in Nigeria. The Trust's legal instrument will include the following minimum standards:

1. The purposes for which the Trust is established, the duration of the Trust and the location of the Trust fund's main offices.
2. A summary of the results-based management approach to be taken by the Trust as well as a web-based transparent monitoring, evaluation and reporting mechanism.
3. Structure and Governance of the Proposed NDBT: composition of the Board of Directors and its powers; the procedures for appointing and replacing Board members; their responsibilities, their term of office, and their remuneration (if any); the required frequency of Board meetings; the number of Board members whose presence is required in order to constitute a quorum; and the number of Board members whose vote is required in order to approve of any proposed action.
4. The mode of appointment and responsibilities of the director and other staff of the Trust.
5. The mode of establishment and functions of any non-voting advisory committees or councils.
6. The potential sources of revenue for the Trust (by general category).
7. Rules on how Trust monies can be invested and how they can be expended.
8. Accounting procedures and provision for outside auditors.
9. The categories of activities that can (and cannot) be funded by the Trust and procedures for submission of project proposals.
10. Rules requiring Board members and staff to disclose any potential conflicts of interest.
11. Conditions and procedures for dissolution of the Trust, if that should ever be necessary.

At this point in time, the following preliminary details can be provided on the Trust:

Governance and Staffing:

Participation in the NDB Trust: All four core Niger Delta States, recognized national and international oil and gas companies operating in the Delta, Federal and State Government agencies with biodiversity and natural resource-relevant responsibilities may become a Participant in the NDBT by depositing with the Trust a notice of intent to participate using a simple form to this effect.

With the establishment of the NDBT, the UNDP (i.e. the Designated Administrative Agency in Figure 7 below) shall be invited to take on fiduciary management responsibility for the Trust's funding stream (the endowment of the revolving fund). The NDBT revolving fund endowment will consist of the contributions received in accordance with an agreed proposal to establish the NDBT. To maximize investment returns on the Trust's endowment, the endowment will be managed by a reputable investment management firm selected via a competitive process.

The NDBT's endowment will be managed as a revolving fund and will disburse its entire principal and investment income over a fixed period of time (4-5 years). The NDBT will spend the income from its investments as well as a portion of its capital each year until that particular Tranche's funds are expired, with a new Tranche of funding replenishing the Trust's coffers and allowing for the same cycle to begin again after due and independend evaluation of the effectiveness of the mechanism. This will enable the Trust to do more with a lower level of investment initially from donor partners. This type of structure allows the NDBT to finance larger, medium-term projects or a series of small grants.

The NDBT will have an Assembly, a Board and a small staff complement. The Assembly will be an important part of the Trust's structure as it is central to the Trust's ability to serve as a platform for improved governance of biodiversity in the O&G sector of the Niger Delta. The Assembly shall consist of Representatives of all Participants. The Assembly shall meet once every 3-4 years, prior to each new replenishment of the NDBT. The Assembly will:

a) review the general policies of the Trust;
b) review and evaluate the operation of the Trust on the basis of reports submitted by the Board on the basis of an independent report on the funding mechanism's effectivess;
c) keep under review the membership of the Trust; and
d) consider, for approval by consensus, amendments to the agreement establishing the NDBT on the basis of recommendations by the Board.

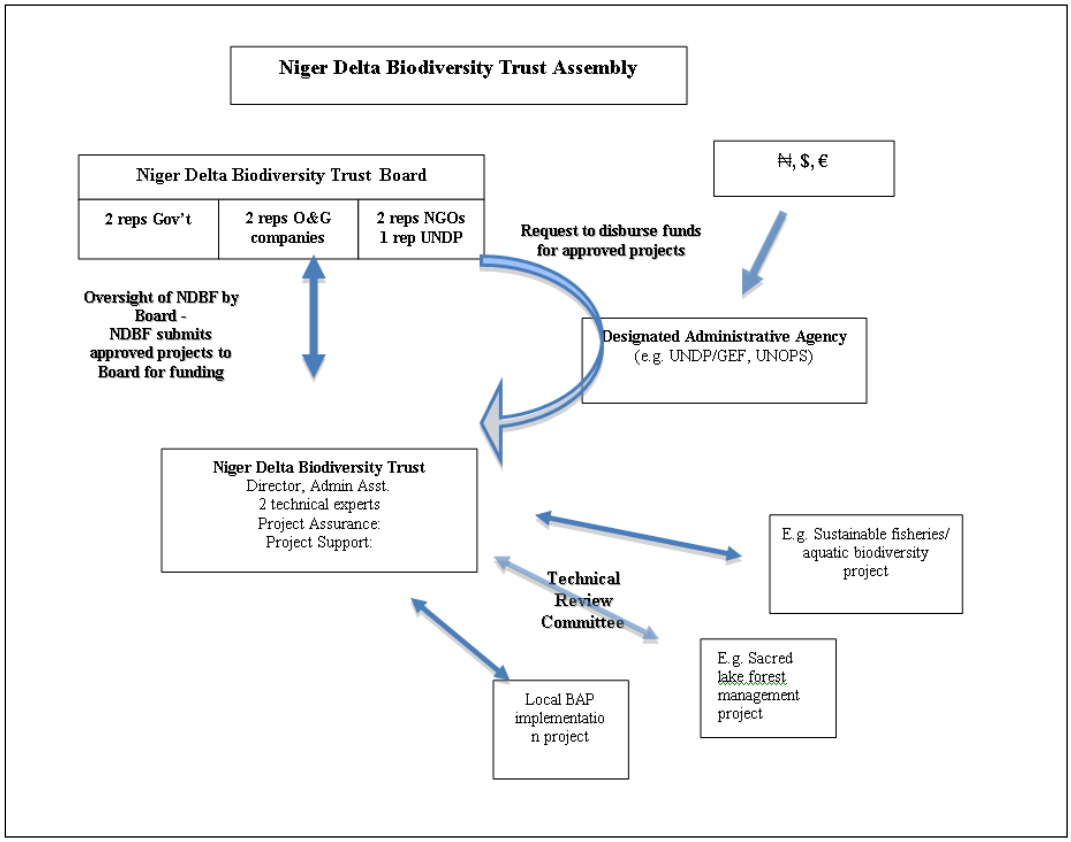
NDBT Board of Directors: A Board of Directors will govern the Trust. The Board will consist of members from both the private and public sectors, with a majority from the private sector. This is a lessons learned from the GEF's extensive experience with Trust Funds and it will allow the NDBT to maintain critical linkages with the government without being unduly influenced by politics. While it is important for the Board to have linkages with diverse sectors, the majority of the Board members should have management and/or institutional interest in the nexus between the O&G sector and the conservation and sustainable use of biological diversity in the Delta to ensure that the Trust's mission is met. The exact number of Board members will be determined and set in articles of incorporation finalized during implementation of the Full Size Project. This will include coordinating with and building upon lessons learned from other Trust Fund initiatives worldwide.

The Board will consist of 7-9 Members, including representatives from the: OPTS/O&G companies, Federal and State government agencies, Local governments; and the NGO community operating in the Delta in relevant areas. Each Member of the Board and each Alternate shall serve for three years. Board Members and Alternates will serve without compensation. The Board will be responsible for developing, adopting and evaluating the operational policies and programs for NDBT-financed activities and taking into account input from the Assembly.

The Trust will require a small staff. These professionals will be responsible for managing the Trust's day-to-day business and for supporting and reporting to the Assembly and the Board. At a minimum, the Trust will have a Director and Administrative Assistant. As the funds managed by the Trust grow, the Trust's staff may evolve to include a Program Manager(s)

and Financial Manager. The Trust's staff will be responsible for organizing Board meetings, review of reports of projects funded by the PA Trust, disbursement of funding, posting of calls for proposals, etc. The Trust's staff will initially be this project's project management unit. After the conclusion of this project, the Trust's staff will be supported administratively by the UNDP and shall operate in a functionally independent and effective manner. The Director will be appointed to serve for three years on a full time basis by the Board. The staff of the Trust shall include individuals hired competitively on an as needed basis. The Director will be accountable to the Board for the performance of the Trust functions and will be responsible for the organization, oversight and dismissal of Trust staff. Figure 7 illustrates the envisioned NBDT management structure.

Figure 7: Envisioned NDBT Management Structure



Output 3.2. NDB Trust Capitalization: Compacts with O&G companies to capitalize the Niger Delta Biodiversity Trust are successfully negotiated.

Activity 1. Negotiations with O&G companies and Federal and State Governments to capitalize the first tranche of funding for the NDBT in year 4 of the project.

The strategic planning work above will serve to lay the legal and design and management parameters for the Trust and as such provide a solid and clear basis upon which to finalize negotiations to fund the first tranche of the NDBT.

As Table 9 below shows, the funding target for the first tranche of funding for the NDBT is a minimum of US$4 million. This will provide sufficient funds to support administration and project funding costs for the first four year Tranche of grant making. The project conservatively projects that at least US$900,000 will annually pass through the Trust's revolving fund window by year 3 of the Trust's operation.

Table 9: Niger Delta Biodiversity Trust Anticipated Funding and Expenditures (estimates - millions $)

Year of Operation	Contributions - Tranche 1 and Tranche 2	Total Funds Available	Total annual grants from Trust	Administration costs/ project development /stakeholder engagement	Balance	5% interest	Fund Corpus Remaining Each Year
Year 1 - Tranche 1 (project year 4)	$4.000	$4.000	$0.000	$0.000	$4.000	$0.200	$4.200
Year 2 (project year 5)	-	$4.200	$0.600	$0.050	$3.550	$0.178	$3.728
Year 3	-	$3.728	$0.700	$0.240	$2.788	$0.139	$2.927
Year 4	-	$2.927	$0.800	$0.250	$1.877	$0.094	$1.971
Year 5	-	$1.971	$0.800	$0.260	$0.912	$0.046	$0.957
Year 6 - Tranche 2	$4.000	$4.957	$0.800	$0.270	$3.887	$0.194	$4.082
Year 7	-	$4.082	$0.800	$0.281	$3.001	$0.150	$3.151
Year 8	-	$3.151	$0.800	$0.292	$2.059	$0.103	$2.162
Year 9	-	$2.162	$0.800	$0.304	$1.058	$0.053	$1.111

UNDP will co-fund the initial first two years of operations of the Trust through its cash co-funding of the project management unit, which will serve as the Trust's staff complement for the first 2 years of its operation. This co-funding will leverage additional funds from O&G companies and the Federal and State Governments (e.g. FMoE/Ecological Fund), who will be the primary funders of the Niger Delta Biodiversity Trust.

Prospects for financing of the Trust: The focus of the Trust is the Niger Delta, a region that generated over US$45 billion worth of oil in 2009. Given this fact, there are ample opportunities to capitalize and grow the fund's endowment at or beyond the US$4 million dollar target. The project has set aside significant resources to build government, private, and donor support for expanded investment in the Delta's biological diversity.

NDBT fund raising will focus initially upon O&G companies, the Federal Government through its Ecological Fund, and State Governments. During the PPG process, Federal and State Government expressed interest in supporting the NDBT, given sufficient lead-time to plan budgeting requests accordingly. The Federal Government of Nigeria has established the Ecological Fund (EF) as described in the baseline section. The EF receives approximately 1% of federal revenues each year; although the exact amount of funds populating the EF is not published, the EF is thought to hold hundreds of millions of US$. Under this activity, GEF resources will support the project in working closely with the Ministry of Environment to develop a proposal to the Ecological Fund (which the MoE chairs) for EF funding to the Trust.

Government investment in the Trust will be sought either by a direct donation from the Federal Government's Ecological Fund or from government-imposed regulations, such as environmental taxes, fees for use of environmental resources, fines for failing to comply with environmental law, or compensation for environmental damage. Work under this activity will help the FMoE to consider carefully these options and develop concept notes to the most promising ones, including a proposal to the Ecological Fund for the NDBT's first tranche. The same is true for State Governments, who receive funds from the Federal Government to support their own State-level Ecological Funds.

The project will continue to develop its relationship with the O&G sector in the Niger Delta through the existing Oil Production Trade Sector of the Lagos Chamber of Commerce to develop clear and beneficial links to the Sector's corporate environment and safety programs. The financial resources are available to support the NDBT. For example, in mid-2010 Chevron created a new foundation for partnership initiatives in the Niger Delta (PIND) and capitalized it at the level of US$50 million. Already in a fairly short PPG process, the project has secured firm expressions of interest and desire to support the project from the largest O&G company operating in the Delta (see co-funding letters) and verbal expressions of interest from others.

The project will work closely with O&G companies, the Government of Nigeria and State Governments to discuss strategic levels of funding for the NDBT for each interested partner and secure that funding for the Trust by year four of the project. The level of the first tranche will be consensus-based among all investors (O&G companies, Government of Nigeria/FMoE/Ecological Fund) and will be based upon an analysis of demand (from BAPs) and supply of projects in the Delta conducted as part of the strategic planning exercise above.

Incentives for private sector contributions to the NDBT can be drawn from the discussion the O&G sector context discussion of this proposal. Examples detailed in that section include: fulfilling CSR commitments, improving corporate image, offsetting supply chain impacts and securing sustainable supply chain inputs, satisfying investor requirements, and improving relations with local and federal governments.

One practical approach to identifying a strategic level of support for the Trust could be to agree to a target of a certain percentage of turnover or income from the O&G operations in the Niger Delta. This could be modeled on the commitment of developed countries to allocate 0.7% of national income to development assistance.[38] For the O&G sector, a similar commitment could be envisioned. For example, for every $1 billion of revenue generated by the sector in the Delta, 0.7% or $7,000,000 could be allocated to biodiversity management projects in the Delta.

Output 3.3. Organized communities, partnerships of communities and NGOs, and NGOs and Government, Universities, in the Niger Delta at large have the capacity to and count on an appropriate mechanism to access funding from the Trust.

[38] See: http://www.unmillenniumproject.org/press/07.htm.

Activity 1. Establish a core mechanism to enable and sustain collaboration among local communities, state and federal authorities and the O&G companies.

This will be critical part of the institutional structure of the Niger Delta Biodiversity Trust. The mechanism will include representation from a cross-section of local government areas around the Delta. The mechanism will be designed to catalyze the development and funding of small and medium-scale biodiversity projects that contribute to the achievement of Biodiversity Action Plan targets and results-based indicators included in the Niger Delta BAP for priority ecosystems.

Review criteria will be designed to encourage/maximize community and local stakeholder ownership and drivenness of the project. At the grant-making level, Technical Review Committee grant review criteria will include a requirement for co-financing, partnership-based work, and for simple, measurable indicators of realistic, sustainable outcomes.

The mechanism will be designed to enable these projects to focus upon and measure results through a results-based approach that includes community-based M&E tools and approaches and capacity building for communities.

The legal and policy documentation prepared under this Output will guide the allocation of resources to biodiversity conservation in priority Niger Delta ecosystems and the involvement of local communities in accessing the funding. Applicant communities may be located in the whole of the Niger Delta, and not just the oil states. A simple, web-based progress reporting and M&E mechanism for overseeing the funded projects and capacity building measures will be put in place for maximising transparency of the process and letting sunshine of the world-wide web into the successes and failures of each project.

The process of designing this mechanism will draw upon valuable best practices from other GEF projects that have faced similar challenges, such as the UNDP/GEF PoWPA project (Country Early Action Grants project to support the CBD's Programme of Work on Protected Area). For example, learning from projects like this will enable this project to bring new transparency and web-based efficiency to monitoring of implementation progress and emerging results of NDBT projects. Grantee-based reporting will be simple and concise, with grantees reporting on: Specific actions, numerical rating of progress to date in implementing project and a bullet-point summary of steps taken to date. Based upon this reporting the NDBT will be able to prioritize those community-based projects in need of more assistance or fact checking for accuracy of reports.

RISKS AND ASSUMPTIONS

165. The project strategy, described in detail within this project document, makes the following key assumptions in proposing the GEF intervention:

- The project will be able to benefit from the current momentum created by the oil well blowout disaster in the Gulf of Mexico with respect to the importance of strengthening the mainstreaming of biodiversity and environmental issues into O&G activities.
- The GoN's commitment to the project is demonstrated by its participation in the EITI initiative, by its ongoing and nearly completed revision of the O&G body of law and by the clear trend evident in improving environmental aspects of Nigerian O&G law and policy in the past 10 year period.
- Despite some uncertainties, the O&G sector in the Niger Delta will continue to operate in a robust manner, with new fields being explored and increasing production coming on line from new O&G activities.
- O&G operators will continue to see biodiversity conservation and collaboration with local communities and other stakeholders as a win-win for their business model both on the local and international levels.
- Lessons learnt in the core Delta states can be successfully disseminated to the remaining Delta five Delta States.
- Increased awareness and capacity will lead to a change in behaviour by O&G operators with respect to the mainstreaming of biodiversity into their operations and a change in behavior by local communities and State government staff with respect to conceptualizing and implementing local biodiversity conservation initiatives.

166. During the PPG phase, projects risks were updated from what has been presented at the PIF stage. They were further elaborated and classified according to UNDP/GEF Risk Standard Categories[39], and assessed according to criteria of 'impact' and 'likelihood' (Box 3):

Table 10: Elaboration of Risks

IDENTIFIED RISKS	CATEGORY	ELABORATION
Government policies and programs will support unrestrained O&G development in the Niger Delta, as world demand for oil increases.	POLITICAL	This is essentially the baseline situation albeit with a strong trend towards more balanced policies that place a much higher level of priority on environmentally responsible approaches to O&G exploitation in the Delta. Evidence during the past 10 years in the form of policy changes points towards this reduced significantly.
Insecurity and violence in the Niger Delta makes project operations expensive and at times impossible.	OPERATIONAL	There are often reports of violence, including guerrila-like conflict, street violence in major cities, such as Port Harcourt, but also abductions of foreigners in the Niger Delta Region. The security situation in Niger Delta States is ranked by UN Security according to the system of phases and range from restricted movement to relocation, depending on the area. Travel by UN staff and consultants to and within the region is subject to restrictions. Activities may be hampered and operational costs will likely be higher than of other projects in areas without security problems.
Fluctuation in the global price of oil may force O&G companies to act short-sightedly with respect to investments and it make them less likely to collaborate in the project and	FINANCIAL	The price of commodities is an exogenous element that lies completely outside the scope of the project, but which may influence it positively or negatively. If the price of oil is high, there may be a "bonanza" for biodiversity mainstremaing. If the opposite, priorities may shift towards other types of

[39] Includes the following eight categories: environmental; financial; operational; organizational; political; regulatory; strategic; and other.

IDENTIFIED RISKS	CATEGORY	ELABORATION
capitalise the Niger Delta Biodiversity Trust.		investment. The project-buy in from the industry may have less ideal conditions.
Local communities show resistance to the project due to distrust of government and O&G companies.	STRATEGIC	A similar pattern was also experienced in other UN implemented projects in the Niger Delta. Not all communities are amenable to engaging in the type of work proposed under this project due to generalised distrust.
There are other, non-oil and gas related impacts on biodiversity and ecosystem health in the Delta that may affect project results on the ground.	ENVIRONMENTAL	Timber extraction and agricultural expansion were also identified as important threats to biodiversity in the Niger Delta. They are not however being directly addressed by the project, which focus is on threats posed by the O&G sector.

Box 3: Risk Assessment Guiding Matrix

		Impact				
Likelihood		CRITICAL	HIGH	MEDIUM	LOW	NEGLIGIBLE
	CERTAIN / IMMINENT	Critical	Critical	High	Medium	Low
	VERY LIKELY	Critical	High	High	Medium	Low
	LIKELY	High	High	Medium	Low	Negligible
	MODERATELY LIKELY	Medium	Medium	Low	Low	Negligible
	UNLIKELY	Low	Low	Negligible	Negligible	Considered to pose no determinable risk

Table 11: Project Risks Assessment and Mitigation Measures

IDENTIFIED RISKS	IMPACT	LIKELIHOOD	RISK ASSESSMENT	MITIGATION MEASURES
Government policies and programs will support unrestrained O&G development in the Niger Delta, as world demand for oil increases.	High	Moderately likely	Medium	This project is linked to the expanding International Niger Delta Partnership, which coalesces the good will of several industry partners and donors, and builds largely on UNDP's credibility and the human development approach, the project will generally become less risky, more credible and with greater chances of having a positive impact through industry engagement. Policies that directly counteract the project's objectives will have, through the Partnership, an expanded forum for being discussed and scrutinized. While realities will not change in the Delta from one day to another, the Partnership is certainly pointing in the right direction and making a difference at localized level. In addition, the Gulf of Mexico oil spill shed much more "sunlight" on this issue in the Niger Delta, making more reforms in policy and practice in Nigeria's O&G policies for the Delta almost a certainty.
Insecurity and violence in the Niger Delta makes project operations expensive and at times impossible	High	Likely	High	The UN constantly assesses country and localised risk in all areas where it operates through the unified UN Security System. Access to areas and the roll out of both humanitarian and development programmes suffers from security restrictions in several parts of the Niger Delta. It is however perfectly possible for the UN to work in other areas. Minimum Operating Security Standards (MOSS) will apply for all project operations, which will be closely monitored from a security point of view. This

IDENTIFIED RISKS	IMPACT	LIKELIHOOD	RISK ASSESSMENT	MITIGATION MEASURES
				involves the procurement of special equipment for vehicles, the utilisation of approved means of communications, restrictions on boat and small aircraft travel and the utilisation of the security clearance system. This will apply to project staff, but also project consultants and agency staff on project oversight visits. UN Security will be involved in site the selection process with respect to sites for community-based activities under Outcome 2.
Fluctuation in the global price of oil may force O&G companies to act short-sightedly with respect to investments and it make them less likely to collaborate in the project and capitalise the Niger Delta Biodiversity Trust.	High	Unlikely	Low	An industry assessment was carried out as an initial industry engagement activity under the PPG (see Annex 4). The assessment assesed O&G whether companies have corporate environmental plans or policies for the Niger Delta and the companies' positions on biodiversity conservation and their willingness to join together in a compact to contribute to a Biodiversity Trust Fund. Most companies operating in the Delta understand the incentives/reasons for participating in a proactive biodiversity conservation initiative (i.e. reputational risk, community relations, compliance with standards or official company policies). The level of involvement per company need not be very large, reducing the assessment of this risk to low.
Local communities show resistance to the project due to distrust of government and O&G companies.	High	Moderately Likely	Medium	Apart from security concerns, another key criterion for site selection will be 'community buy-in'. Local consultations with communities will be extensively carried out to determine their potential level of engagement. The project will be thoroughly explained. Civil society mediators will be used in that context because of their experience with local consultations in the region.
There are other, non-oil and gas related impacts on biodiversity and ecosystem health in the Delta that may affect project results on the ground.	High	Very Likely	High	The project, while focussing on mainstreaming biodiversity into the O&G sector, also has a significant element of community engagement as the mechanism or the strategic approach to actual "do" mainstreaming in the Delta. Thus, the on-the-ground activities that result from improved mainstreaming within the O&G sector will be designed to address these key challenges related to over-harvesting of resources and other non-O&G related issues as well. While threats such as timber extraction and agricultural expansion will not be directly addressed through the project, they will possibly be indirectly dealt with through projects to be approved under the Trust.

Overall risk assessment: Five risks were identified, of which two are high, two are medium and one is low. This places the project in the **medium-high risk category**. Besides the risk mitigation measures proposed above, the general response to the risk level is to (1) equip the project to deal with insecurity in the Niger Delta Region by ensuring MOSS standards are in place before project start and in the project's everyday routine; (2) engaging in implementation qualified Nigerians who understand the context in the Niger Delta and who are preferably from the region; and (3) ensuring a swift start of the NDBT so that expectations from potential beneficiaries to the project are quickly satisfied and "hanging threats" to the Niger Delta's biodiversity that are not related to the O&G industry are dealt with.

INCREMENTAL REASONING AND EXPECTED GLOBAL, NATIONAL AND LOCAL BENEFITS

Reasoning and Summary of Benefits

167. **In the baseline situation**, the trend for biodiversity in the Niger Delta is not a positive one, with increasing pressures and *ad hoc*, under-funded efforts to conserve biodiversity. In the baseline scenario, the oil and gas sector – the largest economic sector in all of Nigeria (not to mention the Delta itself) – will continue to be governed with almost no attention paid to the biological diversity of the Delta. Low levels of information on and knowledge of biodiversity, awareness of biodiversity and its importance, and capacity to manage biodiversity in the Delta will hinder any baseline movement towards a more biodiversity friendly O&G sector in the Niger Delta. This hindrance will aggravate other law and policy barriers that downplay biological diversity in critical regulatory processes like EIA and oil spill response planning. This hindrance will aggravate barriers preventing O&G companies from adopting international best practice for biodiversity mainstreaming, and barriers preventing effective collaboration among key stakeholder groups in the Delta. In the absence of catalytic, incremental GEF funding leveraging additional strategic co-funding, threats to globally significant biodiversity will continue to increase, the condition of the Delta's biodiversity will continue to be diminished, and the global and local benefits represented by this biological diversity will be lost.

168. **In the alternative scenario enabled by the GEF project**, global biodiversity benefits will be generated in Nigeria primarily through barrier removal towards the mainstreaming of biodiversity management priorities into the Niger Delta's O&G sector regulatory framework and O&G company operations both inside and outside the fence. This will be done overall by achieving the following three main outcomes:

Outcome 1) strengthening the governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta. This will include improving the quality of biodidversity information and access to that information to support mainstreaming and strengthening the governance framework for the mainstreaming of biodiversity into the EIA process, (regulations, guidelines, capacity).

Outcome 2) Piloting new O&G biodiversity action planning tools for proactive biodiversity mainstreaming in the Niger Delta by O&G companies, Government, and local communities. This will include introducing global best practice for biodiversity action planning into the O&G sector and to build upon improved governance framework under Outcome 1.

Outcome 3) Supporting long-term biodiversity management in the Niger Delta by capitalizing the Niger Delta Biodiversity Trust with a collaborative engagement mechanism for local communities, O&G companies and Government at its core. This will result in (1) the reduction of threats and risks to biodiversity in priority Niger Delta ecosystems linked to O&G in four oil producing states of the Niger Delta (46,420 sq km – the indirect spatial mainstreaming target); and (2) improved management of biodiversity of critical ecosystems within a directly targeted area of at least 60,000 hectares. This is a conservative estimate that does not include the impact of the projects funded through the NDBT, which will be implemented throughout the Delta. To underscore the relevance of the project within its context, the following Box summarises the

global biodiversity significance and the potential to generate global benefits by according protection to the Niger Delta's Ecosystems through a mainstreaming approach:

Box 4: Global Biodiversity Significance of the Niger Delta

- At least eleven Important Bird Areas (IBAs).
- WWF 200 Ecoregion (#155 - Niger Delta).
- Part of the Guinean Forests Hotspot
- Africa's largest mangrove area and the world's third largest
- The Niger Delta red colobus, is one of the world's 25 most endangered primates.[1]
- The Niger Delta is one of the largest wetlands in the world and is Africa's largest Delta;
- The Delta's outermost coastal forest zone represents some of the last remaining pristine forest resources and centers of endemism in Africa
- All of Nigeria's endemic or near-endemic mammal species and six IUCN Red List mammals: the (Niger Delta) forest elephant (*Loxodonta Africana cyclotis*), the West African manatee (*Trichechus senegalensis*), the White-throated guenon (*Cercopithecus erythrogaster),* the Sclater's guenon (*Cercopithecus sclateri*), the pygmy hippopotamus (*Choeropsis liberiensis heslopi).*
- The endangered Nigeria-Cameroon Chimpanzee (*Pan troglodytes vellerosus)*
- Globally outstanding fish fauna that displays exceptional evolutionary phenomena with its higher taxonomic endemism and distinct species assemblages with a minimum of 314 species (313 being indigenous) from 158 genera and 64 families found in the Delta.
- At least twenty (20) endemic species of fish have been recorded so far in the Delta. Unique conditions in the Delta have nurtured the evolution of five monotypic fish Families -- Denticipidae, Pantodontidae, Phractolaemidae, Hepsetidae and Gymnarchidae -- the highest concentration of monotypic Families of any freshwater eco-region in the world.

System's boundary

169. Nigeria is Africa's most populous country and is one of the world's leading oil producers due to the vast oil and gas reserves in the Niger Delta. The Niger River is the principal river of West Africa with a length of approximately 4,180 km and a drainage basin encompassing 2,117,700 km^2. Over millennia, this mighty river created the Niger Delta at its with the Atlantic Ocean and its Guinea and Benguela currents. The result of the Niger River's progradation in this dynamic context is a Niger Delta of globally significant physical attributes and biological and hydrocarbon resources.

170. Africa's largest Delta, the ND is a repository of globally significant biodiversity, harboring at least: 11 IBA, 1 Global 200 Ecoregion (#155 - Niger Delta), part of the Guinean Forests Hotspot, and Africa's largest and the world's third largest mangrove area.

171. The project's goal is to contribute to the conservation and sustainable use of globally significant biological diversity in the Niger Delta. The project objective is to mainstream biodiversity management priorities into the Niger Delta oil and gas (O&G) sector development policies and operations.

172. The project's three main outcomes designed to achieve this objective are: 1) Stakeholders strengthen the governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta; 2)

Government, the O&G industry and local communities build and pilot new biodiversity action planning tools for proactive biodiversity mainstreaming in the Niger Delta; 3) Stakeholders support long-term biodiversity management in the Niger Delta by captalizing the Niger Delta Biodiversity Trust with a collaborative engagement mechanism for local communities, O&G companies and Government at its core.

Incremental Cost Analysis

Table 12. Incremental Cost Matrix

Cost/Benefit	Baseline (B)	Alternative (A)	Increment (A-B)
BENEFITS			
Global benefits	The mainstreaming of biodiversity into the O&G sector policies and practices (hereafter referred to as "mainstreaming") will be hampered by inadequate access to sufficient data and information on biological diversity. A number of policy and legal reforms will proceed, but MoE will be unable to develop and apply an action plan for expanding and improving the effectiveness of biodiversity conservation in the Delta. The O&G industry will continue its activities on a business-as-usual basis. Some do show some commitment to biodiversity conservation, but this does not translate into systematic actions to address biodiversity management from a mitigation hierarchy perspective. The funding for biodiversity management that the industry can potentially generate will remain inaccessible for improving the standards of biodiversity management in the Niger Delta Region.	In the alternative scenario enabled by the GEF project, global biodiversity benefits will be generated in Nigeria primarily through barrier removal towards the mainstreaming of biodiversity management priorities into the Niger Delta's O&G sector regulatory framework and O&G company operations both inside and outside the fence. This will result in (1) the reduction of threats and risks to biodiversity in priority Niger Delta ecosystems linked to O&G in four oil producing states of the Niger Delta (46,420 sq km – the indirect spatial mainstreaming target); and (2) improved management of biodiversity of critical ecosystems within a directly targeted area estimated at 60,000 hectares (footprint of O&G majors to be determined) within those states, but also in the Niger Delta at large through the micro-projects that may emerge from the NDBT.	The project's systemic interventions will secure long-term global benefits by expanding the coverage of the improved biodiversity management "inside the fence" of O&G operations through BAP and "outside the fence" through partnerships with local communities, government, and O&G companies. The following biodiversity features will count on improved management and protection / safeguarding: - At least eleven Important Bird Areas (IBAs). - WWF 200 Ecoregion #155. - Part of the Guinean Forests Hotspot - Africa's largest mangrove area and the world's third largest - The Niger Delta red colobus, is one of the world's 25 most endangered primates. - The Niger Delta: Africa's largest Delta and one of the world's largest; - The Delta's outermost coastal forest zone represents some of the last remaining pristine forest resources and centers of endemism in Africa - Nigeria's endemic or near-endemic species in the IUCN Red List - Globally outstanding fish fauna, including at least twenty (20) endemic species of fish; plus outstanding biodiversity values for higher plants, mammals, herptofauana and a number of other of biodiversity features.
National and local benefits	The perception of biodiversity as an environmental issue and not as a social issue or sustainable development issue will prevail. This has meant that biodiversity management has had to compete with other pressing social development issues.	National and local benefits will include the establishment of a new framework for dealing with a number of socio-environmental issues in the Niger Delta, which are not restricted to biodiversity management.	The capacity of key stakeholders to manage and safeguard biodiversity in the Niger Delta will increase. These include government officials, NGO partners, academia and a number of community based organizations that will be engaged in the project. Nigeria will count on improved legal and policy frameworks for areas such EIA,

Cost/Benefit	Baseline (B)	Alternative (A)	Increment (A-B)
			petroleum regulations and compensation for environmental damage to name a few. The Niger Delta Master Plan will be supported in its Biodiversity Component. There will be more trust among communities, government and O&G companies.
COSTS			
Outcome 1: The governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta is strengthened.	In the baseline scenario, the oil and gas sector -- largest economic sector in all of Nigeria and in the Delta itself – will continue to be governed by a regulatory framework that pays little to no attention to the biological diversity of the Delta and key institutions will continue to have virtually no capacity in biodiversity-related issues. Low levels of awareness, knowledge, and capacity to manage biodiversity in the Delta will hinder any baseline movement by Government towards a more biodiversity friendly O&G sector in the Niger Delta. Government and NGO investment in the management of biodiversity in the Niger Delta in has been very modest. The baseline for this component is estimated at: **$1 million over 5 years**	The Alternative enabled by the GEF for this component is estimated at: **$5.253 million over 5 years**	**GEF** 1.167 FMoE 3.086 **TOTAL ($ million)** **4.253**
Outcome 2: Government, the O&G industry and local communities build and pilot new biodiversity action planning tools for the proactive biodiversity management in the Niger Delta.	In the baseline scenario, O&G companies will continue to be amenable to the concept of biodiversity mainstreaming, but will approach the issue in disparate, *ad hoc*, inefficient ways that fail to incorporate global best practice on mainstreaming. O&G corporate investment in the management of biodiversity in the Niger Delta cannot be properly assessed, but there are indications that it is modest. The baseline for this component is estimated at: **$10 million over 5 years**	The Alternative enabled by the GEF for this component is estimated at: **$15.909 million over 5 years**	**GEF** 0.909 FMoE 3.000 Shell 2.000 **TOTAL ($ million)** **5.909**
Outcome 3: Stakeholders support long-term biodiversity management in the Niger Delta by capitalizing and accessing the	In the baseline situation, funding for biodiversity conservation in the Delta will continue to be inadequate at a level of between US$ 1 million – US$5 million/year. In the absence of catalytic, incremental GEF funding, global biodiversity benefits will be diminished and lost due in part to 50+ years of oil and gas development with	The Alternative enabled by the GEF for this component is estimated at: **$27.674 million over 5 years**	**GEF** 1.174 UNDP 1.500 **TOTAL ($ million)** **2.674**

Cost/Benefit	Baseline (B)	Alternative (A)	Increment (A-B)
Niger Delta Biodiversity Trust as a collaborative engagement mechanism for local communities, O&G companies and Government at its core.	little to no attention paid to the conservation of biological diversity. The baseline for this component is estimated at: **$25 million over 5 years**		
Others: Project Management Unit, Program Implementation Technical Support Team, and Indicative Monitoring	N/A	N/A	**GEF** 0.361 UNDP 1.000 FMoE 0.064 **TOTAL ($ million)** **1.425**
TOTAL COSTS	The total baseline for the project is estimated at: **$36 million over 5 years**	The total alternative enabled by the GEF for the project is estimated at: **$49.899 million over 5 years**	**GEF** 3.249 FMoE 6.150 Shell 2.000 UNDP 2.500 **TOTAL ($ million)** **13.899**

COST-EFFECTIVENESS

173. One possible alternative for this project that has been considered was e.g. to promote instead a protected area (PA) approach in the Niger Delta. A quick analysis has shown that there are over 70 PAs in the wider Niger Delta Region scattered over all of the nine states of Delta[40]. The largest surface of these areas are concentrated in the 'non-oil states' of Ondo, Edo and Cross River and their spatial distribution is not representative of key ecosystems in the wider Delta. Also, 90% of the PAs are forest reserves, set up mainly for timber production, while the remaining 10% were constituted for the purpose of protecting biodiversity. Forest mismanagement has led to a substantial loss of biodiversity in these PAs, indicating that they are sub-effective as conservation areas. Furthermore, only a negligible fraction of the freshwater ecosystem of the Niger Delta is covered by PAs, while no part of the marine ecosystem is under protection.[41] Although no specific gap analysis of PA coverage in the Delta has been done, PPG information gathered by senior Nigerian experts during the PPG phase clearly shows a large shortfall in the region in terms of PA management effectiveness and their ecosystem representativeness. Nearly every forest rserve or game reserve in the Delta is essentially a paper park. This would be quite costly to be addressed, in addition to recurrent costs of PA management. One study suggests a recurrent cost of $33.6/ha/year for effective PA management

[40] Phil-Eze & Okoro (2009): *Sustainable biodiversity conservation in the Niger Delta: a practical approach to conservation site selection*. Biodiv Conserv 18:1247-1257.
[41] Ibid.

in the Niger Delta[42]. This is on the high end of costs for PA management when e.g. compared to other UNDP PA projects in Africa, where costs rarely exceed $20/ha/year. The same study also indicates that it might no longer be possible to extend coverage and ecosystem representation in the Niger Delta due to high human pressure. In addition, regardless of the approach (protected areas or mainstreaming), it would generally not be possible to deal with conservation issues in the Niger Delta, if current and potential impacts from the largest economic sector in the Niger Delta (the O&G sector) are not addressed. Considering the total GEF budget for this project of $3.6 million over 5 years and the indirect spatial target coverage of 46,000 sq km, the project costs may be assessed at $15.70/ha/year. This is approximately half of the estimated recurrent costs of the PA approach. The alternative offered by this project, through governance frameworks, industry & community engagement and conservation Trust Fund, is therefore the most cost-effective option.

174. In addition, this project leveraged co-financing of $10,650,000 to the GEF investment in the short term (CEO Endorsement satege) and with the long-term goal of approximately 1-3 million/year for the Niger Delta Biodiversity Trust from all co-funders after the GEF funding has run its course. If the Niger Delta Biodiversity Trust sustains its work post-project for an additional ten years, at approximately $1.5 million/year, then GEF funding will have leveraged approximately $7 for every $1 GEF funds invested.

175. Additionally, a PPG analysis of use values for Niger Delta ecosystem services produced the following figures for the primary use values (Table 13), adjusted to the general economic price level in Nigeria as reflected by the GDP (PPP) per capita. In the context of a cost-effectiveness discussion, these total value figures and the cumulative figure for all values helps to highlight the cost-effectiveness of GEF's targeted incremental investment.

Table 13: Use Value of Niger Delta ecosystem based on benefit transfer approach

Use Value (Direct and Indirect)	Values used for valuation	Size	Value in million USD ($)/year
Artisanal Fisheries		178844 tons	1,478.03
Marine Fisheries		135,238.3 tons	1,636.40
NTFP	$63/ha/yr	12,263 km2	77.26
Timber Products of Mangrove	$11.66/ha/yr	12,263 km2	14.30
Carbon sequestration of mangroves	$36.40/ha/yr	12,263 km2	44.64
Erosion/flood control	$954.35/ha/year	12,263 km2	1,170.32
Drinking water	$6.23/ha/yr	12,263 km2	7.64
Nursery ground for fish and shellfish	$764.66/ha/yr	12,263 km2	937.70
Sewage treatment of mangroves	$31.95/ha/yr	12,263 km2	39.18
Returns from forestry for other forest types (fresh water and lowland forests, barrier island forests and savannah)	$150/ha/yr	112,720 km2	1,690.80
Returns from fishery for other forest types (fresh water and lowland forests, barrier island forests and savannah)	$60/ha/yr	112,720km2	676.32
Total			**5,897.19**

Source: N. Chukwone. September 2010. Final PPG report "*Options for the development of financial mechanisms for biodiversity conservation in the Niger Delta*."

[42] Bloom 2004: *An estimate of the costs of an effective system of protected areas in the Niger Delta – Congo Basin Forest Region*. Biodiv Conserv 13: 2661-2678.

PROJECT CONSISTENCY WITH NATIONAL PRIORITIES/PLANS

176. The UNDP-GEF Niger Delta Biodiversity Project has been developed with the full support of the Federal Government of Nigeria. It is consistent with the policy guidelines and principles of the government in relation to the conservation of biodiversity as described in the National Biodiversity Strategy and Action Plan (NBSAP) from 2001.

177. The project is consistent with one of the primary objectives of the National Biodiversity Strategy and Action Plan (NBSAP), which is: 'A nation that integrates biodiversity conservation […] into sustainable development aimed at substantially reducing poverty, designing a secure future and facilitating the growth of the Nigerian biodiversity sector for the benefit of the Nigerian community and economy in line with the principles of ecological sustainability and social equity'. More specifically, the project furthers this primary vision through a three-way collaboration among Government at all levels, Non-governmental organizations and the Private sector. This is precisely this project's proposed approach as well. In addition, the project supports many of the NBSAP's main goals and aims, including:

- To improve methods and technologies that support the sustainable use of biological resources and eliminate or minimize adverse impacts on biodiversity resulting from resource use;
- To promote sustainable use of biological resources and ensure fair and equitable sharing of benefits for poverty reduction;
- To reduce the adverse impacts of land use practices on forest, watersheds, soils, other ecosystems and species;
- To enhance biodiversity management capability through education and awareness, appropriate formulation of policy and legislation, research and international cooperation.

178. The project is consistent with the Poverty Reduction Strategy Paper (PRSP from 2003) and the National and State Economic Empowerment and Development Strategies (NEEDS), State Economic Empowerment and Development Strategy (SEEDS) at the state level and Local Economic Empowerment and Development Strategy (LEEDS) at the local level. All of these strategies include improved local resource management as a key element of poverty reduction.

179. This project compliments at a regional level national policy objectives on the reduction of poverty and improved rural livelihoods consistent with the PRSP, NEEDS and SEEDS program enunciated by government. The project's Niger Delta Biodiversity Trust and its focus on engaging local comnmunities in biodiversity action planning and improved sustainable use is fully consistent with the implementation of intent expressed in the PRSP, NEEDS, SEEDS and LEEDS for poverty reduction through sustainable use.

180. The project is equally consistent with national priorities for the sustainable development of the Niger Delta as enunciated in the workplan of the Ministry of Niger Delta and of the Niger Delta Development Commission (NDDC), plans that operationalise the directives of the Niger Delta Regional Master Plan and its derived Biodiversity Sector Report. Both policy documents

take into consideration not just the threats and impacts posed by the O&G sector, but also issues of watershed management, use of forests, land degradation, coastal erosion, flood control, climate change and their impact on biodiversity.

COUNTRY OWNERSHIP: COUNTRY ELIGIBILITY AND COUNTRY DRIVENNESS

181. Nigeria ratified the Convention on Biodiversity (CBD) in 1994[43] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in July, 1975. Nigeria has signed and/or ratified the African Convention on the Conservation of Nature and Natural Resources; the Convention on Nature Protection and Wildlife Protection in the Western Hemisphere; Agenda 21; the RAMSAR Convention on Wetlands of International Importance; the International Convention for the Prevention of Pollution from Ships (ratified in 1975); United Nations Convention on Law of the Seas (ratified in 1994); and International Convention on Oil Pollution Preparedness, Responses and Cooperation (OPRC).

182. Nigeria was accepted as an Extractive Industries Transparency Initiative (EITI) Candidate country on 27 September 2007 and submitted its final Validation Report to the EITI Board on 29 June 2010. Former President Obasanjo committed to EITI in 2003 and launched Nigeria EITI (NEITI) in 2004. To give legal backing to the work of NEITI, a bill was introduced to the National Assembly in December 2004. This NEITI Act was passed into law on May 28, 2007.

SUSTAINABILITY AND REPLICABILITY

183. Sustainability: The design of all three Components takes into account the need for sustainability. The design of the project seeks to strengthen existing information on biodiversity in the Delta and improve its availability. This work under Component 1 will solidify and improve the quality of data on the biodiversity in the Delta. This will in turn support over the long term the development of better policies and programs to mainstream biodiversity management objectives into the practices of the O&G sector. Component 1 also enhances sustainability because it will strengthen the policy and institutional capacity baseline for mainstreaming, an impact that will extend well beyond the lifespan of this project. Components 2 and 3 are designed to engage the O&G sector in mainstreaming as well as local communities, without whom mainstreaming work in a place like the Delta will be impossible.

184. The social context of mainstreaming in the Niger Delta is an important, even critical element for long-term sustainability of mainstreaming actions. Oil and gas operations and biological diversity in the in the Delta exist in a densely populated water and landscape characterized by intensive agricultural, forestry, and fisheries activities, in addition to O&G operations. To date, resource management activities in the Niger Delta have been indifferent to biodiversity conservation at best and at worst Nigeria's O&G and natural resource policies

[43] Nigeria signed in CBD in 1992 and ratified the CBD in 1994.

provide disincentives for biodiversity conservation and sustainable use. However, many States and the Federal Government in Nigeria are looking for new solutions to the age-old challenge of sustainable rural development. The social sustainability of biodiversity mainstreaming will be maximized when it clearly defines its role in achieving this goal. Social sustainability will be based in part on: (i) the local benefits for local communities where they exist to be delivered by the mainstreaming actions funded through the Niger Delta Biodiversity Trust (reduced erosion, increased resilience to climate change created by healthier mangrove forests, improved quality of local fisheries and sacred sites; and (ii) the overall positive perceptions of key stakeholders as to the value of biodiversity in the Delta and the global community.

185. The project seeks to maximize ecological sustainability through its focus on the Delta ecosystem as a whole as the strategic basis for mainstreaming biodiversity management objectives into O&G laws, policies and company operations to ensure mainstreaming actions consider the Delta's ecological integrity and sustainability overall. The project's strategy for mainstreaming actions looks both "inside the fence" at O&G operations within their individual concession areas (which are sometimes quite large) and "outside the fence," which in this case implies the whole Delta. In doing so, the project's strategy will emphasize flexibility and the importance of innovation in identifying priority areas methods for conserving them through conservation or sustainable use. The project's strategic approach calls for increasing the ecological representation and ecosystem resilience of a system of State and community-based protected or specially managed areas.

186. There is a tremendous amount of potential in Nigeria for improved financial sustainability for biodiversity conservation through mainstreaming in the Delta using a mechanism like the Niger Delta Biodiversity Trust. To be sure, funding for biodiversity conservation in Nigeria has traditionally been so low – be it from the Federal or State governments or from the O&G industry – that it can only improve going forward. Federal government funding supports the basic operations of federal PA (of which there are none in the Delta) and State government funding for State areas under special management (timber reserves or wildlife areas) is extremely low as well. At the same time, however, the Federal Government has established an enormous "Ecological Fund" funded through a direct earmark of 1-2% of the Federal share of State revenue, which would make the Fund size in the hundreds of millions-to-billions of US$ (total amount not published). This is a significantly positive factor, which illustrates the point that the long-term funding is there, if the logic of mainstreaming biodiversity can compete with other pressing funding priorities.

187. The same situation is true for the Oil and Gas companies themselves in the Niger Delta: the funding is there[44] for well designed and structured biodiversity mainstreaming activities, if they can be structured in such a way as to be "win-win-win" for the company, local communities and biodiversity. Already, O&G companies are funding biodiversity-related activities, but these activities. For example, Shell Petroleum Development Corporation funded and is funding conservation projects focused on specific small areas of the Delta (refer e.g. to their co-financing letter).

[44] The O&G industry in the Niger Delta generates over US$50 billion/year.

188. Replicability. The proposed project has high potential for replication; particularly its second and third expected outcomes that will build and fund a new engagement mechanism for the O&G companies, local communities and government to move forward with proactive biodiversity mainstreaming work that also focuses on sustainable livelihoods. This mechanism may be able to be replicated to other sectors in Nigeria but particularly to other countries with emerging extractive industries to finance protection and conservation of biodiversity. The project will facilitate replication by applying the following approach:

a. Introduce stakeholders to improved EIA management practices with focus on biodiversity or approaches through workshops and local study tours;
b. Demonstrate new ideas, practices and technologies on the ground in each one of the project's three outcomes;
c. Identify and disseminate lessons learned and best practices to project partner institutions, and through other relevant organizations such as IUCN, WWF and particularly the Convention processes such as COPs and other meeting processes (UNCBD, RAMSAR and UNESCO-MAB);
d. Train individuals from other sectors to expand the project's main approaches to other areas e.g. deal with threats and risks of offshore oil and gas exploration in the Gulf of Guinea.

PART III: Management Arrangements

IMPLEMENTATION ARRANGEMENTS

189. UNDP will be the GEF Implementing Agency (IA). Given that the project is working at the Federal level, across four Delta States and at the international level with more than six international O&G companies and multiple international NGOs, UNDP will be the Executing Agency under the Direct Execution Modality. This will provide for maximum flexibility in achieving the rull range of project outcomes. The FMoE will be the lead government agency under the project. The FMoE is the primary authority responsible for biodiversity conservation in Nigeria. In its capacity of lead agency, the FMoE will be responsible for the supervision of the project, providing joint approval of quarterly work plans and budgets at the national level.

190. FMoE is accountable to UNDP for the government's participation in the project and therefore will provide overall guidance and support to implementation of all project activities. It will facilitate project implementation and ensure that internal monitoring and review systems are in place. Qualified experts will be utilized when needed in accordance with UNDP rules and procedures, and will facilitate interaction among relevant public organizations, research institutions and private organizations. To achieve project objectives and produce required outputs, the FMoE will partner with other stakeholders such as oil and gas industry players, other government ministries and departments, local communities and NGOs. The Ministry of Petroleum Resources will play an important role as member of the Steering Committee.

191. The (FMoE) will appoint a senior official as the National Project Director (NPD), who will be the Representative of the FMoE and the Government to support the implementation of

the Project and be responsible for the achievement of its objectives. To actually coordinate and implement the activities, the project will engage a Chief Technical Advisor for Mainstraming (CTAM) co-funded by UNDP, and a National Team Leader (NTL). The CTAM and the NTL will work in close collaboration with the NPD towards the achievement of the project outcomes and objective. In order to support the realization of the specific outputs, the project will engage short, medium and long-term consultants both nationally and internationally, as described in Section IV - Part IV ('*Overview of Inputs from Technical Assistance Consultants*').

192. The project will be executed in accordance with UNDP-Nigeria's direct execution modalities (DEX). Within the proposed arrangement, the proceeds of the GEF grant will be disbursed through the UNDP Country Office. UNDP-Nigeria will work with the UNDP-EEG Regional Coordination, together with FMoE, to ensure timely delivery of project outputs and outcomes. UNDP-Nigeria will also provide administrative and financial oversight of the execution.

PROJECT OVERSIGHT

193. A ***Project Steering Committee (PSC)*** will provide oversight to project activities and it will promote operational coordination among different government agencies, oil and gas industry players, NGOs, communities and donors working in the sector. In agreement with the recently endorsed program approach developed between UNDP and the GOM, all projects in the same portfolio, such as environment in this case, are supervised by one unique steering committee, in order to ensure:

a. Better coherence among all interventions in the same thematic area;
b. Better integration of all these interventions with national action plans coordinated by the counterpart institutions;
c. Better synergy among these interventions, which in turn should improve coordination and long-term impact;
d. A strengthened communication of project activities and expected results.

194. The major functions of this thematic [environment] steering committee are to revise and approve the project work plans, assess the reported projects progress, conduct annual review of projects, assess eventual implementation problems and guide necessary adjustments and approve any strategic changes including budgets. This body meets twice a year or whenever extraordinary meetings are deemed necessary. Membership of this PSC should be multi-disciplinary and multi-sectoral related to the implementation of this project and should include: UNDP-Nigeria, FMoE, MND, Ministry of Petroleum Resources; two State MoE, two Oil Company representatives, one NGO. The NTL will support the Secretariat of the PSC.

195. A ***Project Executive Committee (PEC)*** will be formed to provide day-to-day operational project supervision. It will be composed of UNDP-Nigeria, the National Project Director (NPD), the NTL, and the CTAM. The Ministry of Petroleum Resources and the Ministry of Niger Delta may be called to join the PEC.

196. A ***Consultative Group*** of sectoral specialists will also be formed and consulted by the Project Steering Committee on specific issues. The group will enable a broader representation than just the PSC at a high level of influence for the project. This group should include: experts in law, in EIA process, in biodiversity, in O&G phases and work processes in Nigeria, key NGOs operating in the Delta, O&G company representatives, media people. A series of consultative workshops will be organized to present project strategies, obtain technical reviews and promote information sharing between these participants.

197. In addition, working groups will be created during the implementation of the project. These WGs will help guide the implementation, build consensus, share decisions and validate process/results. Finally, the project will also work in close collaboration with related initiatives funded by the GoN and several donors (see also Section IV - PART III: 'Stakeholder Involvement Plan', and in particular Table 16 under it).

PROJECT MANAGEMENT

198. A ***National Team Leader*** (NTL) will coordinate the project together with a full-time Chief Technical Advisor on Mainstreaming (CTAM). The NTL will manage the implementation of the project. She/He will report to the PSC and will act under overall guidance from the UNDP Focal Point on Energy and Environment. She/He will also liaise with the NDP and the FMoE. The NTL will be responsible for project coordination and implementation, consolidation of work plans and project papers, preparation of quarterly progress reports, reporting to the project supervisory bodies, and supervising the work of the project experts and staff. The NTL will also coordinate project activities with relevant government institutions.

199. The CTAM will be a full-time position (planned as a fixed-term appointment due to the duration of 4 years at least) whose responsibility will be to provide senior technical guidance to the project, to the NTL, and to other consultants on mainstreaming. Terms of Reference for both the NTL and CTAM position is presented in Section IV - Part II of this document.

200. The NTL will be supported by an Administrative Assistant, who will be responsible for the administration and finances of the project. A part time accountant will maintain the project's books. They will form the core of the project implementation unit together with a small team of full-time national consultants. This project will have an office housed at the FMoE's premises or another appropriate location conducive to reduce transportation time and costs and also to build synergies and linkages with other relevant initiatives underway in the Niger Delta.

201. The project will be managed using the UNDP tested adaptive management approach for the implementation of UNDP and GEF funded projects. This approach translates into the ability of the project management team to anticipate challenges through well-established risk monitoring system and respond to challenges and opportunities in a flexible, positive and optimizing manner. It is grounded on a set of simple rules:

a. GoN and UNDP/GEF approved the project document, which included the Goal, Objective and (3) Outcomes. Any change to these expected results would necessitate their formal approval, including the endorsement of these changes by the GEF CEO;

b. Project inputs and outputs may be adapted, dropped or added in response to current reality (after approval by the PSC and UNDP/GEF;
c. Interactive decision-making is encouraged;
d. Risk monitoring should contribute to feedback and learning and it should improve decisions;
e. Embracing risk/uncertainty is also to build understanding.

202. Audit Clause: Standard DEX audit procedures will be applied..

PART IV: Monitoring and Evaluation Plan and Budget

MONITORING AND REPORTING[45]

203. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from UNDP/GEF. The Project logframe (Project Results Framework) in Section II - Part I provides *performance* and *impact* indicators for project implementation along with their corresponding *means of verification*. These will form the basis on which the project's Monitoring and Evaluation (M&E) system will be built. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized at the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

204. The project will be monitored through the following M& E activities.

Inception Phase

205. A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

206. The Inception Workshop should address a number of key issues including:
a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.

[45] As per GEF guidelines, the project will also be using the BD 1 Management Effectiveness Tracking Tool (METT). New or additional GEF monitoring requirements will be accommodated and adhered to once they are officially launched.

b) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
e) Plan and schedule Project Steering Committee meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first Project Steering Committee meeting should be held within the first 12 months following the inception workshop.

207. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly

208. Progress made shall be monitored on a quarterly basis in the UNDP Enhanced Results Based Management Platform. Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot. Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually

209. Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

210. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools).

Periodic Monitoring through site visits

211. UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Steering Committee may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Steering Committee members.

Mid-term of project cycle

212. The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (June 2103). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC).

213. The relevant GEF Focal Area Tracking Tools (in this case the SO2 TT) will also be completed during the mid-term evaluation cycle.

End of Project

214. An independent Final Evaluation will take place three months prior to the final Project Steering Committee meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center. The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

215. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also

lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing

216. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

217. The M& E budget is summarised in the table below.

Table 14: M&E Activities, Responsibilities, Budget and Time Frame

Type of M&E activity	**Responsible Parties**	**Budget US$** *Excludes project staff time*	**Time frame**
Inception Workshop	Project Coordinator UNDP CO UNDP GEF	10,000	Within first two months of project start up
Inception Report	Project Team UNDP CO	None	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	Project Manager will oversee the contracting of specific studies, and delegate responsibilities to relevant team members	To be finalized in Inception Phase and Workshop. Indicative cost: 15,000.	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured annually)	Oversight by Project Manager Project team	Determined as part of the Annual Work Plan preparation. 8,000/yr; total: 40,000	Annually prior to ARR/PIR and to the definition of annual work plans
ARR and PIR	Project Team UNDP-CO UNDP-GEF	None	Annually
Quarterly progress reports	Project team	None	Quarterly
CDRs	Project Manager	None	Quarterly
Issues Log	Project Manager UNDP CO Programme Staff	None	Quarterly
Risks Log	Project Manager UNDP CO Programme Staff	None	Quarterly
Lessons Learned Log	Project Manager UNDP CO Programme Staff	None	Quarterly
Mid-term Evaluation	Project team UNDP- CO UNDP-GEF Regional Coordinating Unit External Consultants	40,000	At the mid-point of project implementation.
Final Evaluation	Project team, UNDP-CO UNDP-GEF Regional	40,000	At the end of project implementation

Type of M&E activity	Responsible Parties	Budget US$ *Excludes project staff time*	Time frame
	Coordinating Unit External Consultants		
Terminal Report	Project team UNDP-CO Local consultant	0	At least one month before the end of the project
Lessons learned	Project team UNDP-GEF Regional Coordinating Unit (help re best practice, etc.)	15,000 (average 3,000 per year)	Yearly
Audit	UNDP-CO Project team	8,000	Yearly
TOTAL indicative COST *Excludes project/UNDP staff time and travel expenses*		US$ 168,000	

PART V: Legal Context

218. This document together with the CPAP signed by the Government of Nigeria and UNDP which is incorporated by reference constitute together a Project Document as referred to in the Standard Basic Assistance Agreement (SBAA) and all CPAP provisions apply to this document.

219. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

220. The implementing partner shall:

a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

221. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

222. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

SECTION II: STRATEGIC RESULTS FRAMEWORK (SRF) AND GEF INCREMENT

PART I: Strategic Results Framework, SRF (formerly GEF Logical Framework) Analysis

INDICATOR FRAMEWORK AS PART OF THE SRF

Objective/ Outcome	Indicator	Baseline	End of Project target	Source of Information	Risks and assumptions
Objective: To mainstream biodiversity management priorities into the Niger Delta oil and gas (O&G) sector development policies and operations.	Direct: Improved management of 600 km^2) "inside the fence" of O&G operations as measured by adoption of Biodiversity Action Plans for a target number of O&G operations in the Delta.	No BAP for operations in the Delta	At least 600 km^2 of O&G footprint covered by new or revised BAP for O&G operations in ND.	Copies of the BAPs themselves.	Risks: Fluctuation in the global price of oil may force O&G companies to act short-sightedly. Government policies and programs will support unrestrained O&G development in the Niger Delta, as world demand for oil increases. Bush meat trade may place too much pressure on the Red colobus monkey, hampering the ability of the project to achieve this target. Insecurity and violence in the Niger Delta makes project operations expensive and at times impossible. Assumption: Despite some uncertainties, the O&G sector in the Niger Delta will continue to operate in a robust manner, with new fields being explored and increasing production coming on line from new O&G activities.
	Indirect: Threats to biodiversity linked to O&G are reduced in a spatial area of 46,420 km^2 as measured by condition, number or extent of key species and ecosystems in the Niger Delta: - Area in ND where Niger Delta red colobus monkey is confirmed - # of hectares of mangrove ecosystem in under improved special management regime - # of hectares cover of barrier island lowland forest under protection.	- Area in ND where Niger Delta red colobus monkey is unknown and un-measured. - Zero hectares of mangrove ecosystem in under improved special management regime - Zero hectares cover of barrier island lowland forest under protection.	- Red colobus monkey is confirmed present in 15,000 hectares by end of project (EoP). - At least 25,000 ha of mangrove ecosystem in under improved special management regime - At least 10,000 ha cover of barrier island lowland forest under protection.	Field surveys in first year of project and in last. Integrated Biodiversity Assessment Tool for the Niger Delta.	
	# of O&G companies and Government agencies utilizing IBAT regularly for Niger Delta biodiversity mainstreaming.	Zero	At least three O&G companies and 3 Government agencies by end of project.	Field interviews; IBAT subscription records; Policy documents from government calling for use of IBAT in EIA process or other.	
	# of hectares of community PA/set-aside or other PA gazetted	Zero	At least 5,000 hectares by end of project.	Gazette documentation. Field visits	

Objective/ Outcome	Indicator	Baseline	End of Project target	Source of Information	Risks and assumptions
	and under biodiversity management in four pilot States of the Niger Delta.			Annual Project Reports	The designation of special management status for mangroves or barrier island lowland forest will be backed up with real management action and legal protection.
	Amount of funding committed to the NDBT by EoP. Presence or absence of operational Niger Delta Biodiversity Trust mechanism and level of funding committed.	Zero funding committed. Does not exist. No funding committed to any mechanism for Delta biodiversity conservation/ mainstreaming	US$3 million committed to the Trust by EoP. Niger Delta Biodiversity Trust (NDBT) Articles of Incorporation agreed upon by the GoN, O&G companies, and relevant civil society partners and legally approved under Nigeria's Companies and Allied Matters Act.	Articles of incorporation Investment statements for Trust's accounts.	
	# of primary laws and policies and regulations improved with biodiversity mainstreaming guidelines, recommendations, and amendments.	No laws/ policies have biodiversity mainstreamed into them, including the EIA, EGASPIN, PIB, and Oil Spill Response Plan.	At least four have biodiversity mainstreamed into their language via adopted guidelines, amendments, or modified language in the laws themselves.	Actual guidelines and amendments Government gazettes announcing adoption of amendment or guidelines.	
Outcome 1 – The governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta is strengthened.	Output 1.1 IBAT for the Niger Delta is in place and operational. Output 1.2 Action Plan for Community-level Biodiversity Mainstreaming in the Niger Delta is developed and implemented. Output 1.3. The biodiversity elements of legal and policy frameworks governing the O&G sector and its regulation are strengthened. Output 1.4. The capacity of key Federal and State government agencies to assess and mitigate the risks and threats to biodiversity from the O&G sector in the Niger Delta is strengthened.				
	# of central O&G policies and guidelines and plans that incorporate biodiversity management checklists, criteria and objectives	Zero	At least three by end of project.	EIA Policy (FMoE) EGASPIN (DPR) National oil spill response plan (NOSDRA)	<u>Risks:</u> Government policies and programs will support unrestrained O&G development in the Niger Delta, as world demand for oil increases. <u>Assumptions:</u> The GoN's commitment to the
	Improvement in Score of UNDP Capacity Assessment Tool over life of project. *(see PRODOC Annex 1)*	5 out of 48, i.e.	Improvement from 5/45 to minimum 10/48.	UNDP Capacity Development Scorecard may be adapted for use as a measurement tool	

Objective/ Outcome	Indicator	Baseline	End of Project target	Source of Information	Risks and assumptions
	# of measureable/ tangible improvements in the EIA process for biodiversity mainstreaming.	EIA has few if any specific biodiversity conservation targets/ objectives.	Biodiversity mainstreamed into EIA process in at least 3 entry points. *(See PRODOC Matrix 1 under the description of output 1.3)*	Mid-term and final independent evaluations will validate the achievement of this indicator.	project is demonstrated by its participation in the EITI initiative, by its ongoing and nearly completed revision of the O&G body of law and by the clear trend evident in improving environmental aspects of Nigerian O&G law and policy in the past 10 year period.
	Level of improvement of data available through IBAT decision support tool.	Info on KBA available through IBAT driven by one taxa (birds).	Coverage of taxonomic groups expanded to at least four in total.	IBAT data sets. Project records Interviews with data partners.	
Outcome 2 – Government, the O&G industry and local communities build and pilot new biodiversity action planning tools for the proactive biodiversity management in the Niger Delta.	Output 2.1. An agreed approach for O&G company Biodiversity Action Plans (BAPs) for the Niger Delta is achieved. Output 2.2: A participatory process is instituted for the pilot demonstration of community-engagement in BAP for mainstreaming biodiversity management objectives into O&G project lifecycle. Output 2.3: O&G BAPs are independently reviewed as a means to improve corporate biodiversity mainstreaming practices. Output 2.4. Niger Delta Biodiversity Mainstreaming Knowledge Management and Development Program is effective in informing mainstreaming practices in the Region.				
	Change in level of corporate investment in biodiversity management.	TBD at project inception.	A 20% increase in corporate investment of O&G companies in biodiversity management will ensure biodiversity safeguarding at O&G extraction sites, pipeline and tanker transportation.	Voluntary reporting from O&G partner companies.	Risks: Companies may decide that corporate investment of O&G companies in biodiversity management is privileged information and not be willing to make it public. Assumptions: O&G operators will continue to see biodiversity conservation and collaboration with local communities and other stakeholders as a win-win for their business model both on the local and international levels.
	# of O&G companies adopting new BAP for operations.	Zero	At least 3 companies adopt model BAP for their inside the fence operations.	New BAP documents.	
Outcome 3 Stakeholders support long-term biodiversity management in the Niger Delta by capitalizing and	Output 3.1. Niger Delta Biodiversity Trust legally established with a transparent management structure, to enable the efficient and transparent allocation of resources to biodiversity conservation priorities in the Delta. Output 3.2. NDB Trust Capitalization: Compacts with O&G companies to capitalize the Niger Delta Biodiversity Trust are successfully negotiated. Output 3.3. Organized communities, partnerships of communities and NGOs, and NGOs and Government, Universities, in the Niger Delta at large have the capacity to and count on an appropriate mechanism to access funding from the Trust.				
	Presence/absence of NDB Trust operational and funded with a first	No NDBT and minimal funding for	Niger Delta Biodiversity Trust operational with at	Funding commitments from major O&G companies and	Risks: Fluctuation in the global price of

Objective/ Outcome	Indicator	Baseline	End of Project target	Source of Information	Risks and assumptions
accessing the Niger Delta Biodiversity Trust as a collaborative engagement mechanism for local communities, O&G companies and Government at its core.	tranche of US$ 3 million supporting biodiversity conservation in critical ecosystems within the whole of the Niger Delta Region	biodiversity in general.	least US$3 million in funding supporting biodiversity conservation in critical ecosystems within the whole of the Niger Delta Region	the Ecological Fund of the Gov't of Nigeria.	oil may force O&G companies to act short-sightedly with respect to investments and it make them less likely to collaborate in the project and capitalise the Niger Delta Biodiversity Trust. <u>Assumption</u>: Increased awareness and capacity will lead to a change in behaviour by O&G operators with respect to the mainstreaming of biodiversity into their operations and a change in behavior by local communities and State government staff with respect to conceptualizing and implementing local biodiversity conservation initiatives.
	# of community proposed biodiversity conservation projects funded and operational in the four pilot States of the Niger Delta.	Zero	At least 15 by end of project.		

Note: A detailed activity list and a chronogram of activities per output will be finalised upon project inception.

SECTION III: TOTAL BUDGET AND WORKPLAN

Award ID:	00061066	**Business Unit:**	NGA10
Project ID:	00077181	**Project Title:**	SPWA-Niger Delta Biodiversity Project
Award Title:	PIMS 2047 FSP Niger Delta Biodiversity Project	**Implementing Partner (Executing Agency)**	Federal Ministry of Environment and other partners

GEF Outcome/Atlas Activity	Resp. Party / Impl. Agent	Fund ID	Donor Name	ATLAS Budget Code	Atlas Budget Description	TOTAL Amount (USD)	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	
1. Governance framework for mainstreaming BD	DEX	62000	GEF-10003	71200	International Consultants	144,000	28,800	28,800	28,800	28,800	28,800	1
	DEX	62000	GEF-10003	71300	Local Consultants	176,000	35,200	35,200	35,200	35,200	35,200	2
	DEX	62000	GEF-10003	71400	Contractual Services - Individ	116,000	23,200	23,200	23,200	23,200	23,200	3
	DEX	62000	GEF-10003	71600	Travel	30,000	6,000	6,000	6,000	6,000	6,000	4
	DEX	62000	GEF-10003	72100	Contractual Services-Companies	651,000	130,200	130,200	130,200	130,200	130,200	5
	DEX	62000	GEF-10003	74200	Audio Visual&Print Prod Costs	50,000				50,000		6
	GEF Subtotal Atlas Activity 1 (Outcome 1)					1,167,000	223,400	223,400	223,400	273,400	223,400	
TOTAL ACTIVITY 1 (Outcome 1)						**1,167,000**	**223,400**	**223,400**	**223,400**	**273,400**	**223,400**	
2. O&G industry and community engagement	DEX	62000	GEF-10003	71200	International Consultants	102,000	20,400	20,400	20,400	20,400	20,400	7
	DEX	62000	GEF-10003	71300	Local Consultants	196,000	39,200	39,200	39,200	39,200	39,200	8
	DEX	62000	GEF-10003	71400	Contractual Services - Individ	90,000	18,000	18,000	18,000	18,000	18,000	9
	DEX	62000	GEF-10003	71600	Travel	56,000	11,200	11,200	11,200	11,200	11,200	4
	DEX	62000	GEF-10003	72100	Contractual Services-Companies	410,000	82,000	82,000	82,000	82,000	82,000	10
	DEX	62000	GEF-10003	74200	Audio Visual&Print Prod Costs	50,000		25,000	25,000			11
	DEX	62000	GEF-10003	74500	Miscellaneous Expenses	4,500	900	900	900	900	900	12
	GEF Subtotal Atlas Activity 2 (Outcome 2)					908,500	171,700	196,700	196,700	171,700	171,700	
TOTAL ACTIVITY 2 (Outcome 2)						**908,500**	**171,700**	**196,700**	**196,700**	**171,700**	**171,700**	
3. Financial mechanism NDCT	DEX	62000	GEF-10003	71200	International Consultants	72,000	14,400	14,400	14,400	14,400	14,400	13
	DEX	62000	GEF-10003	71300	Local Consultants	20,000	4,000	4,000	4,000	4,000	4,000	14
	DEX	62000	GEF-10003	71400	Contractual Services - Individ	14,000	2,800	2,800	2,800	2,800	2,800	15
	DEX	62000	GEF-10003	71600	Travel	80,000	16,000	16,000	16,000	16,000	16,000	4
	DEX	62000	GEF-10003	72100	Contractual Services-Companies	650,000	130,000	130,000	130,000	130,000	130,000	16
	DEX	62000	GEF-10003	72200	Equipment and Furniture	52,500	30,000	10,000	2,500	10,000		17
	DEX	62000	GEF-10003	74100	Professional Services	135,000	5,000	5,000	60,000	5,000	60,000	18
	DEX	62000	GEF-10003	74200	Audio Visual&Print Prod Costs	150,000			150,000			19
	GEF Subtotal Atlas Activity 3 (Outcome 3)					1,173,500	202,200	182,200	379,700	182,200	227,200	
TOTAL ACTIVITY 3 (Outcome 3)						**1,173,500**	**202,200**	**182,200**	**379,700**	**182,200**	**227,200**	
4. Project Management	DEX	62000	GEF-10003	71400	Contractual Services - Individ	331,000	66,200	66,200	66,200	66,200	66,200	20
	DEX	62000	GEF-10003	71600	Travel	12,000	2,400	2,400	2,400	2,400	2,400	21
	DEX	62000	GEF-10003	74100	Professional Services	13,500	2,700	2,700	2,700	2,700	2,700	22
	DEX	62000	GEF-10003	74500	Miscellaneous Expenses	4,500	900	900	900	900	900	23
	GEF Subtotal Atlas Activity 4 (Project Management)					361,000	72,200	72,200	72,200	72,200	72,200	

GEF Outcome/Atlas Activity	Resp. Party / Impl. Agent	Fund ID	Donor Name	ATLAS Budget Code	Atlas Budget Description	TOTAL Amount (USD)	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	
	DEX	04000	UNDP TRAC - 00012	71400	Contractual Services - Individ	945,000	210,000	210,000	210,000	210,000	105,000	24
	DEX	04000	UNDP TRAC - 00012	71600	Travel	10,000	2,000	2,000	2,000	2,000	2,000	25
	DEX	04000	UNDP TRAC - 00012	72100	Contractual Services-Companies	45,000	10,000	25,000	10,000			26
	TRAC Subtotal Atlas Activity 4 (Project Management)					1,000,000	222,000	237,000	222,000	212,000	107,000	
TOTAL ACTIVITY 4 (Project Management)						**1,361,000**	**294,200**	**309,200**	**294,200**	**284,200**	**179,200**	
						.						
	SUB-TOTAL GEF					**3,610,000**	**669,500**	**674,500**	**872,000**	**699,500**	**694,500**	
	SUB-TOTAL UNDP TRAC					**1,000,000**	**222,000**	**237,000**	**222,000**	**212,000**	**107,000**	
						.						
GRAND TOTAL (in cash)						**4,610,000**	**891,500**	**911,500**	**1,094,000**	**911,500**	**801,500**	

Budget Notes	
1	International consultants: (1) Expert on operationalizing the IBAT (8 weeks); (2) Expert on Biodiversity Conservation Planning with an emphasis on mainstreaming (10 weeks); (3) Legal expert on incorporating biodiversity objectives into law/policy/regulatory frameworks (10 weeks); (4) Mainstreaming capacity Assessment and Training Programme Development Expert (20 weeks).
2	Local short-term consultants: (1) ND-IBAT Working Group (5 members x 16 weeks); (2) Working group to strengthen biodiversity elements of legal and policy frameworks (1 or 2 legal experts; 1 or 2 biodiversity experts; 1 process/regulatory expert - i.e. 4 members x 16 weeks); (3) Two capacity self-assessment/training experts to work with int'l experts (2 x 16 weeks)
3	Project team: (1) National long-term consultant: biodiversity mainstreaming capacity building (2 years); (2) National Team Leader 's (NTL) technical input to strategic policy and planning (~46 weeks).
4	International travel to field int. cons. and domestic travel in connection with project activities under this component
5	I) Contractual Services: (1) Maintain and operationalize IBAT and conduct biodiversity hotspot assessment of the Niger Delta ($ 90k); (2) Develop Niger Delta-specific portal to IBAT with more detailed information ($ 90K) II) Meetings, workshops, trainings and consultations: (1) Niger Delta Biodiversity Symposium as part of the Action Planning process ($ 10K); (2) Niger Delta Nature Leadership Training Programme ($ 220K); (3) Three summer internships each year for three years ($ 90K); (4) Inception workshop ($ 61K)
6	Publications: Biodiversity of Niger Delta Book ($ 50K)
7	International consultants: (1) Biodiversity Action Planning Expert in International Best Practice/O&G practice (10 weeks); (2) O&G expert Independent Reviewer of BAP (6 weeks/year for 4 years).
8	Local consultants: (1) Working group to draft Action Plan to Operationalize the Biodiersity Sector Report (3 members x 16 weeks); (2) (2) Working group for development of model BAP Guide for Niger Delta (2 people each x 12 weeks); (3) Team Leader of the Working group for development of model BAP Guide for Niger Delta (20 weeks); (4) Working group for independent review of O&G BAPs (2 experts working with international expert 8 weeks/year for 4 years); (5) Conservation fund national legal expert (40 weeks).
9	Project team: (1) NTL's technical input to pilot work to institutional strengthening (38 weeks).; (2) NTL's technical input (57 weeks)
10	I) Contractual Services: (1) Stakeholder engagement plan development and implementation under Output 2.2 (An agreed approach for O&G company Biodiversity Action Plans (BAPs) for the Niger Delta is achieved.); (2) Produce biodiversity update for NOSDRA's oil spill response contingency plan; (3) Write a compendium of biodiversity solutions for mainstreaming into the O&G sector. II) Meetings, workshops, trainings and consultations: (1) Meetings/workshops for Model BAP Guide Development ($ 35K); (2) Meetings of O&G staff regarding BAP improvement/elaboration (10k/year = 50k); (3) Knowledge management/Training module development in connection with output 3.3 (Organized communities, partnerships of communities and NGOs, and NGOs and Government, Universities, in the Niger Delta at large have the capacity to and count on an appropriate mechanism to access funding from the Trust.)

Budget Notes	
11	Publications: Compendium of Biodiversity solutions and Training modules printed and made available on the web ($ 50k).
12	Misc: Bank charges, insurance and other miscellaneous expenditures
13	International consultants: Environmental Fund Expert for NDBT (24 weeks)
14	Local consultants: Conservation fund working group 2 GEF paid consultants (2 x 10 weeks)
15	Project team: Project Assistant technical input (0.5 years).
16	I) Contractual Services: (1) Community-based mainstreaming project development enablers; (2) Web-site designer for Project/NDBT website with special features for easy access by low-bandwidth connections from cell phones, etc. ($ 120K); (3) Filling IBAT data gaps and creating new portal for ND IBAT ($ 80K); (4) Funding of pilot community-based mainstreaming projects under NDBT ($ 120K). II) Meetings, workshops, trainings and consultations: (1) Peer to peer training in connection with output 3.3 (Organized communities, partnerships of communities and NGOs, and NGOs and Government, Universities, in the Niger Delta at large have the capacity to and count on an appropriate mechanism to access funding from the Trust.) ($ 45K); (2) Training field visits and project closing workshop ($ 25); (3) Peer to peer training on mainstreaming in O&G ($ 110K); (4) Niger Delta Biodiversity Trust Strategic Planning Process stakeholder meetings (4 delta states, Abuja, Lagos) ($ 100K).
17	IT equipment and furniture: (1) Acquisition of Laptops (7 @ $ 2000), software licenses (7 @ $ 800), portable hard drive (2 @ $ 200), printer w/ cartridge (2 @ $ 300), data projector (1 @ $ 1000) and mobile phone contracts (7 @ $ 250) and other peripherals, e.g. GPS, laser printer, copy-machine (@ $ 2150) for project team, (2) Office furniture ($ 5K).; Equipment for communities: Hand-held GPS units for Community-based monitoring and BAP. ($ 22K)
18	Professional services: (1) Audit ($ 25K); (2) Evaluations - mid-term and final (may be contracted out to a consultancy outfit)
19	Publications: (1) Guidelines for mainstreaming biodiversity conservation objectives into O&G practice ($ 30k) Compendium of biodiversity solutions to O&G threats ($ 40K);(3) Online NDBT platform and content production and maintenance ($ 80k)
20	Project core: (1) National Team Leader (NTL) admin responsibilities (~45% of time or 2.2 years); (2) Project Assistant admin input (4 years); (3) Accountant (4 years).
21	Management-related domestic travel
22	MOSS compliance contribution and general costs.
23	Communication costs (mgt related)
24	Project core: Chief Technical Adviser on mainstreaming (CTAM) - proforma costs FTA L4 (4.5 years)
25	Domestic travel for the CTAM
26	Consultancy outfit to be contracted for rendering management services for up-stating the NDBT in connection with Outputs 3.1. (Niger Delta Biodiversity Trust legally established with a transparent management structure, to enable the efficient and transparent allocation of resources to biodiversity conservation priorities in the Delta) and 3.2. (NDB Trust Capitalization: Compacts with O&G companies to capitalize the Niger Delta Biodiversity Trust are successfully negotiated).

SECTION IV: ADDITIONAL INFORMATION

PART I: Other agreements

CO-FINANCING LETTERS

Name of Co-financier	*Date*	*Type*	*Co-financing amounts in USD*
Federal Ministry of Environment	04-Nov-10	in-kind	3,150,000
		in cash	3,000,000
Shell Petroleum Development Company of Nigeria Ltd.	10-Dec-10	in-cash	2,000,000
UNDP Nigeria	02-Nov-10	in-kind	1,500,000
		in-cash	1,000,000
TOTAL			**10,650,000**

Note: A new letter from the Federal Ministry of Environment dated 17 March 2011 has been added, in order to provide more detail on the government's co-financing to the project.

Federal Ministry of Environment
In kind contribution (6,150,000)
The in-kind contribution from the Federal Ministry of Environment includes the operational costs for the running of the GEF focal point's office (secretariat), personnel and travel/logistics cost for GEF project monitoring across the six geopolitical zones in Nigeria. In addition there are funds that have been allocated by the Government of Nigeria to be managed by Forestry Department of the Federal Ministry of Environment. Projects that are planned (and in progress) includes (a). Review of the National Biodiversity Strategy Action Plan (NBSAP) and (b) Implementation Plans for the Bio-safety Framework Project.

Shell Petroleum Development Company of Nigeria (SPDC)
In cash contribution
SPDC's in cash contribution has also been classified as 'Others' and not part of the UNDP-managed funds. This 'in-cash' contribution represents the amount SPDC has allocated to its interventions in the Niger-Delta area to Biodiversity Action Plans (BAP) and especially the conservation of two forest reserves in Edo State.

-- See separate file—

PART II: Terms of References for key project staff

NATIONAL TEAM LEADER

Background

National Team Leader (NTL), will be a locally recruited national selected based on an open competitive process. He/She will be responsible for the overall management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors. The NTL will report to the UNDP-Nigeria Environment Department Director in close consultation with the UNDP RR (or duly designated UN officer) for all of the project's substantive and administrative issues. From the strategic point of view of the project, the NTL will report on a periodic basis to the Project Steering Committee (PSC). Generally, the NTL will be responsible for meeting government obligations under the project, under the national execution modality (NEX). He/She will perform a liaison role with the Government, UNDP and other UN Agencies, NGOs and project partners, and maintain close collaboration with other donor agencies providing co-financing.

Duties and Responsibilities

- Supervise and coordinate the production of project outputs, as per the project document;
- Mobilize all project inputs in accordance with UNDP procedures for nationally executed projects;
- Supervise and coordinate the work of all project staff, consultants and sub-contractors;
- Coordinate the recruitment and selection of project personnel;
- Prepare and revise project work and financial plans, as required by Project Director and UNDP;
- Liaise with UNDP, FMoE, relevant government agencies, and all project partners, including donor organizations and NGOs for effective coordination of all project activities;
- Facilitate administrative backstopping to subcontractors and training activities supported by the Project;
- Oversee and ensure timely submission of the Inception Report, Combined Project Implementation Review/Annual Project Report (PIR/APR), Technical reports, quarterly financial reports, and other reports as may be required by UNDP, GEF, DGA and other oversight agencies;
- Disseminate project reports and respond to queries from concerned stakeholders;
- Report progress of project to the steering committees, and ensure the fulfilment of steering committees directives.
- Oversee the exchange and sharing of experiences and lessons learned with relevant community based integrated conservation and development projects nationally and internationally;
- Ensures the timely and effective implementation of all components of the project;

- Assist community groups, municipalities, NGOs, staff, students and others with development of essential skills through training workshops and on the job training thereby upgrading their institutional capabilities;
- Coordinate and assists scientific institutions with the initiation and implementation of all field studies and monitoring components of the project
- Carry regular, announced and unannounced inspections of all sites and the activities of the project site management units.

Qualifications

- A university degree (MS or PhD) in Management or Environmental Sciences;
- At least 10 years of experience in natural resource management or project/programme management;
- At least 5 years of project/programme management experience;
- Working experiences with ministries and national institutions in Nigeria is a plus, but not a requirement;
- Ability to effectively coordinate a large, multi-stakeholder project;
- Ability to administer budgets, train and work effectively with counterpart staff at all levels and with all groups involved in the project;
- Strong drafting, presentation and reporting skills;
- Strong computer skills, in particular mastery of all applications of the MS Office package and internet search;
- Strong knowledge about Nigeria's and the Niger Delta's political and socio-economic context, in particular at National and Municipal level;
- Excellent writing and communication skills in English.

CHIEF TECHNICAL ADVISER ON MAINSTREAMING (CTAM)

Background

The Chief Technical Adviser on Mainstreaming (CTAM) will be responsible for providing overall technical backstopping to the Project. He/She will render technical support to the National Team Leader (NTL), staff and other government counterparts. The CTAM will coordinate the provision of the required technical inputs, reviewing and preparing Terms of Reference and reviewing the outputs of consultants and other sub-contractors. The CTAM will be an experienced expatriate. He/She will report to the UNDP Environment Unit Director and will deputize the National Team Leader (NTL) in his/hers admin responsibilities.

Duties and Responsibilities

- Provide technical and strategic assistance for project activities, including planning, monitoring and site operations, and assuming quality control of interventions;
- Provide hands-on support to the NTL, project staff and other government counterparts in the areas of project management and planning, management of site activities, monitoring, and impact assessment;

- Finalize Terms of Reference for consultants and sub-contractors, and assist in the selection and recruitment process;
- Coordinate the work of all consultants and sub-contractors, ensuring the timely delivery of expected outputs, and effective synergy among the various sub-contracted activities;
- Assist the NTL in the preparation and revision of the Management Plan as well as Annual Work Plans;
- Coordinate preparation of the periodic Status Report when called for by the National Team Leader;
- Assist the NTL in the preparation of the Combined Project Implementation Review/Annual Project Report (PIR/APR), inception report, technical reports, quarterly financial reports for submission to UNDP, the GEF, other donors and Government Departments, as required;
- Assist in mobilizing staff and consultants in the conduct of a mid-term project evaluation, and in undertaking revisions in the implementation program and strategy based on evaluation results;
- Assist the National Team Leader in liaison work with project partners, donor organizations, NGOs and other groups to ensure effective coordination of project activities;
- Document lessons from project implementation and make recommendations to the Steering Committee for more effective implementation and coordination of project activities; and
- Perform other tasks as may be requested by the NTL, Steering Committee and other project partners.

Qualifications

- University education (MS or PhD) with expertise in the area of biodiversity and mainstreaming and the oil and gas sector, or other extractive industries in general;
- At least 15 years of professional experience, of which at least eight are at international level
- Strong skills in monitoring and evaluation and experience in implementing environmental projects;
- Previous experience with GEF projects, particularly the results-based management approach, is an added plus;
- Ability to effectively coordinate a large, multidisciplinary team of experts and consultants;
- Be an effective negotiator with excellent oral and presentation skills;
- Excellent writing skills in English.

OVERVIEW OF INPUTS FROM TECHNICAL ASSISTANCE CONSULTANTS

Table 15: Overview of Inputs from Technical Assistance Consultants

Consultant	Time	Tasks and Relevance to Outcome/Output
Local / National contracting		
ND-IBAT working	16 weeks	Outcome 1, Output 1.1. Tasked with elaborating and implementing a program to make

Consultant	Time	Tasks and Relevance to Outcome/Output
group (5 members, 16 weeks ea)		the IBAT platform for the Niger Delta more useful in decision support for its primary users in mainstreaming biodiversity into O&G laws, policies, plans and operations.
WG to Draft Action Plan to Implement Biodiversity Sector Report (3 members, 16 wks)	16 weeks years	Outcome 1, Output 1.2 . Tasked with elaborating an Action Plan to identify priority mainstreaming activities to improve management of biodiversity in the Delta in the four pilot states. With a focus on the O&G sector-related threats and barriers to mainstreaming, the action plan will identify critical biodiversity areas where (a) energy development is to be avoided altogether; (b) energy projects are allowed, but should have mitigation measures; and (c) restoration is needed.
Working Group on Law/Policy Strengthening (4 members, 16 wks each)	64 weeks	Outcome 1, Output 1.3. Tasked to review and update the existing O&G sectoral guidelines for EIA in Nigeria. Specific, detailed updates will be made that incorporate biodiversity conservation objectives into the process will be made in close consultation with the FMoE and SMoEs.
Capacity Assessment & Training Experts, 2 @16 wks each.	32 weeks	Tasked with working with an international expert in biodiversity and training needs assessment regarding mainstreaming issues in the four pilot Delta States and within two federal Ministries. Outcome 1, Output 1.4
Biodiversity mainstreaming capacity building (2 @ 38 weeks each)	76 weeks	Tasked with designing Niger Delta Biodiversity Leadership Programme and overseeing its implementation, drawing upon best practice world-wide, including key expertise in central areas of importance identified by the capacity assessment. Outcome 1, Output 1.4
Working Group for Model BAP Guide (2 @ 12 weeks)	24 weeks	Tasked with elaborating "A guide to developing biodiversity action plans for the O&G sector," the working group will be convened under the auspices of FMoE/DPR. Based on the IPIECA Oct 2005 guide "which is widely adopted by the industry, an immediate project activity will be to produce an updated, revised guide focused on the Niger Delta. Will work closely with and under the guidance of the int'l expert in BAP. Outcome 2, Output 2.1.
Community-based mainstreaming BAP facilitators (4 @ 30 wks each)	120 weeks	These facilitators will be tasked with working jointly with O&G company partners and local communities in pilot partnership areas to help communities elaborate BAPs that carry forward specific elements of 1 or more O&C company BAPs in a specific geographic area. These BAP will then be presented to the NDBT for funding.
Independent Review Team for O&G BAPS (2 @ 8 wks/year, 4 years)	64 weeks	Independent Review Team for the O&G company BAPs tasked with reviewing The BAPs and empowered to propose how to strengthen these new plans and actions and to help identify biodiversity opportunities rather than increase risk. They would advise the company on biodiversity opportunities both 'inside' and 'outside the fence.' Outcome 2, Output 2.3
Conservation Fund Design Legal Expert	40	Will advise the international expert on conservation fund design as to the Nigerian legal context and best legal foundation for a Niger Delta Biodiversity Trust. Will advise on design parameters, ideal institutional structure, and how to maintain and ensure transparency. Outcome 3, Output 3.1
Conservation Fund working group (2 @ 10 wks each)	20 weeks	Tasked with conducting a strategic planning process and elaborating a detailed proposal for establishing the Niger Delta Biodiversity Trust. The working group will work closely with and under the supervision of an international conservation fund expert. Outcome 3, Output 3.1, 3.2.
Web-site designer	40	Will design the project and NDBT website. Will be tasked with making it interactive *and* importantly, accessible by people using mobile technology (i.e. most local communities around the Delta). Will require some innovating above and beyond the normal website design task.
National Consultant time (discretionary)	15	Discretionary weeks to be used per recommendation of NTL and approval of SC.
International / Regional and global contracting		
Chief Technical Advisor on	104	See ToR above.

Consultant	Time	Tasks and Relevance to Outcome/Output
Mainstreaming		
IBAT Strengthening Expert	8	Outcome 1, Output 1, Activities 1, 2. Provide international expertise and best practice guidance to structuring and implementing work under this Output and related activities.
Biodiversity action planning expert	10	Outcome 1, Output 1.2 . Tasked with structuring and overseeing the process and the working group of Nigerian experts to elaborate an Niger Delta Biodiversity Action Plan to improve management of biodiversity in the Delta in the four pilot states.
Legal Expert on Mainstreaming Biodiversity into O&G law/policy	10	Outcome 1, Output 1.3. Tasked with structuring and overseeing the process and the working group of Nigerian experts to review and update the existing O&G sectoral guidelines for EIA in Nigeria. Specific, detailed updates will be made that incorporate biodiversity conservation objectives into the process will be made in close consultation with the FMoE /SMoEs/DPR and other relevant organizations.
Capacity assessment expert for mainstreaming	20	Tasked with structuring and overseeing the process and the working group of Nigerian experts to conduct a biodiversity and training needs assessment regarding mainstreaming issues in the four pilot Delta States and within two federal Ministries. Outcome 1, Output 1.4.
BAP Development Expert	10 weeks	Tasked with structuring and overseeing the process and the working group of Nigerian experts to elaborate "A guide to developing biodiversity action plans for the O&G sector," under the auspices of FMoE/DPR. Based on the IPIECA Oct 2005 guide "which is widely adopted by the industry, an immediate project activity will be to produce an updated, revised guide focused on the Niger Delta. The expert will be responsible for writing and finalizing the guide. Outcome 2, Output 2.1.
O&G expert and Independent BAP Reviewer	24 weeks	Tasked with structuring and leading the Independent Review Team in working closely with O&G company partners to review O&G company BAPs. The team will be empowered to propose how to strengthen these new plans and actions and to help identify biodiversity opportunities rather than increase risk. They would advise the company on biodiversity opportunities both 'inside' and 'outside the fence.' Outcome 2, Output 2.3
Environmental Fund Design Expert	24 weeks	Tasked with leading the effort to propose and establish the NDBT. Will oversee a Nigerian expert working in elaborating a proposal describing the background and justification for establishing a Trust to support the conservation of the Niger Delta's globally significant biological diversity. The Proposal will describe the Trust's legal and organizational structure, and elaborate mechanisms that will ensure its transparent management and its ability to serve as an impactful financing mechanism for biodiversity conservation in the Delta.

PART III: Stakeholder Involvement Plan

223. The PPG phase included consultations with the project's key stakeholders at the national and local levels. Stakeholder visits were carried out in the four Delta states as well as Lagos, the commercial capital of Nigeria and the center of the O&G industry. State authorities and and NGOs participated in consultations with PPG consultants and in two workshops at the national level were also held and the project was thoroughly discussed. In addition, several bilateral meetings were held, mostly with donors and key stakholders who could not attend the workshops. Project preparation was a highly participatory process, in line with UNDP's and GEF's requirements.

224. Table 4 contains a thorough analysis of stakeholders and indications on how they will be involved in the project. More specifically for O&G partners, an analysis of these players has been carried out during the PPG phase and an industry engagement plan developed. These are rather thorough and can be found in Annex 4. O&G partners in the project will be engaged first and foremost through the Oil Production Trade Sector (OPTS) from the Lagos Chamber of Commerce, which plays a catalytic and decision making role on policies for these corporate partners.

225. A more detailed Stakeholder Involvement Plan will be prepared upon project inception and this is already an identified activity. Else, the project is expected to collaborate with a number of programmes and inititatives active in the Niger Delta and elsewhere in Nigeria and which are relevant for the project. These are summarised in the table below.

Table 16: Coordination and collaboration between project and related initiatives

INITIATIVES / INTERVENTIONS	HOW COLLABORATION WITH THE PROJECT WILL BE ENSURED
UNEP – Environmental Assessment of Ogoniland (EAO)	UNDP is a co-implementor of the Ogoniland UNEP project, being responsible for logistics and administrative support. This project's office may be located in the compound established for the Ogoniland project, which will be in transition during 2011. Therefore, specific areas of collaboration are difficult to elaborate at this time, since the EAO project will be formally completed. However, this project has learned a good deal from Ogoniland's community engagement approach and these lessons have been and will be incorporated into this project's approach. In addition, thanks to the EAO project, communities in Ogoniland will be well prepared to work with this project and they will be among the first communities to have at least one pilot NDBT project Biodiversity Action Planning process at the community level under the Niger Delta Biodiversity Trust.
UNDP Local Development Programme	The project is working in Bayelsa State, one of this project's 4 pilot states. The project's main objectives are to test local participatory planning procedures, assisting and establishing ward development committees, and creating link between them, the LGA and the State. It is also piloting a local development fund. This project will work together with the LDP to identify model communities where this project can build upon the planning and community-based mechanisms put in place by the LDP.
SIP - Scaling up Sustainable Land Management Practice, Knowledge, and Coordination (FADAMA III)	This project is working in all 30+ states of Nigeria. Rural land use planning support packages in 60 local governments (2 in each of 30 States) including: (i) Training, (ii) GIS equipment (iii) development of rural land use plans. This process will be very relevant to the project's work with local communities to elaborate community BAPs for collaboration with O&G and Government partners. This project will work with SIP to identify well prepared communities with whom the project could work.
PIND Foundation for Partnership Initiatives in the Niger Delta. Chevron	PIND Foundation has structured its activities in four programs: ▪ Economic Development aimed at generating sustainable economic opportunities for micro, small, and medium-sized enterprises. ▪ Capacity Building that strengthens institutions including local, state, and federal government agencies and civil society orgs. ▪ Peace-building that nurtures stability in vulnerable communities.

INITIATIVES / INTERVENTIONS	HOW COLLABORATION WITH THE PROJECT WILL BE ENSURED
www.pindfoundation.net	▪ Analysis and Advocacy to promote understanding of the barriers and enablers of economic growth and poverty reduction in the Niger Delta. PINDS program is an ideal "baseline" co-funding partner for this project's NDBT and consultations will be held to reach a collaborative agreement to this effect.

PROJECT ANNEXES

Annex 1. Capacity Development Scorecard

This capacity assessment is based on an independent and adapted application of the methodology contained in the recent publication GEF/UNDP/UNEP (2010): *Monitoring guidelines of Capacity Development in GEF operations*. Capacity Development Initiative, Global Support Programme, National Capacity Self-Assessment.[46]

The FMoE, NESREA, NOSDRA have been the focus of the assessment with respect to their capacity, as well as of other relevant agencies, to mainstream biodiversity management priorities into their regulatory and oversight role with respect to the Niger Delta's O&G sector.

Capacity is defined by UNDP as "*the ability of individuals, institutions and societies to perform functions, solve problems and set and achieve objectives in a sustainable manner*"[47]. In line with it and with the GEF's approach to capacity, three levels of capacity are at evaluated:

a) At the *individual* level, capacity development refers to the process of changing attitudes and behaviors, most frequently through imparting knowledge and developing skills through training. However it also involves learning by doing, participation, ownership, and processes associated with increasing performance through changes in management, motivation, morale, and improving accountability and responsibility.

b) Capacity development at the *organizational* level focuses on overall performance and functioning capabilities, such as developing mandates, tools, guidelines and management information systems to facilitate and catalyze organizational change. At the organizational level, capacity development aims to develop a set of constituent individuals and groups, as well as to strengthen links with its environment.

c) At the *systemic* level, capacity development is concerned with the "enabling environment", i.e., the overall policy, economic, regulatory, and accountability frameworks within which organizations and individuals operate. Relationships and processes between organizations, both formal and informal, as well as their mandates, are important.

The results are presented below. These will be tracked again, using the same methodology at the project's mid-term and by the end of the project in connection with the due evaluations.

[46] See http://ncsa.undp.org
[47] UNDP (2006): *Capacity Assessment Practice Note*. UNDP-CDG.

Capacity Result/Indicator	Indicator range	Rating	Score
Capacity Result 1: Capacities for Engagement.	**[Total possible Score = 9]**		**1**
Relevant individuals and organizations (resource users, owners, consumers, community and political leaders, private and public sector managers and experts) engage proactively and constructively with one another in managing a global environmental issue.			
Indicator 1.1 – Degree of legitimacy/mandate of lead environmental organizations: this indicator measures if the lead organizations are identified for mainstreaming in the O&G sector, if their respective responsibilities are clearly defined and if the authority of these organizations is recognized.	Organizational responsibilities for mainstreaming biodiversity are not clearly defined.	0	0
	Organizational responsibilities for mainstreaming biodiversity are identified.	1	
	Authority and legitimacy of all lead organizations responsible for mainstreaming biodiversity are partially recognized by stakeholders.	2	
	Authority and legitimacy of all lead organizations responsible for mainstreaming biodiversity recognized by stakeholders.	3	
Indicator 1.2 – Existence of operational co-management mechanisms: this indicator measures the existence of public and private co-management mechanisms and if these mechanisms are functional.	No co-management mechanisms are in place	0	
	Some co-management mechanisms are in place and operational	1	1
	Some co-management mechanisms are formally established through MOUs and other agreements	2	
	Comprehensive co-management mechanisms are formally established and are operational/functional	3	
Indicator 1.3 – Existence of cooperation among stakeholder groups: this indicator measures the involvement of stakeholders, their identification, the establishment of stakeholder consultation processes and the active contribution of these stakeholders to decision-making.	Identification of stakeholders and their participation /involvement in management decision-making is poor	0	0
	Stakeholders are identified but their participation in management decision-making is limited	1	
	Stakeholders are identified and regular consultations mechanisms are established	2	
	Stakeholders are identified and they actively contribute to established participative management decision-making processes	3	
Capacity Result 2: Capacities to generate, access and use information and knowledge	**[Total possible Score = 15]**		**1**
Individuals and organizations have the skills and knowledge to research, acquire, communicate, educate and make use of pertinent information to be able to diagnose and understand global environmental problems and potential solutions.			
Indicator 2.1 – Degree of environmental awareness of stakeholders: this indicator measures the level of awareness of stakeholders about global	Stakeholders are not aware about global environmental issues and their related possible solutions (MEAs)	0	0

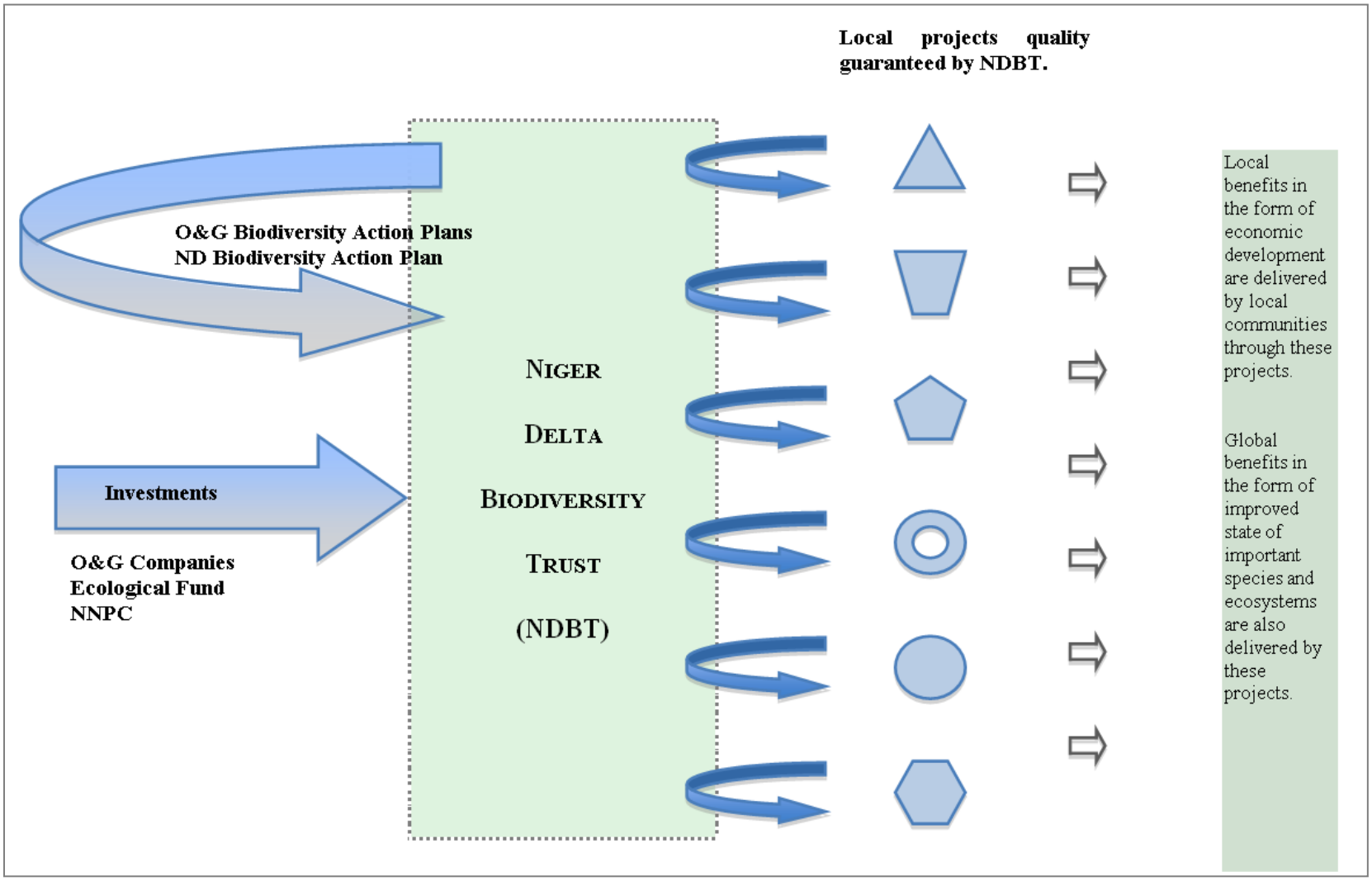
Capacity Result/Indicator	Indicator range	Rating	Score
environmental issues and the solutions being implemented and their possibility to participate in the implementation of these solutions.	Stakeholders are aware about global environmental issues but not about the possible solutions (MEAs)	1	
	Stakeholders are aware about global environmental issues and the possible solutions but do not know how to participate.	2	
	Stakeholders are aware about global environmental issues and are actively participating in the implementation of related solutions.	3	
Indicator 2.2 – Access and sharing of environmental information by stakeholders: this indicator measures the information needs, if they are identified, the adequacy of the information management infrastructure in place and the sharing of this information.	The environmental information needs are not identified and the information management infrastructure is inadequate	0	
	The environmental information needs are identified but the information management infrastructure is inadequate	1	1
	The environmental information is partially available and shared among stakeholders but is not covering all focal areas and/or the information management infrastructure to manage and give information access to the public is limited	2	
	Comprehensive environmental information is available and shared through an adequate information management infrastructure	3	
Indicator 2.3 – Extent of inclusion/use of traditional knowledge in environmental decision-making: this indicator measures if the traditional knowledge is being explored, if the sources of traditional knowledge are identified, captured and shared among stakeholders for effective participative decision- making processes.	Traditional knowledge is ignored and not taken into account into relevant participative decision-making processes	0	0
	Traditional knowledge is identified and recognized as important but is not collected and used in relevant participative decision-making processes	1	
	Traditional knowledge is collected but is not used systematically into relevant participative decision-making processes	2	
	Traditional knowledge is collected, used and shared for effective participative decision-making processes	3	
Indicator 2.4 – Existence of environmental education programmes: this indicator measures both the formal and informal environmental education programmes in place to address global environmental issues.	No environmental education programmes are in place	0	0
	Environmental education programmes are partially developed and partially delivered	1	
	Environmental education programmes are fully developed but partially delivered	2	
	Comprehensive environmental education programmes exist and are being delivered	3	

Capacity Result/Indicator	Indicator range	Rating	Score
Indicator 2.5 – Extent of the linkage between environmental research/science and policy development: this indicator measures the linkage between environmental policy and research; including the identification of research needs and research strategies and programmes; and the relevance of the research available to policy development.	No linkage exist between environmental policy development and science/research strategies and programmes	0	0
	Research needs for environmental policy development are identified but are not translated into relevant research strategies and programmes	1	
	Relevant research strategies and programmes for environmental policy development exist but the research information is not responding fully to the policy research needs	2	
	Relevant research results are available for environmental policy development	3	
Capacity Result 3: Capacities for strategy, policy and legislation development	**[Total possible Score = 9]**		**2**
Individuals and organizations have the ability to plan and develop effective environmental policy and legislation, related strategies and plans – based on informed decision-making processes for global mainstreaming biodiversity.			
Indicator 3.1 – Extent of the biodiversity planning and strategy development process: this indicator measures the quality of the planning and strategy development process; if the planning and strategy development process produces adequate plans and strategies related to mainstreaming biodiversity; and if the resources and coordination mechanisms are in place for the implementation of these plans, programmes and projects.	The biodiversity planning and strategy development process is not coordinated and does not produce adequate environmental plans and strategies	0	0
	The biodiversity planning and strategy development process does produce adequate environmental plans and strategies but there are not implemented /used.	1	
	Adequate biodiversity plans and strategies are produced but there are only partially implemented because of funding constraints and/or other problems.	2	
	The biodiversity planning and strategy development process is well coordinated by the lead environmental organizations and produces the required environmental plans and strategies; which are being implemented.	3	
Indicator 3.2 – Existence of adequate environmental policy and regulatory frameworks for mainstreaming biodiversity. this indicator measures the completeness of the policy and regulatory frameworks, the existence and the adoption of relevant policies and laws and if the mechanisms for enacting, complying and enforcing these policies and laws are established.	The environmental policy and regulatory frameworks are insufficient; they do not provide an enabling environment.	0	
	Some relevant environmental policies and laws exist but few are implemented and enforced.	1	
	Adequate environmental policy and legislation frameworks exist but there are problems in implementing and enforcing them.	2	2
	Adequate policy and legislation frameworks are implemented and provide an adequate enabling environment; a compliance and enforcement mechanism is established	3	

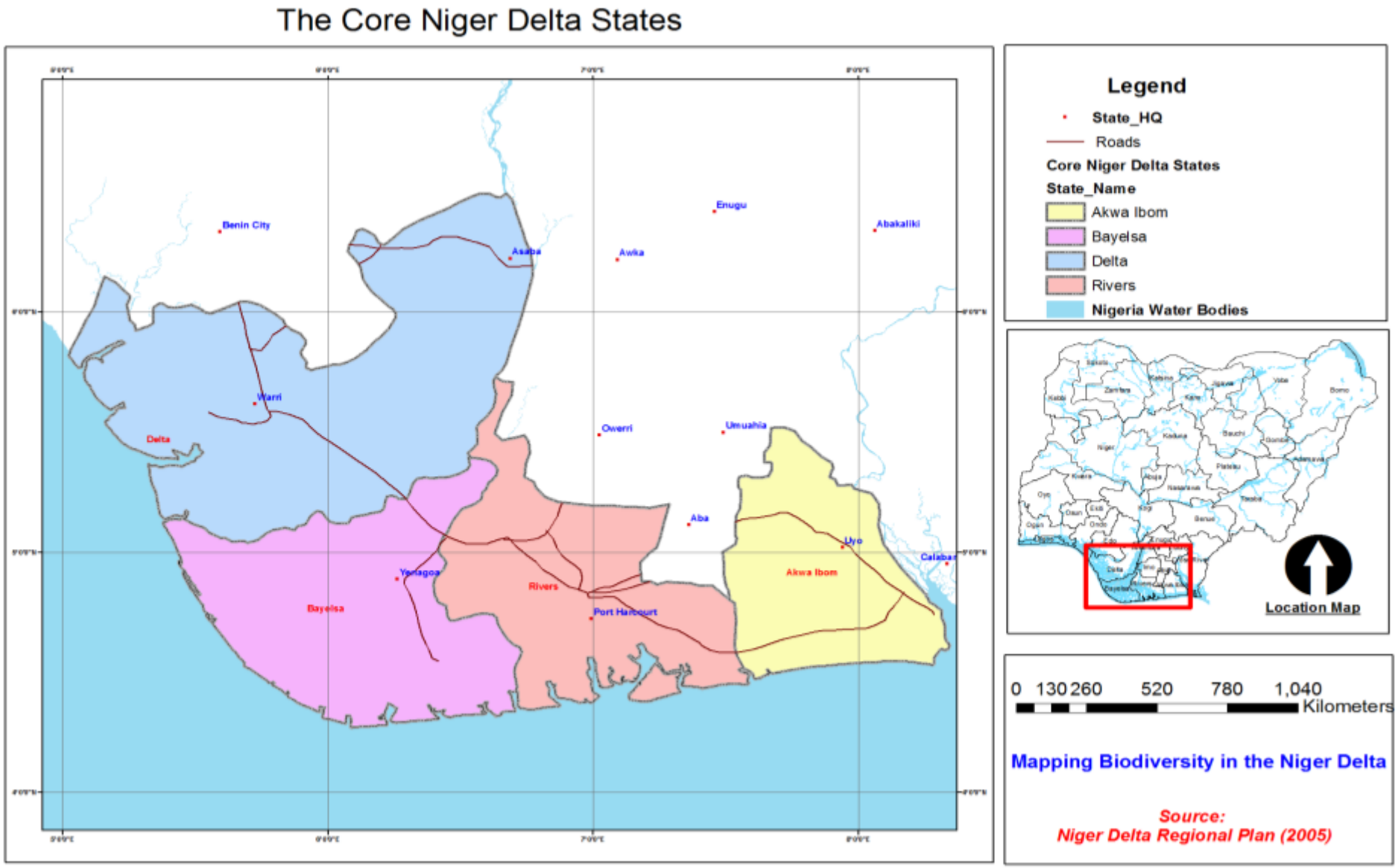
Capacity Result/Indicator	Indicator range	Rating	Score
	and functions.		
Indicator 3.3 – Adequacy of the environmental information available for decision-making: this indicator measures the adequacy of the information available for decision-making; if the information is made available to decision-makers and if this information is updated and used by decision-makers.	The availability of environmental information for decision-making is lacking.	0	0
	Some environmental information exists but it is not sufficient to support environmental decision-making processes.	1	
	Relevant environmental information is made available to environmental decision-makers but the process to update this information is not functioning properly.	2	
	Political and administrative decision-makers obtain and use updated environmental information to make environmental decisions.	3	
Capacity Result 4: Capacities for management and implementation	**[Total possible Score = 6]**		**0**
Individuals and organizations have the plan-do-check-act skills and knowledge to enact environmental policies and/or regulation decisions, and to plan and execute relevant sustainable global mainstreaming biodiversity actions/solutions.			
Indicator 4.1 – Existence and mobilization of resources by the relevant organizations: this indicator measures the availability of resources within the relevant organizations, if the potential sources for resource funding are identified and if adequate resources are mobilized.	The organizations or departments within organizations focussed on environmental issues don't have adequate resources for their programmes and projects and the requirements have not been assessed.	0	0
	The resource requirements are known but are not being addressed.	1	
	The funding sources for these resource requirements are partially identified and the resource requirements are partially addressed.	2	
	Adequate resources are mobilized and available for the functioning of the lead environmental organizations.	3	
Indicator 4.2 – Availability of required technical skills and technology transfer: this indicator measures the availability of skills and knowledge, if the technical needs and sources are identified and accessed by the programme or project and if there is a basis for an ongoing national-based upgrading of the skills and knowledge.	The necessary required skills and technology are not available and the needs are not identified.	0	0
	The required skills and technologies needs are identified as well as their sources.	1	
	The required skills and technologies are obtained but their access depend on foreign sources.	2	
	The required skills and technologies are available and there is a national-based mechanism for updating the required skills and for upgrading the technologies.	3	

Capacity Result/Indicator	Indicator range	Rating	Score
Capacity Result 5: Capacities to monitor and evaluate	**[Total possible Score = 6]**		**0**
Individuals and organizations have the capacity to effectively monitor and evaluate project and/or programme achievements against expected results and to provide feedback for learning, adaptive management and suggesting adjustments to the course of action if necessary to conserve and preserve the global environment.			
Indicator 5.1 – Adequacy of the programme monitoring process: this indicator measures the existence of a monitoring framework, if the monitoring involves stakeholders and if the monitoring results inform the implementation process.	Irregular project monitoring is being done without an adequate monitoring framework detailing what and how to monitor the particular project or programme.	0	
	An adequate resourced monitoring framework is in place but project monitoring is irregularly conducted.	1	1
	Regular participative monitoring of results is being conducted but this information is only partially used by the project/programme implementation team.	2	
	Monitoring information is produced timely and accurately and is used by the implementation team to learn and possibly to change the course of action.	3	
Indicator 5.2 – Adequacy of the programme evaluation process: this indicator measures the existence of an evaluation framework for key environmental guidelines and assessment tools. Do they exist? Are adequate resources available to enable it and access to information is available and if the evaluation results inform the planning process.	None or ineffective evaluations are being conducted without an adequate evaluation plan; including the necessary resources.	0	0
	An adequate evaluation plan is in place but evaluation activities are irregularly conducted.	1	
	Evaluations conducted per an adequate evaluation plan but results only partially used by the O&G HSE team and/or EIA officers and other staff designing the next generation of projects.	2	
	Effective evaluations are conducted in a timely and accurate manner and are used by the O&G HSE team and/or EIA officers to correct the course of action if needed and to learn lessons for further project planning activities.	3	
Total Score			**5**
Total possible score			**45**

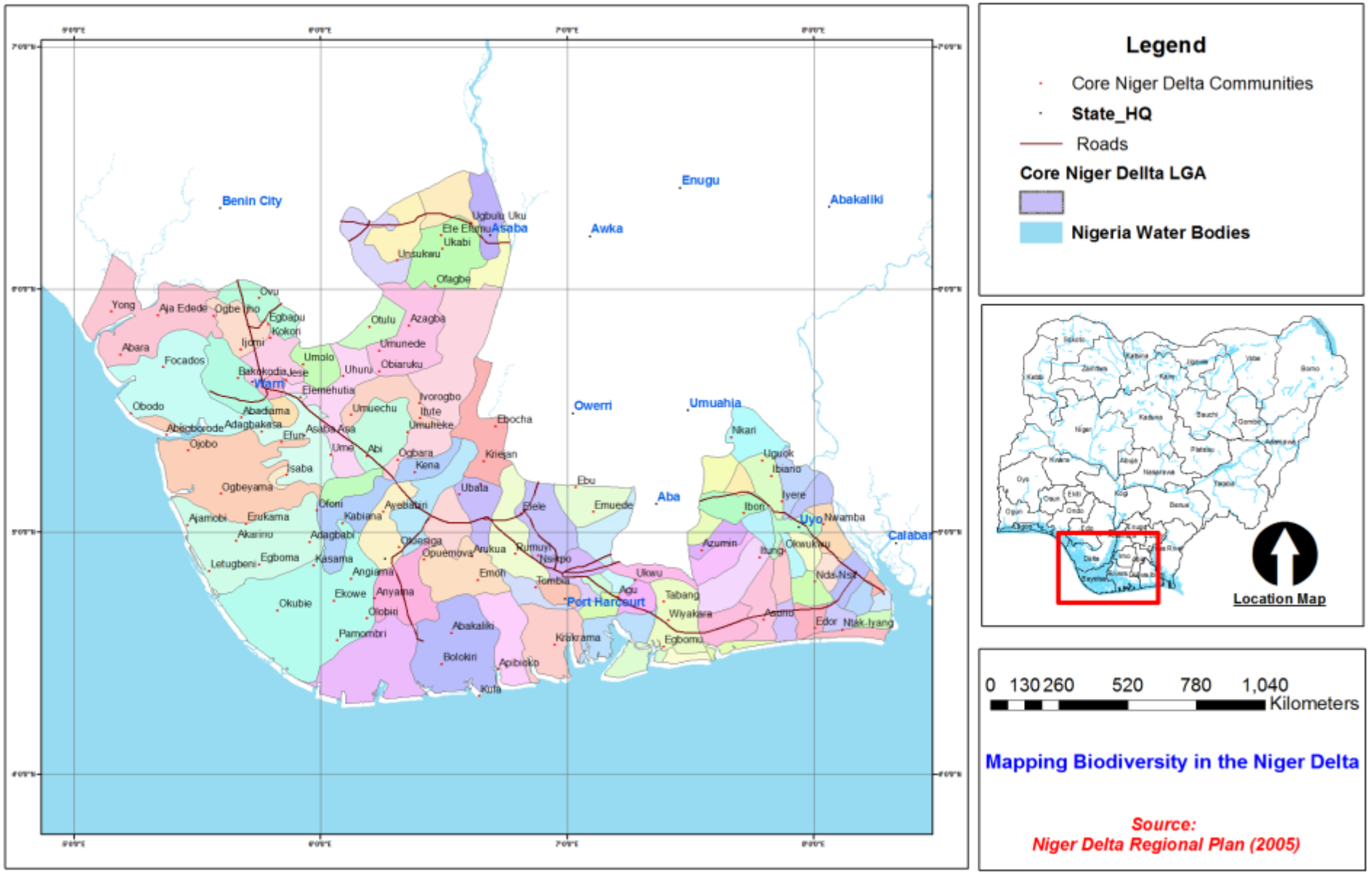
Annex 2. Niger Delta Biodiversity Trust – Platform for Partnerships



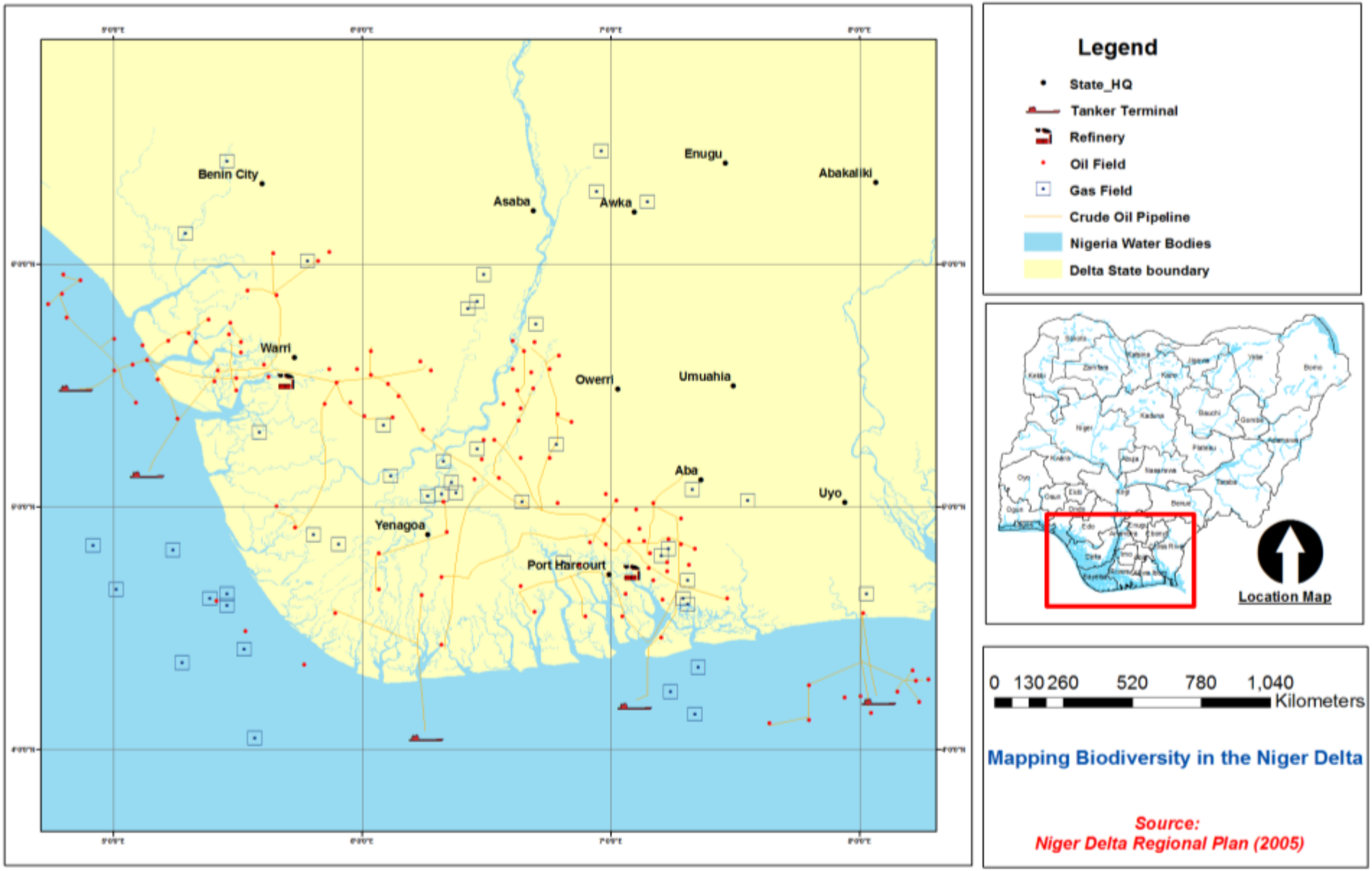
Annex 3. Maps


The Core Niger Delta States
Legend
State_HQ
Roads
Core Niger Delta States
State_Name
Akwa Ibom
Bayelsa
Delta
Rivers
Nigeria Water Bodies
Location Map
0 130 260 520 780 1,040
Kilometers
Mapping Biodiversity in the Niger Delta
Source:
Niger Delta Regional Plan (2005)
Benin City
Asaba
Awka
Enugu
Abakaliki
Warri
Delta
Owerri
Umuahia
Aba
Uyo
Calabar
Yenagoa
Bayelsa
Rivers
Port Harcourt
Akwa Ibom

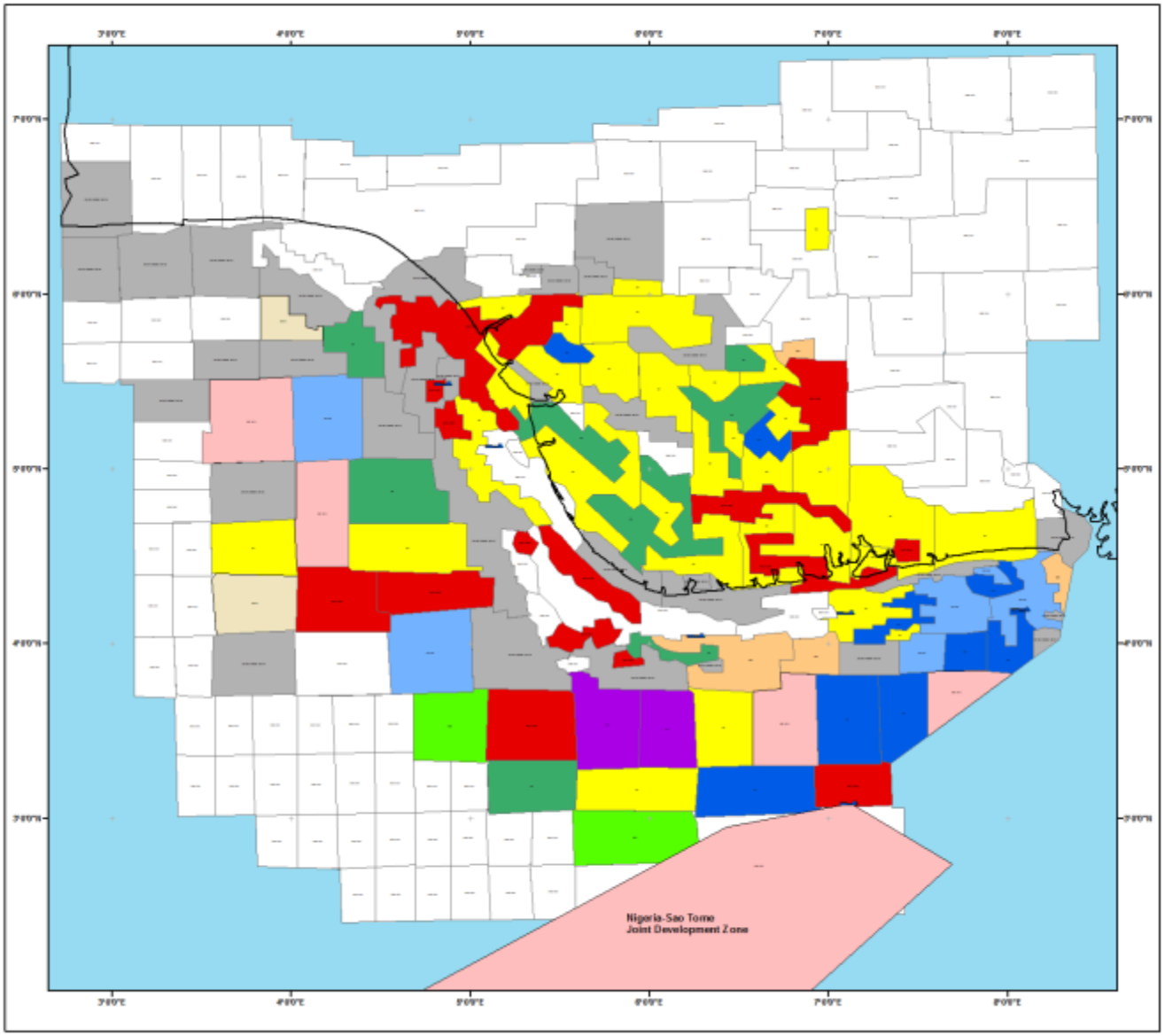
Core Niger Delta LGA and Communities



Crude Oil Pipe Lines Network in the Niger Delta



Nigeria Oil and Gas Concession as at January 2010



Legend

Operators

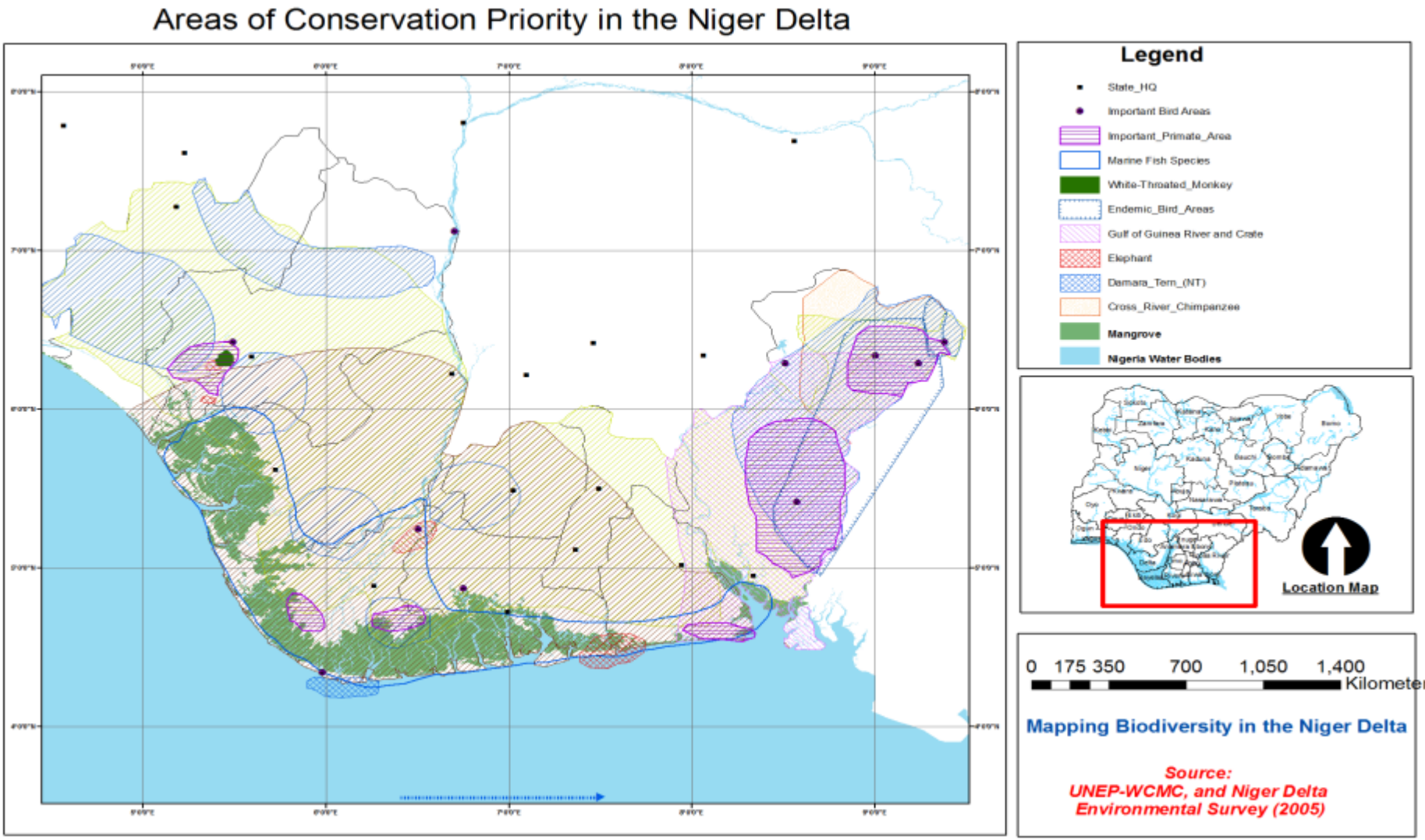
- Addax
- Agip
- Chevron Texaco
- Conoil Phillps
- Devon
- Exion Mobil
- Local & Indt Operators
- Marginal Field
- PetroBras
- Shell
- Statoil
- Total
- Niger Delta Boundary

Location Map

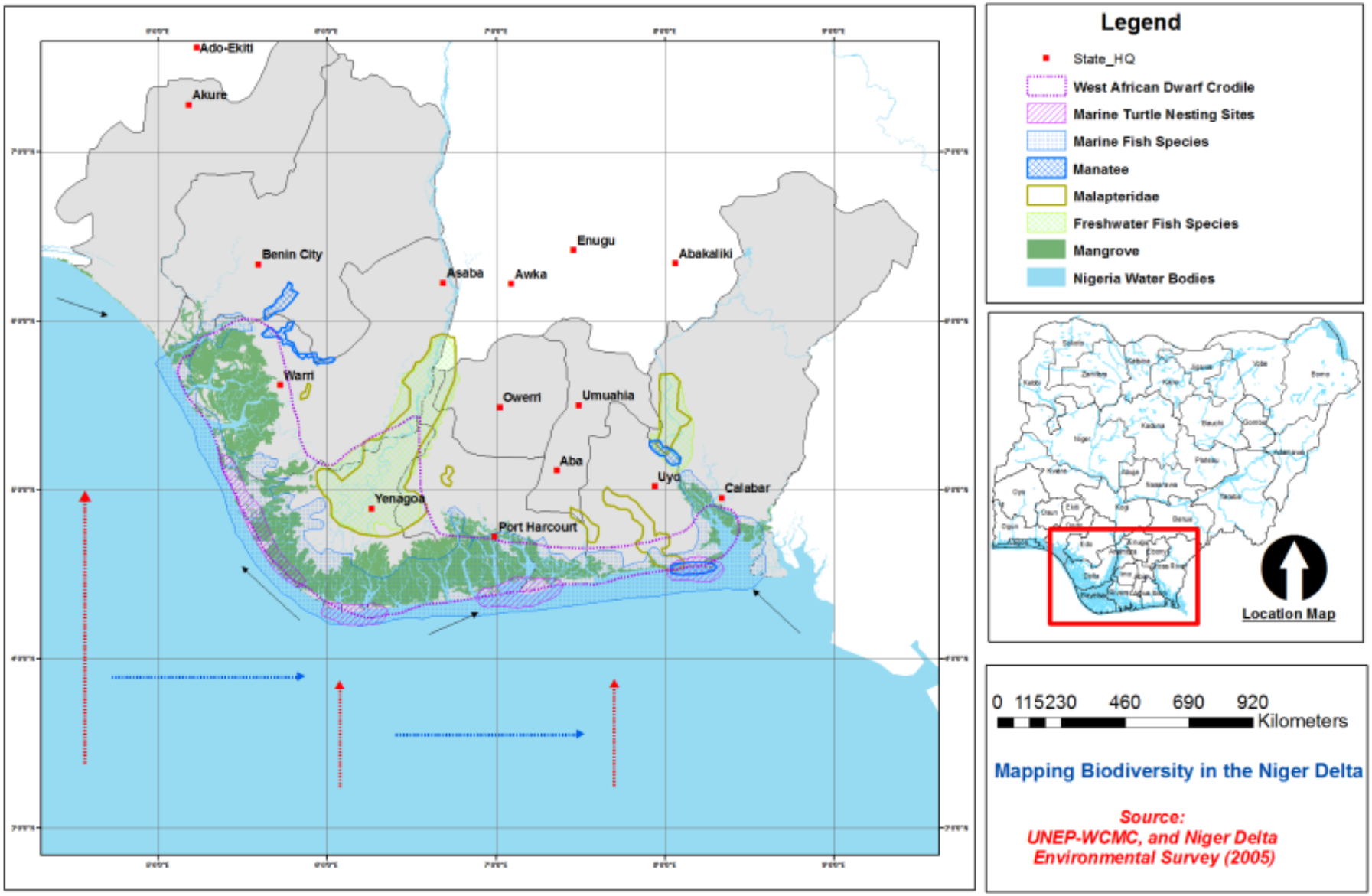
0 130260 520 780 1,040
Kilometers

Mapping Biodiversity in the Niger Delta

Source:
Nigeria Oil and Gas Map Concession and Licence Digital Edition 2010


Areas of Conservation Priority in the Niger Delta
Legend
State_HQ
Important Bird Areas
Important_Primate_Area
Marine Fish Species
White-Throated_Monkey
Endemic_Bird_Areas
Gulf of Guinea River and Crate
Elephant
Damara_Tern_(NT)
Cross_River_Chimpanzee
Mangrove
Nigeria Water Bodies
Location Map
0 175 350 700 1,050 1,400
Kilometer
Mapping Biodiversity in the Niger Delta
Source:
UNEP-WCMC, and Niger Delta
Environmental Survey (2005)

Marine and Coastal Biodiversity in the Niger Delta



Annex 4. Industry Assessment and Initial Engagement Plan

Box 5: Summary TOR for the PPG Report 'Industry Assessment and Initial Industry Engagement Plan'

PPG Activity 2 (preparation of an 'Industry Assessment and Initial Industry Engagement Plan' included the following elements:

The development of partnerships with oil and gas (O&G) sector government organizations and private companies is critical to the success of the project. Understanding the views and stakes of the O&G industry, either operating or prospecting in the Niger Delta, is essential for negotiating effectively with industry players on issues pertaining to the project outcomes. Within this framework, a study will be carried out by a competent consultant (either through a consultancy firm or institutional contract) and will contain the following elements:
Identify and map the O&G industry players in the Niger Delta, including their concessions, explorations, operations, as well as their level of investments (current and prospective);

Assess whether these companies have (or plan to have) corporate environmental plans or policies (including environmental safety measures) as well as oil spill contingency plans, and more specifically, assess the company's positions on biodiversity conservation, particularly Delta and marine biodiversity (for companies operating and prospecting off-shore). Analyze these plans and their adequacy with respect to the mainstreaming of biodiversity into off-shore O&G operations in the Niger Delta (criteria to be developed by consultant);

Through analysis of corporate plans and policies, as well as contact with corporate representatives, assess the willingness of companies to join together in a compact to contribute to a Biodiversity Trust Fund, and (eventually) to a biodiversity offsetting mechanism, as well as their willingness to negotiate siting agreements with government and other partners, where biodiversity is a consideration at stake.

Identify potential incentive mechanisms for engaging the industry in the project (e.g. reputational risk, compliance with standards or official company policies, or key individuals' moral convictions with respect to the environment, among others), including industry partners' willingness to provide co-financing to the project.

Outline a capitalization plan for the Trust Fund proposed under the project's component 3, based on payments from the industry.

Propose a plan with clear recommendations for the engagement of the O&G industry in the project and in its objectives (Initial Industry Engagement Plan).

1. INDUSTRY OVERVIEW

Product: Identify and map the O&G industry players in the Niger Delta

1.1 A brief history of the O&G sector in the Niger Delta

Exploration in the region for O&G (oil and gas) was started by a German company in 1908, but was halted with the start of the 1st World War.[48] In 1936, Shell (then known as Shell D'Arcy) secured exclusive rights to O&G exploration for all of Nigeria and began prospecting until operations were stopped by the 2nd World War. Immediately after the war, in 1947, Shell, now in partnership with BP, renewed its prospecting. This lead to a discovery of oil in 1956 in the Niger Delta and production at Oloibiri began in 1958.

After independence in 1960, Shell's exclusive rights were curtailed and other companies were invited to prospect for oil. Soon thereafter, forerunners of Agip/Eni, Chevron/Texaco, ExxonMobil, Total and others were active in search for oil both onshore and offshore. In 1971, after the independence struggle in the eastern part of the country, which had declared itself the Republic of Biafra, was contained, the government established a national oil company that in 1977 became the **Nigerian National Petroleum Corp (NNPC)**.

1.2 The O&G sector today

Today, the basic model for O&G operations in the Niger Delta is a Joint Operating Agreement (JOA) between NNPC and operating companies.[49] The six major JOAs with foreign companies are:

- **Shell Petroleum Development Company of Nigeria Limited (SPDC)**
  - Largest producer: 40% of the Nigeria's oil production with more than 80 oil fields, mostly onshore, on dry lands or mangroves
  - Ownership: NNPC 55%, Shell 30%, Elf 10%, Agif 5%

- **Chevron Nigeria Limited (CNL)**
  - Operates in Warri region and offshore in shallow water
  - Ownership: NNPC 60%, Chevron 40%

- **Mobil Producing Nigeria Unlimited (MPNU)**
  - Operates offshore in shallow water in Akwa Ibom and plans to operate in deep water; may take over Shell as the largest producer in the country
  - Ownership: NNPC 60%, Mobil 40%

- **Nigerian Agip Oil Company Limited (NAOC)**
  - Operates small onshore fields
  - Ownership: NNPC 60%, Agip 20%, Phillips Petroleum 20%

- **Elf Petroleum Nigeria Limited (EPNL)**
  - Operates on and offshore

[48] See: http://www.allbusiness.com/mining/oil-gas-extraction-crude-petroleum-natural/288169-1.html.
[49] See: http://www.nnpcgroup.com/NNPCBusiness/UpstreamVentures.aspx.

- Ownership: NNPC 60%, Elf 40%

- **Texaco Overseas Petroleum Company of Nigeria Unlimited (TOPCON)**
  - Operates five offshore fields
  - Ownership: NNPC 60%, Texaco 20%, Chevron 20%

1.3 Recent O&G production statistics

The latest statistics for the O&G sector provided by NNPC are from 2008.[50] They include the following details:

- **Crude O&G production**
  - "Total crude oil and condensate production for the year was 768,745,932 barrels… with a daily average of 2.10 mmb/pd. This is lower than that of 2007 by 4.27%."
  - "In the gas sector, a total of 2,282.44 Billion Standard Cubic Feet (BSCF) of Natural Gas was produced by eleven (11) Oil Producing Companies. This shows a decrease of 5.51% when compared with 2007 production. And of the quantity produced, 1,664.97 BSCF was utilized, while 617.62 BSCF (27.06%) was flared."

- **Crude oil and condensate production**
  - "Production by various companies shows that, Mobil had the highest production figure of 167,190,786 barrels with an average of 456,805.43 barrels per day. This accounts for 21.75% of the total production. Shell Petroleum Development Company (SPDC) came second with a production figure of 129,328,995 barrels or 353,357.91 barrels per day, which is 16.82% of the total production. Chevron came third with a production figure of 118,201,198 barrels, averaging 322,954.09 barrels per day or 15.38% of the total production."
  - "NPDC which is NNPC's upstream subsidiary engaged in Oil and Gas exploration and production activities produced 12,366,780 barrels. The following Table I shows total production figures by company, average daily production and percentage contribution…"

Table I) Crude Oil Production by Company

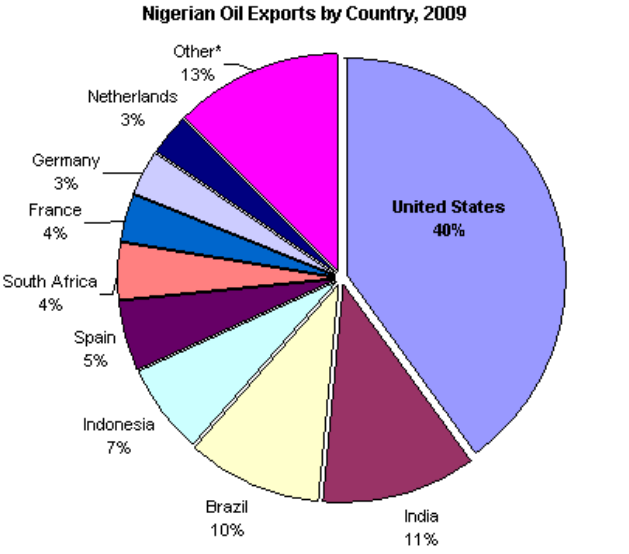
Company	Crude Oil Production		Daily Average (Barrel)	% of Total Production
	bbls	m3		
Joint Venture Companies				
SPDC	129,328,995.00	20,561,628.93	358,357.91	16.82
Mobil	167,190,786.00	26,581,161.49	456,805.43	21.75
Chevron	118,201,198.00	18,792,453.87	322,054.09	15.38
Total E&P	70,846,832.00	11,263,725.28	193,570.58	9.22
NAOC/Phillips	42,552,843.00	6,765,348.85	116,264.60	5.54
Chevron Texaco	4,250,709.00	675,807.47	11,613.96	0.55
Pan-Ocean	9,764,634.00	1,552,449.87	26,679.33	1.27

[50] See: http://www.nnpcgroup.com/Portals/0/Monthly%20Performance/2008%20ASB%201st%20Edition%20Web.pdf.

Company	Crude Oil Production		Daily Average (Barrel)	% of Total Production
Sub Total	542,135,997.00	86,192,575.76	1,481,245.89	70.52
Prod. Sharing Companies				
Star Deep	14,966,049.00	2,379,407.23	40,890.84	1.95
Addax	39,591,166.00	6,294,480.71	108,172.58	5.15
Esso Exp. & Pro Nig LTD	71,942,086.00	11,437,856.43	196,563.08	9.36
NAE	6,606,494.00	1,050,346.66	18,050.53	0.86
SNEPCO	62,021,898.00	9,860,675.50	169,458.74	8.07
SA Pet/ Tal Upstream NIG.	0.00	0.00	0.00	0.00
Sub Total	195,127,693.00	31,022,766.53	533,135.77	25.39
Service Contract				
AENR	3,361,078.00	534,367.71	9,183.27	0.44
Sub total	3,361,078.00	534,367.71	9,183.27	0.44
Independents/Sole Risk				
NPDC/AENR	10,872,342.00	1,728,561.04	29,795.85	1.41
NPDC	1,494,438.00	237,596.21	4,083.16	0.19
Consolidated	22,403.00	3,561.79	61.21	0.00
Express Petroleum	491,615.00	78,160.39	1,343.21	0.06
AMNI	298,932.00	47,526.30	816.75	0.04
Cavendish Petroleum	1,596,587.00	253,836.58	4,362.26	0.21
Atlas	0.00	0.00	0.00	0.00
Continental Oil	388,117.00	61,705.56	1,060.43	0.05
Moni Pulo	5,980,100.00	950,758.16	16,339.07	0.78
Dubri	5,128,636.00	656,339.45	11,280.43	0.54
Sub Total	26,273,170.00	4,018,045.48	69,142.37	3.28
Marginal Fields				
Niger Dlta Pet. Res.	1,346,666.00	214,102.39	3,679.42	0.18
Platform Petroleum	898,575.00	142,861.74	2,455.12	0.12
Midwestern Oil	467,811.00	74,375.87	1,278.17	0.06
Walter Smith	134,942.00	21,454.02	368.69	0.02
Sub Total	2,847,994.00	452,794.02	7,781.40	0.38
Grand Total	768,745,932.00	122,220,609.49	2,100,398.72	100.00

- **Natural gas production and utilization**
  - "A total of 631.19 BSCF (27.65%) of the natural gas produced was flared, while 1,651.25 BSCF (72.35%) was utilized as follows; 758.78 BSCF was sold to third parties, 391.08 BSCF was re-injected and 331.57 BSCF was for NLNG as LNG feedstock. Other utilisation include 80.40 BSCF and 58.56 BSCF used internally as fuel gas and gas lift to enhance condensate production respectively. EPCL took 7.64 BSCF as fuel gas for their plants and 23.58 BSCF as feedstock for LPG/NGL."

- "The total Natural Gas Liquid (NGL) produced in 2008 was 1.16 Million Metric Tons, out of which Mobil had about 51% (0.59 Million MT) and NNPC 49% (0.57Million MT). A total of 1.14 Million Metric Tons was lifted. The Liquefied Petroleum Gas (LPG) production amounted to about 0.19 Million Metric Tons while lifting was slightly above 0.20 Million Metric Tons."



1.4 Recent O&G economic statistics

According to the US Energy Information Administration, "the Nigerian economy is heavily dependent on the oil sector, which, according to the International Monetary Fund (IMF), accounts for over 95 percent of export earnings and about 65 percent of government revenues."[51]

Regarding exports of oil:

> "In 2009, Nigeria exported most of its 2.2 million bbl/d of total oil production (approximately 1.9 million bbl/d were exported). Of this, close to 800,000 bbl/d (40 percent) was exported to the United States, making Nigeria the 5th largest foreign oil supplier to the United States for the year… Additional importers of Nigerian crude oil include Europe (24 percent), Asia (20 percent), Brazil (10 percent), and South Africa (4 percent)."

Regarding the export of natural gas:

> "In 2008, Nigeria consumed around 430 Bcf, mostly for electricity generation where, according to the International Energy Agency (IEA) natural gas accounts for slightly over 65 percent of generated electricity… Most of Nigeria's marketed natural gas production is exported as liquefied natural gas (LNG)… In 2009, Nigeria exported close to 500 Bcf of LNG. Of this, 13.3 Bcf went to the United States, providing 3 percent of total U.S. LNG imports (2 percent of Nigerian exports). Most of Nigeria's LNG was exported to Europe (66 percent), mainly Spain (31 percent), France (15 percent) and Portugal (13 percent). Other export destinations include Asia (15 percent) and Mexico (16 percent)."

According the US Central Intelligence Agency (CIA), on the other hand, the O&G sector "provides 95% of foreign exchange earnings and about 80% of budgetary revenues."[52] The CIA also provides data on export earnings and the national budget, which in turn indicate the level of revenues generated by the O&G sector.

[51] See: http://www.eia.doe.gov/emeu/cabs/Nigeria/pdf.pdf.
[52] See: https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html.

		O&G Sector	
2009 est	**US$ billions**	**Share**	**US$ billions**
Exports	47.75	95%	45.36
Gov Budget	13.61	80%	10.89

The use of these earnings by the Government of Nigeria remains controversial. For example, a 2008 country profile from the US Library of Congress[53] reports as follows:

> "Nigeria's economy is struggling to leverage the country's vast wealth in fossil fuels in order to displace the crushing poverty that affects about 57 percent of its population. Economists refer to the coexistence of vast natural resources wealth and extreme personal poverty in developing countries like Nigeria as the 'paradox of plenty' or the 'curse of oil.' Nigeria's exports of oil and natural gas—at a time of peak prices—have enabled the country to post merchandise trade and current account surpluses in recent years. Reportedly, 80 percent of Nigeria's energy revenues flow to the government, 16 percent cover operational costs, and the remaining 4 percent go to investors. However, the World Bank has estimated that, as a result of corruption, 80 percent of energy revenues benefit only 1 percent of the population."

2. PROFILE OF KEY INDUSTRY PLAYERS

Product: Assess whether these companies have (or plan to have) CSR plans or policies, oil spill contingency plans, and their positions on biodiversity conservation; assess the adequacy of these.

2.1 Overview

All companies in the O&G sector today have policies and plans with respect to managing the environmental and social impacts of their operations. These policies and plans are in response to a number of drivers including national regulations, requirements of investors, and management commitments to corporate social responsibility (CSR). More challenging, however, is to ascertain a company's policies and plans with respect to biodiversity. This challenge is in part due to the complexity of the concept of biodiversity as well as to the complexity of the response to biodiversity expected by the international community, as reflected in the objectives and priorities of the Convention on Biological Diversity (CBD).[54]

As indicated in the following company profiles, the general state of play in the O&G sector with respect to biodiversity in the Niger Delta is not terribly well developed. Through most multinational oil companies have stated international commitments to biodiversity and some of the them have implemented some biodiversity actions at specific locations, there remains a real opportunity to develop a more strategic and coherent approach to biodiversity for the O&G operations of the Niger Delta.

[53] See: http://lcweb2.loc.gov/frd/cs/profiles/Nigeria.pdf.
[54] See: http://cbd.int. Note: Further discussion of what is biodiversity and what we are supposed to do about it is covered later in this report.

In this section, a selection of key international company profiles is followed by a profile of the Nigerian National Petroleum Corporation – the majority shareholder in all the O&G projects in the Niger Delta. The section is concluded by an assessment of the challenges and opportunities for mainstreaming biodiversity into the O&G sector in the Niger Delta.

2.2 Addax

Corporate level

The company's London Stock Exchange filing prospectus[55] includes the following statement which mentions its biodiversity commitment and some initiatives in the Niger Delta:

> *Environmental Policies and Programmes*
>
> The Corporation is continuing both on its own and in partnership with non-governmental organisations to work to reduce the environmental footprint of its operations, to promote sustainable development and to protect and improve the ecology and biodiversity of the countries in which it does business. The Corporation is also continuing to work to ensure that it would be able to comply with the Government of Nigeria's "flares down" policy, which will likely require oil companies to end the practice of gas flaring in 2008.
>
> As part of its support for sustainable economic development in Nigeria, The Corporation is working with Pro-Natura International (Nigeria), a non-governmental organisation that advocates the use of participatory processes as the most viable vehicle for sustainable development, conflict resolution and economic growth for marginalised communities in the Niger Delta.
>
> The Corporation is also supporting two major conservation initiatives:
>
> - An international research and education centre for the study of primates, biodiversity research and forest management in the tropical rainforest of Cross River State, Nigeria. The research centre is run by CERCOPAN, a Nigerian environmental non-governmental organisation; and
> - Two programmes administered by the Sahara Conservation Fund – one in Chad and one in Niger – to protect and preserve the addax antelope from which the Corporation takes its name.
>
> The Corporation continues to re refine its environmental policies and programmes and regularly consults with local stakeholders and non-governmental organisations to align its programmes with local priorities.

Local level

The Addax Petroleum Foundation[56] reports on the following project in Western Africa:

[55] See: http://www.addaxpetroleum.com/_media/LSE_Filing_Prospectus.pdf.

[56] See: http://www.addaxpetroleumfoundation.org/en/page.php?pageid=57&project=3.

Conserve endangered Addax in the Tin Toumma region of Niger by supporting the Sahara Conservation Fund (SCF)

Through its support to the SCF (Sahara Conservation Fund), Addax Petroleum Foundation commits specifically to the conservation of the addax antelope and more generally to the conservation of deserts and their natural and cultural heritage. The addax conservation project in the Termit/Tin Toumma region of the Niger basin is directly related to finding a balance between social development and preservation of wildlife. The local pastoral population should directly benefit from the preservation of the natural heritage in which it lives. This link is key to the beneficial impact of this project in the long run.

The Termit/Tin Toumma region of Niger harbours the last remaining viable population of addax in the world. Field work carried out by the SCF since 2002 has indicated a population of about 200 animals. Apart from the Niger population there have been only sporadic reports of small numbers of addax in Chad and Mauritania. Outside the Sahara, the addax species is extinct. Its successful preservation would benefit a whole range of desert habitats and species as well as the Bedouin people of the region. The three-year programme, initiated by Addax Petroleum in 2005, includes:

- Improving biodiversity conservation with special reference to the addax and other endangered species and their critical trans-boundary habitats;
- Enhancing cooperation and implication of the local population and other partners in the protection and conservation of the region's biodiversity;
- Increasing knowledge and understanding of the area's ecology and biodiversity, and establishing systems for long-term monitoring, research and management;
- Increasing awareness at national and international levels of the value and importance (ecological, social, cultural, educational, etc.) of the region's wildlife and natural resources.

According to the Corporate Citizenship page of its website,[57] Addax Petroleum also continues to support other conservation initiatives in the region, including:

Two programs with the United Nations Institute for Training and Research (UNITAR), consisting of improving fluvial transportation around the Ogooué and Fernan-Vaz Rivers in Gabon and in facilitating a peaceful transfer of authority on the Bakassi peninsula from Nigeria to Cameroon.

2.3 Chevron

Corporate level

Biodiversity features on Chevron's corporate website[58] which includes the following Biodiversity Statement**:** [59]

Chevron adopted a Biodiversity Statement in 2007 and requires a biodiversity assessment as part of its ESHIA process for major capital projects. Our Health, Environment and Safety staff work to protect habitats near our operations and share their best practices through the **Chevron Biodiversity Network**…

[57] See: http://www.addaxpetroleum.com/corporate_citizenship/community_relations
[58] See: http://www.chevron.com/globalissues/environment/biodiversity/.
[59] See: http://www.chevron.com/globalissues/environment/biodiversity/.

Chevron's Approach to Biodiversity Conservation

We recognize the importance of biodiversity conservation and support it through our values, performance, and communication and engagement.

Values: Protecting the safety and health of people and the environment is a Chevron core value. Therefore, we:

- Strive to design our facilities and conduct our operations to avoid adverse impacts to human health and to operate in an environmentally sound, reliable and efficient manner.
- Conduct our operations responsibly in all areas, including environments with sensitive biological characteristics**.**

Performance: We strive to avoid or minimize significant risks and impacts our projects and operations may pose to sensitive species, habitats and ecosystems. This means that we:

- Integrate biodiversity into our business decision-making and management through our Operational Excellence (OE) management system.
- Drive and assess our performance relating to biodiversity through key OE expectations, such as Environmental Stewardship, and processes, including HES Due Diligence for Property Transfers; Environmental, Social and Health Impact Assessment; and Risk Management.
- Understand that humans and the natural environment are interdependent and interact with each other in various ways. In managing our impacts we consider those interrelationships and the functions ecosystems perform in supporting sustainable economic development.
- Recognize that our activities could affect particularly sensitive or valuable biodiversity inside or outside of legally-designated protected areas. Therefore we:
  - Decide whether and how to operate in a protected or sensitive area, based on consideration of the specific circumstances of the area and operation involved.
  - Operate in such areas only with government legal authorization, and where we are confident we can comply with all regulatory requirements and use operating practices appropriately protective of the area.
  - Use our OE processes to avoid or minimize potential risks of our operations to sensitive biological resources and seek ways to make positive contributions to biodiversity conservation in the area.

Communication and Engagement**:** We undertake activities to raise internal and external awareness of the importance of conserving biodiversity and how the company is addressing it. This includes:

- Communicating about our biodiversity-related activities to employees and outside audiences, such as through our Corporate Responsibility report.
- Engaging with government, local communities and others to understand and work to address significant biodiversity issues in areas where we operate.
- Participating in industry associations and other forums to share and promote best practices for biodiversity conservation.
- Seeking to understand and, where appropriate, participating in development of external policy-making activities that affect our operations, such as those adopted under the UN Convention on Biological Diversity and national, regional and local biodiversity policies and plans.
- Working with a variety of external organizations to make positive contributions to

biodiversity conservation in areas where we operate and globally.

Chevron also maintains an Operational Excellence Management System (OEMS)[60] which is relevant to biodiversity. It has 13 elements as follows with the relevant parts for biodiversity highlighted in *bold/italics*:

1. Security of Personnel and Assets - Providing a secure environment in which business operations may be conducted successfully.
2. Facilities Design and Construction - Designing and constructing facilities to prevent injury, illness and incidents and to operate reliably, efficiently and in an environmentally sound manner.
3. Safe Operations - Operating and maintaining facilities in a manner that does not cause injuries, illnesses or incidents.
4. Management of Change - Managing both permanent and temporary changes to prevent incidents.
5. Reliability and Efficiency:
   - Reliability - Operating and maintaining facilities to sustain mechanical integrity and prevent incidents.
   - Efficiency - Maximizing efficiency of operations and conserving natural resources.
6. Third-Party Services - Systematically addressing and managing contractor conformance to OE through contractual agreements.
7. Environmental Stewardship - Working to prevent pollution and waste; striving to continually improve environmental performance and limiting impacts from our operations.
8. Product Stewardship - Managing potential risks of our products throughout the products' life-cycles.
9. Incident Investigation - Investigating incidents to identify, broadly communicate and correct root causes of incidents to reduce the likelihood of recurrence.
10. Community Awareness and Outreach - Reaching out to the community and engaging in open dialogue to build trust.
11. Emergency Management - Having preparedness plans in place to quickly and effectively respond to and recover from any emergency.
12. Compliance Assurance - Complying and verifying conformance with company policy and all applicable laws and regulations; applying responsible standards where laws and regulations do not exist; enabling employees and contractors to understand their safety, health and environmental responsibilities.
13. Legislative and Regulatory Advocacy - Working ethically and constructively to influence proposed laws and regulations, and debate on emerging issues.

Local level

In Nigeria, Chevron's joint venture concession with NNPC is approximately 2.2 million acres (8,900 sq km).[61] Its fact sheet[62] on Nigeria notes the following:

> Chevron has restored 15 abandoned land drill sites and 35 burrow pits and has decommissioned nine abandoned land wells, with work continuing on other sites. Community and indigenous contractors are engaged for the restoration work, reflecting CNL's ongoing commitment to using local resources and encouraging others to do the same.

[60] See: http://www.chevron.com/about/operationalexcellence/managementsystem/.
[61] See: http://www.chevron.com/documents/pdf/nigeriafactsheet.pdf.
[62] See: http://www.chevron.com/documents/pdf/nigeriafactsheet.pdf.

2.4 ConocoPhillips

Corporate level

On the **Biodiversity** section of their corporate website,[63] ConocoPhillips explains its overall commitment to biodiversity conservation:

> We recognize the importance of protecting and promoting biodiversity, particularly in sensitive areas. In 2008, the company issued a **biodiversity position** in which we made a number of specific commitments designed to conserve biodiversity as part of our commitment to systematically reduce the effects of our activities on the environment.
>
> We are continuously building our knowledge about the ecosystems in which we work and recently completed an internal study to benchmark our performance compared to other extractive-industry companies. To increase internal awareness about biodiversity, a knowledge-sharing intranet site has been launched to foster employee collaboration within ConocoPhillips in the areas of biodiversity and ecosystems. In 2008, we conducted industry benchmarking to explore better ways to collect and manage our biodiversity data…
>
> We follow widely accepted guidelines from the International Petroleum Industry Environmental Conservation Association (IPIECA) and the International Association of Oil and Gas Producers (OGP) in our approach to biodiversity conservation…

The company's **Biodiversity Position**[64] includes the following statements:

> ConocoPhillips recognizes the importance of biodiversity in maintaining ecosystems' health and as a vital factor in human well-being. Protecting plant and animal species and ecosystems, also known as "biological diversity", or "biodiversity", is an essential component of our health, safety, and environmental commitment wherever we operate.
>
> Biodiversity is a term used to capture the concept of the world's biological richness and variability. Biodiversity includes all populations and species of plants, animals, and microbes that occur in nature and the interactions within and between these populations that contribute to ecosystem function. Ecosystem functions provide essential services that support human needs such as food, shelter, clothing, medicines, and fuel. Biodiversity can also have recreational, cultural, spiritual and aesthetic values.
>
> ConocoPhillips will implement mitigation planning processes aimed at reducing the effects of our activities on the environment and conserve biodiversity. We will address biodiversity conservation as part of investment appraisal, and during the planning and development of major capital projects by conducting environmental impact analyses, collecting key environmental data and implementing mitigation and monitoring programs to reduce impacts and assure results.
>
> *Our Approach...*

[63] See: http://www.conocophillips.com/EN/susdev/environment/biodiversity/Pages/index.aspx.
[64] See: http://www.conocophillips.com/EN/susdev/policies/biodiversity_position/Pages/index.aspx.

- Integration of biodiversity conservation principles in our business management systems, considering all stages of the asset life cycle
- Development of Biodiversity Action Plans for projects located in areas of high conservation value
- Use of widely available and effective planning tools such as those developed by **IPIECA**, Energy and Biodiversity Initiative, and the International Association of Oil and Gas Producers to facilitate biodiversity conservation
- Adoption of a landscape-scale perspective which promotes habitat integrity and connectivity over a broader area than just our Trust sites as important issues in land use decision making
- Consideration of targeted opportunities for habitat improvement, including projects for rehabilitation. The use of biodiversity offsets will be considered when appropriate.
- Collaboration with key stakeholders to increase capacity for biodiversity protection, internally and in related institutions and communities
- Linkage of biodiversity protection with GHG emissions reductions, where both goals can be met through integrated planning and action

Local level

In Nigeria, the company "has an interest in four onshore oil mining leases (OMLs) and exploration rights in one Nigerian deepwater oil prospecting lease (OPL) and one deepwater OML."[65] This includes a 17% interest in Brass LNG, a new facility in the central Niger Delta.

Though the company has supported social development projects in the region, to date it has not profiled support for biodiversity. Nevertheless, it is clear from the company's corporate commitment to biodiversity that it would most likely support biodiversity projects in the Niger Delta.

2.5 Eni-Agip

Corporate level

On its corporate website, ENI reports the following:[66]

> Eni has been very active in biodiversity and ecosystem services areas, so far as to earn, for 2010, the position of **chair of the IPIECA's Biodiversity Working Group**. Furthermore, the projects regarding the study, monitoring and mitigation of the impact on biodiversity from operational activities continued in 2009, also in order to prearrange specific tools and programs applied to all Company activities, following **EBI's guidelines** (Energy and Biodiversity Initiative).
>
> Since 2008 Eni has joined **Proteus 2012**, an initiative promoted by UNEP-WCMC that aims at developing a comprehensive database of information on protected areas with rich biodiversity, by using the different datasets and the available information.
>
> In 2009, the information provided by the World Database on Protected Areas (WDPA) was significantly improved, and the Marine WDPA platform was launched, which groups the marine protected areas with dedicated details and attributes.

[65] See: http://www.conocophillips.com/EN/about/worldwide_ops/country/africa/pages/nigeria.aspx.
[66] See: http://www.eni.com/en_IT/sustainability/communities/biodiversity/biodiversity.shtml.

At the same time of its commitment for the preservation of biodiversity and the evaluation of the interaction between the operations and the biodiversity rich areas, Eni started analyzing how it could assess and protect the most complex ecosystemic functions and define their relation with the activities of the energy sector. Within this ambit, since 2009 Eni has been part of the Environmental Services, Tools & Markets Working Group promoted by **Business for Social Responsibility** (BSR) which is, to this date, the foremost initiative for enterprises for a comparison and assessment of the most advanced tools and methods for the assessment of ecosystemic services during the entire lifespan of the plants.

Furthermore, Eni joined the **EVI** road tester project supported by the World Business Council for Sustainable Development, to carry out a test for a preliminary assessment of the ecosystemic services; the test will be carried out with the advice of IUCN, the world organization for conservation of biodiversity, with which Eni has been collaborating since 2008.

All these initiatives are coordinated by a working group that includes Eni and the Eni Enrico Mattei Foundation.

Local level

Regarding the company's operations in the Niger Delta, the following biodiversity-relevant information is available:[67]

Green River *Project* - The Green River Project is a project started by Eni in 1987 through the subsidiary NAOC (Nigerian Agip Oil Company), together with its partners Phillips Petroleum and Nigerian National Petroleum Company (NNPC). This community development project is the most important one carried out in the Niger Delta by NAOC. It consists in a rural development program, which is modular and integrated, and has the purpose of creating a system of agricultural production and sustainable food in order to promote socio-economic welfare of rural populations living in the Niger Delta. The project includes: production and distribution of seeds resistant to diseases and environmental stresses and analysis of land for soil conservation; fishing and transferring the appropriate production methods to the rural communities, the establishment of cooperatives and associations to ensure that technical innovations are best implemented, applied, managed and further disseminated by the recipients, the introduction of equipment for the processing of rural products, and the use of small machinery for tillage and transport of goods. The project includes the rural districts of the oil sites in Rivers, Bayelsa, Delta and Imo, where a total of 400.000 people live, and it has contributed to doubling the harvests compared to traditional agriculture and consequently the families' profits.

Agro-processing activities - A very important part of the Green River Project focused on local agriculture strengthening through the improvement of agro-processing capabilities. In this sense the provision of machineries for the treatment of agricultural products played a crucial role in the development of local economies. *The Cottage Industry initiative* set as objective the improvement of bread production in the Mgbede area, in cooperation with the Mgbede Farmers Cooperative Society, the Mgbede Community and D-Emmason Engineering Ltd. The project, now completed, employs six people and has shown a 300% revenue increase. Through the *Cassava Processing Mill project*, implemented in cooperation with the Cooperative Society Omuko and Integrated Systems Ltd, significant progress was made in the milling of flour in

[67] See: http://www.eni.com/en_IT/eni-world/nigeria/local-development/local-development.shtml.

order to obtain "garri", a basic local food. The project was completed with the hiring of four women, whose income increased by 125%. Finally, the *Plantain Flour House Project* implemented in cooperation with the Mgbede Young Farmers Cooperative Society and Demmason Engineering Ltd, has improved the business of a coop producing and selling plantain flour and palm oil. The coop has expanded its business reaching other regions of south-east Nigeria and has hired 10 people from the local community, whose income increased by 300%. The coop was awarded the "Farmer of the Year Award" from the Central Bank of Nigeria. Palm oil business has also improved resulting in the hiring of four local people whose income has increased by 200%. *Professional training activities* enabled over 400 young people to enter a variety of professions (carpenter, hair stylist, bricklayer, information technology expert)…

Eni's overall commitment to the promotion of the socio-economic development of communities situated in the Niger Delta is demonstrated also by the deployment, according to authorities and other local stakeholders, of hundreds of infrastructural projects: construction of public buildings, roads, bridges, piers, creation of a river transport service, electrification of villages and construction of sewerage systems and water purification.

In 2009, eni completed the implementation of 44 infrastructure projects valued at over six million Dollars in 29 communities as part of MOU commitments. Over 300 other projects are at various stages of implementation.

2.6 ExxonMobil

Corporate level

ExxonMobil has a section of its corporate website on '**Protecting biodiversity'**[68] which includes the following:

> Our sites incorporate biodiversity protection in their efforts to limit impacts in sensitive areas. We identify biodiversity protection objectives and actions for each location through our Environmental Business Planning efforts. Our mitigation actions include participating in initiatives to enhance the wildlife and habitat attributes of our properties as well as modifying engineering design, construction, and operating practices to protect particular species and sensitive habitats.
>
> ExxonMobil is actively involved in a worldwide, multiyear industry research effort on the effects of exploration and production sound on marine life. Launched in 2004, under the auspices of the International Association of Oil and Gas Producers, the goal of the program is to enhance scientific knowledge to help assess the potential impacts of sound on marine life, assist in improving industry risk assessment and mitigation, and improve the scientific knowledge base used to develop regulations and mitigation strategies. To date, this program has improved research by characterizing industry sound sources; developing PAMGUARD, a marine mammal identification software; and improving satellite tags for animal tracking.

Local level

Regarding the company's operations in Nigeria, they do not state anything specifically with regard to biodiversity. However, in a report on their operations in Africa,[69] ExxonMobil describes some of its

[68] See: http://www.exxonmobil.com/Corporate/energy_env_sustain.aspx.

biodiversity actions in other African countries. This indicates the potential for similar activities in the Niger Delta.

2.7 Shell

Corporate level

Over the past decade, Shell has positioned itself as an industry leader with respect to biodiversity action. On its corporate biodiversity homepage,[70] the company states:

> Protecting biodiversity is an important factor when we consider any new major project or large expansion to existing operations. Our approach to biodiversity is an integrated part of the way we operate. It builds on the industry-first standard we set in 2001 and now incorporate in our biodiversity manual.

The company has also made public commitments about whether or not to operate in areas of 'high biodiversity':[71]

> We believe some areas are too sensitive to enter. But we also believe that through a transparent process, partnerships and stringent operating practices it is possible to operate responsibly in some areas that are under protection or rich in biodiversity. We define areas high in biodiversity value as:
>
> - areas protected by the International Union for Conservation of Nature (categories I-VI);
> - wetlands of international importance (according to the Ramsar convention);
> - Natura 2000 sites (under the European Birds Directive and Habitats Directive);
> - important bird areas (defined by Birdlife International); and
> - biosphere reserves (under the UNESCO Man and the Biosphere Programme).
>
> We have developed biodiversity action plans for major operations in areas of high biodiversity value to help improve the way we operate. Guidance from IPIECA/OGP… forms the basis of each plan. We had plans in place at nine major operations in areas of high biodiversity value by the end of 2009, including six in places designated by the IUCN as Category I-IV protected areas.

In partnership with IUCN, in 2008 Shell also released a major report on 'Building Biodiversity Business'[72] which explores market-based opportunities for conserving biodiversity and using biological resources sustainably

Local level

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[69] See: http://www.exxonmobil.com/Corporate/Files/news_pub_africa.pdf.
[70] See: http://www.shell.com/home/content/environment_society/environment/biodiversity/shell_biodiversity/.
[71] See: http://www.shell.com/home/content/environment_society/environment/biodiversity/protected_areas/.
[72] See:http://www-static.shell.com/static/environment_society/downloads/environment/biodiversity/building_biodiversity_business_2008.pdf?__utma=1.689180529.1285598692.1285598692.1285598692.1&__utmb=1.6.10.1285598692&__utmc=1&__utmx=-&__utmz=1.1285598692.1.1.utmcsr=bing|utmccn=(organic)|utmcmd=organic|utmctr=shell.com%2fbiodiversity&__utmv=-&__utmk=63947183.

The company is also addressing biodiversity in the Niger Delta as indicated in their biodiversity brief on their operations in Nigeria.[73] This brief includes the following information:

> The Shell Petroleum Development Company of Nigeria Limited (SPDC) worked with local groups, government, forest communities, other energy companies, regulators and non-profit organisations (NGOs) to develop biodiversity action plans to conserve two forest reserves – Gele-Gele and Urhonigbe, in Edo State.
>
> The Gele-Gele reserve covers 363 square kilometres with a range of habitats varying from freshwater swamp forest to tropical rain forest, while the Urhonigbe reserve covers 308 square kilometres…
>
> In support of the SPDC-proposed biodiversity plan and effort, the Edo State government passed a biodiversity law in 2007. The law amended the logging concession process and transferred forest management rights and responsibilities to community based management and grass-root consultative committees established by the biodiversity action plans. The success of the plans depends on local communities taking ownership and responsibility for them…
>
> Further work is required to convince members of the respective communities of the importance of preserving the forests. Enforcement of the biodiversity law is weak – this has negatively affected progress of the projects. SPDC has had several meetings with government officials, local communities and the forest management committees to discuss the challenges, identify and agree on solutions.
>
> One of the solutions identified is to assist stakeholder communities develop livelihoods that reduce their dependence on the forest. In furtherance of this, SPDC launched a microcredit programme with funding from its joint venture partners, which has distributed $38,000 (Shell share $11,400) of revolving loans to 240 people in 10 stakeholder communities between 2008 and 2009…
>
> Despite the challenges, the Gele-Gele and Urhonigbe projects have provided a valuable experience, which SPDC is now applying in new biodiversity action plans that are being prepared for the Stubbs Creek Forest Reserve in Akwa Ibom State, Andoni Forest Reserve in Rivers State and Taylor Creek Forest Reserve in Bayelsa State, all in the central Niger Delta.

2.8 Total

Corporate level

Total has a corporate level website on 'Protecting Biodiversity'[74] which explains that:

> We have been working to preserve biodiversity for nearly 30 years. In 1980, we formed the St. Fergus Dunes Management Committee in Scotland. Following the Rio Earth Summit in 1992, we established the Total Corporate Foundation for Biodiversity and the Sea, which has supported more than 200 research projects dedicated to enhancing knowledge to protect species and ecosystems. In 2005, we issued a formal **Biodiversity Policy Statement** setting out the objectives that have guided our action over the years:

[73] See: http://www-static.shell.com/static/nga/downloads/pdfs/briefing_notes/biodiversity.pdf.
[74] See: http://www.total.com/en/our-challenges/preserving-the-environment/controlling-our-impacts-on-the-local-environment/protecting-biodiversity-201019.html.

- minimizing the impact of our activities on biodiversity,
- integrating the protection of biodiversity into our Environmental Management System,
- paying special attention to regions whose biodiversity is particularly rich or vulnerable,
- taking part in scientific research and helping to improve our knowledge of biodiversity.

To ensure that this policy is applied in the field, we have drawn up a **Practical Biodiversity Guide**, distributed since 2007.

Minimizing our footprint

Biodiversity is an integral part of the baseline surveys and environmental impact assessment conducted prior to each project.

Our aim is to gain knowledge and understanding of the ecosystems in the very diverse areas in which we operate, assess their vulnerability, identify the related environmental and/or social and economic issues and develop the most appropriate technical approach…

In Yemen, for example, coral reefs were discovered during the environmental baseline survey prior to the launch of the **Yemen LNG project**. Project teams reacted by redesigning part of the plant's infrastructure and modifying plans for shoreline work in the port of Balhaf, to reduce the impact of construction on ocean currents, and coral and fish communities… Yemen LNG has also set up a partnership with the International Union for Conservation of Nature (IUCN) to implement an observatory of marine biodiversity. Moreover, Yemen LNG is working with the local environmental protection authority to assist in its introduction of a comprehensive coastal zone management plan.

Broadening our knowledge

We take part in scientific research and the advancement of knowledge through our research centers, the Total Foundation and the many research programs conducted in partnership with other bodies, including the French oceanographic research institute Ifremer, the World Conservation Monitoring Centre and the International Union for Conservation of Nature (IUCN)…

We are currently drawing up a geographic information system (GIS) to show the locations of our facilities with respect to the protected areas defined by the IUCN, UNESCO (Man and the Biosphere program) and the RAMSAR4 convention on wetlands (lagoons, peat bogs, etc.). We have access to regularly updated data through an agreement signed with the World Conservation Monitoring Centre. The GIS is set to be finalized at the end of 2010. The data provided will enable managers to make any necessary changes to biodiversity protection measures at their sites and to develop biodiversity protection plans tailored to their context in partnership with local stakeholders.

Local level

With respect to the company's operations in Nigeria, though there is nothing specific on biodiversity, there is a clear commitment to sustainable development:[75]

[75] See: http://www.ng.total.com/04_total_nigeria_activities/0408_sustainable_development.htm.

> In over four decades of working in Nigeria, TOTAL E&P Nigeria Limited (TEPNG) has made enormous investments in communities through contributions to human development, social infrastructure such as roads, water, electricity, health, economic empowerment and enterprise - identifying the company as a responsive and responsible technical organization with a human face.
>
> On August I, 2007 a new vision and structure for sustainable development came into effect with a view to achieving the highest form of sustainability where the communities run majority of their programmes through institutions and enterprises set up by themselves for themselves with us as facilitators.

Also, Total has a 15% stake in Nigeria LNG (NLNG) which has taken biodiversity into account in its EIA[76] and its environmental management. NLNG commitments include the following:[77]

> Conservation of the environment: NLNG will support local leaders and competent authorities to execute their responsibility to control existing off-site, non-project related developments and control clearance and exploitation of the forest for settlements and agriculture. NLNG will monitor the level of access and exploitation of the forest areas and assist local authorities with public enlightenment to conserve forests areas.

2.9 Nigerian National Petroleum Corporation

Corporate level

As noted above, the Nigerian National Petroleum Corporation (NNPC) is the majority shareholder in all of the O&G projects in the Niger Delta. Though the international companies most often have operating responsibilities, senior management and financial decisions are ultimately determined by NNPC. Hence, the company's commitment to a **Green Environment**[78] is a critical factor for mainstreaming biodiversity into the O&G sector:

> NNPC is committed to responsible environmental practices. As part of this drive, NNPC is taking full advantages of all the opportunities to entrench green fuel and green energy delivery in the country…
>
> The NNPC as a national oil and gas company has also embarked on global warming control measures such as striving with its joint venture (JV) partners to achieve gas flare-down in all its operations
>
> NNPC is also targeting the Clean Development Mechanism (CDM) projects by establishing CDM Working Groups that will project the NNPC into international Carbon Trading to reduce carbon emission.

Further, the company has a commitment to social responsibility and highlights its "annual national quiz competition for secondary schools across the country."[79]

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[76] See: http://nigerialng.com/NLNGnew/environment/EIA+For+NLNGPlus/Description+Of+The+Environment.htm.
[77] See: http://nigerialng.com/NLNGnew/environment/EIA+For+NLNGPlus/Mitigation.htm.
[78] See: http://www.nnpcgroup.com/PublicRelations/InformationDesk/AGreenEnvironment.aspx.
[79] See: http://www.nnpcgroup.com/NNPCBUSINESS/BusinessInformation/CorporateSocialResponsibility.aspx.

Local level

In addition to its upstream joint ventures in the Niger Delta, as described above, NNPC also has a number of subsidiary companies operating in the region which have relevance to biodiversity including the following:

- **Nigerian Petroleum Development Company Limited (NPDC)** is "engaged in Oil & Gas Exploration and Production activities in the hydrocarbon-rich regions of coastal Nigeria, both onshore and offshore; and more recently, around Equatorial Guinea." Further, NPDC has a stated commitment to Community Development Assistance.[80]

- **National Petroleum Investment Management Services (NAPIMS)** "manages government investments in the upstream to ensure a good margin in its investments through effective supervision of the JV, PSC, SC Companies using best industry practices." Further, "NAPIMs as a responsible corporate citizen ensures adequate returns on government investments, and adopts global standards and best practices to ensure that operations are carried out in an environmentally conducive manner."[81]

- **Pipelines And Products Marketing Company Limited (PPMC)** ensures "security of supply of petroleum products to the domestic market at low operating costs" primarily through transport of crude oil via pipelines from the NAPIMS to the NNPC local refineries.[82]

Though there is evidence of a commitment to social responsibility among these subsidiary companies, they do not profile their support for biodiversity. Nevertheless, there is a potential opportunity to engage these companies along with NNPC's joint venture companies in a partnership to mainstream biodiversity into the O&G sector in the Niger Delta.

2.10 Overall assessment

At the corporate level, all of the international O&G companies operating in joint ventures with NNPC in the Niger Delta show some commitment to biodiversity conservation. Further, there is a general recognition that the biodiversity guidance provided by the IPIECA[83] is the industry standard to which they should adhere. In particular, reference is made to the IPIECA guidance on developing Biodiversity Action Plans.[84] This provides a solid policy basis for developing their commitments to biodiversity in the Niger Delta.

The one critical exception at the corporate level is the NNPC, the major shareholder of all O&G operations in the Niger Delta. NNPC does not have an explicit biodiversity policy or commitment. However, its stated commitment to a 'Green Environment' even though it is focused on carbon emissions, does provide a basis for the company to develop its position and actions with regard to biodiversity.

At the local level in the Niger Delta, however, though there is action on the part of some of the international companies, there is clearly much more that could be done. Why there is so little biodiversity action on the ground is probably due to a number of factors, including the legacy of their

[80] See: http://www.npdc-ng.com/.
[81] See: http://www.napims.com/aboutus.html.
[82] See: http://www.nnpcgroup.com/NNPCBusiness/Subsidiaries/PPMC.aspx.
[83] See: http://www.ipieca.org/focus-area/biodiversity.
[84] See: http://www.ipieca.org/system/files/publications/baps.pdf.

licenses to operate, which goes back decades, long before biodiversity responsibility was on the agenda. Further, biodiversity action has generally focused on traditional conservation projects, and thus can be seen to compete for attention against more pressing community development needs.[85] Finally, as the NNPC subsidiary NAPMIS so clearly states it,[86] maximising profits for the Government is the priority:

> NAPIMS' objective is to enhance the Margin accruing to the Federal Government through effective supervision of the Joint venture companies, Production sharing companies and Service Companies through adequate supervision of Budgets and Performance and ranking of projects that gives higher returns on investment to Federal Government.

Thus the challenges facing any initiative aiming to mainstream biodiversity into the O&G sector in the Niger Delta are daunting. Political and economic priorities have traditionally kept biodiversity off of the agenda. Further, the perception of biodiversity as an environmental issue and not as a social issue, or more precisely as a sustainable development issue, has meant that it has had to compete with other pressing social development issues.

Nonetheless, there are significant opportunities for biodiversity embedded in the structural set up of the O&G sector in the Niger Delta. Building off of the well-established joint venture model for upstream operations in the region, a biodiversity partnership programme could be initiated. Such a programme could benefit from both the leadership of the NNPC with respect to the responsible management of the country's O&G reserves and from the biodiversity commitments and experiences of NNPC's international joint venture partners.

In short, within the O&G sector there is the potential commitment and capacity to establish a substantive 'Niger Delta Biodiversity Partnership Programme' that would contribute to both biodiversity and sustainable social development in the region.

3. PROSPECTS FOR EFFECTIVE INDUSTRY ENGAGEMENT

Product: Assess companies' willingness to join together in a compact to contribute to a Biodiversity Trust Fund and to establish biodiversity-mainstreamed siting agreements

It is not possible to fully assess the willingness of companies to contribute individually or 'together in a compact' to a Biodiversity Trust Fund or related siting agreements without having a clear idea of how the Trust Fund will be structured.

Nevertheless, with regard to the potential incentive mechanisms highlighted in the Section 4 below, it is possible to consider various drivers that will need to be addressed to build a 'business case' for biodiversity action. These include the following:

- Government regulations
- Government relations
- Investor requirements

[85] As developed later in this paper, this is a false dichotomy as a more holistic approach to biodiversity as set out by the Convention on Biological Diversity will enable the companies to integrate responsible conservation and community actions as they relate to the sustainable and equitable use of biological resources.
[86] See: http://www.napims.com/aboutus.html.

- Supply chain sustainability
- Corporate social responsibility

3.1 Government regulations

Current environmental law in Nigeria would most likely support biodiversity action by the O&G sector in the Niger Delta. However, there may well be discussions about the appropriate modalities and incentives to encourage and implement such action. According to at least one source,[87] the key environmental laws to consider are as follows:

The basis of environmental policy in Nigeria is contained in the 1999 Constitution of the Federal Republic of Nigeria. Pursuant to section 20 of the Constitution, the State is empowered to protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria. In addition to this, section 2 of the Environmental Impact Assessment Act of 1992 (EIA Act) provides that the public or private sector of the economy shall not undertake or embark on or authorise projects or activities without prior consideration of the effect on the environment.

The Federal Government of Nigeria has promulgated various laws and Regulations to safeguard the Nigerian environment. These include:

- Federal Environmental Protection Agency Act of 1988 (FEPAAct). The following Regulations were made pursuant to the FEPAAct:
- National Environmental Protection (Effluent Limitation) Regulations:
- National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations; and
- National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations.
- Environmental Impact Assessment Act of 1992 (EIA Act).
- Harmful Wastes (Special Criminal Provisions etc.) Act of 1988 (Harmful Wastes Act).

Another important potential source of government regulation which could drive biodiversity action by the O&G sector is the proposed Petroleum Industry Bill.[88] With respect to biodiversity action, the key fundamental objectives of this Bill are:

Environment and Air Quality Emissions
(1) The Federal Government shall, to the extent practicable, honour international environmental obligations and shall promote energy efficiency, the provision of reliable energy, and a taxation policy that encourages fuel efficiency by producers and consumers. (2) In accordance with the provisions of subsection (1) of this section, the Federal Government shall introduce and enforce integrated health, safety and environmental quality management systems with specific quality, effluent and emission targets for oil and gas related pollutants, without regard for fuel type such as gas, liquid or solid, in order to ensure compliance with international standards.

Community Development
The Federal Government shall, in co-operation with the state and local governments and communities, encourage and ensure the peace and development of the petroleum producing areas of the Federation through the implementation of specific projects aimed at ameliorating the negative impacts of petroleum activities.

[87] See: http://www.mondaq.com/article.asp?articleid=53804.
[88] See: http://www.nnpcgroup.com/PublicRelations/PetroleumIndustryBill.aspx.

Regarding objective 6 above, the international environmental obligations include the Convention on Biological Diversity and the other multilateral biodiversity conventions such as the Ramsar Convention on Wetlands. Regarding objective 7, supporting the sustainable and equitable use of biological resources should encourage both peace and development.

3.2 Government relations

In the areas of biodiversity and development, there are many strategies and actions that national governments are striving to implement and to which biodiversity actions could play a significant role. Such support goes beyond government regulation, and offers opportunities for the companies to have collaborative, positive relations with government – at federal, state and local levels. In particular, activities in support for Nigeria's National Biodiversity Strategy and Action Plan (NBSAP)[89] and targeted biodiversity plans for the Niger Delta could be a basis for strengthening a company's relations with the government. Of particular relevance for government relations in the Niger Delta is the work of the Niger Delta Development Commission[90] which already has a number of O&G companies as its partners for sustainable development and the recently established Ministry of Niger Delta Affairs.[91] The Ministry's Department of Environmental Management[92] has a mission statement which is most compatible with biodiversity action by the O&G sector:

To restore, conserve and protect the environment and the natural resources of the Niger Delta region and provide effective means of integrating environmental concerns into planning and decision making process for sustainable development of the region.

3.3 Investor requirements

As important for business as regulations – notably for large-scale business projects in developing countries – are the social and environmental requirements mandated by investors. For example, the Japan Bank for International Cooperation (JBIC) requires of its borrowers that "plans for projects with particularly large potential adverse impact must be accompanied by detailed environmental management plans."[93]

Perhaps the most influential biodiversity and development-related investor requirements are the International Finance Corporation's (IFC) Performance Standards on Social and Environmental Sustainability:

1: Social and Environmental Assessment and Management Systems
2: Labor and Working Conditions
3: Pollution Prevention and Abatement
4: Community Health, Safety and Security
5: Land Acquisition and Involuntary Resettlement
6: Biodiversity Conservation and Sustainable Natural Resource Management
7: Indigenous Peoples
8: Cultural Heritage

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[89] See: http://www.cbd.int/doc/world/ng/ng-nbsap-01-en.doc.
[90] See: http://www.nddc.gov.ng/.
[91] See: http://ministryofnigerdeltaaffairs.gov.ng/.
[92] See: http://ministryofnigerdeltaaffairs.gov.ng/deptenvironmanagement.php.
[93] Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (July 2009), p. 16. See: http://www.jbic.go.jp/en/about/environment/guideline/business/pdf/pdf_01.pdf.

Though all are directly relevant to the four core biodiversity objectives – conservation, sustainability, equity and development – Performance Standard 6 is particularly important. For example, the following two paragraphs clearly provide a basis for financing biodiversity management plans of areas 'outside the fence':

"8. Mitigation measures will be designed to achieve no net loss of biodiversity where feasible, and may include a combination of actions, such as:
- Post-operation restoration of habitats
- Offset of losses through the creation of ecologically comparable area(s) that is managed for biodiversity
- Compensation to direct users of biodiversity"

"14. The client will manage renewable natural resources in a sustainable manner. Where possible, the client will demonstrate the sustainable management of the resources through an appropriate system of independent certification."[94]

The IFC's Performance Standards – which will be updated again in 2011 – are particularly influential because they have been adopted by the Equator Principles Association, which represents 67 multinational banks responsible for most of the project finance in developing countries. The recently adopted Governance Rules of the Association state the following, and provide a solid investment basis for biodiversity action:

"b) The aim of the Principles is to introduce good practice for financial institutions in the management of social and environmental risks when providing Project Finance loans or Project Finance Advisory Services."

"c) The Principles are a framework to require the implementation of standards of good practice in relation to the social and environmental issues arising in projects that are the subject of Project Finance. The EPFIs having so decided, the Equator Principles specify that the current standards required shall be either:

i) The Performance Standards and the Environmental, Health and Safety Guidelines of the IFC where projects are located in countries that are not High Income OECD countries (as defined by the World Bank Development Indicators Database), or

ii) Local or national law relating to social and environmental matters where projects are located in High Income OECD Countries (as defined by the World Bank Development Indicators Database)."

"d) The Principles apply where the EPFIs provide Project Finance loans or Project Finance Advisory Services for projects having a total capital cost of US$ 10 million or more, to provide that those projects are developed in a socially responsible manner and reflect sound environmental management practices. Negative impacts on project-affected ecosystems and communities should be avoided where possible, and if these impacts are unavoidable, they should be reduced, mitigated and/or compensated for appropriately."[95]

[94] IFC Performance Standard 6. (30 April 2006). See: http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/pol_PerformanceStandards2006_PS6/$FILE/PS_6_BiodivConservation.pdf.
[95] The Equator Principles Association Governance Rules. (April 2010). See: http://www.equator-principles.com/documents/EP_Governance_Rules_April_2010.pdf.

3.4 Supply chain security

Biodiversity actions that are undertaken in terms of the biodiversity and development objectives of the Convention on Biological Diversity should help to ensure the security of O&G supply chains in the Niger Delta. Though biodiversity management is more often associated with supply chain security in the agricultural sector,[96] when the critical livelihood issues related to the sustainable and equitable use of biological resources by neighbouring communities are considered, then supply chain security issues are equally important for the O&G sector. For example, a 2006 report[97] from an IUCN Commission scoping mission concluded that:

Rural communities in the Niger Delta have suffered most of the environmental and social costs of 50 years of oil development, and claim to have received very little of the benefits. This is a significant contributor to the current violence, sabotage of pipelines/installations and instability in the region.

3.5 Corporate social responsibility

Though related to the government-relations discussion above in Section 2, corporate social responsibility (CSR) is a much broader concept that embraces corporate commitment, action and indeed leadership for social and environmental priorities. The European Commission, for example, defines CSR as ""a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis."[98] And in its 2006 Communication on CSR (COM(2006) 136 final), the Commission also addresses the international dimension of CSR, which is of particular relevance to a biodiversity action in the Niger Delta, stating that it "will continue to promote CSR globally with a view to maximising the contribution of enterprises to the achievement of the UN Millennium Development Goals." For the multinationals operating the Delta, the BAPs could play a significant role in strengthening their CSR positions globally.

Various international business organisations today are also addressing biodiversity for the reasons stated in this section, including CSR. The World Business Council for Sustainable Development promotes "the development and uptake of best practice mitigation and market-based approaches that support the sustainable management and use of ecosystems services – both on a standalone basis and in cooperation with other stakeholders."[99] The International Chamber of Commerce (ICC) Business Charter for Sustainable Development includes a commitment "to contribute to the development of public policy and to business, governmental and intergovernmental programmes and educational initiatives that will enhance environmental awareness and protection."[100] The UN Global Compact and Duke University have developed an Environmental Stewardship Strategy which includes a commitment by business to "translate best practices into processes and practices that are applicable in the diverse geographies in which they operate."[101] There may indeed be opportunities to position a BAP as a useful mechanism for implementing the CSR-related programmes of such international business organisations.

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[96] See for example this report from British American Tobacco: http://online.hemscottir.com/ir/bats/ar_2008/download/pdf/supply_chain.pdf.
[97] http://cmsdata.iucn.org/downloads/niger_delta_natural_resource_damage_assessment_and_restoration_project_recommendation.doc.
[98] See: http://ec.europa.eu/enterprise/policies/sustainable-business/corporate-social-responsibility/index_en.htm.
[99] See the WBCSD Ecosystem Focus Area at: http://www.wbcsd.org/.
[100] See: http://www.iccwbo.org/policy/environment/id1309/index.html.
[101] See: http://www.nicholasinstitute.duke.edu/globalcompact/?q=ex_sum.

At the national level, as noted in the review of O&G companies above, there is indeed a degree of CSR in practice particularly with respect to social development projects. However, as one writer recently noted,[102] Nigeria still has a long way to go in this respect:

Corporate social responsibility in Nigeria is too weak; while many companies post super profits they are unwilling to invest in social services such as education, health, roads, security and so on of the community. However, this happens all over the world where the capitalist spirit has full taken roots. The problem in Nigeria is that we always like to copy the wrong things, those things that give us a leeway, an escape route. There is need to mainstream corporate responsibility and begin to get big and medium scale enterprise to understanding that the spirit of generous giving is part of capitalist ethic, strip of this, capitalism becomes a banal and anachronistic economic Darwinism which undermines all peoples and communities.

Biodiversity action could provide a real opportunity for both multinational companies and Nigerian companies, notably the NNPC, to improve their CSR performance.

4. INDUSTRY ENGAGEMENT MECHANISMS

Product: Identify potential incentive mechanisms for engaging the industry in the project

4.1 Key incentive mechanisms

The key incentive mechanism for engaging the industry in the project is to base the project on the objectives and priorities of the Convention on Biological Diversity in the context of the conservation and development challenges and opportunities in the Niger Delta. Focusing on the Convention enables the O&G sector to adopt a standard approach to biodiversity that is agreed not only by the Government of Nigeria but by more than 190 other nations (though unfortunately not yet by the USA). Focusing on the biodiversity challenges and opportunities on the ground in the Niger Delta will enable the O&G sector to engage with local communities in terms of their needs and capacities to deliver biodiversity management.

In this respect, another key incentive mechanism is to have an agreed approach for O&G company Biodiversity Action Plans (BAPs) for the Niger Delta. Such a BAP should be based directly on the objectives and guidance provided by the Convention on Biological Diversity (CBD) and the decisions of its Parties. In this regard, this section highlights some key areas for consideration in developing a CBD-based standard for the O&G sector. Together these areas constitute the core elements of a logical approach to biodiversity action in the region.

4.2 Biodiversity action objectives

A BAP for the O&G sector should focus on the geographically-defined areas where the extractive activities occur, as well as on the 'upstream' and 'downstream' areas affected by these activities. The management of these areas should be compliant with the objectives and priorities of the CBD. In particular, it should focus on the following four objectives:

[102] See: http://www.nigeriavillagesquare.com/index.php?option=com_content&view=article&id=14335&catid=132&Itemid=181.

Conservation
Sustainability
Equity
Development

'**Conservation**' refers to the first CBD objective, "the conservation of biological diversity" (Article 1). In the context of a BAP, it explicitly refers to 'in-situ conservation,' which is defined as "the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties" (Article 2).

'**Sustainability**' refers to the second CBD objective, "the sustainable use of its components" (Article 1). This means "the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations" (Article 2).

'**Equity**' refers to the third CBD objective, "the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding" (Article 1). For a BAP, as appropriate, the management plan should also address the fair and equitable sharing of benefits arising out of the utilization of all components of biodiversity.

'**Development**' refers to the recognition of the CBD "that economic and social development and poverty eradication are the first and overriding priorities of developing countries" and that "conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose access to and sharing of both genetic resources and technologies are essential" (Preamble). Hence, for a BAP for an O&G company in the Niger Delta, development outcomes need to be an integral part of the plan.

The BAP should not just focus on conserving biodiversity (CBD objective 1), but also on using biological resources sustainably, ensuring that such uses are equitable and, for projects in developing countries, ensuring that the projects generate development outcomes (CBD objectives 2 and 3 plus preamble commitments).

4.2 Biodiversity action components

A BAP should, as appropriate, address the following four components of biodiversity:

Ecological complexes
Ecosystems
Species
Biological resources

'**Ecological complex'** is highlighted in the CBD definition of biodiversity: "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems" (Article 2). For a BAP for an O&G company, an ecological complex is a 'geographically-defined area' as this term is used in the definition of a '**protected area**' as "a geographically defined area which is designated or regulated and managed to

achieve specific conservation objectives" (Article 2). In some cases, it may be appropriate to refer to an ecological complex simply as a 'landscape', a 'seascape', or an 'area'.

'**Ecosystem**' is a key component of biodiversity and is defined as "a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit" (Article 2). Also relevant to a BAP is the somewhat related term '**habitat,**' which is defined as "the place or type of site where an organism or population naturally occurs" (Article 2).

'**Species**' is a component of biodiversity, but it is not explicitly defined in the CBD. However, '**domesticated or cultivated species**' is defined as "species in which the evolutionary process has been influenced by humans to meet their needs" (Article 2). For a BAP, however, it may be useful to have a working definition of this term as well as such terms as native, alien, exotic, and invasive species.

'**Biological resources,**' are defined as 'genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity' (Article 2). Further, '**genetic resources'** are defined separately as "genetic material of actual or potential value" where '**genetic material**' is in turn defined as "any material of plant, animal, microbial or other origin containing functional units of heredity" (Article 2).

Importantly, the BAP should adopt and use the terms defined in Article 2 of the CBD as well as terms defined in the other biodiversity-related international conventions to ensure that BAP's developed anywhere apply the same terms with the same understanding of what these terms mean.[103] These terms would be listed in Appendix A of the guide as outlined above.

4.4 A biodiversity action matrix

	Ecological Complexes	**Ecosystems**	**Species**	**Biological resources**
Conservation				
Sustainability				
Equity				
Development				

The four objectives of a BAP can be combined with the four biodiversity components to provide a biodiversity management matrix for a geographically-defined area. A BAP for an O&G project should, as appropriate, address what it could deliver in each of the 16 cells in this matrix. Depending on the "ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values" (Preamble) of a particular area, however, some of the cells may be of critical importance to its management, while others may be of less or little importance. Further, as discussed below, such a matrix should be applied for the different stages in a project's lifecycle.

4.5 Biodiversity management methodologies

[103] For example, the term 'biodiversity' can either refer to ecological complexes and the diversity of ecosystems and species in them as defined by the CBD or it can refer to the diversity of species or degree of endemism of an area which if high might be called a biodiversity 'hot spot'. The latter definition, though useful for some scientific purposes, is substantively different than the official CBD definition.

Various relevant methodologies – including commitments, guidelines and tools – have already been developed and formally accepted by the Parties to the CBD, and thus are already available for use in developing a CBD-compliant management plans. Other methodologies have been developed and accepted by the Parties to other biodiversity-relevant agreements and could be appropriate for use under an O&G BAP. Still other methodologies have been developed voluntarily and could also be applied if appropriate to the situation.

CBD-approved methodologies

The text of the CBD itself, as well as the subsequent decisions of the COPs, provides approved aims, approaches, guidance and terminology which would form the methodological basis for CBD-compliant management plans. Perhaps of most importance for a BAP is the **ecosystem approach**.

COP7 decision VII/11 recognised "the ecosystem approach as the primary framework for addressing the three objectives of the Convention in a balanced way." This followed on from COP 5 decision V/6 which adopted the ecosystem approach as "a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way." In this decision, the Parties also set out 12 "complementary and interlinked" principles of the ecosystem approach. Further, in response to COP decision VII/11, the CBD Secretariat also maintains an online **Ecosystem Approach Sourcebook**[104] that provides useful, detailed guidance on how to create management plans.

Further, with respect to the **conservation** objective, **Article 8** of the CBD addresses in-situ conservation and includes commitments such as "regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use" and "development and implementation of plans or other management strategies."

The objective of **sustainable** use is addressed in **Article 10,** which includes commitments by the Parties to "support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced" and "encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources." By COP decision VII/12 (paragraph 1), the Parties also adopted the **Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity** and called for "integrating and mainstreaming the Addis Ababa Principles and Guidelines into a range of measures including policies, programmes, national legislation and other regulations, sectoral and cross-sectoral plans and programmes addressing consumptive and non consumptive use of components of biological diversity."

Further guidance on implementation of the CBD with respect to specific objectives, specific ecosystems, and specific economic sectors has also been formally approved by the Parties and could be included in a more thorough compilation of approved methodologies for developing CBD-compliant management plans.

Methodologies of biodiversity-related agreements

Other conventions and agreements related to biodiversity have also developed commitments, guidelines and tools, which could serve as useful methodologies for developing BAP's. For example, under the **Ramsar Convention on Wetlands**, its Parties adopted Resolution VII.16, which adopts a

[104] See: http://www.cbd.int/ecosystem/sourcebook/.

set of **Principles and guidelines for wetland restoration** that "provide a step-by-step process guiding the identification, development and implementation of a restoration project." This guidance may be particularly appropriate for BAPs in the Niger Delta.

Another opportunity might be to explore establishing possible linkages between a BAP and the establishment of a UNESCO Man and Biosphere (MAB) site.[105] The MAB Programme has been in operation since the early 19070s and today, it is active in more than 100 countries with over 500 listed sites – some of which may include extractives projects – which: "provide context-specific opportunities to combine scientific knowledge and governance modalities to:

- Reduce biodiversity loss;
- Improve livelihoods; and
- Enhance social, economic and cultural conditions for environmental sustainability."

Regarding sustainable use, a BAP in some instances might also benefit from collaboration with the UNCTAD BioTrade Initiative[106] and its Principles and Criteria which are also based on the objectives of the CBD. Methodologies approved by Parties to other biodiversity-related conventions and developed by intergovernmental programmes such as the BioTrade Initiative relating to such topics as conserving the habitats of endangered and migratory species, carbon storage and sequestration, and sustainable land management could be compiled for review and possible inclusion in the updated guide for BAPs in the Niger Delta.

Relevant voluntary methodologies

There are also a number of reputable voluntary standards, guidelines and tools in addition to those above that could perhaps be used under a BAP. A selection of these follows:

- Climate, Community and Biodiversity standards
- Corporate Ecosystem Review
- Ecosystem Service Benchmark
- Fairtrade Labelling Organisation standards
- Forest Stewardship Council standards
- The Gold Standard
- ISO 14001 Environmental Management Standard
- IUCN Red List
- Marine Aquarium Council standards
- Marine Stewardship Council standards
- Rainforest Alliance certification schemes
- Union for Ethical BioTrade

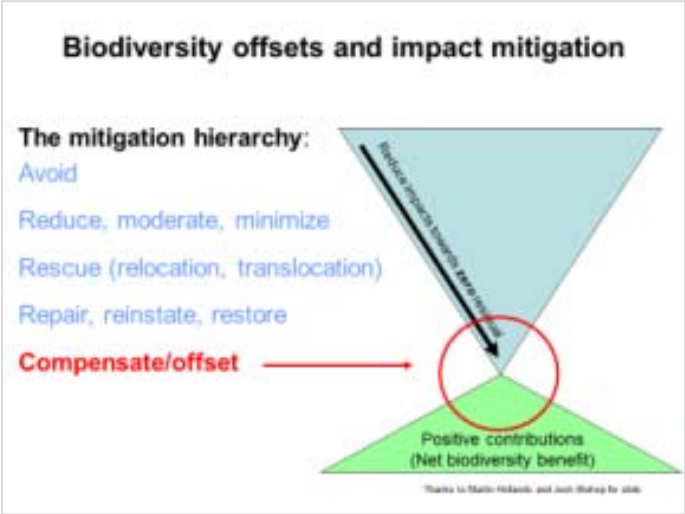
Such methodologies could be reviewed for possible inclusion in BAP.

4.6 BAP geographical scope

The immediate focus of a BAP should be on mitigating the biodiversity impact of its operations 'inside the fence'— i.e. in the areas under their direct management responsibility. In this respect, the BAP may want to include the guidance developed under the Business and Biodiversity Offset

[105] See: http://portal.unesco.org/science/en/ev.php-URL_ID=6393&URL_DO=DO_TOPIC&URL_SECTION=201.html.
[106] See: http://www.biotrade.org/.

Programme (BBOP)[107] with respect to implementing a mitigation hierarchy as outlined in the following figure:



Regarding biodiversity actions 'outside the fence' these could include like-for-like offsets of specific direct impacts as proposed by BBOP. They could also include broader mitigation of the indirect impact of the value chains of the O&G companies as proposed in the discussion of a Niger Delta Biodiversity Trust in the following section.

5. CAPITALIZATION PLAN FOR THE TRUST FUND

Product: Outline a capitalization plan for the Trust Fund proposed under the project's component 3

Currently there is no existing trust fund for biodiversity conservation in the region. Thus this section is to be completed at a later date, once a Trust Fund structure has been agreed upon.

However, based on experience from Conservation Trust Funds established elsewhere, potential donors to a Conservation Trust Fund for the Niger Delta region might include international and Nigerian NGOs, oil and gas companies, and private sector companies using biological resources, such as pharmaceutical companies, or whose operations have an direct impact on local biological diversity, such as other extractive industries in the region. Other contributions could come from international organisations, individuals, international and domestic banks and other corporate organizations. Contributions could be raised either from direct donation or from government-imposed regulations, such as environmental taxes, fees for use of environmental resources, fines for failing to comply with environmental law, or compensation for environmental damage.

Further incentives for private sector contributions to a Conservation Trust Fund can be drawn from the discussion under Section 3 of this paper. Examples detailed in the section include fulfilling CSR commitments, improving corporate image, offsetting supply chain impacts and securing sustainable

[107] See: http://bbop.forest-trends.org/.

supply chain inputs, satisfying investor requirements, and improving relations with local and federal governments.

Finally, specifically with respect to securing additional voluntary funding from the O&G sector, one practical approach could be to agree of a target of a certain percentage of turnover or income from the O&G operations in the Niger Delta. This could be modelled on the commitment of developed countries to allocate 0.7% of national income to development assistance.[108] For the O&G sector, a similar commitment could be envisioned. For example, for every $1 billion of revenue generated by the sector in the Delta, 0.7% or $7,000,000 could be allocated to biodiversity management projects in the Delta. This funding could be managed by a Niger Delta Biodiversity Trust as described in the following section.

6. INITIAL INDUSTRY ENGAGEMENT PLAN

Product: Compile the Initial Industry Engagement Plan: Propose a plan with clear recommendations for the engagement of the O&G industry in the project and in its objectives

6.1 Three key steps to engaging the O&G sector

Three key steps are proposed as follows:

Step One – Produce a guide to developing BAPs in the O&G sector in the Niger Delta

Step Two – Undertake on-going independent reviews of existing BAPs and biodiversity-related activities to assess progress to date and to identify opportunities for strengthening existing plans and actions and for establishing new BAPs.

Step Three – Establish a 'Niger Delta Biodiversity Trust' to support 'outside the fence' investments by the sector in independently-verified biodiversity management plans for geographically-defined areas, as part of their BAPs.

6.2 Step One – Producing an O&G BAP guide for the Niger Delta

Based on the IPIECA Oct 2005 guide – which is widely adopted by the industry – an immediate project activity should be to produce an updated, revised guide focused on the Niger Delta such as indicated in the following table:

IPIECA 2005 guide	Proposed UNDP/GEF Niger Delta guide
1. Understanding Biodiversity	1. Understanding biodiversity – Components and objectives
2. What is a Biodiversity Action Plan? 2.1 What is the relationship between BAPs and other biodiversity action plans? 2.2 What is the relationship between a BAP and an ESIA or EMP?	2. What is a Biodiversity Action Plan (BAP)? Revise presentation in light of ESIA, EMP, etc as used by the sector in Nigeria

[108] See: http://www.unmillenniumproject.org/press/07.htm.

IPIECA 2005 guide	Proposed UNDP/GEF Niger Delta guide
3. Deciding if a BAP is mandatory, necessary or recommended 3.1 Legal, regulatory, planning, permitting or third party requirements 3.1.1 Legal and regulatory requirements 3.1.2 Planning and permitting requirements 3.1.3 Third party requirements 3.2 Presence of significant observed or predicted biodiversity impacts 3.2.1 Preliminary desktop assessment 3.2.2 Baseline survey of biodiversity 3.2.3 Biodiversity impact assessment 3.3 Business benefits and the business case for a BAP	3. Why have a BAP? 3.1 Government regulations 3.2 Government relations [note: where reference to a NBSAP comes in] 3.3 Investor requirements 3.4 Supply chain security 3.5 Corporate social responsibility Our approach should assume that all companies will have a BAP for their operations in the Delta and this chapter will provide the rationale
4. Preparing and Implementing a BAP 4.1 Prerequisites 4.2 Preparation of the BAP 4.2.1 Establishment of priorities for conservation 4.2.2 Identification of conservation action 4.3 Implementation of the BAP 4.4 Monitoring, evaluation and improvement 4.5 Reporting, communicating and verification	4. Preparing and implementing a BAP 4.1 Preliminary assessment including a biodiversity baseline survey 4.2 Preparation of the BAP 4.2.1 Establishing biodiversity priorities - 'inside the fence' and 'outside the fence' - development/construction phase, operations phase, closure/decommissiong phase - stakeholder consultations 4.2.2 Establish biodiversity actions 4.3 Implementing the BAP 4.4 Monitoring, evaluation and reporting 4.5 Independent verification and adaptive management
5. Stakeholder engagement and partnerships for biodiversity 5.1 Stakeholder engagement and consultation 5.2 Development of partnerships	5. Niger Delta biodiversity partnerships 5.1 Niger Delta Biodiversity Trust 5.2 Stakeholder engagement
Company Case Studies 1. Shell 2. Chevron 3. EnCana 4. BP 5. ConocoPhillips	6. Best practices in the Niger Delta Allow the companies to profile good work done to date as examples of best practice
APPENDIX 1. Glossary and Acronyms	APPENDIX 1. Glossary and acronyms Important and should be based on terms as officially defined under the CBD and other multilateral conventions, as appropriate.
APPENDIX 2. Further resources A. Contacts, potential partners and sources of further information B. Annotated bibliography	APPENDIX 2. Further resources Perhaps also on a website so that it can be updated throughout the life of the UNDP/GEF project
APPENDIX 3. Variation in BAP activities according to industrial life cycle stage	Incorporate this topic into Chapter 4 above.

Such a guide would need to be developed in consultation with all stakeholders including representatives of the O&G sector, Government and local communities. Once finalised it would serve as the 'bible' for planning and implementing responsible biodiversity actions by the O&G companies.

6.3 Step Two – Independent reviews of O&G BAPs

With the guide and the Trust outline in Step Three, it will be possible for the UNDP/GEF project to establish Independent Review Panels for the O&G companies which would be tasked with reviewing their biodiversity plans and actions and would be empowered to propose how to strengthen these new plans and actions. Importantly, the findings and opinions of the panels would probably need to be confidential (at least in the initial stages) so that they help the companies to identify biodiversity opportunities rather than increase company risk.

These panels should consist of small teams of national and international experts (perhaps 4 to 6 members) with appropriate expertise including conservation biology, sustainable development, environmental and social management, and the O&G industry. They would advise the company on biodiversity opportunities both 'inside' and 'outside the fence'. The selection of the teams could be done jointly by the UNDP/GEF project and the O&G companies.

The teams should visit the companies once or twice a year for each of the four years of the project and write a report to the company which would consist of two parts – a general report which the company could, if they chose to, share with others including the shareholders and a 'letter to management' about issues arising which might be sensitive in nature and require more investigation than was possible in a short visit of an independent review panel.

A portion of the staff time could perhaps be covered by the UNDP/GEF project while the companies could cover transportation, accommodation and related logistical arrangements.

6.4 Step Three – A Niger Delta Biodiversity Trust

A key component of the project would be to develop a 'Niger Delta Biodiversity Trust'[109] which would help the O&G sector to invest in independently-verified biodiversity management plans for geographically-defined areas 'outside the fence'. In a sense, such an area might be considered a '**protected area plus (PA+)**' in that it would deliver conservation plus sustainability plus equity plus development in specific areas within the Niger Delta. Its main role would be to enable the O&G sector to mitigate the biodiversity impacts of the value chains by supporting local biodiversity management of specific areas and in so doing aim to have an overall net positive impact, both in terms of biodiversity and social development, in the Niger Delta.

Importantly, the Trust could explicitly help to

identify key areas to be managed;
work with the appropriate area authorities to develop biodiversity management plans (covering the four biodiversity objectives set out above);
facilitate independent third-party verification of these plans; and
identify the funding needs of the areas which in turn could be supported by the O&G sector.

[109] Note: This is a possible construction the Conservation Trust model currently under consideration in this project. It is modelled in part on the illustration presented in UNEP/CBD/COP/10/INF/15 - Innovative Financial Mechanisms - The GDM 2010 Initiative Report. See: http://gdm.earthmind.net/2010-10-nagoya/cop-10-inf-15-en.pdf.

Core funding for the Trust and its activities could come from the GEF grant, with the companies directly investing in the area-based management plans. In this respect, an appropriate level of investment by the companies would need to be agreed as discussed in Section 5 above.

Annex 5. Fauna of the Niger Delta: Additional Information

Mammals

The Delta is home to all of Nigeria's endemic or near-endemic mammal species and to six IUCN Red List mammals: the (Niger Delta) forest elephant (*Loxodonta Africana cyclotis*), the West African manatee (*Trichechus senegalensis*), the White-throated guenon (*Cercopithecus erythrogaster),* the Sclater's guenon (*Cercopithecus sclateri*), the pygmy hippopotamus (*Choeropsis liberiensis heslopi)* and the Niger Delta red colobus monkey (*Procolobus epieni*), have also been recorded. The Niger Delta red colobus is one of the world's 25 most endangered primates.[110] First discovered only in 1993, it was placed on the list in this biennium 2008-2010 due to its very small range, bush meat hunting pressure and widespread degradation of the Niger Delta's forests. There is every reason to suspect that its numbers are declining.

The one field study of the Niger Delta red colobus established that *epieni* occurs only in the so-called "marsh forest" zone of the central Delta, an area that has a year-round high water table, but does not suffer deep flooding or tidal effects. The more clumped distribution of food species in the marsh forest was a key factor restricting the primate to its limited range of 1,500 km^2, which is demarcated by the Forcados River and Bomadi Creek in the northwest, the Sagbama, Osiama and Apoi Creeks in the east, and the mangrove belt to the south. At the time of its discovery the Niger Delta red colobus was locally common in parts of the Delta, but has come under intense pressure from degradation of its habitat and commercial hunting. Artisanal loggers have felled important colobus food trees, such as *Hallea ledermannii,* at a high rate. In addition, large canals dug as part of oil extraction activities, as well as smaller canals dug by loggers into the interior swamps, are changing the local hydrology to the detriment of these and other tree species.

The Niger Delta harbors a high diversity of primates including important populations of two endangered species introduced above: the endemic Sclater's guenon, and the near-endemic White-throated guenon. Sclater's guenon, also known as the Nigerian monkey, is found only in the Niger Delta region. Described in the late 19th century, it was thought to be extinct by the 1980s. A forest dwelling species, it is an endemic to the Delta forests between the River Niger and Cross River.

Other species include Mona monkey (*Cercopithecus mona*), White-nosed guenon (*Cercopithecus nictitans*), Tantalus monkey (*Cercopithecus tantalus*), Red-bellied guenon (*Cercopithecus erythrogaster*) Red-eared guenon (*Cercopithecus erythrotis*) and Red-capped mangabey (*Cercocebus torquatus*); and the Putty-nosed monkey (*Cercopithecus nictitans*). All are listed as Vulnerable on the IUCN Red List. The endangered Nigeria-Cameroon Chimpanzee (*Pan troglodytes vellerosus),* recognised scientifically in 2001 as a distinct sub-

[110] *Primates in Peril: The World's 25 Most Endangered Primates 2008–2010.* Ed. R. A. Mittermeir et. al. IUCN/SSC Primate Specialist Group (PSG), International Primatological Society (IPS), and Conservation International (CI).

species, has a patchy distribution in the zone in the Delta, with its only populations likely in Bayelsa state, where in 1993 there were two main population groups: the Ogbotobo beach–ridge forest in the Dodo-Ramos estuary and the Biseni-Akpede-Asamabiri area of Taylor creek Forest Reserve.
The Niger Delta forest elephant (*Loxodonta Africana cyclotis*) likely still exists in the Delta, though recent information on population numbers and condition is not available. Known populations now are in the Andoni district of Rivers state where a poorly managed Game Reserve exists. The other straggler populations are possibly in Bayelsa state. The Rivers state herd is also located on a barrier island including the Andoni Creek Forest Reserve. No recent population counts have been made. In the early 1990s, this herd was estimated at a maximum of twenty animals. The herd has come out several times in recent times when flooding reduces its barrier island abode to the barest minimum. The Bayelsa state herd is known to have had several herds of elephants, but populations have not been surveyed in the past 10 years. The last estimates of the herds inhabiting the Biseni Forest and Esibiri Lake, Odi, Biseni-Asamabiri, beach ridge forests of the Dodo-Ramos estuaries put the population at 100 animals.

The Niger Delta pygmy hippopotamus (*Choeropsis liberiensis heslopi)* is essentially un-studied in recent decades and may be a distinct sub-species. The presence/absence in the Niger Delta of this poorly documented species is unknown. The pygmy hippo has had no confirmed sightings in the wild for many decades. Its existence, current status and distribution require confirmation and definition by a survey of some of the most inaccessible parts of the Delta. The nearest relative of the Delta pygmy hippo is in Liberia, several hundred kilometers to the west.

The aquatic antelope, sitatunga (*Limnotragus spekei*) and the water buck (*Kobus ellipsyprimnus)* occupy similar habitat, and still exist in the delta and inhabit the tangles associated with the swamp forests. The Water chevrotain **(***Hyemoschus aquaticus*) is the most aquatic of antelopes and is dependent on the dense vegetation characteristic of the swamp forests of the Niger Delta. Considered an endangered species and listed in Nigeria's Endangered Species Act it has widespread distribution. Bate's dwarf antelope *(Neotragus batesi*) was recorded at Nembe and Oloibiri. It is thought to be widespread and subject to hunting. Classified as least concern by IUCN, its population in Nigeria is unknown.

Birds

The greater Niger Delta is home to eleven Important Bird Areas (see maps of these and other species in Annex 3). About 148 water-related bird species from 38 families have been recorded in the area. These include five species of global conservation concern, one of which, the Anambra waxbill (*Estrilda poliopareia*), is endemic to Nigeria. The Anambra waxbill is a very rare species classified as vulnerable. It was reportedly sighted and photographed at Tombia, Bayelsa state recently. It is found in the wetter parts of the lower reaches of the Niger to Forcados in Delta state. Three Important Bird Areas are located within the four pilot states of the Delta: the Upper Orashi Forest, the Biseni Forests, and the Akassa forests. One or more of these are known to be home to the Anambra waxbill, as well as other threatened species such as the Damar tern (*Sterna balaenarum),* the White-tailed

greenbul (*Baeopogon clamans*), and the Dusky Crested-flycatcher (*Trochocercus nigromitratus*).

Fish

The Niger Delta harbors globally outstanding fish fauna and displays exceptional evolutionary phenomena with its higher taxonomic endemism and distinct species assemblages with a minimum of 314 species (313 being indigenous) from 158 genera and 64 families found in the region. A remarkably high number of freshwater species (165) occur in the Niger Delta. This number excludes permanent freshwater representatives of marine families Denticipidae (denticle herrings) Clupeidae (herrings) and Eleotridae (sleepers). At least twenty (20) endemic species have been recorded so far in the Delta. Unique conditions in the Delta have nurtured the evolution of five monotypic fish Families—Denticipidae, Pantodontidae, Phractolaemidae, Hepsetidae and Gymnarchidae—the highest concentration of monotypic Families of any freshwater eco-region in the world. The two Families Denticipidae and Phractolaemidae have the most restricted distribution. The denticile herring (Denticipidae) is a freshwater representative of marine herring family. The African butterfly fish *Pantodon buchholzi* (Pantodontidae) is capable of aerial respiration with its swim bladder and also can leap out of the water for short distances and glide (FishBase 2001). A popular aquarium species, the butterfly fish is partial to the leaf-laden seasonal wetlands of the Niger delta. The hingemouth (*Phractolaemus ansorgii*) is a small freshwater fish that is found only in west central Africa, the sole member of the Family Phractolaemidae. The mouth can extend like a small trunk, thus the name, and has just two teeth, both in the lower jaw. The swim bladder is alveolated and can function as a lung, allowing the species to survive oxygen-poor waters. The *Hepsetus odoe*, also known as the Kafue pike, is a predatory fish, and the only living member of the Family Hepsetidae. The monotypic genus *Gymnarchus niloticus* African frankfish *(Gymnarchidae)* is the only member of the family.

The African arowana or *Heterotis niloticus (Osteoglossidae)* has its nearest relatives in the Amazon river. *H. niloticus*, the only plankton-feeding osteoglossid, is the sole representative of its genus and the only member of the sub-family Heterotinidinae. Two species of freshwater stingray occur in the Delta, the only two freshwater stingray species in Africa: *Dasyatis garouaensis* (vulnerable), which is found only in three river systems in Nigeria and Cameroon, and the endangered thorny stingray *(Urogymnus ukpam).*

A detailed study of the distribution patterns of fish species in the Niger Delta showed that their occurrence is not uniform. Instead, a dichotomy is apparent between acidic clear black water systems (Sombreiro and New Calabar Rivers) and hard whitewater systems (Niger River and its immediate flood-plain and the Orashi River). Black water rivers contain up to 65% forest species and only 15% savanna species. Whitewater rivers have a species composition dominated by savanna (46.5%), although they also contain an important number of forest species. The former are generally acidic, have a low conductivity and are very transparent. They show little or no seasonal change in water level and have perennial densely vegetated banks, covered with mats of aquatic grasses and macrophytes, behind which swamp forest grows. Bottom vegetation is common and the bottom consists of fine sand, beds of dead leaves, and anoxic organic mud. The whitewater systems are less acidic, with higher conductivity and a low transparency. They show important changes in water levels

and support seasonal flood bank plain grasses; bottom vegetation is generally absent. The current conditions in the two types of rivers provide habitats suitable to different types of species[111].

Amphibians and Reptiles

Herptofauna of the Niger Delta are not well known and remained unstudied most of the 20th century. Old records combined with more recent studies (Akani et. al. 2003) provide a picture of the amphibian diversity found in the Delta. Based upon old and more recent records, it is possible to estimate that over 30 species of amphibians occur in the Delta, with the number likely to be higher. At least two species from the Leptopelis genus occur in the Delta (*Leptopelis aubryi, L. millson).* Other common species include: *Phrynobatrachus auritus, Hylarana albolabris* and *Chiromantis rufescenns*. The Pipidae are a family of primitive, tongueless frogs. At least three species in this family occur in the Niger Delta: the Tropical clawed frog (*Silurana tropicalis*), the African dwarf frog (*Hymenochirus boettgeri*), and the Western clawed frog *(Xenopus tropicalis).*

Four species of endangered species of sea turtle visit the beaches of the Delta and probably breed there: the leatherback (*Dermochelys coriacea*), *green (Chelonia mydas)* and olive ridley (*Lepidochelys olivacea),* loggerhead (*Caretta caretta*), and the critically endangered hawksbill (*Eretmochelys imbricata*). Little information on these species in the Delta is readily available but there of the many O&G companies operating in the area, it is highly likely that there is more data available on these species.

At least three species from the Bufonidae family occur in the delta (*i.e. Bufo maculates).* Nine species from the family Ranidae, the most widely distributed of any frog family, *and* at least three species (*Hyperolius concolor*, *H. guttulatus* and *Afrixalus dorsalis)* from Hyperoliidae, a family of small brightly colored frogs occur in the Delta. At least two species of Caecilians (*Geotrypetes seraphini*, *Herpele squalostoma)* can be found in the delta. Caecilians resemble earthworms or snakes and mostly live hidden in the ground, which makes them one of the least known orders of amphibians. A few species such as the Western bullfrog (*Dicroglossus occipitalis)* are of economic value as food and hold potential for sustainable use.

Crocodiles: Populations of the threatened West African dwarf crocodile (*Osteolaemus tetraspis),* the Nile crocodile (*Crocodylus niloticus)* and the slender-snouted crocodile (*Crocodylus cataphractus*) and up to five species of freshwater turtles are under intense hunting pressure. The delta remains the last stronghold of the dwarf crocodile *O.tetraspis,* which is heavily traded. A complex cultural relationship between crocodiles and people in several communities ensures that some populations of all species are strictly conserved. Recent studies of DNA and morphology suggest that *C. cataphractus* may belong in its own genus, *Mecistops*.

[111] Thieme, M.L. et. al. 2005. Freshwater ecoregions of Africa and Madagascar: a conservation assessment. World Wildlife Fund.

Annex 6. GEF4 SO2 Tracking Tool.

I. PROJECT GENERAL INFORMATION

1. Project Name: **Niger Delta Biodiversity Project**
2. Project Type (MSP/FSP): FSP
3. Project ID (GEF): 4090
4. Project ID (IA): 2047
5. Implementing Agency: UNDP
6. Country: Nigeria

Name of reviewers completing tracking tool and completion dates:

	Name	Title	Agency
Work Program Inclusion	Jeffrey Griffin	Lead Consultant Mainstreaming Expert	UNDP-GEF
Project Mid-term			
Final Evaluation/project completion			

7. Project duration: ***Planned***_____5__ years ***Actual*** _____ years

8. Lead Project Executing Agency (ies): UNDP and Federal Ministry of Environment

9. GEF Strategic Program:
[X] Strengthening the policy/regulatory framework for mainstreaming biodiversity (SP4)
[ ] Fostering markets for biodiversity goods and services (SP 5)

10. Production sectors and/or ecosystem services directly targeted by project:

10. a. Please identify the main production sectors involved in the project. Please put "**P**" for sectors that are primarily and directly targeted by the project, and "**S**" for those that are secondary or incidentally affected by the project.

Oil & Gas___P___
Agriculture_____
Fisheries_____
Forestry_____
Transportation_____
Other (please specify)_____

II. PROJECT LANDSCAPE/SEASCAPE COVERAGE

11. a. What is the extent (in hectares) of the landscape or seascape where the project will directly or indirectly contribute to biodiversity conservation or sustainable use of its components?

Targets and Timeframe Project Coverage	Foreseen at project start	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
Landscape/seascape area directly[112] covered by the project (ha)	**60,000 hectares**	--- hectares	--- hectares
Landscape/seascape area indirectly[113] covered by the project (ha)	**4,642,000 hectares**	--- hectares	--- hectares

Explanation for indirect coverage numbers: The indirect coverage number is the combined area of the four core Delta states where O&G operations are underway.

There are no federal protected areas (PAs) in the Delta. The following PAs are all State-level PAs, most of them forest reserves, with no infrastructure, no management plans, no budgetary allocations, no staff deployed to manage them. There is no enforcement. They are in essence, "paper parks."

AKWA IBOM STATE

#	Name	Designation	Area km^2
1	Stubbs Creek	Forest Reserve	310
2	Itu Swallow Roost	Forest Reserve	Not determined (ND)
3	Ikot Uso Akpan	Forest Reserve	ND
4	Nwanibia Game Reserve. Uruan LGA	Game Reserve	ND
5	Uyo Ravine	Forest Reserve	ND
6	Obot Ndom	Forest Reserve	12
7	Obeaku	Forest Reserve	20
	Sub-total		**342**

BAYELSA STATE

#	Name	Designation	Area km^2
1	Apoi creek	Forest Reserve	64.77
2	Egbedi	Forest Reserve	66.32
3	Nun	Forest Reserve	122.5
4	Pennington	Forest Reserve	Proposed/ND
5	Taylor creek	Forest Reserve	22.57
6	Brass	Forest Reserve	Proposed/ ND
7	Edumanon (Etiema/Okoroba)	Forest Reserve	86.76
8	Ikibiri Creek	Forest Reserve	91.71
9	Akassa Forests	Forest Reserve	
10	Ramos-Dodo-Pennington-Digatoro	Forest Reserve	322
	Sub-total		**776.63**

DELTA STATE

[112] Direct coverage refers to the area that is targeted by the project's site intervention. For example, a project may be mainstreaming biodiversity into floodplain management in a pilot area of 1,000 hectares that is part of a much larger floodplain of 10,000 hectares.

[113] the project may, for example, "indirectly" cover or influence the remaining 9,000 hectares of the floodplain through promoting learning exchanges and training at the project site as part of an awareness raising and capacity building strategy for the rest of the floodplain. Please explain the basis for extrapolation of indirect coverage when completing this part of the table.

#	Name	Designation	Area km^2
1	Olague	Forest Reserve	
2	Uremure-Yokri	Forest Reserve	181
3	Ukpe-Urhobo	Forest Reserve	107
4	Ogwashi-Uku	Forest Reserve	4.51
5	Ishiagu	Forest Reserve	23. 31
6	Kwale	Forest Reserve	2.93
7	Akiehe	Forest Reserve	17.2
8	Atachi I	Forest Reserve	12.95
9	Atachi II	Forest Reserve	6.01
10	Ute-Ukpe	Forest Reserve	18.31
11	Akumazi-Igbodo & Idumuje-Ugboko	Forest Reserve	18.13
12	Iyorcha	Forest Reserve	8.75
13	Oko	Forest Reserve	
	Sub-total		**376.79**

RIVERS STATE

#	Name	Designation	Area km^2
1	Upper Orashi	Forest Reserve	47.67
2	Lower Orashi	Forest Reserve	47.67
3	Otamiri FR	Forest Reserve	150.44
4	Upper Imo	Forest Reserve	155.28
5	Lower Imo	Forest Reserve	55.7
6	Andoni	Game Sanctuary	ND
7	Ikodi	Bird Sanctuary	0.1
8	Sombreiro Mangrove Forest	Forest Reserve	Proposed
	Sub-total		**446.86**

Grand total number of km^2 & hectares of State designated areas in the Delta.	**1952.27 km^2**	**195,227 hectares**

11.c. Within the landscape/seascape covered by the project, is the project implementing payment for environmental service schemes? No.

12.a. Within the scope and objectives of the project, please identify in the table below the management practices employed by project beneficiaries that integrate biodiversity considerations and the area of coverage of these management practices. Please also note if a certification system is being applied and identify the certification system being used. Note: this could range from farmers applying organic agricultural practices, forest management agencies managing forests per Forest Stewardship Council (FSC) guidelines or other forest certification schemes, artisanal fisherfolk practicing sustainable fisheries management, or industries satisfying other similar agreed international standards, etc. An example is provided in the table below.

III. MANAGEMENT PRACTICES APPLIED

Specific management practices that integrate BD	**Name of certification system used** (NA if none applied)	**Area of coverage foreseen at start of project**	**Achievement at Mid-term Evaluation of Project**	**Achievement at Final Evaluation of Project**
1. Oil and gas companies develop and adopt biodiversity action plans that integrate biodiversity objectives into each phase of the O&G project cycle, from exploration to decommissioning.	**NA**	**60,000 hectares (inside the fence)**	-- hectares	--- hectares
2. Key oil and gas law and policies incorporate biodiversity objectives (EIA, oil spill response) covering O&G operations across all four core Delta States where O&G operations exist.	**NA**	**4,642,000 hectares.**		

IV. MARKET TRANSFORMATION

NA

V. POLICY AND REGULATORY FRAMEWORKS

For those projects that have identified addressing policy, legislation, regulations, and their implementation as project objectives, please complete the following series of questions*:* 14a, 14b, 14c.

[Guidance: For tables below, please answer YES or NO for each sector that is a focus of the project.]

14.a. Please complete this table at **CEO endorsement for each sector** that is a primary or a secondary focus of the project.
Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector Statement:	Oil and Gas	Agriculture	Fisheries	Forestry	Other (please specify)
Biodiversity considerations are mentioned in sector policy	**No**				
Biodiversity considerations are mentioned in sector policy through specific legislation	**No**				
Biodiversity-oriented regulations are in place to implement the legislation	**No**				
The regulations are under implementation	**No**				
The implementation of regulations is enforced	**No**				
Enforcement of regulations is monitored	**No**				

14.b. Please complete this table at **the project mid-term for each sector** that is a primary or a secondary focus of the project.
Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector Statement:	Oil and Gas	Agriculture	Fisheries	Forestry	Other (please specify)
Biodiversity considerations are mentioned in sector policy					
Biodiversity considerations are mentioned in sector policy through specific legislation					
Biodiversity-oriented regulations are in place to implement the legislation					

Sector Statement:	Oil and Gas	Agriculture	Fisheries	Forestry	Other (please specify)
The regulations are under implementation					
The implementation of regulations is enforced					
Enforcement of regulations is monitored					

14. c. Please complete this table at **project closure for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector Statement:	Oil and Gas	Agriculture	Fisheries	Forestry	Other (please specify)
Biodiversity considerations are mentioned in sector policy					
Biodiversity considerations are mentioned in sector policy through specific legislation					
Regulations are in place to implement the legislation					
The regulations are under implementation					
The implementation of regulations is enforced					
Enforcement of regulations is monitored					

All projects please complete this question at the project mid-term evaluation and at the final evaluation, if relevant:

14.d. Within the scope and objectives of the project, has the private sector undertaken voluntary **measures to incorporate biodiversity considerations in production? If yes, please provide brief explanation and specifically mention the sectors involved.**

An *example* of this could be a mining company minimizing the impacts on biodiversity by using low-impact exploration techniques and by developing plans for restoration of biodiversity after exploration as part of the site management plan.

[to be completed at mid-term]

VI. OTHER IMPACTS

16. Please briefly summarize other impacts that the project has had on mainstreaming biodiversity that have not been recorded above.

[to be completed at mid-term and project end, when impacts will be measured]

United Nations Development Programme
Country: Nigeria

PROJECT DOCUMENT

Project Title:	**Niger Delta Biodiversity Project**
UNDAF Outcome(s):	The Federal Government and selected States in the Niger Delta able to secure a participatory policy and institutional environment conducive to sustained peace and equitable development.

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome: Mobilizing environmental financing **UNDP Strategic Plan Secondary Outcome:** Mainstreaming environment and energy

Expected CP Outcome(s): [Component 4: Sustainability and Risk Management Programme (SRMP): Protection of the Resource Base] Environmental governance at the federal level and in selected states based increasingly on policy, legal and regulatory frameworks and action that are more likely to protect natural resources as well as livelihoods.

Expected CPAP Output (s): [Project Objective] To mainstream biodiversity management priorities into the Niger Delta oil and gas (O&G) sector development policies and operations.
[Project Components] *(1)* The governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta is strengthened.; *(2)* Government, the O&G industry and local communities build and pilot new biodiversity action planning tools for the proactive biodiversity management in the Niger Delta.; *(3)* Stakeholders support long-term biodiversity management in the Niger Delta by capitalizing and accessing the Niger Delta Biodiversity Trust as a collaborative engagement mechanism for local communities, O&G companies and Government at its core.

Executing Entity/Implementing Partner: UNDP (Direct Implementation – DIM)

Implementing Entity/Responsible Partners: Lead Agency: Federal Ministry of Environment. Additional partners: Ministry of Niger Delta; Niger Delta Development Commission Ministry of Petroleum Resources; Oil Production Trade Sector, Lagos Chamber of Commerce

Brief Description

This project's goal is to contribute to the conservation and sustainable use of globally significant biological diversity in the Niger Delta. The project objective is "to mainstream biodiversity management priorities into the Niger Delta oil and gas (O&G) sector development policies and operations." The project's three main outcome designed to achieve this objective are: 1) Stakeholders strengthen the governance framework of law, policy, and institutional capacity to enable the mainstreaming of biodiversity management into the O&G sector in the Niger Delta; 2) Government, the O&G industry and local communities adopt and pilot new biodiversity action planning tools for proactive biodiversity mainstreaming in the Niger Delta; 3) Stakeholders support long-term biodiversity management and the use of these new tool in the Niger Delta by capitalizing the Niger Delta Biodiversity Trust with a collaborative engagement mechanism for local communities, O&G companies and Government at its core. Each of the three outcomes of this project reflects the project's (and UNDP's) focus on strengthening the governance of biodiversity in the Niger Delta. By mainstreaming biodiversity into the O&G sector of the Niger Delta, the project is strengthening the governance of those resources. The geographic focus of the project is on the four core Nigerian States within the Niger Delta (Akwa Ibom, Bayelsa, Delta, and Rivers States), which combined encompass an area c 46,420 km2 (the 'indirect landscape mainstreaming target'). The physical footprint of the O&G company assets within this area is admitted by the industry to be 60 km2, which is considered the project's initial 'direct landscape mainstreaming target' The project will bring improved biodiversity management to these areas indirec and directly, respectively, as measured by improved state of globally significant species and ecosystems, legal and policy frameworks that incorporate biodiversity objectives, and O&G companies adopting best practice for biodiversity actions. A key result will be the establishment of a long-term funding mechanism for mainstreaming biodiversity into the O&G sector, called the Niger Delta Biodiversity Trust.

Programme Period:	2009-2012
Atlas Award ID:	00061066
Project ID:	00077181
PIMS #	2047
Start date:	Feb-2011
End Date	Mar-2016
Management Arrangements	DIM
PAC Meeting Date	15th Feb 2012

Total resources required (total project funds)	$ 14,325,0
Total allocated resources (UNDP managed funds in the current award)	**$ 4,675,0**
Regular (UNDP TRAC)	$1,000,0
GEF	$3,610,0
Government (in cash through cost-sharing)	$65,0
Other (partner managed resources)	
o UNDP through parallel approved projects	$ 1,500,0
o Government (in cash)	$ 3,000,0
o Government (in-kind and staff time allocation)	$ 3,150,
o Shell Nigeria (private sector)	$ 2,000,

MRS OLABISI JAJI
Federal Ministry of Environment (Implementing Entity)
20-9-12
Date/Month/Year

DAOUDA TOURE
Resident Coordinator & UNDP Res. Representative (Executing Entity)
26/09/2012
Date/Month/Year