

SIGNATURE PAGE

Country: St. Kitts & Nevis

UNDAF Outcome(s)/Indicator(s): Reduced poverty and food insecurity. A strong sustainable environmental management system in place supported by UNDP.

Expected Outcome(s)/Indicator (s): More access to agricultural lands for rural communities. Increased number of subsistence farmers. Sustainable land management linked to poverty reduction. MYFF Service Line 3.4

Expected Output(s)/Indicator(s): National Land use policy available and developed. Training in Good Agriculture Practice provided to rural poor.

Implementing partner: Government of St. Kitts and Nevis, Ministry of Planning and Economic Development

Other Partners: Government of St. Kitts and Nevis, Ministry of Planning and Economic Development

Programme Period: 2007-2010
Programme Component: OP15-SP1
Project Title: LDC-SIDS Targeted Portfolio Project for SLM
Preparatory Assistance Request
Project ID: 000 46155
Project Duration: 3 yrs
Management Arrangement: N/A

Total budget:	993,000
GEF Trust Fund	485,000
Allocated resources:	508,000
• Government (in-kind)	500,000
• Multilateral	8,000

Agreed by Government of St. Kitts and Nevis

Agreed by UNDP:

Rosina Wiltshire
Rosina Wiltshire
Resident Representative

Date: 23/04/2008





Federation of St. Kitts and Nevis

United Nations Development Programme
and
The Global Environmental Facility

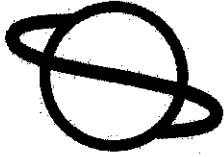
Capacity building and Mainstreaming of Sustainable Land Management in St. Kitts and Nevis

PIMS 3415 – Atlas Project ID 00046155

The twin-island Federation of St. Kitts and Nevis is entering a challenging period in its development history with anticipated major changes as its economy transitions from a primarily agriculture-based economy to one driven by the hospitality and services sectors. World Trade Organization trade reforms with respect to EU market access have precipitated the closure of the sugar industry and the country is currently exploring land development options in viable alternative and value-added agricultural industries and real estate. There is a pressing need to address the issues of land management in a “post-sugar” scenario in terms of land conservation and land use optimization. There are signs of land degradation across the country driven by development pressures, from both planned and unplanned activities (agriculture, settlement, mining) and there is a recognized need to arrest these negative trends. However, lack of coordinated, effective institutional responsiveness and weak institutional and individual human resource capacity are issues that must be addressed in order to realise more sustainable land management. This project will therefore provide support for the development of strategies that will contribute to judicious use of land resources through sustainable land management practices in the context of sustainable social and economic development. The long-term goal of the project is: *The agricultural, forest, residential, tourism and urban land uses of St. Kitts and Nevis are sustainable, so that ecosystem productivity and ecological functions are maintained while contributing directly to the environmental, economic and social well-being of the country.*

The project objective is: *To strengthen capacities for SLM among key stakeholders and mainstream SLM practices into national development planning processes and initiatives in a post sugar era.* The project will realize four outcomes: (1) SLM is mainstreamed into national development policies, plans and regulatory frameworks, (2) Individual and institutional capacities for SLM are developed, (3) Capacities for knowledge management in support of SLM are developed, and (4) Investment planning and resource mobilization for implementation of SLM interventions are elaborated. The three-year project will be implemented by the Department of Physical Planning and Environment using a multi-stakeholder participatory approach involving public, private and non-governmental organizations.

The total budget of the project is **US\$ 1,008,000** of which **US\$ \$485,000** will be the GEF increment.



GEF

**Expedited Medium Size Project proposal
under the
LDC-SIDS Portfolio Project for Sustainable Land Management
REQUEST FOR GEF FUNDING**

AGENCY'S PROJECT ID: 3415 - Atlas Project
ID 00046155

GEFSEC PROJECT ID:

COUNTRY: St. Kitts and Nevis

PROJECT TITLE: Capacity Building for
Sustainable Land Management in St Kitts and
Nevis

GEF AGENCY: UNDP

OTHER EXECUTING AGENCY(IES): Ministry of
Sustainable Development

DURATION: 3 years

GEF FOCAL AREA: Land Degradation

GEF OPERATIONAL PROGRAM: OP 15

GEF STRATEGIC PRIORITY: SP 1

ESTIMATED STARTING DATE: January 2008

FINANCING PLAN (US\$)	
GEF PROJECT/COMPONENT	
Project	485,000
PDF A	15,000
<i>Sub-Total GEF</i>	500,000
Co-financing	
GEF Agency	
Government	500,000
Bilateral	
NGOs	
Others (FAO)	8,000
<i>Sub-Total Co-financing:</i>	508,000
<i>Total Project Financing:</i>	1,008,000
FINANCING FOR ASSOCIATED ACTIVITY IF ANY:	

Country Eligibility: St Kitts and Nevis ratified the United Nations Convention to Combat Desertification on 30 June 1997 and is eligible for funding under paragraph 9(b) of the GEF Instrument

CONTRIBUTION TO KEY INDICATORS OF THE BUSINESS PLAN: The project will mainstream sustainable land management into St. Kitts and Nevis social and economic development agendas and build institutional and individual human resource capacities for sustainable land management with environmental benefits accruing to forest and agricultural lands estimated at 6,000 hectares.

RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT:

Operational Focal Point Endorsement

Date: 10 September 2004

Hilary Hazel, Permanent Secretary, Ministry of
Sustainable Development

This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for a Medium-sized Project under the LDC-SIDS Targeted Portfolio Project for Sustainable Land Management.

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ACRONYMS

APR	Annual Project Review
CEHI	Caribbean Environmental Health Institute
CREP	Caribbean Regional Environment Project
DCPB	Development Control and Planning Board
DPPE	Department of Physical Planning and Environment (St. Kitts)
DPPNRE	Department of Physical Planning, Natural Resources and the Environment (Nevis)
EIA	Environmental Impact Assessment
FBDC	Frigate Bay Development Corporation
FEEM	Fond Français de l'Environnement Mondial
GSU	Global Support Unit
GEF	Global Environmental Facility
GIS	Geographic Information System
GOSKN	Government of St. Kitts and Nevis
IWCAM	Integrated Watershed and Coastal Area Management
LIS	Land Information System
LMU	Land Management Unit
LRA	Land Resource Analysis
NAP	National Action Plan
NCSA	National Capacity Self Assessment
NEMS	National Environmental Management Strategy
NHC	National Housing Corporation
NIA	Nevis Island Administration
NPDP	National Physical Development Plan
OAS	Organization of American States
OECS	Organization of Eastern Caribbean States
OPAAL	OECS Protected Areas and Alternative Livelihoods Project
SEP	South East Peninsula
SKILIS	St. Kitts Integrated Land Information System
SKN	St. Kitts and Nevis
SLM	Sustainable Land Management
SSMC	St. Kitts Sugar Manufacturing Corporation
UNCCD	United Nations Convention for Combating Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

SECTION I:

PART I: SITUATION ANALYSIS

BACKGROUND AND CONTEXT

Environmental Context

Physical Attributes

1. The twin island Federation of St. Kitts and Nevis (SKN) consists of two islands located in the northern part of the Lesser Antilles chain of islands in the Eastern Caribbean. St. Kitts is located at latitude 17° 15' north and longitude 62° 45' west and Nevis is located two miles (3 km) to the south-east, at 17° 10' north and longitude 62° 35' west.
2. The Federation of St. Kitts and Nevis has a land area of 269 sq. km. (104 sq. miles). The larger of the two islands, St. Kitts is 176 sq. km. (68 sq. mi.) in area. It is approximately 36.8 km (23 mi) long and is roughly oval in shape with a narrow neck of land extending like a handle from the southeastern end. Nevis has an area of 93 sq. km. (36 sq. mi), with a length of 12.3 km (7.64 mi) and a width of 9.6 km (5.96 mi) at its widest point.
3. **St. Kitts:** The physical landscape of St. Kitts is characterised by three volcanic centres: (1) The central northwest range, dominated by Mt. Liamuiga, rises with a pronounced crater to 1,156 meters (3,792 ft) and is the Federation's highest peak. (2) The middle range, which consists of a number of irregular related peaks dominated by Verchild's Mountain at a height of 975 meters (3,200 ft), with steeper and shorter slopes towards the leeward coast. (3) The southeast range, which consists of a number of irregular peaks, with the highest being 900 meters (2,953 feet) above mean sea level. Like the middle range, the slopes here are steeper and shorter on the leeward side.
4. Most flat or moderately sloped land occurs near the coast, and as a result, most urban and agricultural developments have are located there. The island's coastline largely consists of cliffs, some 15 to 30 meters (50 to 100 feet) high. Beaches at the foot of these cliffs are narrow and the sand is coarse and black, with many pebbles and boulders. Exceptions are in the northwest, where the cliffs are lower and some beaches have yellow sand and are wider. In Basseterre where there are cliffs, there is a narrow beach of grey sand. From Conaree, on to the southeast of the island, there are long stretches of yellow sand beaches.
5. **Nevis:** Topographically, Nevis is approximately circular and dominated by the central Nevis Peak, 985 m (3,232 ft.) high. Windy Hill (309m) and Saddle Hill (381m) at the head and tail of the island, respectively, align with Nevis Peak to form a north-northwest/south-south-east trending spine comparable to the more pronounced spine of St. Kitts. To the east, the spine is thickened by the bulge of Butlers Mountain (478m). Slopes vary from almost zero near the sea, to over 40 percent in the vicinity of Saddle Hill, Butlers Mountain, Nevis Peak and Windy Hill.

Climate

6. The climate of the Federation of St. Kitts and Nevis is classified as tropical marine. Generally, it is influenced by steady northeast trade winds and tropical oceanic and cyclonic movements. Temperatures average approximately 27° Celsius. Seasonal and diurnal variations in temperature are small. The relative humidity is fairly high all year round; lower in the dry season and higher in the wet season. The mean value is 76%, but it ranges from 70% in March, to 78% in September, October and November.
7. Rainfall is mainly cyclonic and orographic in origin, and increases in amount and frequency with altitude. Mean annual rainfall ranges from about 890 – 1,000 mm in the coastal areas, to about 2,500 – 3,800 mm in the central mountain ranges. The rainfall is unevenly distributed between years and between months, but there is a reliable wet period from August to September and a dry period from January - April.

Geology and soils

8. The island of St. Kitts is composed almost exclusively of volcanic rocks of andesite or dacite mineralogy. Its geology is similar to that of other volcanic islands in the Lesser Antillean Archipelago. The islands are the summits of a submerged mountain range which forms the eastern boundary of what is known as the Caribbean Tectonic Plate. St. Kitts is oriented northwest-southeast, about 80 km long and 16 km wide. The entire island archipelago is geologically young, having begun to form probably less than 50 million years ago, during the Miocene era. Volcanic activity occurred along the ridges of this arc during the Miocene era and has continued since. Nevis is a volcanic island that began its formation in mid-Pliocene times (approximately 3.45 million years ago). The geology of Nevis can be subdivided into four informal units: Volcanic of the eruptive centers, volcanigenic rocks - pyroclastics and lahars, fluvial and lacustrine deposits, and raised beaches.
9. **St. Kitts soils:** The soils have been described in detail by Lang and Carroll (1966). The soils have evolved based on the nature of the volcanic parent material and the extent of weathering of the primary materials governed by the rainfall regime. The soils of the lower slopes are developed in deep, coarse-textured and often gravelly and bouldery volcanic ash. They are excessively well-drained with low water holding capacities, and they have a low clay and organic matter content. At about the 150 meter ash contour, the soils are wetter and show greater weathering and profile development. They have low clay content but higher contents of silt and fine sand. They have a higher water-holding capacity than the younger soils down slope, and are more leached but still have a high inherent nutrient level. The soils of the mountains above the 300-meter ash contour have the greatest profile development with high clay contents and bright reddish or brownish colours due to the presence of free iron oxides. They have finer textures and high water holding capacities. They are more leached than the soils down slope, but still appear to be moderately fertile with high levels of organic matter. Table 1 contains the key attributes of the soils of St. Kitts.

Table 1. Key attributes of St. Kitts soils

GROUP	STAGE OF DEVELOPMENT	WEATHERING STAGE
Protosols	Without clay development.	0
Young soils	Without marked clay development.	1
Smectoid Clay soils	Marked clay development.	0 - 3
Allophanoid Latosolics	Marked clay development.	2 - 5
Kandoid Latosolics	Marked clay development.	2 - 5
"Mixed clay" Latosolics	Marked clay development.	2 - 5
Kandoid Latosols	Marked clay development.	6 - 7

Source: Lang and Carroll (1966)

10. **Nevis soils:** In the first soil survey of Nevis conducted by Hardy and Rodrigues (1947), it was noted that Nevis' soils were generally impoverished with respect to potash and that they differ significantly from those on St. Kitts in terms of textural characteristics. Compared to the soils of St. Kitts, which tend to be predominantly sandy-loams, the soils of Nevis tend to be more clayey in texture. Three primary soil groups have been identified on Nevis:

- *Red-Brown Earths* - at the summit of Nevis Peak. This soil is mature, but strongly acidic and of little agricultural importance.
- *Brown-Yellow Earths* - which encircle the area of the Red-Brown Earth type. This is good agricultural soil but contains many boulders that limit mechanized methods of cultivation.
- "*Shoal*" soils - which occur in low-lying areas over volcanogenic sediments. This soil tends to be clayey and difficult to cultivate.

Vegetation and ecosystems

11. **St. Kitts:** The vegetation of St. Kitts provides evidence of great disturbance by human activity. In the lowland areas, intensive land use has removed all vestiges of the natural vegetation. Although the mountain peaks are still covered by forest, they do not have virgin forest characteristics. Lower slopes are covered by secondary growth on abandoned farms. The resident vegetation comprises about 243 species of trees. Beard (1949), described five natural forest classes:

- *Rain Forest* - dominated by the mountain cabbage palm, with large trees of gumlin (*Dacryodes excelsa*) and burrwood (*Solanea spp.*). There are 243 to 283 hectares of this formation in St. Kitts on either side of the Olivees range.
- *Dry Evergreen Forest* - secondary forest occupying the lower margins of the forest, usually on land thrown out of cultivation. This group includes the useful sweetwood (*Lauraceae spp.*) and small-leaf (*Myrtaceae spp.*) families. The undergrowth consists of densely growing shrubs and vines such as *Piper spp.* And various coffee type plants. The formation is of limited area.
- *Palm Brake* - covering land between an elevation of 370 and 550 metres. The forest consists mainly of the mountain cabbage palm (*Euterpe globosa*), with a few treeferns and small trees.

- *Elfin Woodland* - appearing on peaks and ridges above 600 metres. This is a low, tangled and windswept growth, loaded with epiphytes and mosses. This, together with Palm Brake, forms the vegetation of the summits of the ridges and peaks.
 - *Dry Scrub Woodland* - of the SEP. Beard suggests that this type has been heavily impacted by the past. The SEP and its extension into the Canada Hills were probably once forested with deciduous seasonal forest, but now supports a xerophytic scrub of acacia, agave, columnar and Turk's Head cacti.
12. The coastal and marine ecosystems in St. Kitts include coral reefs, sea grass beds, mangroves, salt ponds, diverse aquatic life and the coastline. As an island territory, St. Kitts has a fragile 78.1 km long coastline consisting of 34.7 km cliff (rocks), 10.8 km cobble, 6.3 km boulders and rocks, 13.1 km black volcanic sand, and 13.2 km golden sand.
13. Mangroves are not abundant, the main and most extensive mangrove habitat in St. Kitts occurs in the South East Peninsula. Hawksbill and green sea turtles are found around the entire coast. In addition, there are a large number of resident and migratory birds that depend on the mangrove and pond communities for feeding and nesting.
14. **Nevis:** The vegetative zones of Nevis follow the pattern typical of small, volcanic Caribbean islands. According to Beard (1949), Nevis has six vegetation zones. They are:
- *Rain Forest and Humid Forest* - The only substantial stand of tall trees is on the northwestern side of the mountain above Jessups. The dominant species are the mountain cabbage palm (*Euterpe globosa*), gumlin (*Dacryodes excelsa*) and burrwood (*Solanum spp*).
 - *Elfin Woodland* - The summit of Nevis Peak is covered with low, gnarled tangled growth. This forest is usually less than three metres high and laden with moss and epiphytes and matted with lianas.
 - *Montane Thicket* - A very thin belt located just above the rain forest on the west side of the mountain. This area is dominated by weedee (*Podocarpus coriceus*) and mountain cabbage palm.
 - *Palm Brake* - This is a band of montane forest located on very steep slopes, or in areas exposed to high winds. This zone is dominated by mountain cabbage palm and the rest of the forest consists of tree ferns (*Cyathea arborea*).
 - *Dry Scrub Woodland* - The low hills of Nevis (e.g. Round Hill and Saddle Hill) consist of patchy, scrub woodland. The prominent trees are various species of acacia and cassia, together with century plant (*Agave americana*), prickly pear cactus (*Opuntia rubescens*) and pope's head or barrel cactus (*Euphorbia pulcherrima*). Most of the southern coast of the island from Baths Plain to Indian Castle consists of cactus scrub woodland.
 - *Dry Evergreen Forest* - The lower slopes of Nevis Peak that extend north and east are covered with an evergreen forest of small trees. The most prominent trees are white cedar (*Tabebuia heterophylla*), black mast (*Diosyros ebenaster*) and loblolly (*Pisonia fragans*).
15. Shoreline features of Nevis include sandy beaches, fresh water lagoons, rocky shores and massive sea cliffs. The most prominent sandy beach is a 4 km section of the coastline that stretches north from Charlestown to Cades Bay, called Pinneys Beach. It is composed of

both coral fragments and terrestrial soils that give it a yellow appearance and is typical of a number of beaches found along the leeward coast of the island.

16. Another feature associated with the leeward coastline of Nevis is its system of freshwater lagoons. These may be the result of either mountain ghaut run-off, as is the case for the Pinneys Estate lagoons, or underground springs as evidenced at Nelson Springs in Cotton Ground.
17. Rocky shores are often associated with an impressive array of marine life from algae and snails to juvenile fishes of all description. Sea cliffs are found where strong wave energy undercuts rocky ledges and erodes soil from agglomerate and unconsolidated rock. These rugged habitats can be found on the southern and eastern coasts of Nevis.
18. Three coastal habitats, freshwater lagoons, coral reefs, and sea grass beds, are of critical importance to the near shore tropical marine ecosystems of Nevis. There are many direct and indirect links between the productivity of these habitats and the health of inshore fisheries.

Anthropocentric land use trends

19. **Agricultural land use:** The rural landscape of St. Kitts is dominated by sugar cane plantations, with settlements interspersed in between. The acreage under agricultural (predominantly sugarcane) production has been declining over the years and in 2005 the Government officially closed the state-run sugar industry. According to the 2000 agricultural census, just under 6,400 hectares of land in St. Kitts and Nevis was used for agricultural purposes (approximately 24% of the total land area). In St. Kitts, 93% or 4,000 hectares of the productively used land is currently under sugar-cane production (Williams, 2003); the previous extent of sugarcane cultivation was just over 10,500 hectares. The 2000 census statistic was based on 3,066 holdings that were classed as agricultural of which 2,383 holdings were under some type of secure access; some 683 holdings were categorized as operated by landless farmers (on squatted lands). An additional 57 hectares of unutilized lands were considered to be potentially productive.
20. Table 2 contains the most recent land utilization figures from the 2000 Census of Agriculture. The data is for holdings considered as agricultural only.

Table 2. Land Use Classification for agricultural holdings on St. Kitts and Nevis (for year 2000)

Land use	Area (ha)
Agricultural land	
Cropland	
Arable land	
i. under temporary crops	392
ii. temporarily fallow	118
Permanent crops (including sugar cane)	4,317
Permanent meadow/pastures	1,001

Wood or forest land	367
All other land	174
All land	6,369

Source: 2000 Agriculture and Fisheries Census

21. With the decline of the sugar industry, sugarcane lands in some areas have been reallocated for other uses including non-sugar agriculture, tourism, housing, recreation, the building of schools, commercial & industrial sites and other types of developments.
22. **Other land use - St. Kitts:** The rural settlement pattern in St. Kitts is characterized by ribbon developments (series of small villages linearly clustered along the island's main roads), many of which have been unplanned or developed outside of a planned physical development strategy. There are however, a handful of locations where planned developments have been implemented.
23. The major urban and commercial areas are Basseterre, the capital city where about 40% of the population resides, Sandy Point and Cayon. The drift from rural to urban areas over the past two decades has led to Basseterre becoming over-crowded. Sandy Point and Cayon are also experiencing expansion related problems. The city centre is, for the most part, well planned, being laid out on a grid. Near to the city centre, there are some other areas of well-planned low to medium-density suburbs (Shadwell, Wades Garden, Ponds Pasture and Fortlands). Interspersed amongst these, are a few areas of high density residential developments. There is a high demand for lands for housing along the coastline, due to the fact that most of the upland interior lands are very rugged with large areas under forest reserve; the remainder of the lands remain under sugar cane cultivation although no further harvesting is being carried out.
24. **Other land use - Nevis:** Like St. Kitts, the population is concentrated in the capital, Charlestown. Most villages follow ribbon-style development along the island's main road. There is more evidence of dispersed settlement patterns than in St. Kitts, primarily due to the construction of large homes on large land plots, mostly by the expatriate community.
25. The main land use types are urban development, agricultural lands and reserve lands. Urban development comprises the Charlestown Conservation Area, Charlestown, medium-density housing areas, industrial sites, the airport and seaport, hotels and other tourism sites. Agricultural land is divided into high, medium and marginal quality land. Reserve lands include forest lands, a marine park, conservation areas, historic and environmental sites.
26. Annex 1 illustrates the land use patterns on St. Kitts and Nevis.

Land degradation issues in St. Kitts and Nevis

27. Land degradation is an issue of concern for St. Kitts and Nevis given the small landmass size and the integral link between land-based and marine resources that are a strategic asset,

particularly to the country's tourism product. The fate of the former sugar lands on St. Kitts are now the subject of much discussion in terms of institutional responsibility for management in the context of land conservation. Most of the sugar lands are characterized by slopes of 5-15%, however, there are lands that are much steeper (slopes upwards of 25-30%) and within any given field, the slope may vary considerably, hence the practice of contouring and strip cropping by the St. Kitts Sugar Manufacturing Corporation (SSMC). Under the Company management, the more vulnerable lands in the sloped foothills and ghauts were also subject to conservation programmes. The company also maintained all the cane field roads (including 35 miles of railway track), some 23 bridges and over 200 open drains and culverts. It is estimated that approximately US\$2.2 million per year was spent on land management activities. The sugarcane crop itself is a good cover crop in terms of soil and water conservation as it shields the ground from direct raindrop impact and enhances the infiltrative capacity of the soil to reduce runoff. The re-planting stage is the only time when the soil may be exposed, which is once in every five to seven years.

28. The problems of land degradation have become apparent on steeper slopes and lands within close proximity to ghauts (generally outside of the SSMC lands) where clearing for subsistence agriculture and unrestrained livestock grazing have been causing severe problems. This is particularly obvious during heavy rainfall events where large volumes of soil have been observed to be eroded and quickly channeled to the marine environment. In areas outside of the sugar lands, poor or non-existent drainage, particularly along feeder roads contribute to erosive channelized runoff during and following heavy rainfall. Problems with soil erosion and excessive runoff often exacerbate flooding problems in downstream settlements.
29. During extended drought periods, livestock overgrazing causes significant problems in the lowland areas where vegetative cover is destroyed and is no longer capable of soil conservation function. During rainfall events, resultant surface and gully erosion on account of loss of vegetative cover leads to accelerated land degradation and loss of soil productivity.
30. On Nevis, overgrazing by feral donkeys and small ruminants has been a major problem in the past, and the Nevis Island Administration (NIA) has taken measures to limit the number of donkeys in the wild. However, this has not provided a complete solution to the problem as small ruminants continue to pose a serious threat to the management of land in certain areas. Animal husbandry at a subsistence level has been a tradition for residents on Nevis and most households own and pasture small to medium-sized flocks of sheep or goats. However, increased urban development of the island has reduced the availability of land for pasturing of small ruminants. This has led to unauthorized intensive grazing on lands owned by government and absentee owners with accelerated land degradation. The problem is acute for over an estimated 80 hectares in the southern parts of the island in areas around Stackpen Estate, Fothergills Estate, Indian Castle Estate, Dogwood Estate, Coconut walk, Estate and Bachelor Hall Estate.
31. On Nevis quarrying for fine aggregates has left major scars on the landscape and has contributed to soil erosion, the buildup of ghauts beds and sedimentation of offshore reef and marine habitats. At quarry sites the vegetation cover is often completely removed and

usually left without remediation after the operation has been closed. The buildup of fine dust on surrounding vegetation causes gradual retardation of plant growth. There are six major quarry operators on the island directly impacting some 27 hectares, with a further 30 hectares being indirectly affected.

32. The UNDP 1995 Land Use Report¹ which formed part of the Agricultural Diversification Project for St. Kitts & Nevis emphasized that the country's soils are prone to erosion and degradation, and cautioned that extreme care needs to be taken with respect to land conservation. The FAO/CDB Agricultural Diversification Project Preparation Report 2002² made reference to the likely environmental damage that might occur following possible closure of the sugar industry, with interruption of the soil conservation and environmental activities formerly carried out by the sugar industry. To this end the Report proposed the establishment of a Land Management Unit with a dedicated mandate for land conservation and coordination of management activities in the Federation.

Socio-economic context

Population

33. The Federation has a population of 46,111, with 75.6% of the population residing on St. Kitts and the remaining 24.4% on Nevis. The majority of the population resides in the main towns; Basseterre and environs on St. Kitts, and Charlestown on Nevis. The Human Development Index (UNDP) of St. Kitts & Nevis was ranked at 49 in 2005.

General economy

34. Real economic growth in the Federation of St. Kitts and Nevis averaged 2.5% during 1999 to 2003. This average rate of growth was 2.1 percentage points below the average rate for the previous five-year period. The growth rate during the period was uneven, increasing from 3.9% in 1999 to 6.5% in 2000 before falling to -0.3% in 2002. The deceleration in growth from 2000 to 2002 was mainly attributable to the global recession in 2001 and the global developments in 2002, most notably, the continuing weakness in the international economy, the destabilising effects of globalisation, liberalisation, and the economic fallout which emanated from the September 11th 2001 terrorist attacks in the US. Economic performance improved moderately in 2003, with real economic growth of 0.6%.
35. In recent years the economy has shown recovery, with the GDP growth rate standing at 4.9% in 2005. Much of this growth has been attributable to expansion on the hospitality and services sectors.

¹ UNDP (1995), St. Christopher & Nevis Agricultural Diversification Project – Land Use.

² FAO/CDB (2002), 'St. Kitts and Nevis Agricultural Diversification Project Preparation Report'

Agriculture

36. Agriculture, predominately sugar production, was historically the mainstay of the economy of St. Kitts and Nevis, however, the sector's contribution to economic output has been declining steadily in recent decades. In 1981 it accounted for 16.7% contribution to GDP. By 1991 it had decreased to 7.44% and by 2005 it had dropped to 4.6%.
37. In the 1960s, sugar output varied between 35,000 and 50,000 tonnes under management of the state-owned St. Kitts Sugar Manufacturing Corporation (SSMC). Over recent years, output was affected by falling prices, high production costs and inefficient management. These factors, combined with the increased difficulties in securing continued preferential market access to traditional European markets as dictated by World Trade Organization (WTO) trade reforms, and the escalating debt amassed by the SSMC, led to the eventual decision by the Government to close the industry in 2005. The last export volume of sugar in 2005 was 10,000 tones. With the closure of the industry some 1,500 sugar workers were affected.
38. The non-sugar agricultural sector consists mainly of part-time farmers operating small holdings of less than 1 hectare on which they cultivate root and tuber crops and vegetables for the local market. There has been a noted increase in the production of alternative crops such as pineapples, watermelon, papaya, tomato, white potato and sweet pepper. Of these crops, tomato accounted for the largest production volume at just under 108,000 kg in 2006. Mangoes, breadfruit and coconuts are also traded on a small scale.
39. The livestock sector is small, with commercial pork production standing at just over 51,000 kg. There is also small-scale production of poultry (egg), beef, mutton and goat.

Tourism

40. The travel and tourism industry accounted for 8.5% of GDP in 2004 with an estimated expenditure of US\$106.9 million. Total tourist expenditure in the local economy is expected to surpass US\$112 million in 2006. The sector has shown steady growth in recent years with stay-over arrivals growing from 88,264 in 1992, to 91,769 in 2004. The hotel room stock has increased from 1,300 in 1992 to 1,754 in 2004. Cruise ship arrivals has also increased from just over 72,300 in 1992 to over 150,400 in 2004, from 281 port calls. Arrivals are predominantly from the United States (57% of all arrivals) followed by the Caribbean and the United Kingdom.
41. St. Kitts and Nevis' attractions are a mix of the typical sun-sea-sand vacation, diversified with nature hikes to the rainforests, shopping, deep-sea fishing, snorkeling and scuba around various dives sites at the dozens of unexplored wrecks around the islands. There is 18-hole golfing (international championship standard) available on both islands.
42. A major attraction is the Brimstone Hill Fortress National Park located on the southwestern side of St. Kitts that was inscribed as a UNESCO World Heritage Site in 1999 as an

outstanding, well-preserved example of 17th- and 18th-century military architecture in a Caribbean context. On Nevis, Charlestown is an attraction representing the colonial era owing to the fact that most of the original colonial architecture still remains in its original state.

Poverty issues

43. The last Poverty Assessment Report (2001) reported that 30.5%, or a little less than 1 in 3 individuals in St. Kitts are poor. This means that their monthly expenditure is less than the cost of meeting their minimal food and other basic requirements - the poverty line was estimated at US\$103.72 per month for an individual.
44. Eleven percent, or slightly more than 1 in 10 individuals in the country, were found to be extremely poor or indigent - the indigence line was US\$65.90 per month. More than two-thirds of the poor (67.8%) are under 25 years of age. Males constituted 44% of the poor and women 56%. Twenty-nine percent of males were poor and 32% of women are poor.
45. On Nevis, 32% or a little less than 1 in 3 individuals are poor. This means that their monthly expenditure is less than the cost of meeting minimal food and other basic requirements or less than US\$121.63. Seventeen percent of all individuals are extremely poor or indigent, and do not have the US\$75.70 necessary to meet their dietary needs. Fifty-eight percent of the poor are under the age of 25. Males make up 37% of the poor and females 63%. Twenty-six percent of males are poor and females account for 36% of the poor.
46. The GOSKN is preparing a poverty-reduction strategy and action plan for SKN, spearheaded by the Ministry of Social Development, Community and Gender Affairs. The Plan will be completed within 2008. Given the increasing service orientation of the economy and the growing importance of an adequate skills base, the Government views human resource development as a very important element of its economic restructuring and as an integral part of its poverty-reduction strategy.

Land tenure issues

47. **St. Kitts:** Approximately 80% of the island's land resource is owned by the Government of St. Kitts and Nevis (GOSKN); this includes approximately 4,000 hectares of sugar lands (under the SSMC). The remainder (approximately 2,830 ha) is privately-owned. The South-east Peninsula (SEP) accounts for 50% of the privately owned lands on the island of St. Kitts. The existing land ownership pattern evolved in-part from the compulsory acquisition of the privately-owned sugar estates in 1975 by the Government. In some cases, freehold title was granted by the Crown with respect to residential lands located within the former sugar estates. In some cases leaseholds were granted some agricultural lands. The Village Lands Freehold Purchase Act of 1996 dealt explicitly with regularizing land ownership and opened up the possibilities for qualified tenants of lots of stipulated village lands, the right to freehold title upon payment of legal fees, cost of transfer, stamp duty and land surveyor's fees.

48. **Nevis:** Land ownership had become accessible to many Nevisians with the cessation of sugar and cotton production in the early 1900s. By 1983, 70% of the population owned land, though holdings were small (usually less than two hectares). These holdings are becoming increasingly fragmented as they are successively sub-divided and sold. Although current and reliable data on agriculture land tenure is limited, the Agricultural Census (1987), indicated that the percentage of land holdings rented as opposed to land holdings owned had remained stable (70% owned, 30% rented) since the Agricultural Census of 1975. At present, approximately 70% of the land area is privately-owned with 30% under government title.
49. Approximately 165 hectares on St. Kitts and 21 hectares in Nevis are reported to be squatted on, mainly as a consequence of the acute need for shelter. The National Housing Authority has the mandate to address this problem (Williams, 2003).
50. Table 3 summarizes the land tenure classes on St. Kitts and Nevis.

Table 3. Percentage of Land Area by Type of Tenure (Williams, 2003)

Land Tenure	St. Kitts	Nevis
Owned	84.48%	67.51%
Rented from Others	10.38%	17.60%
Squatting	3.27%	3.90%
Multiple Forms	1.88%	10.98%

Source: "Assistance in the Development of Land Use, Planning and Agricultural Production Zoning in the OECS States" by Anthony Johnson, FAO September 15th 2001, Percentages calculated from Table II. Land parcels by type of Tenure.

Policy, institutional and legal context

51. This section will briefly outline the national-level policy frameworks governing the Federation, followed by the separate policy and institutional frameworks that govern land development in the individual islands. This will be followed by an account of the regional and international frameworks of relevance to SLM in the Federation. An analysis of the barriers and gaps that this current context implies is provided in the section on Causes of Land Degradation.

Policy frameworks of relevance to SLM in the Federation

52. The most important national policy framework of direct relevance to SLM is the **National Environmental Management Strategy and Action Plan** for 2005 to 2009 (NEMS) (approved in September 2005). The NEMS defines the specific directions and mechanisms for more effective environmental policy implementation and includes specific actions necessary and results expected to realize the policy objectives of the government. It articulates the key strategies and priority actions for environmental management in the context of sustainable development.
53. With specific reference to land degradation, the NEMS proposed measures to restore environmentally degraded areas and to ensure the sustainable use of natural resources in a

manner which recognizes the intricate linkages between ecological systems in small island states, and between these systems and human activity, and which reflect the principles of island systems management. Key actions under the NEMS include (a) formulation of criteria for and identification of environmentally degraded areas; (b) identification of critical areas for erosion control, and develop and implement remediation projects with community participation; and, (c) preparation of Special Area Plans or Local Area Plans to restore these areas, with assigned responsibilities, costs, and schedule. It is expected that over the next five years, line ministries and other relevant agencies in the Federation of St Kitts and Nevis will adopt the recommendations/policies that are relevant to their work plan.

54. The **Medium Term Economic Strategy Paper (MTESP)** for the period 2005 to 2007 includes strategic directions relative to government's position on the environment. Over the medium term the GOSKN will seek to meet these objectives:
- reduce current and potential environmental degradation particularly in the area of solid waste and marine pollution;
 - reduce the adverse environmental effects of current and future economic development;
 - educate and raise awareness on current and potential environmental issues;
 - research and promote the available environmentally friendly alternate technologies in the energy and water sector; and
 - protect and conserve those threatened biodiversity.
55. The GOSKN ratified the **National Adaptation Strategy** for 2006–2013 largely driven in response to closure of the sugar industry in 2005. The Strategy seeks to reconfigure the economy of St. Kitts and Nevis around a more diversified economic base and implement an economy-wide adjustment programme. The Strategy will be supported by the European Commission (EC) within the framework of its 2007-2013 support strategy to promote fiscal sustainability, private sector development, market liberalization, skills development, poverty reduction and institutional strengthening. The Strategy includes a slate of proposed initiatives that include projects of relevance to SLM (land use planning and management, watershed management, protected areas management).
56. The focus areas of the strategy includes (a) the maintenance of macro-economic stability to reduce vulnerability and facilitate investment; (b) improvement competitiveness in the production and export of goods and services; (c) the adoption of social policies to support economic development and protect the most vulnerable; (d) the promotion of a sustainable development agenda; (e) restructuring and transformation of the economy; (f) the development of appropriate legal and regulatory frameworks; and, (g) the efficient provision of public goods (such as education and health).
57. The **Agricultural Strategic Plan (2005 – 2009)** has been developed in response to the new EU sugar regime and closure of the sugar industry. The Plan aims to expand the development of non-sugar agriculture significantly and increase its contribution to national development. A market-led approach will be taken towards crop and livestock production and specific objectives include developing farmer groups, strengthening the programme of services to farmers, and maximizing irrigation applications in production.

Legislative instruments of relevance to land management in the Federation

58. There are several legislative instruments of relevance to SLM in the Federation. These are identified in Table 4 along with the responsible agency and the key legislative provisions.

Table 4: Legislative instruments of relevance to land management in St. Kitts and Nevis

Enabling Legislation	Responsible Institution	Key legislative provisions
Water Courses and Water Act (1949)	Water Department	Control water supply and management
Public Health Act (1969)	Public Health Department	Maintain environmental health control
Frigate Bay Development Corporation Act (1972)	Frigate Bay Corporation	Control the development of Frigate Bay
Pesticides Act (1973)	Department of Agriculture	Control the use of pesticides, including labeling and storage
Fisheries Act (1984)	Fisheries Division	Manage fisheries and marine reserves
South East Peninsula Land Development and Conservation Act (1986)	South East Peninsula Board	Control the development, conservation and management of the South East Peninsula
National Conservation and Environmental Protection Act (1987)	National Conservation Commission	Control management and development of historic and natural resources
Nevis Housing and Land Development Act (1988)	NIA	Control land development
Litter Act 1989	Public Health Department	Restrict the deposit of litter in public and private places.
Solid Waste Management Act (1996)	St. Christopher Solid Waste Management Corporation and Nevis Solid Waste Management Authority	Provisions for establishment of management authorities and orderly and safe collection and disposal of solid waste.
The Development Control and Planning Act (2000)	Department of Physical Planning and Environment	Provides for the orderly and progressive development of land and for the protection of the environment and improvement of amenities.
Nevis Zoning Plan Ordinance (1991)	Nevis Island Administration	Provisions for orderly physical development in context of land resources

Source: St. Kitts and Nevis National Environmental Action Plan

St. Kitts - Policy and institutional environment for physical/land development

59. Under the 2000 Physical Development Planning Act the Department of Physical Planning and Environment (DPPE) has developed a **National Physical Development Plan (NPDP)**. The Plan was formally adopted by Government and presented to stakeholders in late 2006. The purpose of the NPDP is to identify appropriate physical planning and land use strategies that allow for sustainable exploitation of the natural resource base and to direct the use of public sector and private industry resources for planned and orderly development of the country. In this regard, it establishes a comprehensive planning framework for the island's long-range physical development, thereby improving the government's ability to track development trends, project future development needs, allocate the limited land resources of the island, and address critical issues such as squatter settlements and urban revitalization. Thus, it provides an overall strategic planning framework to guide development and capital infrastructure investment decisions in the country over the next fifteen years.
60. The NPDP contains the following key elements:
- A national settlement strategy aimed at developing and strengthening the functional linkages between urban and rural areas focusing on housing, community facilities and infrastructural improvements; and,
 - A future land use plan that zones strategic land use proposals for important sectors of the economy including coastal area conservation, conservation of the built environment, disaster mitigation, tourism, agriculture, commercial and industrial development, transportation networks and utilities.

St. Kitts - Institutional context

61. There are six institutions with responsibility for land administration in St. Kitts; (1) Ministry of Finance and Sustainable Development (and the Development Control and Planning Board) (2) St. Kitts Sugar Manufacturing Corporation (3) Frigate Bay Development Corporation (4) Urban Development Corporation (5) White Gate Development Corporation and (6) Ministry of Agriculture and Housing. The principal institution for the development and control of land is the Development Control and Planning Board (DCPB). Under the aegis of the Development Control and Planning Act (2000), the DCPB has the responsibility to prepare National Physical Development Plans (NPDP) for the island of St. Kitts and to grant permits for the development of land. However, the DCPB's permission does not extend to agricultural lands, which remain the clear mandate of the Ministry of Agriculture.
62. A similar planning mandate has been inherited by the National Housing Corporation (NHC) which replaced the Central Housing Authority. Although the NHC does not issue development permits, Crown Lands are provided to the Corporation for the establishment of residential communities and or housing units. This is one of the main driving factors for the change of land use in St. Kitts. There is no formal housing policy or settlement act to guide the work of the NHC.
63. Created by the Frigate Bay Development Corporation Act (1972), the Frigate Bay Development Corporation (FBDC) also has authority for development of lands limited within

the 850-acre Frigate Bay area. The FBDC is empowered to carry out construction, maintenance, building and engineering operations within its jurisdiction. The FBDC has the authority to prepare development plans and to set out the manner in which land in the designated area is to be used and laid out. In recent years there has been increased collaboration between the FBDC and the Planning Authority, for instance in the environmental impact assessment (EIA) process.

64. The Ministry of Agriculture administers land leases and rentals of other state-owned lands on behalf of Government. This is a significant mandate, as the Government owns 82% of the land, which incorporates the most suitable agricultural lands.
65. Management of the wider environment in St. Kitts has been the responsibility of several government ministries and departments. However efforts have been made to streamline this responsibility through the formation of the Department of Physical Planning and Environment (DPPE) within the Ministry of Sustainable Development. The arrangement is fairly new and the department needs strengthening in its human, technical and financial capacity to undertake its stated policy mandates. The DPPE consists of four sections: (1) Administration, (2) Forward Planning, (3) Development Control and (4) Environmental Planning. The administration section is headed by the Director, who, other than performing a management role, is responsible for providing key technical support to all other sections. Additionally, the Director functions as Secretary to the Development Control and Planning Board.
66. The Forward Planning section is responsible for the preparation of long range and local area plans. Activities also include the design and conduct of surveys, policy review, preparation of development and environmental project proposals, review of environmental impact assessments (EIAs) and review of development applications. This section undertook the preparation of the new National Physical Development Plan (2006).
67. Development control activities are managed by the Development Control Section. The range of activities included within this section's portfolio include: receipt, review and approval of building applications; building inspection; evaluation of applications for duty free concessions on construction projects; monitoring and enforcement of development standards.
68. The Environmental Planning Section within the DPPE is responsible for the administration of the National Conservation and Environmental Protection Act (NCEPA), which has recently been revised and updated to account for present institutional arrangements and contemporary environmental issues. This section is also responsible for the preparation of national project documents including country position papers and national communications as required by multilateral environmental agreements. Other activities that fall within the day-to-day functions of the environmental section are: development of project proposals for funding and implementation, review of development applications and evaluation of EIAs.
69. Other agencies with some role in land management either as a beneficiary or resource custodian, include the Water Services Department, Ministry of Public Works, St. Christopher Heritage Society, Nevis Historical and Conservation Society, Ministry of Tourism. The

Ministry of Finance has a significant role in land negotiations particularly with respect to major property developments.

Nevis - Policy and institutional environment for physical/land development

70. To ensure the sustainability of the island's resources through the regulation of land-use, the Nevis Department of Planning, Natural Resources and Environment is developing the 15-year **Nevis Physical Development Plan**. The plan include policies and guidelines for sustainable development and seeks to guide location of housing, industry, parks/conservation areas, hotel and tourism development with regards to land suitability and other physical and environmental attributes.

Nevis - Institutional context

71. On Nevis land management roles are performed by counterpart agencies under the Nevis Island Administration (NIA). Environmental management and development control are the responsibility of the Department of Physical Planning, Natural Resources and the Environment (DPPNRE) which is within the Ministry of Communication and Works. As part of its mandate, the DPPNRE has developed a Development Control Ordinance. The NIA does not recognize the NCEPA consequently there is a duplication of responsibilities between the DPPE and the DPPNRE. The DPPNRE has developed its own Physical Development Plan, Sustainable Development Indicators and Land Use Zoning classification for Nevis.

Regional and international policy frameworks of relevance to land management

72. At the sub-regional level Organization of Eastern Caribbean States³ (OECS) the **St. George's Declaration of Principles on Environmental Sustainability** and the **Barbados Programme of Action** both place priority on the management of land resources. Strategies for implementation of these agreements at the national level such as the National Environmental Management Strategy and Action Plan provide the opportunity for mainstreaming sustainable land management.
73. The **National Action Plan (NAP) (UN Convention to Combat Desertification)** is in the final draft stages and it is anticipated that it will be ratified by Government by end 2007. In accordance with the Convention the purpose of the NAP is to identify the factors contributing to land degradation and physical measures required to combat land degradation and mitigate the effects of drought. The NAP also specifies the respective roles of government, local communities and land users and resources available and needed. The focal point for the Convention is the Department of Physical Planning and Environment. Close linkages have been established between NAP and MSP development. The MSP will lay the foundations for effective achievement of NAP objectives as there is a critical need for institutional strengthening and capacity building.

³ The OECS member states include Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines. Anguilla and the British Virgin Islands are associate members.

74. The **United Nations Framework Convention on Climate Change** was ratified by St. Kitts and Nevis in 1993. The **United Nations Convention on Biological Diversity** was ratified by the Federation in 1993. The Biodiversity National Action Plan (NBSAP) has been prepared under this convention.
75. The **Cartagena Convention (Protocol concerning Pollution from Land-based Sources of Pollution – LBS Protocol)** was adopted in 1983 for the environmental protection of the Caribbean Sea basin. The LBS Protocol (one of three under the Convention; the Protocol Concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region and the Protocol Concerning Specially Protected Areas and Wildlife (SPA) in the Wider Caribbean) is of direct relevance to land management. The Government has not yet acceded to the LBS Protocol although there are ongoing activities consistent with its obligations such as the management of solid and liquid waste, the management of pesticide use, and water quality testing.

Causes of land degradation

76. The increasing demand for agricultural land has, in recent decades, resulted in many small farmers clearing forested land in the upper slopes for farming. The combined acreage (on both islands) under forest accounts for approximately 4,000 hectares. Such encroachment has resulted in deforestation, soil erosion, and pollution of streams, rivers, and coastal waters.

Internal Root Causes and Driving Forces

77. **Inappropriate agricultural practices:** On St. Kitts there is evidence of land degradation particularly associated with farming at elevations above the 300-metre contour and is a threat in the context of accelerated erosion and potential impacts to maintenance of ecosystem services. This is an issue with small and resource-poor farmers who are carrying out subsistence or small-scale commercial cultivation with little alternatives with respect to access to more favourable lands.
78. With the closure of the sugar industry, the maintenance regime of sugar lands is in abeyance, and with on-going and planned investment into alternative agricultural production (and other non-agricultural uses) the risk for land degradation is of concern, particularly with respect to intensive temporary crop production. Sustained erosion will eventually lead to soil fatigue which often forces nutrient replacement through fertilization, which if not carefully managed, can contribute to excessive pollutant loading in runoff following rains. This has downstream impacts on fresh and coastal waters eventually leading to eutrophication of fragile ecosystems (e.g. rivers, mangroves, sea grass, and wetlands).
79. On Nevis animal husbandry is a problem in the context of inappropriate agricultural practices. While overgrazing by feral donkeys and small ruminants has been a major problem in the past, the Nevis Island Administration (NIA) has taken measures to limit the number of donkeys in the wild. However, this does not provide an absolute solution to the problem as small ruminants continue to pose a serious threat to the management of land in certain areas. Subsistence animal husbandry is a well-rooted tradition in Nevis, however as

expanding urbanization makes less land available, intensive grazing on small areas is leading to concentrated stripping of vegetation, in turn increasing the rate of land degradation.

80. **Unplanned housing development:** As is the case with most islands in the Caribbean, unregulated settlement areas typically spring up on government lands or lands under long-term abandonment by the owners. Approximately 165 and 21 hectares in St. Kitts and Nevis respectively, are reported to be under illegal possession indicative of the acute need for shelter. Generally, unplanned settlements have some or all of the following interrelated characteristics: (a) tenure of residents is not usually based on clearly defined and enforceable title; (b) planning and building guidelines and regulations, and provision of urban services are not applied; (c) service infrastructure is inadequate to meet even basic needs; (d) social infrastructure does not meet basic needs; and, (e) a significant proportion of residents are in lower income categories. All these factors contribute to environmental problems, most notably improper waste (liquid and solid) disposal which is of serious concern in terms of land degradation, contamination of waterways and the near-shore environment.
81. The key to managing the problem of "squatting" on the island of St. Kitts is to institutionalize a participatory and evolutionary approach towards settlement status and land tenure. Specific strategies to resolving the "squatting" problem include: (a) infrastructure delivery; (b) evolution of tenure from Crown Lands to individual ownership; and, (c) evolution of urban and rural settlement patterns and land management to that required under the new Development Control and Planning Act, 2000.
82. **Poorly managed mineral/aggregate mining and quarrying activity:** Quarrying is of particular concern in Nevis, specifically the operation of unregulated open-pit quarries. Such facilities operate in the parish of St. James (3 quarries) and St. George (2 quarries). Those that operate in St. James appear to have more negative effects on the environment as they produce a larger volume of material. The concerns include heavy siltation of watercourses and reefs due to lack of retention of material and proper disposal of wastewater and the impacts to vegetation in their vicinity as dust pollution screen out sunlight and retard plant growth. Though no scientific assessment has been conducted, thinning out of vegetation has been observed in the St. James area. Quarrying has left major scars on the landscape and has contributed to soil erosion, the buildup of ghauts beds and sedimentation of reefs. These lands remain without vegetation cover, often without remediation after an operation has been closed. The driving forces are related to the fact that regulations have not yet been effected and there is a lack of capacity in terms of environmentally sustainable management and reclamation of quarry lands.
83. **Uncontrolled expansion of exotic species:** The Vervet Monkey (*Cercopithecus aethiops*) was introduced to St. Kitts (likely as pets from Africa) around 1700 by French colonists. Since then the monkeys have adapted to the environment and have become prolific, causing damage to native biodiversity. The St. Kitts sub-species of the Puerto Rican Bullfinch (*Loxigilla portoricensis*) is believed to have gone extinct on St. Kitts on account of habitat disturbance by the monkeys. The monkeys are also known to strip off natural vegetation cover and raid crop fields for food, causing ground exposure to raindrop impact thereby increasing the risk of land degradation.

External Root Causes and Driving Forces

84. External root causes of land degradation in St. Kitts and Nevis are related to the heightened vulnerability the country (and the rest of the Caribbean region) finds itself in with respect to climate change impacts and prevailing and future economic climate. In the climate change arena, two major issues are of concern according to experts; the increased frequency of destructive hurricanes and increased occurrence of prolonged drought conditions.
85. **Risks associated with climatic phenomenon:** Recent natural disaster experiences serve as reminder that the Federation is particularly vulnerable to damage from tropical storms. Since 1989, eight storms have affected the country - Hugo, Felix, Gilbert, Iris, Luis, Marilyn, Bertha and Georges. Damage from Hurricane Hugo (1989) has been estimated at E.C. \$117 million (US\$43 million), from Hurricane Luis and Marilyn (1995) at E.C. \$149 million (US\$55 million), and from Hurricane Georges (1998) at E.C. \$200 million (US\$74 million). With increased frequency of hurricanes the country can expect to see accelerated land degradation that is precipitated by human-induced activity in vulnerable areas, mainly in the steep interior of the island. Erosion from point sources (e.g. quarries) and non-point sources (e.g. farm lands) can be expected to increase. Erosion of coastal areas due to storm surge and battering surf can be expected to impact the country.
86. It should be noted that damage cost estimates often under-value the actual magnitude of the economic impacts, as they do not account for private expenditures, such as when private insurance claims are paid, or restoration and repairs are done with insurance. Nor do they account for repairs that are not done, as when buildings are left abandoned and derelict. They also do not account for the revenues lost to business, or lost tourist dollars, and they do not reflect the costs in human suffering and grief that accompany major storms.
87. With increased occurrence of drought events, the potential for forest fires that may defoliate and kill vegetation on hill slopes can also predispose these areas to heightened risk for land degradation.
88. **Risks associated with seismic activity:** Earthquakes and volcanic activity are possible threats in St. Kitts and Nevis and these events can wreak destruction in inhabited areas and lands used for economic output. Mt. Liamuiga on St. Kitts is seismically active, the most recent activity manifested in an earthquake swarm at the summit between October and November 1988. Earthquake activity continued through early December 1988 into January 1989. Although no historical eruptions has been recorded from Nevis Peak (on the island of Nevis), earthquake swarms have been recorded. Active fumaroles are found on the island. A secondary concern is that of earthquake (and volcanic)-driven tsunamis, which could cause considerable damage and loss of life in low lying, densely populated coastal areas.
89. Although planning regulations in St. Kitts and Nevis take into account enhancing resiliency to such natural phenomenon (such as building codes), monitoring of compliance is weak.
90. **Uncertainties in the economic environment:** In the context of the economic climate, St. Kitts and Nevis, as is the case of its Caribbean neighbours is a small open vulnerable economy that

is subject, *inter-alia*, to the vagaries of reformed trade regimes, travel security associated with the risk from terrorism and the variable investment climate in the Caribbean. These factors significantly affect the macro-economic outlook for the country and can dictate the nature and extent to which land resources are exploited. In a worse-case scenario where the country is severely impacted by dwindling foreign exchange earnings and increased poverty, there is a risk that the lands may be over-exploited for basic food and fuel needs causing acute land degradation that will be difficult to reverse. It is assumed that under a positive scenario, with sustained economic growth, the population will have options that will not involve exploitation of its land resources beyond its carrying capacity.

Barriers to Sustainable Land Management in St. Kitts and Nevis

91. **Institutional and Governance:** There is no central coordinating entity that has technical and policy oversight for land development across all sectors, as this responsibility is spread between six different agencies. Of the agencies, the Development Control and Planning Board has relatively greater responsibility at the policy planning level. There tends to be a general weakness in coordination between the various agencies with responsibility for environmental management with very little private sector participation in implementation of best practices. In addition, the institutions have inadequate financial, human and technical capacity to effectively perform their mandate. Institutional information management systems are needed to enhance the decision-making processes. Presently information on land resources is scattered between various agencies. A dedicated land management agency or unit to harmonize the roles, responsibilities and resources for effective administration has been identified as a critical need for the country.
92. Although efforts are being made to rationalize land use allocation on St. Kitts and Nevis through the National Physical Development Plan (St. Kitts) and the Nevis Physical Development Plan, full operationalization is yet to be realized. This will require extensive stakeholder buy-in at all levels to effect reform of development processes in the public and private sectors. Additionally, there is a need to ensure that land use allocation takes into account of and provides for maintenance of ecosystem functionality.
93. St. Kitts/Nevis has an outdated system of administering land records. The title by Registration Act Chapter 279 provided for the registration of title of land by the Registrar of Titles in the form of a Certificate of Title. This bill was enacted in 1886. The majority of lands belonging to the Government are registered in the Land Registry of the Supreme Court. The majority of private lands, however, are still held by deed. There does not appear to be any specific data as to the exact number of deeds or Certificates of Title registered and this has been compounded by the fire of 1983 which damaged and destroyed a number of deeds (Williams, 2003).
94. The system is not a cadastral-based system and in the absence of a unique parcel-based identification number, there have been reported instances of duplication in the registration of title of land. Some of the lands acquired by Government have not been registered because of similar problems of obtaining legal title in the name of Government (Williams, 2003).

95. **Economic and Financial:** The average small farmer who relies exclusively on the land resources is often unable to secure the necessary resources required to implement soil and water conservation measures which usually require financially heavy capital investments. There is lack of an appropriate incentive environment to defray the costs of uptake of appropriate technologies aimed at mitigating land degradation.
96. For the most part, State investment in SLM has been through the SSMC with respect to on-ground investments on government-owned sugar lands, with relatively little resource allocation directed at non-state lands. Enhancement of individual and institutional resource capacities within relevant agencies is needed to improve advisory service delivery particularly to stakeholders outside of the government sugar lands. Investment in capacity will become highly important as these sugar lands are transitioned into alternative agricultural production systems or non-agricultural land uses. Research and monitoring programmes in support of SLM are minimal on account of limited investment in state agencies which in turns hampers effective planning.
97. **Social and Behavioral:** An inherent problem with environmental management and protection in general is that, cultural values held on regarding the environment often does not engender a sense of personal responsibility and stewardship – the tragedy of the commons. Environmental management is largely seen as the domain of government agencies and formal organizations. The environment is also viewed as a free resource which is self sustaining. Thus as evidenced by everyday practices, a culture of conservation and protection is not present in utilization of land resources and invariably leads to problems such as degradation of steep slopes through poor farming practices, solid and liquid waste pollution of surface waters and destruction of coastal ecosystems for development projects.
98. **Technological and Knowledge:** Techniques for agricultural land conservation has been introduced through the SSMC under its soil conservation programme, however there is need to ensure that these efforts continue in light of the reallocation of the sugar lands to alternative purposes following closure of the industry. Expansion of the knowledge base into non-agricultural development applications where soil conservation is considered important. The country generally lacks appropriate technologies and processes to systematically assess, and monitor land degradation.
99. Among the challenges faced is absence of efficient access to information on the state of land resources and the environment in the country to facilitate **national** level planning. A GIS database has been installed within the Department of Physical Planning and Environment but this needs to be broadened into a national repository for land information that can be easily shared amongst agencies within a single platform. Such a system will greatly enhance harmonized and coordinated planning efforts by all agencies concerned with land management.
100. **Insufficient Capacity:** Besides the technologies themselves, capacities within State and non-state agencies and other stakeholders will need to be strengthened to ensure sustainability of technological applications. Under previous project-driven initiatives in St. Kitts and Nevis (and other Caribbean states), personnel from various state and non-state

agencies, community-based organizations, farmers and other stakeholders have been exposed to technological applications that are of relevance to sustainable land management; these have ranged from demonstration of land management techniques to application of information technology to facilitate decision-making. However, once these "special projects" come to an end the status-quo resumes with little semblance of continuity of the initiative. A key barrier in many cases is the lack in effort to institutionalize these initiatives into the business plans of agencies and organizations from a human resource development perspective. Personnel who may have benefited from capacity-building themselves are often not sufficiently empowered to become resource providers, and there is generally little attempt at creating the environment that warrants active demand of skills attained in real-world application. This is manifested in low emphasis on technical in-house human resource development using trainer-of-trainer approaches.

101. The relatively **high** turnover rate of skilled technical personnel in government agencies in particular, is of concern as once persons obtain valued skill sets they tend to seek alternative, more lucrative employment, in many cases within the private sector. A general perception is that the mandate for human resource capacity-building in technical areas (such as SLM) lies with the state. As a result, expertise that may reside in the private sector (in this case, the civil and environmental engineering fraternities) is often overlooked as a potential ally in building overall national human resource capacities for SLM. There are generally only weak attempts to solicit active engagement of private sector partners in HR development.

PART II: PROJECT STRATEGY

PROJECT DESCRIPTION

Baseline course of action

102. Although there are several initiatives that intend to improve overall environmental management, there has been no concerted action to address the land degradation problems identified above. As such the projects described below are for the most part proposals, and outlines the GOSKN plans in the medium term to address the problems associated with land degradation.
103. Implementation of the UNCCD has brought the subject of land degradation onto the development agenda as a framework for integration into national policies and programs. The challenges that will be presented by the closure of the sugar industry constitute another opportunity to raise the priority given to soil conservation and environmental protection, as well as to sustainable land management options.

Policy and mainstreaming activities

104. The **National Action Plan (NAP) (UN Convention to Combat Desertification)** was presented to UNCCD in March 2007. As noted above, the MSP brings to the table essential elements that will assist the Government and people of St Kitts and Nevis to render the NAP operational. There are many policy frameworks and plans that have been recently developed, and the MSP will enable the articulation of these in support of SLM objectives.
105. The **National Physical Development Plan (NPDP)** was completed by Department of Physical Planning and Environment, ratified by the Government and presented to the public in late 2006. The Plan seeks to identify appropriate physical planning and land use strategies that allow for sustainable exploitation of the natural resource base and, direct the use of public sector and private industry resources for planned and orderly development of the country. The island of St. Kitts will be the main scope given the complementary initiative to develop the Nevis Physical Development Plan.
106. The **Nevis Physical Development Plan** has been recently prepared by the Nevis Island Administration. The Plan elaborates spatial planning strategies and identify lands for various uses including industry, manufacturing and commerce, housing, roads, recreation, protection etc. The project involved spatial data capture and land resource/infrastructure mapping (roads, contours, water systems, buildings, coastal features, etc) which provided the data for plan development and update of existing databases. The project also included a component on cadastral mapping using existing parcel data.
107. The Nevis Island Administration recently undertook a **Quarry Impact Study** to implement conservation and rehabilitation measures in areas that have been degraded by mining and quarrying activities. There are also plans to develop a policy document for

mining on private lands and to amend lease terms for state owned quarry lands to include environmental management/performance standards.

Capacity building activities (including on-site actions)

108. A major undertaking which demonstrates the government's commitment to building capacity in sustainable development and sustainable resource utilization is the **creation of the Department of Physical Planning and Environment (DPPE)** within the Ministry of Sustainable Development. Among its responsibilities for development control and long range planning, the DPPE is responsible for implementation of MEAs including the UNCCD. This helps to ensure synergy between projects, reduction of duplication of efforts and integration of sustainable development principles across projects and programs.
109. The 4,000 hectares of government sugarcane production lands on St. Kitts have been under a **soil conservation regimen under the management of the SSMC**. Some of the more vulnerable lands in the sloped foothills and ghauts were also subject to conservation programmes. Field access roads, bridges and open drains and culverts were all maintained to minimize land degradation in a programme that cost an estimated US\$2.2 million annually. The Department of Agriculture has also established **Demonstration Sites with supporting Extension Services** to encourage adoption of soil conservation techniques.
110. The Government of St. Kitts and Nevis is implementing a project titled **Institutional Strengthening for Social and Economic Development**. This initiative, part of a slate of initiatives under the Sugar Adaptation Strategy designed by the Government in the wake of the closure of the sugar industry, seeks to offset the widespread socio-economic impacts and stimulate an economy-wide transformation process aimed at accelerating growth and improving competitiveness, while protecting the vulnerable and ensuring environmental integrity and sustainability. A key initiative of relevance to SLM in the country is the establishment of a Land Management Unit. The LMU will have wide-ranging responsibilities regarding management and allocation of lands in the country that will include policy development, spatial planning and land zoning. The LMU will have capabilities in advisory services and in management of a GIS-based spatial data repository for lands.
111. To address the issue of **squatting settlement mitigation** on St. Kitts, the National Housing Corporation (NHC) is working with other public sector entities to develop dynamic and healthy communities. The broad policy towards housing and shelter seeks to characterize social relations by ensuring that equity, accessibility, satisfaction and the environment are highly considered. As part of the medium-term strategy towards the continued growth and sustainable development of the housing sector, GOSKN will continue to:
- Ensure that there is a continued flow of inputs mainly through capital investment (including land allocation);
 - Establish appropriate conditions that would permit the private sector to play a greater role in the supply of affordable housing;
 - Implement measures to reduce the cost of housing and to ensure that there is a replacement of stock;

- Ensure that proposals for affordable housing are reviewed in a timely manner; and
- Ensure that proper standards are met in the home building/construction industry.

112. On Nevis there have been a few initiatives related to land conservation. The Department of Agriculture (DOA) has put up fences and is **eradicating donkeys and impounding roaming livestock** to control the extent of overgrazing. The Department has also embarked upon a replanting project in Indian Castle, an area affected by wind erosion, in partnership with the Nevis Lions Club.

Knowledge management activities

113. The GOSKN, in collaboration with Vanderbilt University undertook a **Land Resource Analysis (LRA) Project** in the context of analyzing potential land allocation options in light of the transition of land use out of sugar production. This strategic planning support activity was performed using GIS tools that incorporated environmental, elevation, hydrology, soil and topography criteria, to identify the most suitable land for the various alternatives. The results of the analysis are to be compared with the economic and social goals of the government's transition plan to develop a strategy, area by area, of the best long term land uses. The analysis at the policy/planning level is on-going, and should also incorporate ecosystem functionality as a fundamental basis for definition of land use allocation options.

114. This project also is regarded as a demonstration of best-practice in application of GIS to land resource planning and will contribute to the development of a basis for a national geographical information system.

Capacity and mainstreaming needs for SLM

115. The National Capacity Self-Assessment process (NCSA) provided the GOSKN an opportunity to conduct a thorough self-assessment and analysis of national capacity needs, priorities and constraints with respect to its efforts at meeting global environmental management objectives. The assessment related to the Land Degradation thematic area carried out in 2005 revealed that very little progress has been made in implementing the country's obligations under the UNCCD. Some of the challenges that St. Kitts and Nevis face in meeting its obligations under the three Rio Conventions can be expressed with respect to the following needs:

- Strengthened national policy, legal and regulatory frameworks;
- Rationalized and streamlined institutional mandates, enhanced co-ordination and effective processes for interaction and co-operation between public and private sector agencies and other interest groups;
- Strengthened monitoring and enforcement procedures and mechanisms;
- Heightened awareness and more active exchange of information between among all stakeholders;
- Improved institutional management and heightened performance;
- Enhanced individual skills and heightened motivation;

- Strengthened information management and efficient reporting;
- Increased mobilization of science-driven applications in support of decision-making; and,
- Increased availability and improved access to financial resources through appropriate incentive systems and market instruments.

116. Some of the individual and institutional level capacity needs and mainstreaming needs relevant to SLM this MSP is intended to address are elaborated in greater detail below.

Mainstreaming Needs:

117. While there are broad policy statements and legal provisions relating to the environment, the specific issues of SLM are not sufficiently mainstreamed into development planning and execution of land based activities. In many cases the regulations associated with legislation are poorly defined and/or lacking thereby giving little effect to operationalization of the legislation. Enforcement is therefore hampered.

118. In general conventional economic planning and development in the country does not sufficiently integrate concepts of environmental accounting so as to adequately account for trade-off outcomes in analyzing development options. While this can also be considered a capacity limitation (lack of specialists with appropriate training) the enabling environment that would be required for this process to occur is absent. This will be of direct relevance to decision-making related to alternative uses of former sugar lands. A lease system for state lands needs to be developed and existing arrangements strengthened to incorporate incentives and safeguards for sustainable land use.

119. Although there are several agencies in the Federation that have overlapping jurisdictions for various related aspects of land management, synergistic relationships are lacking. The business plans of these agencies need to be re-configured in thematic areas as they relate to enhancing contributions to SLM while at the same time reducing redundancies. This may be addressed to some degree by proposal to commission a dedicated land management agency.

Capacity needs - Individual Level:

120. Technical training on sustainable and good agricultural practices is needed for individuals who will be involved in the transition from sugarcane agriculture to alternative crops. This also applies to other land resource users from other sectors (notably in the construction sector). CBOs representing local resource users and NGOs will need training and assistance in the development of project proposals to allow them to better access available funding (e.g. UNDP/GEF Small Grants) for natural resource management/SLM.

121. Training is needed for government planners and other data users in the integration of GIS-based land evaluation analytical applications and SLM guidelines into planning at the local and national levels. Training in the application of environmental/natural resource economics (and other related tools) is also required to assist in the analysis of economically and financially viable land management alternatives toward enhancement of policy advisory

services. Additionally, these decision-making processes also need to take into account the maintenance of ecosystem functionality and services, and training is required in this regard.

122. The public needs to be sensitized on SLM-related issues to improve the level of understanding on the direct link between everyday practices and land degradation. The public at large can be targeted through the media via radio and television programmes. Popular theater and interactive programs can be useful tools for target audiences. To the schooling population it is desirable to introduce environmental courses into the curriculum. Continual sensitization rather than isolated ah-hoc interventions should be sought.

Capacity needs - Institutional Level:

123. There is an emerging need for the establishment of a dedicated land management unit or agency, placed under the jurisdiction of a state agency that best facilitates close collaboration between the Ministry of Agriculture, the Lands and Surveys Division and the Physical Planning and Environmental Department. The core mandate of the agency should be the coordination of planning and execution of land development in all sectors with a view to ensuring sustainable use while maintaining ecological function and optimizing economic return. Capacity that already exists within SSMC (through extension field officers) should be drawn upon to lend support to such an agency. The unit/agency will should be charged with the responsibility for developing and maintaining a Land Information System built on GIS database platform, maintaining a Land Registry, and acting as a spatial data repository (for other land-related thematic data) and serve as a node for information on land use, land degradation and the terrestrial environment in general.
124. Capacities within individual agencies, both state and non-state will need to be strengthened to adequately carry out their mandates with respect to SLM. In some cases the business plans of these agencies will need to be reviewed and modified so as to place support on SLM to clients at a higher priority level. Key agencies such as the Ministry of Agriculture, the Lands and Surveys Division and the Physical Planning and Environmental Department will likely need to undergo staffing and resource allocation adjustments to effect meaningful impact in provision of advisory services to clients, monitoring and fostering compliance to the various measures aimed at fostering SLM.
125. A significant capacity need is the ability to capture, manage and disseminate information of relevance to SLM. While there is some resident capacity in the use of GIS this is typically limited to simple mapping, capacity in advanced applications of the tools available in GIS software systems toward land resource planning is lacking. The development of the a GIS-based integrated land information system for the country is a positive step in this direction; however the value of such a system is in its use as a decision-support tool. Buy-in from senior policy makers, technocrats and the private sector stakeholders is contingent on perceived value in provision of services so as to guarantee continued investment in such land information systems.

Project rationale and objective

126. The Federation of St. Kitts and Nevis is presently undergoing a transition from a socio-economic scenario that evolved over four centuries of sugarcane cultivation to an economy that is increasingly dominated by the hospitality and services sectors, the vagaries of international trade conditions and uncertain environmental futures. This project will therefore provide support for the development of strategies that enhance ecosystem resiliency and functionality in order to provide for preservation and maintenance of the natural resource bases. The long-term goal that the project will seek to achieve is:

The agricultural, forest, residential, tourism and urban land uses of St. Kitts and Nevis are sustainable, so that ecosystem productivity and ecological functions are maintained while contributing directly to the environmental, economic and social well-being of the country.

Project Objective

127. The project objective is:

To strengthen capacities for SLM among key stakeholders and mainstream SLM practices into national development planning processes and initiatives in a post sugar era.

128. The project is the national level slate of actions under the UNDP/GEF LDC and SIDS Targeted Portfolio Approach for Capacity Development and Mainstreaming of Sustainable Land Management. The expected outcomes of this project are consistent with those of the global Portfolio Project, specifically:

Outcome 2: Individual and institutional capacities for SLM will be enhanced through (1) stakeholder training on SLM principles through workshops, seminars and technical exchange visits, (2) awareness raising activities around relevant national, regional, and international environmental events and (3) enhancement of national institutional structures and functions to better address SLM.

Outcome 3: Systemic capacity building and mainstreaming of SLM principles through (1) timely completion of high quality NAPs (2) integration of SLM principles and NAP priorities into national development strategies to achieve the Millennium Development Goals and (3) a Medium-term Investment Plan for SLM will be developed.

Outcome 4: Enhanced technical support SLM planning and project execution through: (1) dissemination and utilization of knowledge products (tools, guidelines and manuals for capacity development and mainstreaming on selected topics in SLM), (2) facilitation of access to global and regional knowledge networks and communities of practice, linked to existing networks, such as CAPNET, CPF, etc.

129. GEF's timely funding for the baseline activities of this project will contribute towards poverty alleviation by guaranteeing improved livelihood and employment for some stakeholder groups, curtailing threats of further degradation of natural resources, assisting in implementing management models that can be extended to other sites, and securing a viable future for the concerned communities. As far as possible Government will include strategies derived from this Project into the work plans of relevant Ministries/Departments.
130. Without the GEF alternative, the status quo would prevail. Individual, institutional, and system capacities continue to be enhanced based on the extent to which the government is committed to the process, often expressed within its capacity to fund existing efforts. This may not be enough to mainstream SLM within national development and economic development plans or build the requisite state and private sector capacities. It can be expected that there will be continued duplicity of effort and general ineffectiveness in management of otherwise scarce resources in advancing the process. Given the constrained state budgets inadequate levels of investment in SLM will continue, with project-driven initiatives providing the bulk of financing, which invariably is not sustainable.
131. The GEF funding is essential to catalyse actions needed to integrate sustainable land management into the national planning framework as well as to build capacity within key institutions and organizations in keeping with the findings of the NCSA. The persistence of the capacity, mainstreaming, and financial barriers would limit the development of sustainable land management and therefore allow the land degradation processes described earlier to continue. Land degradation will compromise multiple ecosystem services and functions, with consequent loss of soil productivity, degradation of water resources, degradation of habitat quality (terrestrial and marine), and would contribute to global GHGs (through the loss of carbon capture potential as a result of deforestation). In the absence of this intervention it can be anticipated that erosion, and consequent sedimentation of rivers and waterways will increase the propensity for flooding and cause siltation of offshore marine habitats. Pollution from land-based activities that also degrade lands will result in loss of land productivity and directly impact watershed and coastal waters. If not managed, these adverse outcomes will likely compromise the country's long-term economic growth and development.

National project outcomes, and outputs

132. **Outcome 1: Sustainable Land Management (SLM) mainstreamed into national policies, plans and regulatory frameworks.** Total cost: US\$152,000; GEF request: US\$123,000; Co-financing: US\$29,000
- **Output 1.1** Planning and policy documents for integration of SLM into macro-economic policies and regulatory frameworks of SKN;
 - **Output 1.2** Policy instruments incorporate SLM;
 - **Output 1.3** Revised national legislative and regulatory instruments incorporate principles of SLM.

133. **Outcome 2: Individual and institutional capacities for SLM developed.** Total cost: US\$470,500; GEF request: US\$181,500; Co-financing: US\$289,000
- **Output 2.1** Technical staff from Ministry of Sustainable Development and other relevant agencies and NGOs trained and actively engaged in providing technical support and policy guidance on SLM to stakeholders;
 - **Output 2.2** Trained farmers and other resource users within construction, commercial, tourism sectors) practicing SLM;
 - **Output 2.3** Public education and awareness strategy and support materials on SLM issues developed;
 - **Output 2.4** A sustainable development inter-agency coordination mechanism for SLM established.
134. **Outcome 3: Capacities for knowledge management in support of SLM are developed.** Total cost: US\$59,000; GEF request: US\$59,000; Co-financing: US\$0
- **Output 3.1** Computerized Land Resources Information System within national GIS nodes (Department of Physical Planning and Environment, Land Use Unit) established;
 - **Output 3.2** Information databases on land use, land tenure, land degradation, land zoning for St. Kitts and Nevis set up;
 - **Output 3.3** Monitoring and evaluation system for state of environment assessments established;
 - **Output 3.4** Technical staff trained in analytical applications for decision making to support SLM planning;
 - **Output 3.5** Technical staff in all relevant user agencies trained in the operation, maintenance and information-access of the land information system.
135. **Outcome 4: Investment planning & resource mobilization for implementation of SLM interventions elaborated.** Total cost: US\$57,000; GEF request: US\$32,000; Co-financing: US\$25,000
- **Output 4.1** Investment plans in key economic sectors (agriculture, tourism, construction, commercial) incorporate priority actions for SLM as defined in NAP;
 - **Output 4.2** Major sector incentive regimes that incorporate SLM, including Payment for Environmental Services (PES), established;
 - **Output 4.3** Strategy for donor resource mobilization implementation
136. **Outcome 5: Adaptive Management and Learning.** Total cost: US\$254,600; GEF request: US\$89,500; Co-financing: US\$165,000
- **Output 5.1.** Project implemented in a cost-effective manner in accordance with agreed work plans and budgets
 - **Output 5.2.** Monitoring and Evaluation Plan provides inputs for robust adaptive management
 - **Output 5.3.** Lessons learned from the project captured and disseminated

137. Key assumptions underpinning project design include the following:
- i. The various institutions will be willing to collaborate on developing integrated approaches to mainstreaming sustainable land management, and sharing access to land information systems.
 - ii. Government authorities will remain committed to reviewing, strengthening and promulgating appropriate land legislative and regulatory instruments (such as leasing arrangements for State-owned land used for quarrying, agricultural cultivation, livestock rearing and tourism).
 - iii. Government and the key non-state institutions involved in SLM will commit the resources needed to sustain mainstreaming and capacity building efforts beyond the life of the project, with appropriate SLM monitoring and evaluation systems installed and maintained.

Global and Local Benefits

138. Global benefits will be realized as enhancement of the enabling environment will lead to sustained implementation of on-the-ground investments in improved land management practices, thereby reducing the threat posed by land degradation to overall global biodiversity and maintenance of global ecosystem functions (such as carbon sequestration). The lessons learnt from St. Kitts and Nevis will be of direct benefit to other SIDS regions globally. Some of the direct benefits include:

- Cross-sector integration of sustainable land management into plans, policies, strategies, programs, funding mechanisms and multi-sector stakeholder groups;
- Maintenance of the structure and functions of ecological systems;
- Enhanced biodiversity conservation due to reduced deforestation and reduced sedimentation in lagoons and improved health of coral reefs, and
- Enhanced carbon sequestration through improved capacities for sustainable agriculture and reduced deforestation.

139. The principal national benefits of sustainable land management will include the following:

- Improved national overall enabling environment to sustain interventions in SLM;
- Improved governance in management of land-based resources through strengthened institutional and individual capacities;
- Enhanced crop and livestock productivity through improved soil fertility maintenance and improved pastures;
- Reduced occurrence of human-induced natural disasters due to landslides and flooding associated with poor land management;
- Enhanced empowerment and greater self-sufficiency of resource users and stakeholders to participate directly in the conception, monitoring and adaptive management of lands and resources; and,
- Expanded capacity to attract financial resources to sustain investment in SLM in the long-term.

Linkages to Implementing Agency Activities and Programs

National initiatives

140. Land degradation in St. Kitts and Nevis was addressed as a thematic area in the **National Capacity Self Assessment (NCSA)** Project funded by UNEP/GEF. The priority issues and capacity needs recommended by the NCSA have contributed to formulation of the project outcomes, outputs and sub-activities that were developed in this MSP. This activity is on-going.
141. UNDP is executing the **Technical Assistance for Agricultural and Rural Development (TAPARD)** project in St. Kitts. The project was designed to assist in provision of funding to female ex-sugar workers to produce and market vegetable and fruit crops. The project will start in 2007 at a total cost of US \$20,000.

Regional initiatives

142. St. Kitts and Nevis is a participating country within the **Integrated Watershed and Coastal Areas Management (IWCAM)** project being implemented jointly by the UNDP and UNEP and executed by the Caribbean Environmental Health Institute (CEHI) and UNEP-Caribbean Environment Programme, Regional Coordinating Unit (Car/RCU). This five-year project aims to strengthen the capacity of the participating countries to implement an integrated approach to the management of watersheds and coastal areas, with the overall goal of enhancing the capacity of the countries to manage their aquatic resources and ecosystems in a sustainable manner. The Project was launched in the first half of 2006 and implementation is underway. The country will benefit from the regional-level components of the project, specifically (a) Development of IWCAM Process, Stress Reduction and Environmental Status Indicators, (b) Policy, Legislation and Institutional Reform and (c) Regional and National Capacity Building and Sustainability.
143. St. Kitts and Nevis will also benefit from an IWCAM demonstration project (implemented by UNDP) that focuses on watershed protection in the Basseterre Valley. The demo-project title is **Rehabilitation and Management of the Basseterre Valley as a Protection Measure for the Underlying Aquifer**. The Basseterre Valley lies immediately adjacent to the capital town of Basseterre and to the main tourist area of Frigate Bay. The valley has been reduced to a near monoculture of sugarcane. Underneath the valley is one of the most significant and the most exploited aquifers in the country. The aquifer produces some 11,365 cubic metres of the daily national water consumption of 18,184 cub metres per day, and provides 60% of the water supply to Basseterre. The project proposes to demonstrate best practices in the management and protection of the aquifer and well-field through a parallel process of (a) mitigation of threats from contaminants, (b) on-the-ground protection, and (c) improved user-resource management. The St. Kitts and Nevis Development Control and Planning Board, shall be the national executing agency.
144. St. Kitts and Nevis is a participating state of the **Sustainable Management of the Shared Marine Resources of the Caribbean Large Marine Ecosystem (CLME)** and

Adjacent Regions. The project is being executed by UNDP. The co-executing agency is the UNESCO-Intergovernmental Oceanographic Commission. The project is in the PDF-B stage. Full funding of this 5-year project is estimated at US\$ 7 million. The overall objective of the project is the sustainable management of the shared living marine resources of the Caribbean LME and adjacent areas through an integrated management approach that will meet the WSSD target for sustainable fisheries. The full project is expected to commence by 2008

145. The country is a participant to a project titled **Preventing Land Degradation in Small Island Ecosystems in the Caribbean through Sustainable Land Management**. The Project, in its PDF-B Phase, is being executed jointly by CEHI, and the Office of Sustainable Development and Environment of the Organization of American States (OAS) and is supported by the Global Environment Facility (GEF). This project aims to build local and regional capacity to support sustainable land management and develop pilot demonstration activities on SLM to address land degradation at the community level. The project also seeks to address the problems of land degradation, in particular deforestation and loss of ecosystem goods and services, especially endemic species. The project will promote the improvement of land management practices, institutional arrangements, policies and incentives aimed at mitigating land degradation and preserving the functioning of fragile and unique ecosystems of Participating Countries. Finally the project will contribute to the harmonization of SLM priorities to combat desertification identified in the National Action Plans (NAPs) as well as in National Biodiversity Strategies and Action Plans (NBSAPs) pursuant to the UN Convention on Combating Desertification (UNCCD) and the Convention on Biological Diversity (CBD) respectively. The Fahies Agricultural Settlement will be the project site.
146. This one-year phase of the project commenced in September 2005 and St. Kitts and Nevis has prepared its national component. The full regional project brief has been prepared for funding consideration by the GEF Council⁴. The project funding is expected to be US \$6 million.
147. The **Mainstreaming Adaptation to Climate Change (MACC)** project is currently in the implementation stage and is to be completed by 2008. MACC is implemented by the World Bank, with funding of US\$ 5 million from GEF. The executing agency is the CARICOM Secretariat. Contributors include the Government of Canada and the Government of the United States of America through the National Oceanic and Atmospheric Administration (NOAA). The project's main objective is to mainstream climate change adaptation strategies into the sustainable development agendas of the small-island and low-lying states of CARICOM. MACC will adopt a learning-by-doing approach to capacity building, consolidating the achievements of the precursor components, the Caribbean Planning for Adaptation to Climate Change (CPACC) and Adapting to Climate Change in the Caribbean (ACCC) projects. It will build on the progress achieved in these past projects by furthering institutional capacity, strengthening the knowledge base, and deepening awareness and participation.

⁴ This project was excluded from the GEF financing pipeline in the short-term. Guidance from the GEF Secretariat regarding timing of funding mobilization is pending.

Food and Agriculture Organization initiatives

148. A **Regional training workshop on Land Degradation Assessment Methods** is scheduled for 2007. This workshop will seek to build capacity within technical, allied organizations and stakeholder groups in core FAO land degradation assessment methodologies. This initiative will be complementary to the works already being undertaken under the UNCCD in establishing and monitoring indicators of desertification and land degradation. The participating countries are Antigua and Barbuda, Barbados, Belize, Bahamas, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, **St. Kitts and Nevis**, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago.
149. The **National Forest Programme Facility** is lending support to design of national forestry policy and mainstreaming into broader policy frameworks over a three-year period. It is currently in the second year of implementation. CANARI is to implement this initiative on behalf of the FAO. Participating countries include Barbados, Dominica, **St. Kitts and Nevis**, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago.

Other Initiatives

150. A key project which also provides the opportunity for mainstreaming of sustainable land management is the **OECS Protected Areas and Alternative Livelihoods (OPAAL) Project**. This project has support from GEF (World Bank), Organization of American States (OAS) and the Fond Français de L'Environnement Mondial (FEEM) and the Government of St. Kitts and Nevis. The OPAAL demonstration area includes the areas around the Central Forest Range within which sustainable livelihoods projects and capacity building activities will take place.

Stakeholder Involvement Plan

151. In the design of the project key stakeholders were engaged, thereby cultivating ownership to increase the potential for success in delivering the benefits to stakeholders as well as achieving sustainability in addressing land degradation issues across all levels. Stakeholders involvement will continue in three key ways: by active participation on the project steering committee, attendance of consultations/workshops and involvement in implementation of project activities.
152. There are several key stakeholder groups. At the government agency level in St. Kitts, the three primary stakeholders expected to drive the process will be the Departments of Physical Planning & Environment, Lands & Survey, and the Ministry of Agriculture. The Department of Physical Planning and Environment is the focal point for implementation of the UNCCD and development of this project proposal. This agency will have a pivotal role in the overall process of policy development and mainstreaming SLM. The counterpart lead technical agencies will be the Department of Lands and Survey and the Ministry of Agriculture. St. Kitts Sugar Manufacturers Corporation (SMMC) will also play a major role given its management jurisdiction over a relatively large area of the country. For Nevis the

institutional driver will be the Nevis Department of Physical Planning and Natural Resources.

153. The private sector is expected to assume a major role as beneficiaries in the short to long-term. The tourism industry, the housing sector, crop and livestock farmers, and quarry operators are among the key private sector groups that will have to buy-in to the process as they have the largest demand for, and create the greatest impact on land resources.

154. There are two key NGOs in St. Kitts and Nevis; the St. Christopher Heritage Society and the Nevis Historical and Conservation Society. Both NGOs take an active role in projects related to environmental management and protection, and they will be involved in the implementation of initiatives for civil society participation in land management.

Table 5. Key Stakeholders and envisaged roles

Stakeholder Group	Role	Capacity or Mainstreaming Intervention
Department of Physical Planning & Environment	Project Executing Agency and Coordinator of the PSC	Technical inputs on developmental planning; recipient of targeted training and awareness building Awareness, Skills Training, Integrating SLM into LUP processes
Department of Lands & Survey, Ministry of Sustainable Development	PSC member; Technical advisor to PSC; beneficiary	Technical inputs on land information systems, land administration systems; recipient of targeted training and awareness building
Department of Agriculture; Department of Forestry	PSC member; Technical advisor to PSC; beneficiary	Technical inputs on incentive measures and financial resource procurement (investment planning); recipient of targeted training and awareness building
Ministry of Legal Affairs	Technical advisor to PSC	Technical inputs on legal and regulatory reforms; recipient of awareness building
Ministry of Finance and the Economic Affairs Division (Ministry of Sustainable Development)	Technical advisor to PSC; beneficiary	Technical inputs on incentive measures and financial resource procurement (investment planning); recipient of targeted training and awareness building
Water Services Department	Technical advisor to PSC	Technical inputs on planning for water services; recipient of awareness building
Public Works Department	PSC member; Technical advisor to PSC; beneficiary	Technical inputs on national infrastructure planning; recipient of targeted skills training and awareness building
Ministry of Social Development and Community Affairs	PSC member; Technical advisor to PSC; beneficiary	Foster Linkages With NGOs, CBOs; Poverty Alleviation and Community Services
Farmers	beneficiary	Recipient of targeted skills training and awareness building

St. Kitts Tourism Authority	PSC Members; Advisors; Recipients	Recipient of training and awareness building
Land Statutory Corporations (Frigate Bay Development Corporation, Urban Development Corporation, National Housing Corporation)	Beneficiaries	Recipient of training and awareness building
Chamber of Industry and Commerce	PSC Members; Advisors; Recipients	Recipient of training and awareness building
Construction industry stakeholders (Contractors Assoc.)	beneficiary	Recipient of targeted skills training and awareness building
Quarry operators	beneficiary	Recipient of targeted skills training and awareness building
Community Based Organizations	beneficiary	Recipient of targeted skills training and awareness building
St. Christopher Heritage Society and Nevis Historical and Conservation	PSC Members; Advisors; Recipients	Recipient of targeted skills training and awareness building,

FINANCIAL PLAN

Streamlined Incremental Costs Assessment

155. **Global Environmental Objectives:** The global environmental objectives of the project are to build capacity for sustainable use of the country's land and resources. The project will secure GEF incremental funding to complement other financing sourced from the GOSKN, OECS, OAS, UNDP and other donors to undertake a program for mainstreaming SLM into national plans and strategies, for the establishment of institutional arrangements for land management, for human resource development in key sectors, for developing knowledge management capacities for integrated SLM and for completing the NAP.

156. **Systems Boundary:** The project will develop a comprehensive range of interventions designed to build capacity for developing sustainable land management systems that address the root causes of land degradation and that overcome barriers to SLM. The project will address identified issues with transition from sugar cane agriculture, land degradation due to unmanaged quarrying and overgrazing by animals, and unregulated activities above the 300 metre contour. It will not deal with shoreline land degradation.

Mainstreaming activities

157. The **National Forest Programme Facility** is being implemented by the FAO and executed by the Caribbean Natural Resources Institute (CANARI). The initiative seeks to assist the design of national forestry policy and mainstreaming into broader policy frameworks over a three-year period. It is currently in the second year of implementation. Participating countries include Barbados, Dominica, **St. Kitts and Nevis**, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. St. Kitts and Nevis will have access to approximately US\$ 4,000 per year (proportional allocation) in donor contribution to undertake relevant activities over the next two years (total of US\$ 8,000).

Capacity building activities

158. Under the National Sugar Adaptation Strategy the Government of St. Kitts and Nevis will be establishing a dedicated **Land Management Unit (LMU)**. The primary mandate of the Unit will be to oversee the orderly development of the country's land resources to realize optimal socio-economic benefit while ensuring environmental sustainability. The estimated co-financing to be contributed from this initiative is US\$335,000.

Additional and complementary activities

159. The Government of St. Kitts and Nevis will provide US\$165,000 co-financing towards **Project Management**. This will include the hiring of a small project staff and maintaining operation of an office dedicated to the project.

Additional baseline financing

160. Another initiative that the GOSKN is presently implementing is the **OECS Protected Areas and Alternative Livelihoods (OPAAL) Project**, which is a multilateral project between six (6) OECS participating Member States, the GEF and World Bank. OPAAL is a five year project with a total estimated budget of US\$7.57 million dollars of which US\$3.5 million dollars will be co-financed by the Organization of American States (OAS) and the Fond Français de L'Environnement Mondial (FEEM) and the governments of the participating states.

Table 6. Project Budget Summary

Component	GEF	Co-finance		Total
		Gov't Co-finance	Other co-finance	
Mainstreaming	123,000	21,000	8,000	152,000
Capacity Development for SLM	181,500	289,000	0	470,500
Knowledge Management	59,000	0	0	59,000
Medium Term Investment Plan and its Resource Mobilization	32,000	25,000	0	57,000
Project Management	50,000	165,000	0	215,000
Monitoring and Evaluation	39,500	0	0	39,500
TOTAL MSP	485,000	500,000	8,000	993,000

Table 7. Detailed description of estimated co-financing sources

Co-Financing Sources				
Name of Co-Financer (source)	Classification	Type	Amount (US\$)	Status
GOSKN	Government	In kind	500,000	Committed
FAO	Multilateral	Cash	8,000	Committed
Sub-Total Co-financing			508,000	

Table 8 PROJECT MANAGEMENT BUDGET/COST

Component	Estimated consultant weeks	GEF(\$)	Other sources (\$)	Project total (\$)
Local consultants*	156	50,000	129,000	179,000
International consultants*	0	0	0	0
Office facilities, equipment, vehicles and communications		0	36,000	36,000
Travel		0	0	0
Miscellaneous		0	0	0
Total		50,000	165,000	215,000

- Local and international consultants in this table are those who are hired for functions related to the management of project. For those consultants who are hired to do a special task, they would be referred to as consultants providing technical assistance.

Table 9 Consultants Working for Technical Assistance Components:

Component	Estimated consultant weeks	GEF(\$)	Other sources (\$)	Project total (\$)
Local consultants	106	79,500	58,750	138,250
International consultants	50	62,000	38,000	100,000
Total	156	141,500	96,750	238,250

Please refer to Budget Notes in Annex 1 for details.

PART III: MANAGEMENT ARRANGEMENTS

PROJECT IMPLEMENTATION PROCESS

Institutional framework and project implementation arrangements

161. **General Framework:** The project will be implemented over a period of three years beginning in 2007. The SLM-MSP will be managed using standard UNDP NEX modality. The National Executing Agency (NEA) for the project will be the Ministry of Sustainable Development. A dedicated Project Management Unit (PMU) will be established within the Department of Physical Planning and Environment (DPP&E). The DPP&E will be directly responsible for the timely delivery of inputs and outputs and for coordination with all other relevant agencies through the Project Management Unit.
162. The NEA will execute its functions under the guidance of the GEF Implementing Agency (UNDP) with technical back-stopping from the Caribbean Environmental Health Institute (CEHI). The Project Management Unit (PMU) will coordinate project execution and it will be headed by a Project Manager (PM). He/she will be a national professional recruited for the three-year duration of the project and will be directly responsible for the project execution including day to day operations guided by approved work plans. The PM will work under the direction of the Permanent Secretary of the Ministry of Sustainable Development.
163. The PMU will have overall responsibility for project management, administrative, technical and financial reporting in collaboration with the GEF-Implementing Agency (UNDP) and will be responsible for achievement of the objectives and outputs of the Project. The PMU will manage the selection process for all local contracts and recruitment of local consultants. This will include preparation of TOR, call for bids and organization of the selection process. This will all be done in close coordination with UNDP but the contracts will be awarded by the PMU. The PMU will manage and coordinate the execution of all local contracts.
164. The project will receive high-level policy support and technical guidance from the SLM Steering Committee. The Project Steering Committee (PSC) will be responsible for policy input, functional guidance, and overall coordination of the project and will meet every three months or as often as is necessary. The Project Manager shall be the Secretary of the Committee, which will be chaired by the Senior Environmental Officer.
165. The PSC will be composed of the representatives of the NCSA Project Steering Committee, as follows:
- Department of Physical Planning & Environment (UNCCD Focal Point) (MSD)
 - Department of Lands & Survey, Ministry of Sustainable Development
 - Department of Agriculture
 - Ministry of Legal Affairs

- Department of Economic Affairs and Public Sector Investment Planning, Ministry of Sustainable Development)
- Water Services Department
- Public Works Department
- Ministry of Social Development and Community Affairs
- St. Kitts Tourism Authority
- Chamber of Industry and Commerce
- St. Christopher Heritage Society
- Nevis Historical and Conservation
- Community-based Organization representative (to be determined)
- Farmers representative (to be determined)

166. UNDP will also be represented on the Steering Committee. Once a year the Steering Committee will review and approve the annual work plan and budget.

167. **Implementation Arrangements:** UNDP through its office in Barbados will serve as the Implementing Agency. The project will follow the UNDP National Execution (NEX) modality UNDP. The SLM-MSP will utilize Direct Payment Request modality for funds disbursement to ensure greater financial accountability and transparency. UNDP-Barbados will act to ensure that all implementation activities comply with policies outlined in UNDP's Programming and Financial manuals and are in line with UNDP GEF procedures. Where petite cash is needed for office support or similar activities, UNDP will advance funds for a three-month period. At the end of the three-month period, the PMU will submit justification for expenses and the funds spent will be renewed by UNDP. The Government will provide the Resident Representative with certified periodic financial reports and open its accounts to certified auditors in keeping with UNDP and GEF requirements. UNDP-Barbados will act to ensure that all implementation activities comply with policies outlined in UNDP's Programming and Financial manuals and are in line with UNDP GEF procedures. The project will comply with UNDP's monitoring, evaluation and reporting requirements as spelled out in the UNDP Programming Manual. The PIU PM will have lead responsibility for reporting requirements to UNDP.

168. In accordance with standard UNDP procedures, all resources and equipment gained through project support remain the property of UNDP until project closure when a decision will be taken as to how to dispose of these resources.

169. UNDP-Barbados will also act to provide management oversight and is ultimately responsible for project monitoring, evaluation, timely reporting by the PMU and ensuring the submission of annual audits to UNDP HQ. The regional Coordination Unit in Panama will provide technical backstopping, UNDP GEF policy advice and trouble shooting and advisory services as necessary.

170. Mechanisms will be developed to ensure that the project receives the maximum level of recognition, commitment, support and involvement at the highest level of Government. Agreements will be made between co-financing and partner institutions to ensure full commitment and assure that the objectives of the Project are met.

171. Responsibilities by Outcome

Outcome 1: SLM mainstreamed into national policies, legal and regulatory frameworks – Lead: Department of Physical Planning & Environment supported by the Fiscal Division, Ministry of Finance, the Ministry of Agriculture and the Ministry with responsibility for Legal Affairs;

Outcome 2: Individual and institutional capacities for SLM enhanced – Lead: Ministry of Agriculture and the Department of Physical Planning & Environment;

Outcome 3: Capacities for knowledge management in support of SLM developed – Lead: Department of Physical Planning & Environment, supported by the Ministry of Information & Technology; Ministry of Agriculture;

Outcome 4: Investment planning and resource mobilization for implementation of SLM interventions elaborated – Lead: Department of Physical Planning & Environment supported by the Fiscal Division, Ministry of Finance;

Outcome 5: National action plan is ratified – Lead - Department of Physical Planning & Environment;

172. In the case of substantial revisions of the project document, the UNDP Representative in Barbados is authorized to effect in writing the following types of revision, provided that he has verified the agreement thereto by the UNDP- GEF unit and is assured in writing, with signatures, that the Executing Agency, project Director and PSC have no objection to the proposed changes:

- a) Revision of, or addition to any of the annexes to the project document;
- b) Revisions which do not involve significant changes in the immediate objectives, outcomes of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- d) Inclusion of additional annexes and attachments only as set out here in this project Document.
- e) Any modification of project outputs has to be approved by the UNDP-GEF; any modification of project outcomes has to be submitted for approval to the GEF Secretariat.

173. In case of minor budgetary revisions, the following will require only the approval and signature of the UNDP Resident Representative:

- a) Compulsory annual revisions, reflecting the real expenses of the previous year, duly certified by the national counterpart, and the reprogramming of unused funds for subsequent years, based on the delivery of inputs as agreed upon in this Project Document.
- b) Revisions that do not entail significant changes in the immediate objectives, outcomes or outputs of the project, but that result from a redistribution of the inputs agreed upon, or are due to increase expenses caused by inflation.

174. The substantial or budgetary revisions will be prepared by the UNDP and the PMU, in accordance with the requirements of the project itself.
175. All financial and other partners will be given due recognition. In order to accord proper acknowledgement to GEF for providing funding, "a GEF logo should appear alongside the UNDP logo on all relevant GEF Project documentation and publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding Projects funded by GEF should also accord proper acknowledgement to GEF."

PART IV: PROJECT MONITORING AND EVALUATION

Monitoring and Evaluation Plan

176. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures for MSPs under the SLM Portfolio Project and will be provided by the project team and the UNDP Country Office with support from UNDP/GEF Global Support Programme and includes the following elements.
177. The Logical Framework Matrix (attached) provides *performance* and *impact* indicators for project implementation along with their corresponding means of verification. These indicators have been derived from the *Resource Kit for Monitoring, Evaluation, and Reporting on GEF/UNDP supported Sustainable Land Management Medium-Sized Projects in LDC and SIDS countries*. The baseline situation presented in this document also utilizes these indicators.
178. Additional baseline information will be documented by the Department of Physical Planning and Environment (DPP&E) and submitted to the UNDP Barbados-Eastern Caribbean States (ECS) Country Office and Project Steering Committee using the *National MSP Annual Project Review Form* in which all 'compulsory' and 'optional' questions and indicators will be completed on 1 July each year. The Form provides a basis for the annual review of project progress, achievements and weaknesses, for planning future activities, and to obtain lessons learned to inform adaptive management processes. It also supports UNDP Barbados-ECS Country Office-wide reporting and planning. For the *optional* indicators, the DPP&E will select the most appropriate indicators for the project and include these in the form. Those indicators included in the Logical Framework Matrix are compulsory and will not be modified. Once completed, the Review form will be forwarded to the UNDP CO which will then forward to the GSU latest by 16 July.
179. The DPP&E will work with the GSU and the UNDP Barbados-ECS Country Office to complete two annual surveys that each respond to two of the compulsory indicators, which are (a) a compulsory indicator at the Objective level of public awareness regarding sustainable land management; and (b) a compulsory indicator for Portfolio Outcome 1 that requires a survey of a group of land users to determine the percentage that is satisfied with available technical support.

180. These surveys will be implemented with funding included in this MSP project budget.

Monitoring Responsibilities, Events and Communication

181. A detailed schedule of project review meetings will be developed by the DPP&E in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. The schedule will include (i) tentative time frames for Tripartite Reviews, Project Coordination Committee Meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities (see Indicative Monitoring and Evaluation Budget, Table 7).
182. Day to Day Monitoring of Implementation Process will be the responsibility of the Project Support Unit, operating out of the DPP&E and based on the project's Annual Work Plan and its indicators. The DPP&E will inform the UNDP Barbados-ECS Country Office of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.
183. Periodic Monitoring of Implementation Process will be undertaken by the UNDP Barbados-ECS Country Office through quarterly meetings with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities. The Project Coordinator in conjunction with the UNDP-GEF extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process.
184. An Inception Report (IR) will be prepared immediately following the Inception Workshop and submitted within 3 months from the start of project implementation. It will include a detailed First Year/Annual Work Plan divided in quarterly time frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits, support missions from the UNDP Barbados-ECS Country Office, or the Regional Coordinating Unit (RCU) or consultants, as well as time frames for meetings of the Project Steering Committee. The report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12-month time frame. The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions, and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond to comments or queries. Prior to this circulation of the IR, the UNDP Barbados-ECS Country Office and the UNDP-GEF's Regional Coordinating Unit will review the document.

185. Quarterly Operational Reports: Short reports outlining main updates in the project progress will be provided quarterly to the local UNDP Country Office and the UNDP-GEF regional office by the project team.

186. Technical Reports will be scheduled as part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary/applicable, this Reports List will be revised and updated, and included in subsequent Annual Progress Reports (APRs). Where necessary, Technical Reports will be prepared by external consultants and will be comprehensive with specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels. Information from reports will be shared with the CCD focal point and Project Steering Committee.

Annual Project Report (APR) and Project Implementation Review (PIR)

187. The APR is a UNDP requirement and part of UNDP's Country Office central oversight, monitoring and project management. It is a self-assessment report by project management to the Country Office and provides CO input to the reporting process and the ROAR (Results Oriented Annual Report), as well as forming a key input to the Tripartite Project Review. The PIR is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. These two reporting requirements are so similar in input, purpose and timing that they have now been amalgamated into a single Report.

188. An APR/PIR is prepared on an annual basis following the first 12 months of project implementation and prior to the Tripartite Project Review. The purpose of the APR/PIR is to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The APR/PIR is discussed in the TPR so that the resultant report represents a document that has been agreed upon by all of the primary stakeholders.

189. A standard format/template for the APR/PIR is provided by UNDP GEF. This includes the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome
- The constraints experienced in the progress towards results and the reasons for these
- The three (at most) major constraints to achievement of results
- Annual Work Plans and related expenditure reports
- Lessons learned
- Clear recommendations for future orientation in addressing key problems in lack of progress

190. The UNDP/GEF M&E Unit will analyse the individual APR/PIRs by focal area, theme and region for common issues/results and lessons. The Reports are also valuable for the Independent Evaluators who can utilise them to identify any changes in project structure, indicators, work-plan, etc. and view a past history of delivery and assessment.

Mid Term and Final Evaluation

191. The project will be subject to two independent external evaluations. An independent external *Mid-Term Evaluation* (MTE) will be undertaken 18 months after project initiation. The focus of the MTE will be to make recommendations that will assist in adaptive management of the project and enable the PM to better achieve the project objective and outcomes during the remaining life of the project. The Final Evaluation will take place three months before the project is operationally closed, prior to the terminal tripartite review meeting, and will focus on determining progress being made towards the achievement of outcomes and will identify effectiveness, efficiency and timeliness of project implementation; highlight issues requiring decisions and actions; and present initial lessons learned about project design, implementation and management. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals.

Audits

192. The Government of St. Kitts and Nevis will provide the UNDP Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the Office of the Auditor General of the Government of St. Kitts and Nevis, or by a commercial auditor engaged by the Government. The project foresees an audit to be conducted at the end of the project by a recognized national firm.

Adaptive Management

193. Lessons learnt will be continuously extracted from the MSP Project. Lessons will be disseminated through the DPP&E. Among the mechanisms to be used will be inter-Agency MOUs, incorporation into Annual Work Plans and through capacity development and training initiatives. As well, there will be the sharing of information between projects, stakeholders and policy representatives as an effective measure of mainstreaming. There is an opportunity during the implementation of the MSP for review of the implementation of the NAP and to take into consideration the lessons learnt from the MSP.

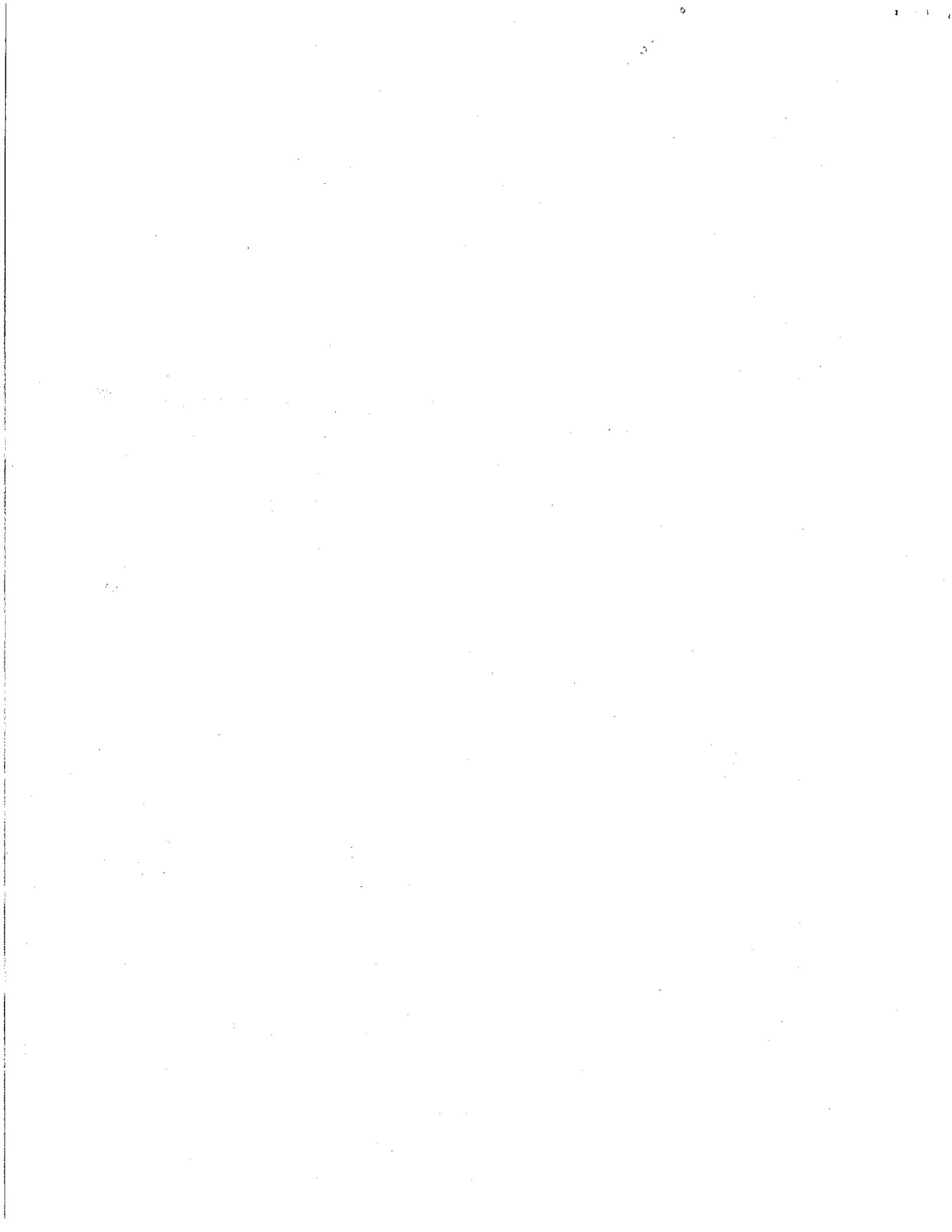
194. The lessons learnt from the MSP through evaluations will be incorporated into implementation of the MSP. In addition to the monitoring, evaluation and feedback mechanisms already identified, the Project Steering Committee will review progress on a quarterly basis, identifying lessons learnt and discuss project progress with the involvement of wider stakeholder audience as necessary. The ideas and lessons learnt will be incorporated into the management of the project and further implementation process by the Project Steering Committee with adjustments to the Work Plan as required.

Table 10: Monitoring and Evaluation (M&E) Plan

M&E Activity	Responsible Party (lead responsible party in bold)	Budget	Time Frame
Inception Report	Project Implementation Team	None	At project start-up
Annual Progress Report (PIR) and GEF Project Implementation Report	The National Executing Agency (MHE/PMU), Project Team , UNDP Country Office, UNDP/GEF Task Manager	None	By June each year
Tripartite meeting and report (TPR)	National Executing Agency, Project Team , UNDP Country Office, UNDP/GEF Task Manager	None	Each year on receipt of the APR
Mid-term External Evaluation	National Executing Agency , Project Team , UNDP Country Office, UNDP headquarters, UNDP Task Manager	\$15,000	Middle of year 2 of project implementation
Final External Evaluation	National Executing Agency , UNDP Country Office, UNDP/GEF Task Manager, UNDP/GEF Headquarters, Project Team	\$15,000	At end of project implementation.
Terminal Report	UNDP Country Office, UNDP/GEF Task Manager, Project Team	None	At least one month before end of project
Audit	National Executing Agency , UNDP Country Office, Project Team	\$4,000 (\$1,333 per year)	Yearly
Surveys (2)	Project Management Unit, UNDP/GEF RCU, UNDP/GEF Task Manager, UNDP CO, Project Team	\$2,000	At the outset of project implementation and mid-way through the project
Lessons learnt	UNDP-GEF, GEFSEC, Project Team	\$3,500	For duration of project
Total		\$39,500	

RESPONSE TO GEF SECRETARIAT REVIEW

GEFSEC Comment	Response	Location where document was revised



SECTION II: STRATEGIC RESULTS FRAMEWORK
Table 11: Project Logical Framework

Project Strategy	Objectively verifiable indicators			Risks and Assumptions	
	Indicator	Baseline	Target		
<p><i>Goal: The agricultural forest, residential, tourism and urban landscapes of St. Kitts and Nevis are sustainable, so that ecosystem productivity and ecological functions are maintained while contributing directly to the environmental, economic and social well-being of the country.</i></p> <p>Objective of the project: To strengthen capacities for SLM among key stakeholders and mainstream SLM practices into national development planning processes and initiatives in a post sugar era</p>	<p>Revised legislative and policy framework incorporates SLM in support of development planning, zoning and guidance to agricultural extension</p> <p>Land Management Unit established and coordinated institutional and regulatory frameworks for SLM established with supportive capacities built at individual and institutional levels.</p>	<p>SLM not mainstreamed at the systemic level resulting in ineffective management of land resources</p> <p>Low level of capacity within agencies with land management mandates to effectively manage land resources</p>	<p>SLM considerations are incorporated into relevant legislative, policy and regulatory frameworks by mid-Y3</p> <p>Capacity building and knowledge management enhancement activities completed by end Y3</p>	<p>Continued political support for integrating SLM into national development planning</p>	
<p>Outcome 1: SLM mainstreamed into national development policies, plans and regulatory frameworks</p>	<p>SLM considerations are incorporated into macro-economic policies and development planning strategies (via best practices/guidelines for SLM integration) and applied by agencies such as the Ministry of Sustainable Development and other Ministries concerned with land management.</p>	<p>Guidelines for incorporating SLM into macro-economic policies do not exist; limited capacity to effect mainstreaming process</p>	<p>The Ministry of Finance and the Economic Affairs Division, Department of Physical Planning & Environment, Ministry of Agriculture and other agencies adopt (and use) SLM guidelines, and promote best practices to support physical and economic development planning, and formulating macro-economic policies by the end of Y2.</p>	<p>Published revised legislative and policy instruments in agency reports and in National Gazette</p> <p>Best Practices and guidelines for SLM</p> <p>Government reports, Estimates of Expenditure (LMU included in national budget)</p> <p>Survey results of agency and other stakeholders</p> <p>Revised Planning and policy documents (supported by relevant SLM economic and land resource analyses)</p>	<p>Senior policy and planning authorities are motivated to facilitate the process of integration of SLM considerations into sustainable development plans and strategies; high level political commitment is secured</p>

Project Strategy	Objectively verifiable indicators			Sources of verification	Risks and Assumptions
	Indicator	Baseline	Target		
	The National Physical Development Plan (NPDP) and the Nevis Physical Development Plan (NPDP), the Agricultural Diversification Plan, quarry policy documents, and other relevant policy documents are structured around the principles of SLM, and makes specific reference to those principles in strategy articulation.	Most national and economic sector development policy instruments do not incorporate and prioritize SLM issues.	SLM issues are fully incorporated into the major policy instruments by the end of Y2	Revised NPDP, NPDP and other policy instruments (with support guideline annexes).	Funding is mobilized for policy reforms particularly in implementation of sugar transition plans and in addressing concerns over quarrying in Nevis.
	Key national legislation and regulations regarding land management and planning incorporates principles of SLM	Most legislative and regulatory instruments related to land management and administration do not incorporate SLM	Incorporation of SLM into key legislative instruments completed by Y2	Gazetted new and/or amended legislation	Political will to facilitate policy reforms is maintained.
Outcome 2: Individual and institutional capacities for SLM developed	Increase in contact frequency by technical staff from the Ministry of Agriculture (Forestry and Agriculture Divisions), Ministry of Sustainable Development, Public Works Department and NGOs in provision of technical support and policy guidance on SLM to stakeholder groups	SSMC technical staff, agricultural and forestry extension officers provide some level of conservation education on SLM to farmers and other stakeholders.	At least 16 officers within from Ministry of Sustainable Development, Agriculture and Forestry Departments trained in various technical areas of SLM by end Y3. At least 4 persons will be trained at advanced level to be trainer of trainers.	Two major published guidelines (soil conservation and drainage for agriculture and urban development; soil nutrient management) and a core training manual for resource personnel on SLM. Agency reports (record of technical services rendered). Stakeholder survey to indicate that training is being applied on the ground	There is stakeholder consensus for, and buy-in to the process and willingness to participate Continued political support for integrating SLM into national development planning and for direct inclusion of CBOs and NGOs in natural resource management Staff turnover does

Project Strategy	Objectively verifiable indicators			Sources of Verification	Risks and Assumptions
	Indicator	Baseline	Target		
	Increase in the number of farmers and other resource users (within construction, commercial, and tourism sectors) that have modified means of economic livelihoods to incorporate SLM principles.	SLM practices are generally not adopted by farmers and resource users	At least 4 training seminars on SLM held for stakeholders within key economic sector groups (agriculture, construction, tourism, commercial) targeting at least 200 completed by end Y2. At least 2 capacity-building seminars for community groups and organizations (youth and women's groups) conducted annually.	Training and workshop reports/proceedings; Training and public awareness material Stakeholder survey to indicate that training is being applied on the ground	not undermine training efforts The appropriate environment and incentives are provided to resource persons to facilitate continued provision of services.
	Target stakeholders and the general public have heightened awareness of issues of land degradation and approaches for sustainable land management and demonstrate positive behavioral change.	General low level of awareness on impacts of human-induced factors that contribute to land degradation and measures to mitigate land degradation.	National KAP surveys conducted by mid-Y1 and near end Y3; national awareness programme for SLM designed and executed by end of Y3; educational material produced and distributed.	Media reports and programmes; Project reports; Public surveys	
	Dedicated government institutional node to foster for inter-agency coordination is created and supported by formal cooperative arrangements with key allied agencies (Ministries of Sustainable Development and Agriculture, Chamber of Industry and Commerce, St. Christopher Heritage Society and the Nevis Historical and Conservation Society) guided by tools and guidelines.	Agency (state and non-state) mandates and mechanisms for effective coordination for SLM poorly defined; no formal arrangements for inclusion of NGOs and private sector in land management	Land Management Unit established and fully operational by end of Y3 Revised agency TORs/mission statements / visions that incorporate SLM considerations	Government budget estimates; New/revised agency staffing structures; Revised agency mandates and mission statements; Memoranda of Understanding between relevant agencies; Agency reports (that document extent of stakeholder consultations and cooperation)	
Outcome 3: Capacities for knowledge management in support	Computerized Land Resources Information System established within the Ministry of Sustainable	Central land information system does not exist; Spatial information	Core elements of a computerized land information system installed	Computer hardware and software procurement	Partner institutions willing to collaborate on

Project Strategy	Objectively verifiable indicators			Sources of verification	Risks and Assumptions
	Indicator	Baseline	Target		
of SLM developed	Development and other key agencies including the new Land Management Unit is accessible to users via intra and internet exchange protocols.	systems (GIS) with limited datasets in some government agencies but not oriented to SLM decision making. Low level of investment within agencies to support SLM	within GIS unit by end of Y2	documentation; Consultant reports; MOUs or appropriate instruments establishing terms and conditions for data exchange	integrated approaches to sustainable land management and to share access to land information. An appropriate policy environment is created to facilitate data transfer all users
	Information on land use, land tenure, land degradation, land zoning in St. Kitts and Nevis is readily available to policy planners, technical departments and land users in implementing SLM	Land use and land degradation data is outdated compromising effective decision making and planning; Land ownership information (spatial) not readily available for land use planning; no comprehensive land zoning information to guide planning; The Department of Physical Planning and Environment has some GIS data sets, and has some limited capability to integrate land cover imagery into their GIS databases.	Relevant spatial/attribute datasets (land use, land tenure, land degradation, land zoning) compiled by end of Y3	Government resource allocation in Estimates of Expenditure (funding for maintenance of land information system) Spatial data sets; Consultant reports; Planning/development application documentation; MTR, PMU project reports, TAG Department of Physical Planning and Environment project reports	Local and national planning bodies are committed to the integration of SLM considerations into development planning Government authorities will remain committed to reviewing and strengthening the various lease systems for State-owned land; Government and the key institutions involved will commit the resources needed to maintain beyond the life of the project, the SLM monitoring and evaluation systems to be developed.
	SLM M&E systems are operational for state of environment assessment (agricultural, pasture, forest lands and coastal ecosystems) and information used to update the land information system in SLM planning	M&E systems on state of land degradation does not exist	M&E protocol for land degradation elaborated based on the UNCCD benchmarks and indicators established by mid-Y2	Consultant reports; Land degradation monitoring guidelines/protocols; GIS data outputs Spatial information products used in decision-making	
	Technical staff in the lead agencies with SLM responsibilities, specifically the Ministries of	Very limited capacity in application of spatial information systems to	At least 20 persons from the Ministry of Sustainable Development and	Spatial planning (GIS-based) methodology for	Government commits the

Project Strategy	Indicator	Objectively verifiable indicators	Baseline	Target	Sources of verification	Risks and Assumptions
	Sustainable Development & Environment, Agriculture, Housing, the Land Management Unit, and other relevant stakeholder agencies are developing spatial information products for decision making based on agency and stakeholder requirements for SLM planning	sustainable land management planning	Environment, the new Land Management Unit, Ministry of Agriculture (Forestry and Agriculture Divisions), Public Works Department, NGOs and other relevant stakeholder agencies trained (by end of Y3) in the use of land information systems and specific applications to support SLM in development planning across various sectors.	Published guideline and metadata standards for system maintenance; information sharing policy; training module for operators; training reports	guiding land use based on SLM; training reports;	resources necessary for digitizing the land survey/ownership records needed to make the SKILS useful for SLM monitoring and planning.
	Technical staff in the Ministries of Sustainable Development & Environment, Agriculture (and others), and the new Land Management Unit, are using guidelines for operation, maintenance and information-sharing of the LRIS	No guidelines exist for management of spatial information systems	At least 10 officers in relevant agencies trained by mid-Y2	Sector Investment plans identifying SLM projects; government budgetary allocation; Consultant reports	Investment climate remains favorable; political commitment continues	
Outcome 4: Investment planning & resource mobilization for implementation of SLM interventions elaborated	The investment plans in key economic sectors (agriculture, tourism, construction, commercial) incorporate priority actions for SLM as defined in NAP	Sector investment plans in SLM inadequate	SLM investment plans completed by end-Y2	Investment plans identifying SLM projects; government budgetary allocation; Consultant reports	Investment climate remains favorable; political commitment continues	
	Major sector incentive regimes that include protocols for fiscal development incentives reviewed and amended to include incentives for SLM	No incentive regimes to encourage investment in SLM exist	Incentive instruments approved by Ministry of Finance by the end of Y3	Consultant reports Gazette new/revised incentive regimes	Private sector understands importance of SLM and is willing and committed to supporting mainstreaming of SLM into productive processes and decisions	
	Donors committed to fund SLM initiatives	No funds committed for SLM initiatives	Strategy document for donor resource mobilization produced by early Y3	Resource mobilization strategy document; Meeting reports; Documented financing commitments from donors		

Project Strategy	Objectively verifiable indicators			Sources of verification	Risks and Assumptions
	Indicator	Baseline	Target		
Outcome 5: Adaptive management and learning	Project Management Unit established and effective	none	PMU is operational within 1 month of Project start-up.	Annual project progress reports	
	Project implementation guided by monitoring and evaluation programme	None	M+E benchmarks and targets realized	Annual workplans Quarterly Operational and Annual project progress reports; Published annual M+E evaluations; Revised Annual work plans (based on findings of M+E)	
	Documented lessons from project implementation	none	Lessons learnt documentation incorporated into annual progress report	Quarterly Operational and Annual project progress reports	

Table 12: Total Budget and Work plan

Output	Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
1.1: Planning and policy documents for integration of SLM into macro-economic policies and regulatory frameworks of SKN	1.1.1 Prepare draft guidelines for mainstreaming SLM												
	1.1.2 Conduct workshop to validate draft documents												
	1.1.3 Formulate SLM integration strategy within key policy and regulatory framework documentation												
	1.1.4 Review consultation for ratification of outputs												
1.2: Policy instruments incorporating SLM	1.2.1 Review current leasing arrangements for state lands (including former sugar lands) land taxation regimes, conduct consultations to design best approach for leasing and management of state lands, promulgate new lease conditions for different uses of state lands and new land taxation regimes that reflect SLM considerations.												
	1.2.2 Host National workshop(s) to review and finalize policy instruments												
	1.3.1 Review and update Draft Quarry Act and lease terms and conditions for quarry lands												
1.3: Revised national legislative and regulatory instruments that incorporate principles of SLM	1.3.2 Develop draft SLM-supportive legislative instruments/regulations for integration into Land Use Code (under the National Physical Development Plan) and the Nevis Physical Development Plan												
	1.3.3 Host national workshops to ratify proposed amendments and new proposals												
	2.1.1 Design training manuals on SLM for resource personnel (Review, update and adopt soil conservation manual for other land uses)												
2.1: Trained technical staff from Ministry of Sustainable Development and other relevant agencies and NGOs actively engaged in providing technical support and policy guidance on SLM to stakeholders	2.1.2 Mass produce and disseminate training manuals to relevant resource agencies, organizations												
	2.1.3 Workshops (including trainer workshops) on SLM techniques for at least 20 resource persons (Ministry of Sustainable Development, Ministry of Agriculture and other resource agencies)												
	2.2.1 Design of training material on SLM for resource users												
2.2: Trained farmers and other resource users within construction, commercial, tourism sectors) practicing SLM	2.2.2 Production and dissemination of training materials to relevant stakeholders												

Output	Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
2.3: Public education and awareness strategy and support materials on SLM issues developed	2.2.3 Conduct at least 6 major training seminars for at least 200 farmers and other resource users on best land management practices (including GAPs) and soil conservation measures.												
	2.2.4 Conduct social action research with community of animal owners and farmers												
	2.3.1 Develop survey instrument for KAP survey.												
	2.3.2 Conduct KAP survey on SLM on both St. Kitts and Nevis												
	2.3.3 Design a Public Education and Outreach strategy for SLM												
	2.3.4 Design relevant PEO materials for all stakeholders on SLM												
2.4: A sustainable development inter-agency coordination mechanism for SLM established	2.3.5 PEO materials mass produced and disseminated to all stakeholders												
	2.3.6 Implement PEO Strategy for SLM												
	2.4.1 Support to establishment of the Land Management Unit												
	3.1: Computerized Land Resources Information System (SKLIS) within national GIS nodes (Department of Physical Planning and Environment, Land Use Unit)												
	3.1.1 Assess existing GIS capability to make recommendations for developing the land information system.												
	3.1.2 Procure hardware and software systems for the land information system												
3.2: Information databases on land use, land tenure, land degradation, land zoning for St. Kitts and Nevis set up	3.1.3 Install LRIS within the National GIS unit (National GIS developed)												
	3.2.1 Consolidate all spatial data and relevant non-spatial datasets to populate the land information system (inclusive of land use data, cadastral data and associated tenure information)												
	3.2.2 Develop and publish metadata for all data												
	3.3: Monitoring and evaluation system for state of environment assessments established												
	3.3.1 Design a land degradation assessment framework for SKN (based on UNCCD B&Is and Project M&E Toolkit)												
	3.3.2 Train technical officers and select stakeholders in use of methodology through at least 4 training activities												
3.4: Technical staff trained in analytical applications for decision making to support SLM	3.4.1 Conduct training workshops for at least 20 personnel (relevant staff of PP&E and PPNRE and other agencies) on use of the land information												

Output	Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
planning	system for analytical applications in support of SLM (use of satellite imagery and remote sensing) 3.4.2 Conduct workshop on use of the land information system for other stakeholders/users												
3.5: Technical staff in all relevant user agencies trained in the operation, maintenance and information-access of the land information system	3.5.1 Conduct training for at least 10 technical operators in the maintenance of the land information system. 3.5.2 Develop training material (system management protocols) for administrators.												
4.1: Investment plans in key economic sectors (agriculture, tourism, construction, commercial) that incorporate priority actions for SLM as defined in NAP	4.1.1 Host national workshop on financing for SLM projects 4.1.2 Develop medium term Investment Plan for SLM in SKN												
4.2: Major sector incentive regimes that incorporate SLM, including Payment for Environmental Services (PES), established	4.2.1 Develop a compensatory mechanism / economic incentives for investments in SLM 4.2.2 Conduct focus group meetings and workshops to review proposals 4.2.3 Establish incentive programme to assist farmers and other resource users in adopting alternative livelihood activities (particularly related to transition from sugar production)												
4.3: Strategy for donor resource mobilization	4.3.1 Develop a resource mobilization strategy and convene donor forum												
5.1 Project implemented in a cost-effective manner in accordance with agreed work plans and budgets	Recruitment of PMU staff and office establishment Inception meeting Bi-annual meetings of the PSC												
5.2. Monitoring and Evaluation Plan provides inputs for robust adaptive management	Annual review meetings Surveys of stakeholders Evaluations (Mid and Final)												
5.3. Lessons learned from the project captured and disseminated	Document production and dissemination												

Table 13: Total Project Budget and Work plan

AWARD ID: 40704						
PROJECT TITLE: Capacity building and Mainstreaming of Sustainable Land Management in the St. Kitts and Nevis- PIMS 3415						
GEF Outcome/ Atlas Activity	Responsible Party	Source of Funds	Amount US\$ (Year 1)	Amount US\$ (Year 2)	Amount US\$ (Year 3)	Amount US\$ (Total)
Outcome 1: SLM mainstreamed into national development policies, plans and regulatory frameworks.	GOSKN	GEF	59,000	64,000	0	123,000
Outcome 2: Individual and institutional capacities for SLM developed	GOSKN	GEF	74,000	67,000	40,500	181,500
Outcome 3: Capacities for knowledge management in support of SLM developed	GOSKN	GEF	22,500	29,000	7,500	59,000
Outcome 4: Investment planning & resource mobilization for implementation of SLM interventions elaborated	GOSKN	GEF	0	27,000	5,000	32,000
Outcome 5: Adaptive management and learning (includes M&E)	GOSKN	GEF	19,000	34,000	36,500	89,500
Total GEF			174,500	221,000	89,500	485,000
Total Other (GOSKN in-kind and other co-financing)			189,036	199,033	119,931	508,000
						15,000
						PDF-A
TOTAL PROJECT			363,536	420,033	209,431	1,008,000

SECTION III: ADDITIONAL INFORMATION

PART 1: GEF Operational focal point endorsement letter



ST. CHRISTOPHER AND NEVIS

Sustainable Development
MINISTRY OF FINANCE,
SUSTAINABLE DEVELOPMENT,
INFORMATION AND TECHNOLOGY
CHURCH STREET,
P. O. BOX 186,
ST. KITTS W.I.

7th September 2007

Dr. Rosina Wiltshire
Resident Representative
UNDP
UN House
Marine Gardens
Hastings, Christ Church
Barbados

Dear Dr. Wiltshire:

Re: Capacity Building and Mainstreaming of Sustainable Land Management (SLM)
in St. Kitts and Nevis

In my capacity as GEF Operational Focal Point for St. Kitts and Nevis I am pleased to endorse the above captioned project. In this regard, the Government of St. Kitts and Nevis has also agreed to commit an amount of US\$500,000 over the next three years as in kind contribution for the co-financing requirement of the project.

The project is in line with the country's post sugar reconstruction programme and is therefore expected to produce tangible long-term benefits for the people of St. Kitts and Nevis.

We, therefore, look forward to continuing the positive working relationship we have always had with UNDP in its role of Implementing Agency for GEF projects.

Yours sincerely,


Shirley Skerritt
Senior Project Analyst/GEF Operational Focal Point

cc. Hilary Hazel, PS Sustainable Development/ GEF Political Focal Point

Telephone (869) 465-2521 ★ Fax: (869) 466-7398

PART II Co-Financing Letters



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

OFFICE OF THE SUBREGIONAL REPRESENTATIVE FOR THE CARIBBEAN
AND
FAO REPRESENTATIVE IN BARBADOS

POSTAL ADDRESS

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TEL: (246) 426-7119/429-2602
CABLES: FOODAGRI BRIDGETOWN
E-MAIL: FAO-SLAC@FAO.ORG
FACSIMILE: (246) 427-6075

LA 1/1

March 12, 2007

Dear Ms. Barbut:

"LDC/SIDS Portfolio Project for Sustainable Land Management

I refer to the above-mentioned project, which is currently being implemented in the Caribbean. I am pleased to inform you that the Food and Agriculture Organization supports this project and we have committed, as co-financing, the sum of US \$ 40,000 from the Forestry Policy Initiative entitled "*Participatory Forest Management: Improving policy and institutional capacity for development*".

This Initiative is being implemented under the National Forest Programme Facility in partnership with the Caribbean Natural Resources Institute (CANARI) and will be conducted in the following countries: Barbados, Dominica, Saint Christopher and Nevis, Grenada, St Lucia, St. Vincent and the Grenadines and Trinidad and Tobago until July 2008. We would like the co-financing to be allocated equally among the 5 OECS countries.

The Food and Agriculture Organization sends its assurances of the highest commitment.

Best regards,

Yours sincerely

A handwritten signature in dark ink, appearing to read 'L. Barbara Graham', written over a circular official stamp.

L. Barbara Graham
Sub-Regional Representative for the Caribbean

Mrs. Monique Barbut
CEO and Chairperson
GEF Secretariat
1818 H Street, NW
Washington, DC 20433
USA
Fax: (202) 522-3240/3245
E-mail: gef@gefweb.org

FAO --- WORLD FOOD DAY --- 16 OCTOBER
Visit FAO website at: www.fao.org

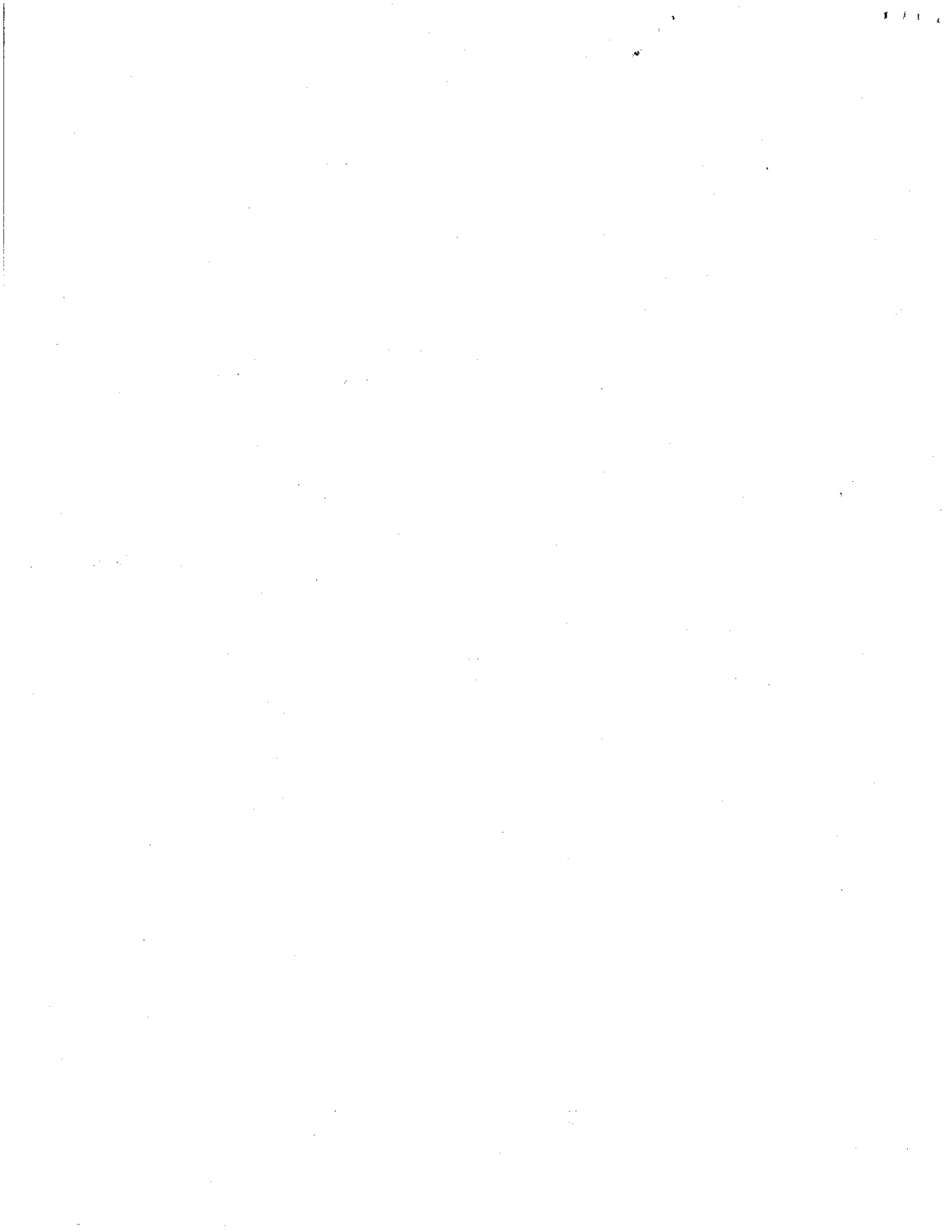
Annex 1 Total Budget and Work Plan

Award ID:	00040704
Award Title:	PIMS 3415 St. Kitts and Nevis - Capacity building and Mainstreaming of Sustainable Land Management in St. Kitts and Nevis
Business Unit:	BRB10
Project Title:	PIMS 3415 St. Kitts and Nevis - Capacity building and Mainstreaming of Sustainable Land Management in St. Kitts and Nevis
Project ID:	00046155
Implementing Partner (Executing Agency)	MINISTRY OF SUSTAINABLE DEVELOPMENT

2008 2009 2010

	GEF	71200	International Consultants	0	0	0	0	0
OUTCOME 1: SLM mainstreamed into national development policies, plans and regulatory frameworks		71300 ✓	Local Consultants	✓ 13,750	✓ 10,000	✓ 0	✓ 23,750	d1; d2
		72100	Contractual services - Company	✓ 22,950	✓ 28,000	✓ 0	✓ 50,950	f
		72500 ✓	Supplies	✓ 6,500	✓ 7,500	✓ 0	✓ 14,000	g
		73100 ✓	Rental & Maintenance-premises	✓ 3,500	✓ 4,800	✓ 0	✓ 8,300	j
		74100	Professional Services	✓ 3,800	✓ 4,700	✓ 0	✓ 8,500	k
		74200 ✓	Audio Visual & Print prod costs	✓ 8,500	✓ 9,000	✓ 0	✓ 17,500	l
			Total Outcome 1	59,000	64,000	0	123,000	
OUTCOME 2: Individual and institutional capacities for SLM developed		71200 ✓	International Consultants	✓ 6,000	✓ 8,000	✓ 2,000	✓ 16,000	d3
		71300 ✓	Local Consultants	✓ 8,750	✓ 11,250	✓ 8,750	✓ 28,750	d3;d4
		72100	Contractual services - Company	✓ 25,750	✓ 29,250	✓ 21,500	✓ 76,500	d5;d6
		72500 ✓	Supplies	✓ 10,500	✓ 7,500	✓ 6,500	✓ 24,500	g
		73100 ✓	Rental & Maintenance-premises	✓ 5,500	✓ 2,000	✓ 0	✓ 7,500	j
		74100 ✓	Professional Services	✓ 8,000	✓ 4,000	✓ 1,000	✓ 13,000	k
		74200 ✓	Audio Visual & Print prod costs	✓ 9,500	✓ 5,000	✓ 750	✓ 15,250	l
		Total Outcome 2	74,000	67,000	40,500	181,500		

A.1.7



						2008	2009	2010						
OUTCOME 3: Capacities for knowledge management in support of SLM developed	GoSKN	International Consultants	71200	GEF	✓	8,000	✓	4,000	✓	2,000	14,000	d8;d9		
		Local Consultants	71300		✓	5,000	✓	5,000	✓	2,500	12,500	d7;d8;d9		
		Contractual services - Company	72100		✓	1,850	✓	4,000	✓	1,500	7,350	f		
		Supplies	72500		✓	1,000	✓	2,500	✓	500	4,000	g		
		Information Technology Equipment	72800		✓	5,000	✓	9,000	✓	500	14,500	h		
		Rental & Maintenance-premises	73100		✓	550	✓	1,000	✓	500	2,050	i		
		Rental & Maint of Info Tech Equip	73300		✓	0	✓	0	✓	0	0	j		
		Professional Services	74100		✓	600	✓	1,500	✓	0	2,100	k		
		Audio Visual&Print prod costs	74200		✓	500	✓	2,000	✓	0	2,500	l		
		Total Outcome 3					22,500	29,000	7,500	59,000				
OUTCOME 4: Investment planning & resource mobilization for implementation of SLM interventions elaborated	GoSKN	International Consultants	71200	GEF		0	✓	2,000	✓	0	2,000	d10		
		Local Consultants	71300			0	✓	2,500	✓	2,500	5,000	d 10		
		Contractual services - Company	72100			0	✓	16,000	✓	2,000	18,000	f		
		Supplies	72500			0	✓	2,000	✓	0	2,000	g		
		Rental & Maintenance-premises	73100			0	✓	2,000	✓	500	2,500	h		
		Professional Services	74100			0	✓	0	✓	0	0	k		
		Audio Visual&Print prod costs	74200			0	✓	2,500	✓	0	2,500	l		
		Total Outcome 4					0	27,000	5,000	32,000			d10;d11;d 12	
		OUTCOME 5: MONITORING, ADAPTIVE LEARNING, ADAPTIVE FEEDBACK & EVALUATION Adaptive management and learning (includes M&E)	GoSKN	International Consultants	71200	GEF		0	✓	15,000	✓	15,000	30,000	
				Contractual services - Indiv. (PMU staff)	71400			2,334	✓	2,333	✓	4,833	9,500	e
Total Outcome 5						2,334	17,333	19,833	39,500					
Contractual services - Indiv. (PMU staff)	71400			GEF		16,666	✓	16,667	✓	16,667	50,000	e		
PROJECT TOTAL					174,500	221,000	89,500	485,000						

Budget Notes

- a. Locally recruited consultants will provide support for project management.
- b. Travel: No separate budget lines are anticipated. Travel expenses associated with external consultants will be accounted for within consultant fees.

- c. **Office expenditures:** These will be in-kind contribution by the GoSKN. The PMU will be established within the Department of Physical Planning and Environment.
 - d. **Consultants:** contracted both individually and through existing technical organizations and NGOs, include:
 1. *Policy specialist* (local) - Outcome 1: Policy mainstreaming
 2. *Legal (taxation) specialists* (local) - Outcome 1: Legislative and regulatory mainstreaming
 3. *SLM Technical specialists/trainers* (local and international) - Outcome 2: Capacity building for best practices in SLM
 4. *Institutional analyst* (local) - Outcome 2: Institutional analysis to determine best institutional arrangements to support SLM
 5. *Communications specialist* (local) - Outcome 2: Awareness-raising strategy development and execution
 6. *Production services* (local) - Outcome 2: Awareness-raising materials production
 7. *IT/Database Management Specialist* (local) - Outcome 3: Development and appropriate information management systems for data archival and information dissemination
 8. *Land Information Systems Specialist* (local and international) - Outcome 3: Development of the functional basis for the land information system
 9. *SLM Technical specialists* (local and international) - Outcome 3: Land degradation assessment methods for monitoring and database population
 10. *Policy /finance specialists* (local and international) - Outcome 4: Development of appropriate financial mechanisms for SLM
 11. *Auditor* (local) - Outcome 5: Carry out audits of the project
 12. *Project Evaluator* (international) - Outcome 5: evaluation project execution; mid-term progress, final evaluation
- NOTE:** the international consultant fees account for 12.4% of the overall GEF allocation (US\$500,000). This is due to the fact that the expertise required, particularly with respect to capacity-building (Outcome 2), development of knowledge management systems (Outcome 3) and formulation of payment for environmental services schemes (Outcome 4), is largely resident outside of the country. It must be noted however that local consultancy services will be employed as far as local expertise is available.
- e. **Contractual services – individual:** These are additional short-term services provided by individuals in support of main activities either by consultants or by the PCU.
 - f. **Contractual services – Company:** These are additional services rendered by specialized organizations. These services will include, but not limited to, conduct of surveys, conduct of research, preparation of documentation, equipment installation and service.
 - g. **Supplies:** Materials and other consumables
 - h. **Information technology equipment:** Costs associated with procurement and installation
 - i. **Rental & Maintenance-premises:** It is anticipated that several meetings and training workshops will be held across the country and the budget is reflective of the costs associated with hosting of these meetings. This includes the venue rental and catering for participants.
 - j. **Rental of information technology equipment:**
 - k. **Professional services:** These services will include but not limited to media production, advisory, facilitation, etc.
- Audio, visual and printing production costs:** Costs associated with multiplication of resource materials.

Summary of Funds: 5

SOURCE	Year 1	Year 2	Year 3	Totals
GEF	174,500	221,000	89,500	485,000
GoSKN	185,036	195,033	119,931	500,000
FAO	4,000	4,000	0	8,000
PDF-A				15,000
TOTAL	363,536	420,033	209,431	1,008,000

⁵ Summary table should include all other co-financing (cash and in-kind) that is not passing through UNDP.

Annex 2 St. Kitts and Nevis Geography and Land Use

