Food and Agriculture Organization
of the United Nations

Gambia Case Study

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1. Country trend observation: forest condition , agriculture and food security trends

Forest Condition

The forest cover of The Gambia comprise of woodland, savannah woodland, mangroves and tree and shrub savannah. The majority of the population depends entirely on these forest types for the supply of various products and services ranging from firewood, poles, construction timber and non timber forest products etc. It also provides a wide range of habitats for both aquatic and terrestrial wildlife.

The trend of the forest cover in terms of size and quantity is well articulated in the results of the conducted forest inventories. The total forest cover was 505, 300ha in 1981/82 representing 44% of the total land cover of the Gambia 1, 130, 000ha. 1n 1997/98 inventory, the total area of forest cover increased to 520, 400ha, this could be attributed to the introduction of the Community Forestry (CF) concept. However, the results of the National Forest Assessment (NFA) 2009/10 indicated 423, 000 ha representing 37% of the total land cover, which represents a significant decrease of 97, 000ha within a decade. Generally, between the first inventory of 1981/83 and 2009/10 the country lose 7% of its forest cover. Comparison of conducted forest inventories are presented on annex 1.

This significant decrease of forest cover is attributed to certain drivers of deforestation such as frequent bushfires, illegal felling, expansion of agricultural fields and climate change. The rapid growth of the population increased pressure on the forest resources as a result, communities around the periphery of the forest encroached the forest to expand farms and for settlement purposes.

Agriculture

In the past, agriculture was dominated by shifting cultivation where 3 to 5 years of cultivation were followed by 20 years of fallow. This long period of fallow gave nature the chance to regenerate the land and its associated resources before cultivation resumed. Furthermore, the type of cultivation practised before was characterised mainly by mixed cropping of cereals, legumes and other plants. In this way, the soil was protected during a very long period against the hot sun and the forces of heavy rain falls.

The total arable land for agricultural production is estimated at 558, 000ha, whiles 320, 000 ha or 57% is actually put under cultivation annually. Arable land put under cultivation in 1997 was 200, 000ha and steadily increased to 440, 000ha in 2012 representing a growth rate of 7.96%. This is attributed to high immigration from the sub-region settling among the farming communities of rural Gambia.

Rice farms along the river banks received freshwater from the river and/or from rainfall. The forests around the rice fields served as a sponge and as such, too much water was absorbed and liberated later by the forest. Agricultural production during these periods was better and sustainable translating on farm production. However, this phenomenon was disrupted by several factors such as drought, saline intrusion, rapid population growth, high immigration rate, farm mechanization, mono-cropping etc. The farmer is faced with a lot of consequences, directly affecting farming patterns such as:

- Runoff of rainfall water;
- Reduced infiltration in the soil;
- Less water available for crops and as drinking water;
- Sheet and gully erosion;
- Loss of fertile topsoil; and
- Drying of river tributaries and ponds.

The sedimentation of the upland eroded-sand in rice fields decreased rice yields significantly. In fact in some cases, rice fields become barren land. As a result of the decline of production the approach was to increase production by the use of inorganic fertiliser. However, it did not work out well due to the increasing fertiliser prices and low farm- product prices.

Food security trends

In 2006, it was reported that 46 percent of rural households fell below the food poverty line, compared with 15 percent in peri-urban and 4 percent in the Banjul Area. The estimated per capita consumption of cereals in the country is about 175 kg of which 117 kg is rice and 58 kg coarse grains (millet, maize and sorghum). According to the Food Security Situation and Response Strategies to Food Crisis Situation, household food security is eroded severely due to low, erratic and unevenly distributed rainfall resulting in low productivity and production. Consequently, rural farmers are compelled to sell their produce immediately which results in income loss and lowering food stocks which cannot take them through the hungry season.

Domestic cereal production, particularly in the form of subsistence agriculture, accounts for only up to 60 per cent of the annual consumption requirements by the majority of the population. In addition, weak purchasing power and a heavy reliance on food imports make The Gambia's population highly vulnerable to external shocks (e.g. price fluctuations), primarily to the detriment of food security and poverty levels. According to the Comprehensive Food Security and Vulnerability Analysis, in The Gambia (WFP, 2011) approximately 11 per cent of the total population are considered food insecure or vulnerable to food insecurity during normal times.

Presently, locally produced food is only 50% of the total food consumption needs with a deficit of 6% of rice which is the staple food of the country. The total rice requirement

of the Gambia is estimated between 180, 000 and 200, 000 MT (metric ton) while the national production level is estimated at 12, 000MT representing only 6% of the requirement. Although, cereal production is in the increase, there is a steady deficit increase of cereal requirement from 65, 660MT to 150, 000 MT due to the growth rate of the population surpassing the production rate. The food supply in 1996 was 2, 391Kcal/capita/day, and gradually increased to 2, 849Kcal/capita/day this could be attributed to the increase of volume of basic food commodities imported into the country for commercialization to meet the deficiency of food production.

Majority of the agricultural producers are basically purchasers of food to meet the deficit gaps through commercially imported flour, poultry meat, eggs, rice and vegetable products. This resulted to a steady increase of food prices.

The major contributing factor of food insecurity is due to the poverty level of the people reported at 11%. Food insecurity level is generally high due to high in household headed by women. Food insecurity or vulnerability is high in the Lower River (57.2%), Central River (76%) and West Coast Regions of the Gambia (54.4%).

2. In-depth country assessment

A. Context Assessment

2.1 Economic development

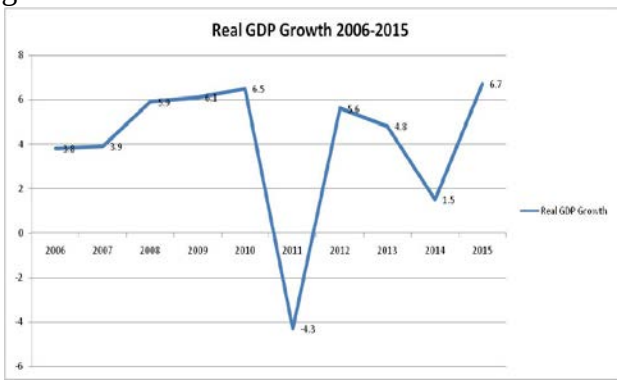
The economy of the country is basically small in size, narrow base with a large re-export trade representing 80%. Revenue base generated from re-export trade contribute about 60% to the domestic tax. The macro-economic performance of the country was stable between 2004 and 2009 with an average growth rate of 5 to 6 percent annually. The basis of the economic growth was agricultural 30%, services 58% and industry 12%. The exportation of groundnuts alone contributed 60% to the economy however, in 2004/2005 trade season, it declined. This was attributed to poor marketing arrangements at national level.

Gross Domestic Product in 1990 grew steadily from 707.64 million US$ to 840.28 million US $ in 1998. In 2003 it declined to 487. 04 million US$ but increased steadily to 965.77 million US$ in 2008 with slight drop in 2009 (900.64 million US$). From 2010 to 2013, a steady decline was experienced from 951.83 million US$ to 901.89 million US$ in 2013.

The Gambia's Real Gross Domestic Product (GDP) is estimated to have declined to 1.5 per cent in 2014 from 4.8 per cent in 2013, and the recovery in 2015 is projected to be

dampened. Macro-economic developments in 2014 have been impacted considerably by external shocks as a result the 2014 growth rate has been revised due to decline in tourism and agriculture which are the two leading drivers of the economy. The Gambia is still Ebola free, but the impact of the regional outbreak is expected to cut by more than half tourism receipts during the 2014/15 season see figure 1. Insufficient and delayed rains in 2014 rainy season resulted to 15-30 per cent declined in crop production.

Figure 1 GDP Growth rate



The spillover effects of 2014 Ebola outbreak in the sub-region has led to over 60 per cent drop in tourist arrivals. The combined effects of these two shocks led to a declined in foreign exchange inflows thus worsening the fiscal deficit and aggravating the existing difficulties in the country's balance of payments position. This has created pressures on the dalasi leading to significant depreciation and eventually inflationary pressures.

Gross National Income (GNI) per capita declined from 756 US$ in 1995 to 400 US$ in 2005. Following the trend of GDP, GNI grew to 600 US$ in 2010. The impacts of climate change on agriculture and variation of growth in re-export trade, tourism, and construction industry were responsible for the fluctuation of the GDP and by extension on the GNI.

The agriculture sectors contribution to GDP was projected at 19 percent in 2014, compared to 21percent in 2013. Livestock, forestry and fisheries have growth rates of 1.9, 3.0 and 4.6 percent respectively compared to 2013 which showed a growth rate of 3.3, 3.4 and 4.0 percent respectively.

The industry sector in 2014 was estimated to grow by 5.2 percent compared to 4.5 percent in 2013. This projected increase is attributed to increase in the construction

and energy sectors which are estimated to grow at 6.6 and 5.3 percent respectively compared to 4.5 percent and 2.2 percent in 2013.

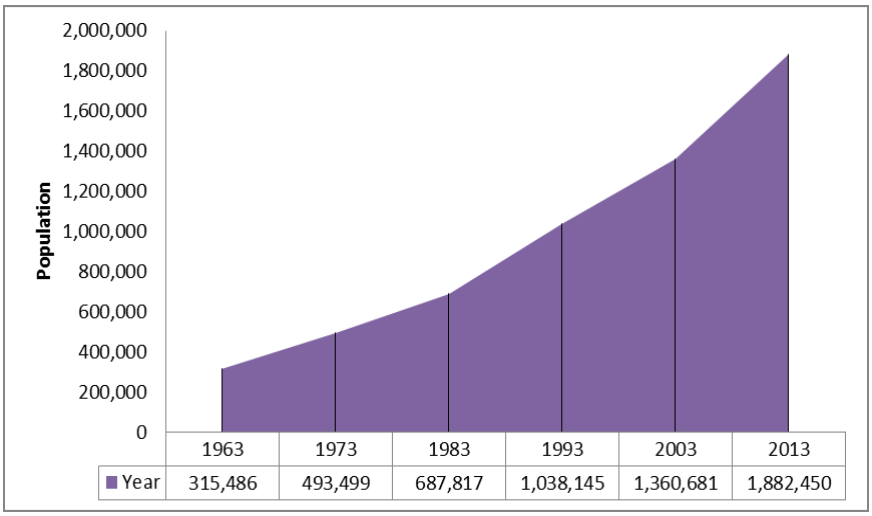
Mining and quarrying are expected to grow at 7 percent in 2015 compared to 7.4 percent in 2013. Manufacturing is expected to decline 2.8 percent compare to a growth rate of 3.2 percent in 2013.

Remittance has become one of the largest sources of foreign exchange for the country despite its significant contribution to the national economy; Gambia is still at the developmental stage to harness the full potentials of remittances. According to the Central Bank of the Gambia, remittances to the country as a percentage of the GDP have grown over time from a mere 3 – 4 percent in the 1990s to nearly 10 percent of the GDP in 2011 and increased to 19.99% in 2013. Remittance is a key driver in other sectors such as the wholesale and retail trade.

2.2.1 Demography

Results of the 2013 population and Housing census indicated that the total population is 1, 882, 450. The growth rate dropped from 4.2% during 1983-1993 to 2.7% over the period of 1993-2003 may be due to possible under-count. There is an increase of 521, 769 persons or 38.3% compared to 2003 enumeration. The results indicated that population steadily increased since 1963 less than a third of a million to 1.4million in 2003 and currently (2013) 1.9million persons see figure 2.

Figure 2: Population size and growth



Source: GBOS 2013 census

The population has been growing at a rate of 3.3% annually on average during the period of 2003-2013. With such growth rate the population is predicted to double in

next two decades. The population of the capital city Banjul has dropped to 1.7% from 2.6% in 2003 due to emigration to Kanifing municipality and Brikama local Government Areas. The high population growth rate in these LGAs (Brikama & Kanifing) is attributed to the movement of people from the regions and the sub-region. The highest increase of population is recorded in Brikama from 28.6% in 2003 to 37.2% 2013 is basically due to migration to the Districts of Kombo South, North and East in the past decade. According to the results of the census, all LGAs' percentage share of the total population in 2013 when compared to 2003 declined except for Brikama LGA.

There are more females than males in the country, according the 2013, 50.5% of the population are females whilst 49.5% are males. However, LGAs that are urban have more males than females whilst those that purely rural have more female than male due to migration of males to the urban and peri-urban areas in search of jobs.

The population also increased from 127 persons per square kilometre in 2003 to 176 persons per square kilometre as indicated in the 2013 results. This ranked the Gambia as the 73rd most densely populated in the world and 10th in Africa. In the same vein, the number of households increased from 157, 494 in 2003 to 229,500 representing an increase of 45.7%.

The main source of income is agriculture, employing 75% of the population especially among the rural communities. The production of both food and cash crops are the major agricultural activities for meeting household income and food requirements. In the urban and peri-urban settlement petty trading of assorted merchandises both food and non-food items is also practiced by few for generation of income during off-farm activities. In The Gambia, about 91 percent of the population are poor and 72 percent of the poor work in agriculture. Approximately 1, 469, 053 people (78.03%) live close to the forest and entirely depend on forest resources for the supply of food, domestic energy, fodder, construction materials and poles.

2.3 Agricultural tenure, investment, production, productivity and trade

2.3.1 Tenure

Though, in recent years the area of cultivation has increased or expanded impacting on the area of forest cover. Virgin forest covers are cleared to cater for the expansion especially with the introduction of NERICA rice (upland) variety. However, with the expansion of cultivable areas, on farm productivity and smallholder performance has not improved or in fact declined due to limiting factors such as poor soil fertility, erratic

rainfall, inappropriate farming techniques, limited access to inputs, access to markets, systems of tenure and weak producer organizations.

In the Gambia two land tenure systems co-exists namely traditional and modern. Local authorities at district level are responsible of land administration such as allocation of customary land under their jurisdiction for farming, residential and village vegetable gardens and community forest areas. On the other hand the modern system of land tenure is under the Local Government Authorities under the supervision of the Ministry of Local Government, Lands and Regional Administration. There are gross limitations in the tenure systems as there are inequities and insecurity for the small holders who are mostly poor farmers.

2.3.2 Investment

The overall investment in the agricultural sub-sector has decreased during the last 15years as a result of the global economic crisis. The policies of the funding agencies have shifted towards the education and health sector. However, African Development Bank (AfDB), International Fund for Agricultural Development (IFAD) and Food and Agriculture Organization of the United Nations (FAO) continued to support the sector with programmes and projects. The projects support the sector in the areas of food security, poverty alleviation, income generation through commercialization of agricultural products, access to micro-finance schemes, rice irrigation etc. The volume of investment was estimated at a tune of 336.35 million dollars and 14.27 million Euros. Detailed summary of Agricultural Investments are presented on annex 2

In addition, farmer based organisations benefited an estimated amount of 23.0 million GMD to improve agricultural production through projects or small grants from international organizations in key areas such as institutional development, capacity building, land governance, cereal banking etc. As presented in table 1 below.

Table 1 LIST OF PROJECTS/GRANTS TO FARMER BASED ORGANIZATIONS

No	Name of Project	Period	Amount GMD (million)
1	Institutional development	2009-2011	1.7
2	Capacity building for Farmer Organizations	2010 -2012	0.8
3	Promotion of the Family Farming	2014	1
4	Land Governance and Tenure	2014-2015	3.5
5	Functioning of Farmer Organization in Africa	2014	5.2
6	Campaign on combating HIV/AIDS & Food Security.	2005 – 2008	3.6
7	Establishment and training on seed and cereal banking.	2004- 2006	7.4
Total			**23.0**

Agricultural productivity

Agricultural production in the Gambia is highly dependent on rainfall and the average precipitation declined for the past three decades. The general performance of the sector has been mixed registering bumper harvest during good seasons and low production during poor seasons. Table 2 below represents estimated land area cultivated during the period of 2008-2013. The trend indicates a steady increase from 2008-2012 and decreased by 33, 514ha in 2013.

Table 2 Summary of cultivated Area (HA) from 2008 to 2013

CROP Area	2008	2009	2010	2011	2012	2013
Total Coarse Grain	157,882	173,804	175,294	165,317	176,199	167,682
Total Paddy	23,000	32,648	40,671	62,026	63,592	66,380
Total Groundnuts	121,843	110,565	122,699	111,924	116,507	100,305
Sesame	-	1,238	3,303	7,778	7,988	1,582
Finger millet (Findo)	-	209	429	507	521	491
TOTAL AREA	**302,725**	**318,464**	**342,396**	**347,552**	**369,954**	**336,440**

Source: National Agricultural Sample survey (NASS) report 2013

Average Cereal production during the period of 2002-2014 was estimated at 209,598 MT, the lowest production was 140,740 MT in 2002 whiles the highest was 343,793MT in 2009. In the same period, coarse grain production averaged 178,303 MT whilst paddy production averaged 34,395 MT. The production of rice improved during 2010 when NERICA was promoted. As a result the total production increased from 79,000 MT in 2009 to 101,247 MT in 2014, an increase of 24% see table 3 below.

Table 3 Summary of Production (Mt), of Major Field Crops from 2008 to 2013

PRODUCTION (MT)	2008	2009	2010	2011	2012	2013
Total Coarse Grain	179,831	145,669	146,736	131,722	168,536	157,665
Total Paddy	34,294	49,964	62,926	51,136	54,219	69,704
Total Groundnuts	108,884	116,420	98,479	86,517	122,542	94,371
TOTAL	**323,009**	**310,484**	**308,141**	**269,375**	**345,297**	**321,740**

Source: National Agricultural Sample survey (NASS) report 2013

The main cash crop groundnuts registered an average production of 108,660 MT this performance is due to constrains such as availability, affordability and timely supply of quality nuts to the farmers together with necessary inputs. Another cash crop (cotton) is cultivated at a smaller scale registered 1,000 Mt. The subsector faced bottlenecks in the past years such as marketing and extension services affecting its expansion and development. Table 4 indicates the average yield per hectare of the most common crop varieties cultivated across the regions in the Gambia.

Table 4 Average Yields (Kg/ha**) of Major Crops per Region**

YIELD (Kg/ha)											
Region	Maize	Early Millet	Late Millet	Sorghum	Upland Rice	Swamp Rice	Groundnut (28/206)	Groundnut (73/33)	Sesame	Findo	Phillipinepink
WCR	1243	1150	905	1110	1210	815	825	836	268	873	812
LRR	933	1003	1175	965	913	862	852	1046	324	900	1032
NBR	1040	819	920	1120	1148	1287	815	1227	295	0	987
CRRN	770	761	842	776	945	1153	915	948	368	0	0
CRRS	998	832	720	980	934	595	749	748	257	0	0
URR	990	920	1060	1095	998	0	917	967	350	812	943
The Gambia	996	914	937	1008	1025	942	845	962	310	862	944

Source: National Agricultural Sample survey (NASS) report 2013

Trade

Food requirement supersedes the production capacity of the agricultural sector. Therefore, the gap in supply of food is addressed through importation to meet the requirements. The assessment of the trend of importation of the five top food stuffs have increased in value and quantity. The quantity of rice, the main staple food imported increased from 75,055Mt in 1990 to 90,625MT in 2012 registering a value of 13.9 million US$ and 44.1 million US$ respectively. Whiles for sugar, the volume imported rose from 32, 000 MT in 1990 to 64, 977MT in 2012 representing 13.9 and 16.5 million US$ respectively. Flour, oil and onions also increased by 2-3 folds. As presented in table 5 below

Table 5: Import Top 5 Agricultural Products (Quantity & Value)

	Import In MT			Value US$ millions		
Product	**1990**	**2000**	**2012**	**1990**	**2000**	**2012**
Rice	75055	89825	90625	9.0	16.1	44.1
Sugar	32000	76900	64977	14	12	17
Flour	14000	23191	65028	3459	6.203	14.094
Onions	4100	-	10982	-	-	-
Oil	-	9898	41370	-	4.237	17.965

In 1990 the major five agricultural products exported as cash crops were cotton, fresh vegetables, raw groundnuts and groundnut by-products in the forms of oil and cake. Shelled groundnuts were the main export commodity registering 11, 880MT and 26, 818MT in 2000, this was valued at 6.6 and 7.6million US$ respectively. Groundnut by-products (oil and cake) registered 3,669 and 8, 279MT respectively valued at 3.6 and 929million US$. Whilst in 2012, value of processed groundnut oil exported was 3. 11US$, Cotton lint registered 1,347MT valued at 18.5million whilst vegetables was at .610million US$.

The dependency ratio of cereals from the early 90s indicated a steady increase from 52.1 % to 55.4% in 1995. This trend indicated dependence on imported cereals to meet the gap of cereal requirements. The ratio of dependency declined from 55.4% in 1995 to 37.5 in 2005 as a result of good farming seasons. However, data indicated an increase from 2005 at an average of 42.1%, as a result of poor harvest due to insufficient rainfall. The volume of imported agricultural products exceeds the export level indicating an under production of basic food commodities and as well as high expenditure on food importation.

Food Assistance

The United Nations World Food Program (WFP) a long term partner in relief supplies during natural disasters such as drought, crop failures as a result of pest invasion and cereal shortages due to heavy rains. In addition, it supports school feeding programs of the Ministry of Basic and Secondary Education. The value of food aid received is estimated at US$ 19,998,608 for the last twenty five years.

2.4 Forest condition, productivity and trends

2.4.1 Forest Tenure

Forest tenure in the Gambia encompasses two principal elements, ownership of the trees, and vegetation growing on the land and the land on which the trees are growing. These two elements are not mutually inclusive. The law attributes the ownership of all naturally growing trees and forests to the state. Land, on the other hand is customarily owned except in the Greater Banjul Area, where the state annexed all lands in 2002. This, in principle means people can only acquire ownership of natural forests by collaborating with the state in their management or applying for community and private forestry status from the government.

The forests of the Gambia are categorized into following tenure types in table 6 below.

Table 6 Tenure types

No	Forest Tenure Type	Size (Ha)	Percentage (%)
1	Forest Parks	16, 099	3.80
2	Jointly Managed Forest Parks	17, 928	4.23
3	Community Forests	31, 682	7.5
4	Private Forests (Natural)	105	0.03
5	Private Forests (Plantation)	100	0.02
6	Forest Reserves	357, 086	84.4
Total		432, 000	100

The major shift in forest tenure is the transfer of portions of forest reserves to communities along the periphery for participatory management and ownership. In effect the total area of forest reserves reduced whilst the community owned forest covers increased. During this reporting period, 75 Community Forests areas representing over 5, 000 ha were handed over to various communities by the Minister. In addition, part of the forest cover was lost through encroachment in to the forest reserves due to the expansion of agricultural production despite the fact that the total arable land is under cultivated.

2.4.2 Investment in the Forest Sector

The flow of investment in the forestry sector in the Gambia are two folds or categories, that is from the central government budget allocations and support from external donors. The office of the Ministry of Finance and Economic Affairs is responsible for the allocation of funds to public offices such as the Department of Forestry.

Apart from the allocations from the main approved national budget, the Department also benefits an allocation from the National Forestry Fund (NFF) generated from revenues accrued from the sales and taxes on forest products to supplement the gaps of fund allocation to the sector. See table 7 below.

Table 7 Government Allocations & National Forestry Fund

Budget (GMD)	1992 - 1996	1997 - 2001	2002 - 2006	2007 - 2011	2012 - 2015
National Budget	6, 806, 760	5, 784, 200	12, 433, 376	12, 951, 672	17, 526,930
National Forestry Fund	-		4, 296, 332	16, 336, 400	21, 300,000
Total	**6, 806, 760**	**5, 784, 200**	**16, 729, 708**	**29, 288, 072**	**38,826,930**

In addition, the Department also benefited from long term support from external donor agencies such as the Federal Republic of Germany, European Union and (FAO), see table 8 below.

Table 8 External Support to Forestry / Projects

No	Name of Project	Period	Amount & Currency
1	Gambia German Forestry Project	1979 - 2000	30 million DM
2	Central River Division Forestry Project	1996 - 2005	8.6 million DM
3	Upper River Division Forestry Project	1997 - 2000	1.6 million Euro
4	Technical Cooperation Program & National Forest Program Facility (NFA)	2008- 2010	365, 000 USD
5	National Forest Program Facility (NFP)	2009- 2010	100, 000 USD
6	Technical Cooperation Program (Market Analysis & Development)	2002 – 2003	184, 520 USD
7	Forest and Farm Facility (FFF)	2013 - 2015	300, 000 USD
8	Forest and Farm Facility (Small Grant)	2015	67, 5000 USD
9	United Nations Development Programm (Capacity building action plan)	2011-2015	3.5million GMD
10	Regional Program for Sustainable Land Management and Adaptation to Climate Change (PRGDT)	2014 -2016	300, 000 Euros
11	Gef/FAO Dryland Forest Management	Upcoming	6.5million USD
12	Action Against Desertification Project (AADP)	Upcoming	1.7million USD
13	Climate Development Special Fund (CDSF)	Upcoming	144,245 $ US

External support to the sector impacted significantly on the development and progress of the sector. It was through the support of the Germans the capacity of the Department was built and the introduction of Sustainable Forest Management through the active participation of the local communities. Some of the concepts developed and implemented include Community Forestry, Joint Forest Park Management, Private Forestry and participatory bushfire management concepts. These participatory concepts increased the contribution of forest resources towards the socio-economic development of the rural poor and the sustainable management of the forest resources.

FAO support built on the concepts and approaches developed during project implementation. FAO supported the market Analysis & Development and the National Forest Assessment through two separate Technical Cooperation Programs and currently through the Forest and Farm facility (FFF) the capacities of farmers are built on policy dialogue and marketing strategies alongside enhancing Government cross-sectoral coordination and collaboration.

2.4.3 Forest Production and management

The major purpose of Participatory Forest Management (PFM) is the tangible demonstration of the value of wood and non-wood by extension the sustainable production of forests. The development of the perception of the forest as economically valuable on a sustained yield basis instead of as worthless exploited bush is thus a primary objective of PFM. The recognition of the need for the sustained yield production of timber and other forest products is essential for successful forest protection. Popular interest in Community Forest Management originated in great part from the realization of the value of wood and non-wood forest products for improved livelihoods.

The National Forest Assessment conducted in 2009- 10 revealed a deadwood supply sufficient for the next 10 years. This supply in combination with improved regeneration of the natural forests by enrichment planting and other afforestation activities are the only possibilities to help economically bridge the non productive age class gap.

Besides providing economic returns through the sale of products, Sustainable Forest production and management creates employment opportunities in the making and the marketing of products and services originating from sustainably managed areas. Many different types of jobs are involved from the forest to the final finished product.

The MA&D approach aims to add value to forest management by the creation of small-scale forest based enterprises based on Wood and Non- Wood Forest Products and Services.

2.4.4 Forest Products Import and Export

Trade in forest products such as timber and non-timber forest products for both import and export are conducted in different dimensions. Non timber forest products are collected and transported to Senegal by vendors where the market potential is high. There is also importation of timber and firewood from the Cassamance region of Senegal for either re-export or commercialization internally. Domestic energy supply in the form of firewood and charcoal are highly depended on Senegal. Information on the volume of firewood, charcoal and non-timber forest products (Fruits and nuts) are not readily available.

Taking in to consideration of the increment or production capacity of the forest cover, exportation of timber cannot be supported. Most of the round wood produced in country is consumed internally for domestic constructions. Before the introduction of the re-exportation of round wood to china, exportation rate was at 15% from 1998-2003 but when the market was discovered in china in 2008 it increased to 50%. Majority of the round wood exported are imported from Senegal for re-exportation to

China. This trade increased from 49.63% in 2008 to 98.3% in 2013 representing an increase of 50% within a period of five years. There was a ban on the re-exportation from 2013 - 2014 and it was lifted during the late part of 2014.

2.5 Other factors

Climate change impacts on the environment in the country have not been adequately assessed; however, climate related incidences have been experienced recently resulting in the loss of lives and properties. These incidences ranged from drought, floods, storm to wildfires. Climate change affects land potentials through drought, flooding and other impacts.

B. Policies, Strategies, Programmes and Institutions

2.6 Policies and legal aspects

Policies, legislations, regulations and programmes of various institutions that are relevant to natural resource management are summarized in table 9 and 10. For detailed information on main priorities or targets defined in relation to land use are presented on annex 3.

Table 9. List of Policies and Programs

No	Title	Approved date	Validity
1	Bio-diversity/Wildlife Policy	2003	10 Years
2	National Water Policy	2006	5 Years
3	Fisheries Policy	2008	8 years
4	Agricultural and Natural Resource (ANR) Policy	2009	7 Years
5	Forestry Policy	2010	10 Years
	Seed Policy	2014	10 years
	Programs & Strategies		
1	The Gambia National Forestry Action Plan (NFAP)	2001	10 Years
2	Eco-Tourism Development Strategy Note	2002	
3	Poverty Reduction Strategy Paper II	2007	5 Years
4	The Gambia Environmental Action Plan II	2009	10 Years
5	Program for Accelerated Growth and Employment (PAGE)	2010	5 Years
6	The Gambia National Agricultural Investment Plan (GNAIP)	2011	5 Years
7	Fisheries Strategy Plan	2012	4 Years
8	Horticultural master plan	2014	
9	Draft National Action Program for Combating Desertification Land Degradation and Drought	2015	
10	National Bio-diversity strategy Action Plan (NBSAP)	2015	5 years

Table 10 List of legislations and regulations

No	Title	Approved date
1	Forest Act & Regulations (Bill)	2015
2	National Environment Management Act – NEMA	1994
3	Wildlife Conservation Act 1977 and Biodiversity Act 2003	2003
4	State Lands Regulations	1995
5	Local Government Act	2002
6	Fisheries Act	2007
7	Fisheries Regulation	2008

2.7 Institutional frameworks for land-use change governance

Land use management and administration in The Gambia is enshrined in the following pieces of legislation.

- **The State Lands Act 1991**
- **The Lands Provinces Act CAP 57:03 of the Laws of The Gambia.**
- **The Physical Planning and Development Control Act 1991**
- **Land Acquisition And Compensation Act 1991**
- **The Land Survey's Act 1991**

For the purposes of the tenure arrangements, land is divided into Provincial lands which is regulated by Customary Law under the Lands Provinces Act, and land which is considered to be State Land and administered and managed under the State Lands Act 1991.

In state property regimes, ownership and control over resources is vested in the government. This includes forest parks, national parks and reserves. Conflicts may arise when communities define their rights to resources different from how the state.

Originally, state lands were restricted to Banjul and Kombo St Mary Island (covering the former colonial territory), whereas provincial land covered the rest of the country (the former protectorate). The new Acts above were primarily designed to resolve the uncontrollable expansion of urban centers in The Gambia. The Acts sought to increase the legal capacity of government to shape the physical development of urban areas, in areas hitherto covered by the Lands Provinces Act and governed by customary law.

The Land Acquisition and Compensation Act seeks to increase the State's power to acquire land for public purposes. The Act expressly provides for acquisition of land for environmental protection and conservation needs. The Physical Planning and Development Control, and the Land Survey Act on the other hand seek to promote systematic planning all over the country.

The fundamental problem with this legislation is that very little is done to promote public participation in the decision making process. No procedure is put in place

(a) for questioning the decision of the planners,

(b) to allow public participation in the decision to designated a piece of land or an areas as state land despite the far reaching consequences of complete abrogation of customary rights,

(c) for public participation in the selection of important decision making bodies like Land Boards, and Planning Authorities.

The Land tenure administration system as enshrined in the State Lands Act 1991 and other allied legislation have considerable impact on forest management and sustainable

utilization of the resource base. The designation of Lands as State Lands under the Act does extend to hitherto forested areas. Following designation, allocation of Lands for development purpose in these areas, would almost invariable involve the clearing of the under growth and the felling of trees. This naturally has an adverse effect on forest conservation. Furthermore infrastructural development, construction of settlement, hotels and roads is mostly for economic consideration as opposed to ecological gains. These development activities encroaching the mandate of the forestry department always gives rise to conflict between the planning authorities, (under the Physical Planning and Development Control Act), and the Forestry Department. The Biodiversity and Wildlife Act 2003, seeks to resolve this conflict by providing in section 90 thereof that Land use management shall have due regard to the Conservation of biodiversity. As recommended earlier this provision is incorporated or referred to into the revised Forest Bill.

In order to cope with the integrated forest management approach of the GFMC and to decentralize forest administration from the national to the regional and further down to the local level, the organizational set-up of the Forestry Department was restructured at the beginning of 1995. At the same time forestry administrative guidelines including a planning, monitoring and evaluation system were introduced. The new organizational structure has established clear line of commands and responsibilities from the headquarters down to the field operation level.

Although the staff situation has considerably improved during the past year, there is still a staff deficiency in terms of quantity and qualification. Out of an actual staff number of 281 including auxiliary staff (62), there is only 1 forestry M. Sc degree holder, 3 Bsc holders of different disciplines and 9 forest technicians holding diploma certificates.

In addition there exists Community Based Organizations (CBOs) specifically responsible for the management of community forests at village level legally registered with Department of Forestry. These structures have by-laws as the guiding principles for the sustainable management of the forest resources.

2.8 Financial strategies, programmes and instruments

There may not be any pronounced government policy on subsidies. However, it was observed that the government donated some bags of fertilizer to women farmers in Bakau and other communities. It is also observed that fertilizer is being sold at a cost of D750 which is below the market price of D800.

3. Analysis of positive trends: key contributing factors

- Although the area of arable cultivable has expanded from 440, 000ha to 558, 000ha representing a growth rate of approximately 8%. However, only 57% (320, 000ha) is actually put under cultivation.

- Rice production increased steadily from 2010 with the introduction of the NERICA rice variety. Despite the gains registered through the promotion of NERICA, 10% of the rice requirement is still imported. The dependency rate on cereals is also in the increase with an average ratio of 4.2% since 2005.

- Total agricultural production accounts for only 50% of the food requirement resulting to food insecurity. This is principally due to the poverty level of the people. Most of the producers are purchasers of imported food. This phenomenon is more pronounce among the women household heads.

- The forest cover area have reduced to 423, 000ha indicating a loss of 97, 000ha mainly from the forest reserve category being converted for either agricultural, infrastructural development or settlements. There is remarkable improvement in the transfer of ownership to the communities for sustainable management recently handing over backlog of CFMA awards.

- Conducive agricultural policies and legislations are in existence but inadequately implemented for meaningful achievements in the sector. The new forest policy has well articulated the need for participatory management and emerging benefits from the forest resource

- There were no major public consultations during the formulation of the land use acts and limited popularization conducted to raise the awareness level of the local populace let alone to participate in decision making processes.

4. Summary/conclusion

The Gambia suffers from increased land degradation, caused mainly by human influences and climate variations. Everybody in The Gambia is aware of the level of land degradation and conscious of this situation.

In general much emphasis is given to production improvement as opposed to stabilising the whole production system. More emphasis is given to lowland than to upland. However, if the Upland is not stabilised, in the long run the lowland with be devastated by siltation as a result of upland soil erosion. Food production should be seen more in a holistic approach by linking upland and lowland, agriculture and forestry into one system.

The expansion of agricultural fields should be concentrated on the available arable land which is under-cultivated to ensure that the forest cover is spared from encroachment. Support to the ANR sector needs to be intensified in order to achieve the objectives of national development programs and policies.

Annex 1

Comparison of conducted National Forest Inventories

<table>
<tr><th colspan="2">1981/82 NFI</th><th colspan="2">1997/98 NFI</th><th colspan="2">2009/10 NFA</th></tr>
<tr><th>Land Use</th><th>Area (ha)</th><th>Land Use</th><th>Area (ha)</th><th>Land Use</th><th>Area (ha)</th></tr>
<tr><td>Gallery forest
Closed woodland
Open woodland</td><td>90, 700</td><td>Closed wooded land</td><td>12, 000</td><td rowspan="2">Forest</td><td rowspan="2">300, 000 (36, 000ha mangroves)</td></tr>
<tr><td>Mangroves</td><td>66, 900</td><td>Mangroves</td><td>58, 800</td></tr>
<tr><td rowspan="2">Tree and shrub savanna</td><td rowspan="2">347, 700</td><td>Savanna woodland</td><td>88, 800</td><td rowspan="2">Other wooded land</td><td rowspan="2">123, 000</td></tr>
<tr><td>Tree and shrub savanna</td><td>360, 800</td></tr>
<tr><td>Total</td><td>505, 300</td><td>Total</td><td>520, 400</td><td>Total</td><td>423, 000</td></tr>
</table>

Source: NFA 2009/2010

Annex 2

Agricultural investment

No	Projects/Programmes Titles	Time Frame	Funding US$/€ (Million)	Donor
1	Endemic Ruminant Livestock Project (PROGEBE)	2009-2013	4.1	AfDP, GeF
2	Gambia Lowland Agricultural Development Project (GALDEP)	2008-2013	12.71	IDB
3	Participatory Integrated Watershed Management Project (PIWAMP)	2008-2012/ 2006-2014	16.4	AfDB, IFAD
4	Rural Finance Project (RFP)	2008-2014	8.7	IFAD
5	Farmer Managed Rice Irrigation Project (FMRIP)	2008-2011	7.1	AfDP
6	Sustainable Land Management Proj	2011-2015	18.9	GeF
7	Nema		165	IFAD
8	Multinational NERICA Dissemination Project (MNDP)	2004-2011	2.3	AfDB
9	FASDEP		5.9	
10	Gambia Emergency Agricultural Production Project	2010-211	6.8	WB, EU
11	Participatory Integrated Management of Invasive Aquatic Weeds Project (PIMIAWP)		18.06	IFAD
12	Gambia Commercialization and Agricultural Value chain		15	IFAD
13	Agricultural inputs (TCP)		0. 3US $	FAO
14	Agricultural Support Project (ASP)		20.55US $	
15	Artisanal Fisheries Development Project (AFDP)	2009-2011	16.5	AfDB, BADEA
16	Livestock and Horticulture Development Project (LHDP).	2009-2013	15.94	IFAD, AfDB
17	Food Security and Commercialization of Agriculture Project (FSCA)	2010-2013	2.094	FAO, Itaian Govt
18	GGC processing and transport capacity, upgrade Cooperative Produce Marketing Societies (CPMS)		EUR 1.041 Million	EU
19	133 MT of decorticated groundnut seeds, 1,500 bags of fertilizer and 200 kg of seed treatment chemical		USD 0.33 million	EU
20	Food Crisis Rapid Response Facility Trust Fund (EU-TF) of the Global Food Crisis Response Programme (GFRP)		Euro 5.3 million	EU
21	Millennium Development Goals (MDG) (1c)	2012-2015	Euro 7.598, 424 million	FAO

Annex 3

Relevant Policy and Legislative Documents

Title	Year of approved/ enacted	Validity	Main priorities / targets defined in relation to land use
Relevant Policies			
Program for Accelerated Growth and Employment (PAGE)	2001	5 Years	To improve – inter alia- employment levels, per capita income, social services, gender equity and The Gambia's economic competitiveness.
Agricultural and Natural Resource (ANR) Policy	2009	7 Years	Vibrant diversified modernized agricultural sector with high levels of competitively and the major source for sustainable food security agricultural trade and investment
Bio-diversity/Wildlife Policy	2003	10 Years	The Gambia strives to further protect a wider spectrum of wildlife and their habitat as desired in the Convention on Biological Diversity, and the Ramsar Convention
Forest Policy	2010	10 Years	The national policy objective of the forestry sector is to: (a) maintain 30 per cent of the total land area of The Gambia under forest cover; and, (b) to manage 75 per cent of the land under forest cover for environmental and socio-economic development, by the year 2019
Draft Fisheries Policy			The main objective of the plan for the sector is to achieve self sufficiency in fish production, create employment and generate revenue for both the government and the local population involved in fisheries activities
Poverty Reduction Strategy Paper II	2007	5 Years	Eradicate poverty by significantly increasing National Income through stable economic growth and reducing income and non-income inequalities through specific poverty reduction priority interventions.
The Gambia Environmental Action Plan II	2009	10 Years	Improve economic performance and quality of human life in a sustainable way, and; to restore, maintain and enhance ecological processes, natural resources and cultural and natural heritage.
The Gambia National Agricultural Investment Plan (GNAIP)	2011	5 Years	Increase contribution of the ANR sector to the national economy by improving productivity through commercialization and active private sector participation predicated on a sound national macroeconomic framework aimed at enhanced growth and poverty reduction

The Gambia National Forestry Action Plan (NFAP)	2001	10 Years	
Draft National Action Program for Combating Desertification Land Degradation and Drought	2015		Key tools for the implementation of the UNCCD at the country level for a broader perspective and an integrated approach to combat land degradation as a problem which cuts across various development sectors
Water Resource Policy			Provision of safe drinking water supplies; assessment and management of the nation's water resources; water quality monitoring and enhancement; and, production and dissemination of weather and climate information for, inter alia, the enhancement of food security

Relevant Legislations		
Forest Act & Regulations (Bill)	2015	It was specially tailored to regulate processes of involving local communities in forest management by passing over forest ownership rights or by granting them forest utilization privileges. It also outlines the obligations of the government and those of other forest managers and management partners, and it includes provisions for conflict resolution and tax incentives
National Environment Management Act – NEMA	1994	It's goal are protection of the environment, amongst them the conservation and promotion of sustainable use of natural resources for the benefit of present and future generations and a commitment to promote international cooperation in the protection of the environment by implementing international commitments. It established a National Environment Management Council (NEMC) headed by the President of the Republic of the Gambia and a National environment Agency (NEA) to implement policies of the NEMC.
Wildlife Conservation Act 1977 and Biodiversity Act 2003	2003	It provides for the protection, conservation and sustainable use of wildlife and encourages the maintenance of minimum stocks of unalterable species, through protection.
State Lands Regulations	1995	The state land Regulation (1995) provides that forest should be protected according to the forest Act**.** Woodlands and cultivated areas may be subject matter of state grant only for the purposes of agriculture and related activities. They also provide that green belts and Buffer Zones are to have clearly demarcated and appropriate boundaries with clear signboards prohibiting squatting. They require the local Authorities, in collaboration with forestry Department, to plant trees along the boundaries of the area

Local Government Act	2002	Gives protection, control and management responsibilities to Area Councils (decentralized local government bodies) over forest resources located in their areas of jurisdiction. The councils are allowed to regulate and control the exploitation of forest resources located in their districts. Under section 73 of the Local Government Act, a Council may request the Secretary of State responsible for Forestry to des ignate as forest parks any Council land or any other land in respect of which it appears to the Council that forest growth should be protected or established

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